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Trip by Quantas Airways; DeHaviland 4 engines biplane (DH86). R.M.A. Canberra.

Captain C. R. Gurney; Chief Officer K. C. Berry.

Brisbane to Batavia, March 23rd to April 2nd, 1938.

March 23rd.

6.54 Take off Archerfield. Savannah forest ??? covers ridgy coast plain. Away south sun-patched border mountain. Forest brown in color. Dull cloudy morning, flying in and out of clouds at 1000 feet.

7.4-7.8 Over estimated valley of Marburg; intensely tilled patchwork and many dams and broken water.

7.10 Rain forest with r.f. in few remnants showing as dark green patches between farms. Lockyer Creek winding through another close settled area. Larger farms and black soil, new fallow.

7.23 Must have crossed main range in clouds for now flying down country, closely settled and a close pattern of brown and black soil at first.

7.28 Ploughed land has a flocculated appearance. Erosion(?) Farms fewer, ridgy country; farms, a meandering stream showing as a narrow strip of green gallery? wood winds through extensive area, practically treeless straw-colored plain. A low range rises from dark timbered country beyond plain.

7.35 Railway indicated by a straight strip of denser timber 1 mile past. Country of open savannah, grey barked trees; patches of dark grey scrub (Acacia) Country much altered by ring barking.

7.38 Dalby: water tower and green chlorinated water in town baths.

7.45 Entering on part very large area timbered country. Red brown of burnt undergrowth showing under trees. Open savannah forest of varying density and rather round patches of grey Acacia scrub. on site Gimbour Plain?

7.50 Over a running creek brownish water. Landscape an intricate pattern ??? ringbarked areas in darker virgin S.F. Country greatly altered by ringbarking; thinning or total destruction of trees.

7.54 Large area ???-???scrub, virgin state. Irregular areas

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- 7.58 Irregular areas pale green S.F. central with brown-grey of brigalow scrubs. A few cleared areas showing reddish soil.
- 8.2 Small treeless patches apparently bare pale or reddish soil conspicuous in S.F. Entering more closely settled area. Rectangles thinned or destroyed.
- 8.5 Big river nearly clear blue water flowing N-S.
- 8.12 Going down to get under broken clouds just entered. All morning large cloud field hiding country. port side clear to horizon. Still over mixed brigalow and S.F. Bare reddish sand ridges conspicuous now and then. Palm? treeless patches seem to be caused by erosion ~~as well as due to stocking~~ and soil shift due to stocking.
- 8.19 Mixed S.F. and brigalow well watered by creeks.
- 8.22 Red sandy nature of country very obvious. Thinner grey open S.F. of S of ironbark(?). Brown brigalow scrubs and pale bodies Cypress (?) of some size.
- 8.25 Closely settled. Over brown soils.
- 8.30 Mainly brigalow with few open parks. Also good deal of S.F.
- 8.33 Sudden change to natural (?) open country some miles wide on either side winding streams. Nearing Rona.
- 8.38 Rona. Morning tea.
- 9.18 Took off, Rona.
- 9.30 Seem to have passed last wheat farms. The open downs of Rona gradually giving way to S.F. Soil reddish-brown. Country very bare of ground cover. Keep going up to clear broken clouds. Flying near S edge of the great cloud field that has persisted N all morning.
- 9.40 Over dry sandy (pale) bed of river. Partly cleared timbered country of red sand ridges and ridge of brownish soil. Stocked areas a mass of regular sheep or other contour pads and destruction of ground cover by trampling very ~~pronounced~~ pronounced S.F. apparently ironbark.
- 9.45 Sparsely settled ironbark ridges (reddish) with scattered square tanks and ringbarked areas of various shapes.

THE BOOK BOND

1. The first section of the book discusses the importance of maintaining accurate records of all transactions. It emphasizes the need for a systematic approach to bookkeeping, starting with the identification of all assets and liabilities. This section also covers the basics of double-entry accounting, ensuring that every transaction is recorded in two different accounts to maintain the balance of the books.

2. The second section delves into the various methods used to record transactions, including journalizing and posting. It explains how to create a journal entry that accurately reflects the economic event, and then how to transfer that information to the appropriate ledger accounts. This section also discusses the importance of regular reconciling to ensure that the books are in balance and to identify any errors or discrepancies.

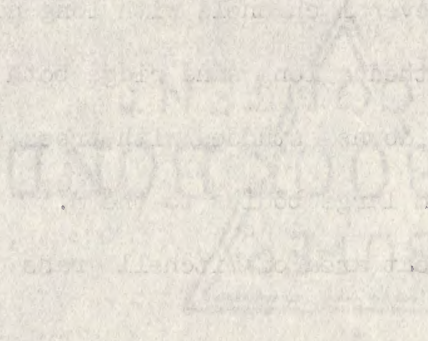
3. The third section focuses on the preparation of financial statements, which are essential for providing a clear picture of the company's financial health. It covers the process of calculating net income, preparing the balance sheet, and generating the income statement. The section also discusses the importance of comparing these statements to budgeted figures and analyzing the results to identify areas for improvement.

- 9.58 Still reddish ironbark country; cypress recognizable in places. At rare intervals (2 seen so far) small patches pale grey sand. All this country since Rona carrying little grass.
- 10.5 Ironbark and a rather brownish Eucalyptus (50-50) in ridgy very open S.F. Soil paler red. Still just above broken cloud field.
- 10.9 Over bare reddish plain  $3/4$  mile ??? with long grey sand ridges (S.F.) close on W side of it. Over all this ridgy S.F. area practically since Rona little grass. Here ground seems bare but for greyish patches (Chenopods)?
- 10.13 Frequent grey patches in a country of reddish sand. Grey soil bare or with S.F. or pale green dense stands of Cypress(?)
- 10.15 Have passed cloud area. Air rather bumpy.
- 10.25 Charleville. Lunch. Prosperous clean town whose chief botanical feature is the avenues of cropped white cedars which line its streets.
- 12.41 Left Charleville. This part timbered by cypress and mulga. Soil red sand of various shades. Some large greyish dry-pans.
- 1.0 Following up Ward River. Strip of timber  $\frac{1}{4}$  mile wide with up to a mile of sparsely timbered dry-pan and perhaps some Mitchell grass plain both sides. Erosion very conspicuous along river banks.
- 1.10 Over ridgy red sand country drained by small creeks flowing to ward. Claypans numerous. Some extensive open downs amongst generally timbered country.
- 1.20 Same class country with many rocky hills more or less grouped individually over area of a few square miles. On Langlo tributaries (?)
- 1.21 Beginning of belt of fairly well timbered downs with small twisty creeks carrying conspicuous strips of dark timber. Mostly downs.
- 1.28 Generally timbered again.
- 1.34 Over feeders of Barcoo (?) Red sand ridges, dry pans and grassy hollows. Ground largely bare but what grass there is is green.
- 1.37 Over a line of rocky hills, dark timbered.
- 1.38 Begin wide expanse of very sparsely timbered red sand ridges, both timber and winding creeks.



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- 1.43 Mostly Mitchell grass downs. Timbered and in distance (10-12 miles) range of low mountains.
- 1.50 Following very large densely timbered sand ridge cut by long grassy glades. Barcoo  $1\frac{1}{2}$  miles.
- 1.58 Blackall.
- 2.13 Left Blackall. Country green; many small grasshoppers at drome.
- 2.20 Leaving Alice River on left. Country 50-50 downs with scattered trees and dark ??? ridges.
- 2.25 A glaucous grey tree very abundant with prevailing brown mulga on more open country.
- 2.30 Beautiful park landscape to far distance. Great dark sand ridges (Gidyea) to horizon with downs both sides.
- 2,34 Over creek (several channels with long narrow holes, yellow water) with eroded drypans and then a long sand ridge both sides.
- 2.40 Miles of open downs studded with trees (low, dark, bushy) with gidyea outposts advancing from large bodies to the S.
- 2.50 Still this great area of Mitchell grass downs.
- 2.58 Longreach.
- 3.29 Left Longreach.
- 3.31 Over green channels of Louisa River. All channels and Billabags full of turbid yellow water. Longreach much drier than Blackall. Water plentiful from Charleville
- 3.37 Country becoming more timbered: numerous claypans but no sand ridges. Soil yellow brown.
- 3.43 Great green Mitchell grass plain with few trees. Rotting black masses poly indicate lines of fences.
- 3.53 Still great plains (yellow-brown soil) with scarcely a tree except along watercourses.
- 4.5 Scattered flat-topped hills 2 miles to south.
- 4.8 Over table-top hills separated by clay pans. Hills seem grassless and carry few trees on top. Edges breaking off all round in great cakes like the drying mud

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of a river farm. These the Nmost of many such reaching beyond river. Rock like a brownish sandstone.

4.11 Over Diamantina. The many green channels carry only a few trees.

4.13 Winton. Aerodrome mostly butter grass and chenopods (tall bushes, 2 or more species). Fat pale brown hoppers and smaller marbled brown and yellow ones very plentiful--also flies. Seems that ??? of checopods displaces Ambla over large areas about the town.

4.34 Left Winton.

4.40 Smooth green tussocky nearly treeless plains since Winton. A broken line of low range occupies whole of west horizon. Soil brown.

4.42 Surface largely clay pan (?) over large area (effects of overstocking?). Plenty of water in channels of Diamantina tributaries. Little timber. (grey boolibash? foliage)

4.52 Small patch eroding timbered hills 1 mile to right. Country still great green plains with few trees ~~xxx~~ <sup>on</sup> perhaps hard ridges and strung out along creeks of Diamantina.

4.56 Over very big brabch of Diamantina: numerous vivid green channels and more timber (coolibah?). Range getting closer to west.

5.5 Still great plains with a big creek every few miles.

5.14 Passing close at hand the last of a long interrupted line of flat-topped hills making up from west to south.

5.25 Still great plains with very few trees; grass green. Mountains have receded again to south.

5.35 Still tussocked green plains and frequent channels; seem to be in Flinders Fall now. All channel holes full of yellowish water.

5.37 Change to red sandstone ridges and open timber (Acacia?) alternating with plain.

5.42 Enc. papuana on some sand ridges. Windmills with round supply tanks of raised earth. — "Turkey's Nests"

5.45 To right downs with long narrow sand ridges running nearly straight across our course. To left Largely red sandstone and spinifex extending to the now approach

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ing ridge range.

5.48 The first well defined river channel, going to gulf.

5.50 Mostly red sandy ridges now cut by numerous creeks and gullies. Well defined and very numerous hills with smooth rounded or rocky rough tops to left as out-line to range, now about 10 miles to left.

5.55 Crossed railway. Scattered hills all around. Vegetation seems mostly spinifex and low Eucalyptus.

6.0 Cloncurry. Mostly river gum with silver tea tree in river.

6.5 Left Cloncurry.

March 24th.

6.5 Left Cloncurry.

6.25 Getting light enough to see plainly. Since Cloncurry rugged mountain country. Wind of 5 m. Roughest terrain 6.20-6.25; perhaps the main range of these parts. Some very distinct long scarps and perhaps reefs. Country brown appearance. Wide hilly valleys cut by rivers.

6.30 Valleys broader and separated by narrow <sup>e</sup>belts of hills. Rock brown and dipping to NW at sharp angle. Almost vertical at times.

6.35 Mount ~~Ex.~~ <sup>Sc</sup>

6.40 Left Mount ~~Ex.~~ <sup>Sc</sup> River like the Cloncurry with mostly river grass. Hills of a big spinifex and small scattered gums (Snapping gum) Rock almost cinnamon brown.

6.54 Crossed big creek running SW and taking many feeders indicated by narrow ribbons of green trees. Country much <sup>more</sup> rugged since leaving Mount ~~Ex.~~ <sup>Sc</sup> Much weathered hills showing white brick reefs at intervals. Big areas pale downs perhaps 15-20 miles to left beam.

7.1 Big creek(dry)with several narrow brown sandy channels going S. 1 mile to left big patches Acacia scrub.

7.2 Over big treeless plain 1 x 3/4 miles, partly bare ground and partly grass and chenopods (?): some red ant hills: appearance dry lake bed amongst low spinifex and gum hills.

7.11 Big creek, several channels, full water holes. Downs advance and retreat on left. Soil taking a darker red. Great deal bare ground with only scattered spini-

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fex tufts and trees on ridges.

7.14 Another treeless plain about 3 miles across, reaching down to horizon. On tight ridges with few small patches of plain. Contrast of cinnamon brown rock and much deeper red soil. Ground cover perhaps largely chenopods.

7.23 Another big creek with well spaced holes of clear water. Country becoming better covered--spinifex but still good deal of bare soil. Country no doubt ridgy but hills no longer recognisable from air (2000 ft)

7.28 Solitary large white house on creek 5 miles to left beam. Only building since Mt. <sup>1</sup>/<sub>2</sub>sa.

7.30 Flying over <sup>a</sup>Camooweall.

7.33 Camooweall

7.52 (retarded time) Left C. Breakfast here. Flies bad, few hoppers. Ground probably C. on pebbly palins on bank. River. Aerodrome covered Chloris sp. ??? Sporobolus<sup>us</sup>, Aristida sp., Solanum sp., butter grass and some flinders grass. Very large and very full water holes in river. Ridge country left behind at Camooweall. Barkly Tableland. Huge plains to all horizons with only a few patches of trees dotted perhaps on slight ridges. Some long bits of darker timber in distance which may not indicate watercourses.

8.2 At 5000 ft. Country largely grey clay pans without ground cover and yellow brown partly bare, often round or oval yellow-brown patches carrying thin timber (ridges). General timber Eucalyptus. One or two small dark patches Acacia scrub.

8.11 Covered <sup>r</sup>Nitting fence??? For last few miles, country very dry. Only a little green showing on the round spinifex ridges.

8.17 Same desert landscape.

8.37 Huge dry pan several square miles. Overstocking?

8.40 Dropped mail at Alexandria. Country slightly greener about here channels but for miles around station very little grass. Great alterations due to stocking. On right thin timbered ridges with few pale strips of plain.

8.48 Timbered country receding, to right not a tree in sight. Occasional areas of a few square miles show a tinge of green, perhaps due to local storms. Yellow grey dry



desert with red-brown patches in distance.

8.54 Dry creek below with few clumps of timber.

9.3-5 Big patch dark mixed timber.

9.6 River of yellowish water; lignum <sup>m</sup> (Brunette ~~des~~ <sup>Sawm</sup>)

9.14 At Brunette. Brunette aerodrome carries some stunted butter grass and very small herbs. Flies bad. No hoppers.

9.26 Left B. Very big lignum <sup>m</sup> hole yellow water. Good house and out buildings (Algaroba trees). Big grove both mixed Eucalyptus (box) and Acacia spp. follow creek to distance a mile or so both sides; 3-4 inch rain at B. this year. Soil brown, full of angular pebbles and ribbonstone, etc.

9.37 More attractive country since leaving Brunette. Increasing large belts and bodies of timber both sides, good deal of green in grass. Soil of timbered country red-brown. Grass country and dry pans near yellow-brown. Beyond 9.37 country generally thinly timbered.

9.42 Nearly all scattered timber and spinifex; strips etc., pale plain (a white barked gum C. with Triodia) Some big grey dry pans.

9.49 Very dry. Grass of plains dead grey.

9.52 Dropped mail Anthony's Lagoon. Big area of plains here, tinged green where not overtrampled. Dark lines of timber on both horizons.

10.0 To left windmill and red cattle at a small timbered patch. Also great treeless plain with rare thin patches begins. To right 4 or 5 miles almost unbroken timber to horizon.

10.4 Over narrow creek with thin timber and narrow holes yellow or green water.

10.10 To left 3/5ths dry grass plain and 2/5ths thin timber patches. To right beyond 4-5 miles nearly all timber.

10.16 Abundant yellow water showing in small creeks both sides and country green.

10.18 crossed creek going right. Red timbered ridges (50-50) contrast with green plains. Good season here.

10.27 Big blue bush swamp? 2 miles to left over untimbered yellow lignum, narrow creek.

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- 10.31 Running right from blue bush area and across open plain. Country to left generally  $\frac{2}{3}$  ~~timber~~ plain,  $\frac{1}{3}$  timber. To right 50-50. Timber in big vlocks or continuous banks.
- 10.43 Country getting noticeably drier. To right timbered red ridges  $\frac{4}{5}$ ; to left timber and plain 50-50.
- 10.48 Another big blue bush swamp to left beam with big well watered creek going right and seeming to end nowhere. To right Newcastle Creek rising through timbered ridges. From Alexandria on the dark timbered country always in sight to right and to left often plains to horizon.
- 10.52 Downs seem to end at Newcastle Creek. Newcastle Water till 11.2 Creek ends just past Newcastle Water. Timber stunted box, dead finish?
- 11.6 Following Newcastle Creek. Creek very full with dark yellow water. Country timbered (mulga?) with patches of plain on both sides.
- 11.10 Treeless plain. Timber to right 2 miles, to left 8-10 miles. Flying low; soil looks grey under grass.
- 11.16 End of plain (12-13 miles wide). A windmill at edge of timber to left. A few bushes and small trees on plain. Grass green; does not look like Mitchell grass.
- 11.18 To left water hole 1 mile at edge of red timbered ridge reaching to horizon on right. To left across waterhole we fly parallel with a large plain 10 x 3 miles freely dotted with trees. These grey plains dotted with low grey-green trees a new feature (salt bush?) The ridge timber is brown-grey.
- 11.26 Johnston Lagoon ?  $1\frac{1}{2}$  miles to right.
- 11.30 All timbered country since Johnston Lagoon. Soil red to grey. Two tree communities, one pale green, the other <sup>brown-</sup> ~~bright~~ green whose occurrence does not seem to be governed by soil. The brown always fairly dense, the green sometimes thinning out to nearly a plain condition.
- 11.34 Number of small lagoons and a landing ground. No habitation. Milner's Landing?
- 11.38  $\frac{1}{2}$  mile to left some water holes in a flat yellow-red watercourse in timber.
- 12.0 Reached <sup>8</sup> Day Waters.  
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REVISED BOARD

12.30 Left Day Waters. Water for 6 months in narrow yellow holes held by conglomerate bars in creek. Creek with small river gums. Timber box with ironwood, etc. Grasses *Chrysopsis* (br) to 8 feet, forest Mitchell, some *Themeda* (4 feet), brown *Pollima* sp; *Gravia* Cr. as shrub. Coast country. Rainfall about 26 inches. The patches of dark timber small now and much scattered.

12.37 Open forest patches of a glaucous *Eucalyptus* (broad-leafed box or Ironbark) Soil of this country generally yellow-grey.

12.45 Everywhere seemingly low very open forest with no creeks. Soil reddish (fine sand?) *E. papuana* common.

12.50 Dropped mail at Birdum (end of Darwin railway). Unbroken forest all round.

12.57 At 3000 feet; over group of five blackish water holes with trees growing in them.

1.7 ~~Big swamp 3 miles to left~~ Crossing fair sized river with many holes full of water. At 6-7000 feet. Country all forest. View rather limited by haze. (Western creek or Roper Creek)

1.17 Big swamp 3 miles to left.

1.20 All forest with narrow treeless flats along creeks. Water in all of numerous creeks draining NW (Kathrine). Numerous patches darker, usually dense timber (probably lancewood)

1.40 Crossed Kathrine River 1 mile above township. Many clearings along river flats above and below town (peanuts). First farms since Roma. About 2-3 miles past K. we begin to cross a large hilly patch scarred in all directions with green lines of grass.

1.49 Another clear running river going to Daly (Pine Creek). Some scattered small buildings (miners?) in hills.

1.54 Another big running creek to Daly. All ridgy country since Kathrine, drained by more and more creeks as we go along.

2.0 Pine Creek fair sized township, old mine dumps, aerodrome, big square dam clear water near creek. Creek smoother than others between here and Kathrine.

2.2 A group of apparently flat-topped hills with scarped tops much higher than surrounding country just W across railway.



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- 2.10 All decidedly hilly, weathered country. Some mine dumps.
- 2.12 Hills rising to perhaps 1000 feet.
- 2.14 Ridgy country.
- 2.15  $\frac{1}{2}$  mile to left isolated mountain (granite) with lot of bare rock on top and some dark trees (<sup>on</sup> ~~m~~soon forest) on E side. Much red grass, contrasting with general green.
- 2.20 Rather narrow grassy plain 2-8 miles trending N or NE.
- 2.33 Have left high hills well behind. Now landscape of irregular green treeless or thinly timbered flats and contrasting reddish ridges (red grass or soil). Well watered with swamps and creeks. Have seen no settlement since leaving hills and only one tailing yard (cattle)
- 2.38 Crossed big river flanked with lagoons (Adelantha) Some tropic storms.
- 2.43 Over a dark 10 mile ~~p~~<sup>o</sup>tch of rain forest at head of a small creek. Coast in view.
- 2.47 Some plains (marine) in view behind coast some few miles. Have seen only the one patch of rain forest.
- 2.52 Lower end Darwin inlet 4 miles to left. Timber denser as we near coast. Soil reddish where exposed (hard clay pans? or laterite?)
- 2.53 Many inlets and mangrove creeks.
- 3.0 Darwin. A subsiding coast incised with deep inlets in which are some small protruding islands and a few spots of bare rock. Abrupt crumbling cliffs of vari-colored pale ~~metamorphic~~ sediments rising from perhaps 10 to 40 feet above tide, so far as I have seen. A steep scarp ridge of same rock between ~~meatworks~~<sup>meatworks</sup> and town, rising another 40-60 feet above the present plain, might be remnant of a former coast line. Mangroves (seemingly Avicinnia sp D) follow the inlets and creeks some miles inland. Plant cover at Darwin, low to high grass, open savannah forest. Grass most prominent about town a tall Sorghum sp. (<sup>urn</sup> ~~fulver~~?) 8-9 feet high. Trees--figs, Ternicki???, Dagua and Alstonia etc. about edge of soft swamps and creeks at town. These the nearest approach to rain forest I have seen.

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March 25th.

Left Darwin in grey dawn and flying by way of Melville Island reached Koepang in  $3\frac{1}{2}$  hours. Melville Island (seen in poor light of early morning from 8000 feet) seems covered with savanna forest with extensive mangrove forest on some of the many arms of water which penetrate it from the north side. On S or SW side high pale (sand) slopes of cut off ridges conspicuous on coast. Struck Timor a few miles E of the Portuguese boundary. Originally the island was probably covered with dry rain forest, with better forest on the high mountains and other favored localities. At the present time, from the coast to high up on the mountain slopes, the forests have been in large part destroyed and replaced by grass and park lands of dark, rounded trees looking very beautiful from the air. Towards the east end a large fan palm from which sugar is obtained by the natives, dominates the landscape, forming palm savannas and actually palm forests. These palm communities are undoubtedly secondary and most likely the palms are planted by the natives on their old garden lands. Scattered population practising shifting patch method of cultivation. Only crop seen was maize, now ripening. Climate dry in SE season. Grass still green but maize now ripening, The big sandy rivers seen along the south coast were dry or carried only trickles of water. Casuarinas? on islands in rivers. Several pale green areas of distinctive appearance I take to be primary Eucalyptus savannah. Breakfasted at Koepang airport and crossed to see the plane of Broadbent who made a forced landing on a grass slope on the south coast some few miles E of Toren Gd? on a recent flight from England. Natives working about the spot had covered the plane with matting, built a thatched house nearby and cleared a good long runway for the plane to take off.

Shifting cultivation also on Flores and large areas of grass in consequence. Perhaps not so dry as Timor.

Passed Komodo and flew along S coast of Sumbawa. The east end of Sumbawa and the islands between it and Flores largely secondary grass, some large areas with hardly any trees and looking very brown and dry. At Chempi Bay the first paddy fields appear, on flat lands on coast and in valleys and from this point <sup>west</sup> ~~east~~ practically

The first part of the report is devoted to a description of the
 general situation in the country. It is found that the
 economy is in a state of depression and that the
 government is unable to meet its obligations. The
 situation is described as one of "totalitarianism"
 and "authoritarianism". The report also mentions
 the "Bolshevik" and "Communist" movements.

The second part of the report is devoted to a
 description of the political situation. It is found
 that the government is a "dictatorship" and that
 the people are "oppressed". The report also
 mentions the "Bolshevik" and "Communist"
 movements.

The third part of the report is devoted to a
 description of the economic situation. It is found
 that the economy is in a state of depression and
 that the government is unable to meet its
 obligations. The report also mentions the
 "Bolshevik" and "Communist" movements.

The fourth part of the report is devoted to a
 description of the social situation. It is found
 that the people are "oppressed" and that the
 government is a "dictatorship". The report also
 mentions the "Bolshevik" and "Communist"
 movements.

The fifth part of the report is devoted to a
 description of the military situation. It is found
 that the army is "weak" and that the
 government is unable to meet its obligations.
 The report also mentions the "Bolshevik" and
 "Communist" movements.

The sixth part of the report is devoted to a
 description of the foreign relations. It is found
 that the country is "isolated" and that the
 government is unable to meet its obligations.
 The report also mentions the "Bolshevik" and
 "Communist" movements.

The seventh part of the report is devoted to a
 description of the future. It is found that the
 country is "hopeless" and that the government is
 unable to meet its obligations. The report also
 mentions the "Bolshevik" and "Communist"
 movements.



unbroken forest covers the island. A few valleys are inhabited and near these valleys one sees ~~grass~~ grass patches on the mountain slopes. But the rainfall seems steadily to increase as we go ~~east~~ <sup>west</sup> and here the regular second growths, recognized by their paler green, are perhaps able to maintain ~~first~~ <sup>forest</sup> conditions. Far up in the interior mountains, between atas, Rale and Tahwang, numerous large bright green grass areas denote the presence of an isolated mountain population.

Lunched at Rambang and flew over the very densely peopled and fertile S slopes of Rinjani, the 12350 <sup>m.</sup> massive peak which dominates the island of Lombok. The paddy fields, coconut groves, straight narrow roads shaded with trees and thousands of villages, each in a more or less round enclosure (perhaps raised knolls) present a wonderful picture. Could see only the lower and mid-slopes of Rinjani, the rest being hidden under fleecy white clouds. Saw no signs population other than on the lowlands.

Crossing the 20 mile wide Lombok Passage we skirted the east and north coasts of the lofty volcanic island of Bali. The whole island is dominated by a perfect cone, sloping gently to the sea on the S and E coast, the sides scarred by grey lava flows, cut by ravines and largely grass-covered. An attempt is made to cultivate the thirsty slopes of this cone but the many garden patches seen seemed to belong to few people, for I saw few villages of any consequence. Farther North a branch range mostly cloud covered and perhaps older geologically, supports a much greater population on its slopes. Some fair sized towns seen, mostly roofed with galvanized iron. Terraced fields ~~with~~ reach high up some of the spurs.

Reached Sourabaia 3 PM.

March 26th.

Arrived at Batavia about 9.30 AM, in time for a very tasty breakfast at the aerodrome. The flight over Java is a revelation of the <sup>e</sup>fertility of the place. For scores of miles one flies over seemingly endless rice fields, relieved by sprawling villages set in plantations of trees amongst which are the vegetable gardens of this teeming population. The streams, flowing brown after last night's rains, are controlled by

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\* There are some of them, are natural ponds

dykes. The country is intensely canalized. Sometimes considerable streams are diverted in to canals and their dry beds (filled in?) cultivated with the rest of the land. the winding courses of these old streams are plainly indicated by the dykes separating the individual fields, being at cross angles to those of the country generally. In some ~~parts~~ parts the canals and field dykes run in severely straight lines, in others with a pleasing irregularity. The rice fields appear to march into the sea for along the coast they were mostly flooded, ~~with~~ <sup>(fish ponds)</sup> the outer ones seeming to be filled with seawater, Inland they cling the slopes in contoured terraces. Particularly toward the west end the sites of <sup>x</sup> (small oil wells), indicated by circular patches a paler green than the fields in which they are situated, are a very conspicuous feature from the air. The great line of volcanic cones running the length of the island were for the most part hidden in clouds. One, Slamet, I think, was belching forth a plume of billowing smoke. Upon arrival at Batavia I found that W. B. Richardson (mammalogist) and H. G. Ramm (base radio operator) had landed two days earlier by boat from Europe. Rand had been about 4 months in Batavia making contact with the Government and doing the preliminary organization of the expedition. All three were comfortably established at the palatial Hotel des Indes.

March 26th & 27th.

Sepnt in discussing plans and seeing some of Batavia--fish markets, general markets etc. Parts of the latter in filthy condition and pervaded with the stench of high fish. Except for a few beggars, usually deformed or diseased, the people impressed me as being remarkably clean as to their persons and dress. Trade in raw foods seems to be chiefly in the hands of the Javanese, while Chinese especially do most of the business in manufactured goods. The principal food stuffs seen were rice of various shades, millet, bananas, egg-fruit, various other fruits and a great assortment of cured fish.

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March 28th.

A conference at the hotel with Captain Teerink who is organizing the military party to accompany the expedition, and L. G. Toxopeus, entomologist and leader of the Buitenzorg section of the party. Teerink very efficient and thoroughly conversant with his job. The other stiff, aesthetic in appearance and very set in his ideas as to how expeditions should be conducted: his opinions being at variance with ours. Rest of day used up in preparing store lists and further discussion of plans.

March 29th.

With Rand, Richardson and Ramm made a quick trip to Buitenzorg by car and returned in time for a rather late lunch. Was very cordially received by the botanists, Van <sup>Hooten</sup> Steelen and Van <sup>Steenis</sup> Steiner. The latter very keen on exploratory work, particularly high mountains. Dammerman, director of all departments at Buitenzorg, was friendly but somewhat reserved and perhaps not so violently interested in the expedition. Also called on Meyr-Drees, a young forester who has been detailed to accompany the expedition: a man of small experience and large notions.

Called on Mr. Tielens, Batavia manager and chief in Java of Internationale Crediet-en Handels-Vereeniging "Rotterdam" who will be acting as agents of the expedition. Collected from Quantas agents (Mr. Lowe of Maclaine, Watson & Co.) the 150 guilders poll tax I was obliged to deposit before entering the country. Also made an official call on Mr. H. Groenerveldt, chief immigration agent, and in the afternoon visited his home to see his orchid collection. Very keen bulk grower of not many species. Has some fine hybrids.

March 30th.

Flew to Soerabaia by Knilm regular daily service (Douglas DC-2 monoplane) to purchase stores, building materials and ramp timber for shipment to Hollandia. Was met at aerodrome by Mr. Velders, of Internationale, and after meeting Mr. Olafson, sub-manager (manager away at Batavia for a conference) at once started

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work on stone purchases. Mr. Grutlemans, lumber manager, went with me to various ~~Chires~~<sup>Chines</sup> and timber yards in search of 8 x 4 hardwood for the aeroplane ramp. Teak is used for practically all purposes in Java and heavier woods therefore very difficult to obtain in quantity.

Staying at the Oranje Hotel; another great practically empty place built around courtyards.

April 1st.

Time fully occupied doing the rounds of the town with various members of the staff of Internationale--Usually Velders and Teerink, the latter a brother of Captain Teerink of Bandoeng, who is organizing the military party. The decentralization of business by Government decree, means that for most things one has to hunt all over the town, and to complicate matters, many of the items we need of stores and supplies are not in common use in Java.

Communications from Rand indicate that things are not progressing very happily at Batavia. Buitenzorg is adding a second forester to the party and are baulking at supplying the American members of the party with trained collecting boys: a privilege we were led to expect at the beginning.

April 3rd.

Took a car to Tretes, a hill resort --- km. from Soerabaia, the trip there and back occupying 3½ hours at a cost of 12.5 g. A very pleasant ride over perfect bitumen roads, tree-shaded and rising at first very gradually through rice-fields, cane-fields (rather small I thought for the number of mills) and passing through several larger villages and small towns. The terraced hill fields, planted with rice and kapok, are not so impressive as when viewed from the air.

The numerous bungalows of Tretes, placed all over the slopes and on the sides of the ravines. impress with their color and neatness. Red painted facings, red Poinsettia, various green foligges, the grey of the volcanic rocks and the chlorin green of the swimming pools provide striking contrasts even if they do not blend.

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Up there Europeans discard the coats which formality demands in sweltering Soerabaia and lounge about in shirt and shorts. Drove of small ponies are available for hire and the sight of new-looking helmets and white legs, cameras and curio sellers, give it the air of the popular resort it is.

April 7th.

After a very busy 9 days in Soerabaia, left by the "Melchior Treub" at 5 PM for Makassar via Bali. Bought all building supplies needed to establish our base at Hollandia, food for 4 white men for two months, and after a lot of trouble managed to get enough timber to deck the flying boat ramp. The most suitable timber I saw for this purpose was called ironwood, a heavy blackish hardwood, but it was in large squared logs which the Chinese proprietor of the timber yard wanted a month to cut into suitable sizes. Teak (Jateh), by far the commonest and best wood in use in Java, is too light and buoyant for our purpose. Had to be content with camphorwood, an inferior brittle timber sold at about half the price of teak.

Was very well treated by members of Internationale staff with whom I came into contact. Agent--Ziek: sub-agent--Olafsen: manager of import department--Velders: his first assistant Teerink (brother of Captain Teerink who is organizing the military party for our expedition): lumber man--Grutlemans: grocer--Van der Linden Kerkhoff, an ex-army commissary man, with twenty odd years experience in Java, whom Rand had engaged in Batavia as base storeman for Hollandia, thought better of his bargain and resigned on Saturday. Was able to replace him in Soerabaia with a German named R. H. Mielke (salary £350 per month and found), who has had some years of construction work, etc., in Java and Borneo. Also engaged in Soerabaia as first cook for base a Javanese ex-navy cook named Asit. Have instituted enquiries at Makassar for 2 cooks mates and 9 coolies for general duties at Hollandia. Richardson and Ramm, who joined the ship at Batavia, and Mielke and myself form the advance party to establish the base at Hollandia. We have about forty 1st class passengers on board, including a Hindoo and three of his women-folk in native dress, A Chinese doctor bound for China, a native official for Ambon and

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several half-castes. Several world tourists are bound for Bali. In Soerabaia were two ships laden with cattle and pigs from Bali: the pigs woven into cylindrical crates and stacked on deck like cordwood.

Glad to get away from sultry Soerabaia. This is the change of the season--very hot still and perhaps an afternoon shower or thunderstorm every three or four days

April 8th.

~~After daylight I did not get up~~ Anchored off ~~the island~~ on Bali, soon after daylight and discharged passengers. None of its reputed wonders to be seen from on board. A dryish, mountainous, rather infertile island on which forest has been largely replaced by grass. Maize seems to be the chief crop on the slopes about. A few small patches of terraced land. Cattle raising an important industry.

April 9th.

Arrived at Makassar about 7 AM and moved to the Grand Hotel. Naturally, I suppose, the hotels deteriorate in the Indies in proportion to their distance from the Hotel des Indes. At the Grand the tarif is \$10 per day for a single room with bath--more than enough for the accomodation and food offered. The town is about 350 yaers old, an interesting old place of narrow streets crowded round an ancient fort. The moat surrounding the old fort is dry now and partly filled in and a portion of the walls have been pulled down. Makassar is chiefly a copra port, the business in this product being largely in the hands of a few European firms. Chinese do most of the retailing. One sees very fine gold and filagree work on display and in course of manufacture in the shops. As in Batavia, fine old trees shade the streets away from the ~~away from the~~ ~~XXXXXX~~ business centre (Tamarinds, Canarium, etc.)

Found that Internationale had passed our business on to the Molukken <sup>-elm</sup> ~~Veem~~, an important forwarding and agency firm with previous experience in fitting out expeditions. The Molukken Veem had waiting for inspection 2 cooks mates and about

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15 coolies from which to select the 9 required by the expedition. The coolies apparently are from some kampong near the town and generally not particularly attractive.. One cooks mate looks a bit simple and the other a rogue. The M.V. also was busy packing my order for 2 months rations for 20 coolies. The best job of expedition packing I have seen. All supplies are in kerosene (4 gal. or 2 gal) tins and each kind painted a different color.

Boshuizer, local sub-agent for Internationale very friendly and helpful. Took me around to the Harmonie to introduce Lieut- Schroeder, who has been detailed to accompany our expedition and is sailing to Batavia and Bandoeng this afternoon.

April 10th.

Sunday and all four of us went by car to Malino, a mountain resort situated at 1050 m. Altitude, 75 km from Makassar. A pleasant drive over well-made if narrow roads leading at first through rice fields and numerous native villages shaded with Coconuts, bamboo and bananas.

Farther inland the rice fields follow the valleys and tall bamboos have replaced most of the original forest. In the mountains proper, population is chiefly on high ridges and little plateaus a couple of thousand feet above the riverbeds. The narrow stony river-flats still carry rice, in quite an early stage of growth. Near the coast the rice will soon be flowering. At Malino and extending perhaps a about 500 feet lower along the road are remnants of a mid-mountain type of forest dominated by an oak. The trees carry many epiphytic ferns (few sp.), a number of small orchids, a <sup>Peperomia</sup> ~~Peperornia~~ and are sometimes hung with long grey lichens. The whole country is <sup>of</sup> volcanic origin, the mountain slopes steep and largely deforested and over-run with grass at middle levels. Here as in New Guinea one sees a populous coastal belt, a sparsely inhabited lower mountain zone and above it another well populated belt at mid-mountain levels. Above the latter zone forests reach to the mountain tops. The <sup>e</sup> ~~m~~ <sup>e</sup> ~~y~~ da gigantia, abundant on more recently deforested land at Malino, and

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Saccharum spontaneum with silvery plumes plentiful also on roadsides and old cultivated grounds.

Malino is used as a week-end holiday resort by the wealthier Europeans and Chinese of Makassar. There is an accommodation house set in spacious grounds planted with pines, silver wattle, young Grevillea robusta and other trees and shrubs. And of course there is a bright green swimming pool.

April 11th.

Left Makassar at 5 PM on the "Van Imhoff" with 9 coolies, 2 cooks mates, 2 months stores for 20 coolies and some few extra articles of supplies ~~for~~ besides cargo and personnel from Sourabaya. Have in all about 50 tons of cargo on board.

An interesting sight on the Makassar waterfront are scores of native-owned, two masted sailing craft of about 30 tons which ply along the coasts and as far as Singapore.

Have on board about 20 first class passengers including Jacobs, the new assistant ~~manager~~ resident for North New Guinea, going to his station at Manokwari; a young Russian radio-man (Fedoroff) going to Babo, the usual small ~~group~~ bunch of commercial travellers (for Ambon), a Pentecostal missionary with wife and four big children going to Ambon and later New Guinea, and a Dutch Protestant mission sister bound for <sup>Semi</sup>----- . Various grades and shades of colored people occupy other classes of accommodation and in the fourth and lowest is another Pentecostal missionary, a single man (Alberta or Saskatchewan) bound for Ambon.

April 14th.

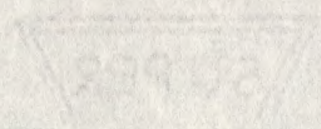
Reached Ambon at about 7.30 AM after a smooth and uneventful passage. Ambon is the administrative centre for all of the Indies east of Celebes and Timor. It is a very old town, small but flourishing at present as the import centre for development in New Guinea. It is being developed as a navy and commercial airport and armed with 15" guns for defence. 800 extra soldiers are said to be stationed

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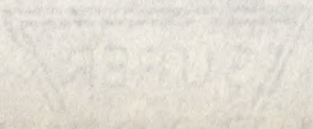


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there at present. Called on the Resident (Mr. <sup>J</sup> Ganson) who radioed Hollandia re our arrival and at my request asked the Controller to obtain for us about 40 local coolies and a preliminary supply of 3000 sticks of atap for houses. Also called on the military commandant, *Gusta Siereveldt*.

About 2/3s of the old fort of Ambon remains; the walls fairly bristling with old cannon of various weights and calibre.

Sago, an important article of food at Ambon.

A pleasing feature of its narrow streets is well clipped low hedge of a small bamboo. Saw some black-coated native Christians at a funeral in the cemetery. Amboina has long been christianized. Radio station has two queer looking earthquake-proof masts. Left at 5 PM and headed for the Moluccas.

April 15th.

The usual placid sea and lazy heat; but today (Good Friday) somewhat rainy from a northerly direction.

Passing Obiri and a number of smaller mountainous islands on our right, we spent several hours of the afternoon loading copra from a large plantation occupying a narrow strip of coast under the shadow of the 2100 m. extinct volcano of --- on the west side of the island of Batjan, in the Moluccas. This Plantation also owns a pearling vessel.

Late in the afternoon we anchored at the <sup>port</sup> ~~island~~ of Labuha, about 1/2 hour's steaming farther north on the same island. This is quite a small place with a controleur<sup>y</sup>, post and radio office, K.P.M. office, and apparently not much else in the way of European activity. The residence of the local sultan is conspicuous on a slope some few km. out of the town. The place boasts 2 motorcars, an old Buick and the sultan's new Chevrolet. Many orchids were seen in the trim gardens of the townsfolk, a thick-boledn Cycad is commonly planted and there are the usual betel-palms, Casuarinas, Tamarinds etc. A brownish <sup>ena</sup> ~~Dracaina~~ is used to form living fences. House construction is of split bamboo placed vertically for walls and atap thatch. All business is in the hands of Chinese.

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A very large orange-colored betel-nut, first seen at Ambon, is in common use here; but I have not seen it growing.

April 16th.

Leaving ~~about~~ Labuha about midnight, we stood in to the island of Makian at daylight to load copra. The business of loading this with the ships boats towed by two launches occupied all the morning. A great deal of copra is produced at this place. Today we loaded over 3000 sacks. Makian is the first of a line of volcanic cones forming small islands off the west coast of Halmahera; the others, all of them still active being Moti, 690 m; Tidore, 1730 m; and Ternate, 1750 m. Makian is 1357 m. high, and except for a grassy summit, and 500 m. of its lower slopes planted with coconuts, covered with luxuriant rain-forest in which a tall Albizzia? is a very abundant and striking tree. The other islands of the chain are similar in character.

Conspicuous at the water's edge at the port of Makian, part of the outer wall of an ancient fort built by the Portugeese. The town has a population of perhaps 2 or 3 thousand natives and the usual Chinese storekeepers. Judging by the number of prows drawn up on the shore and the presence of very large fish-traps, the natives must live largely on fish. We landed as cargo chiefly rice and manufactured goods. Weaving is done by the women folk. The houses are of atap and split bamboo or sago leafstalks as a rule, with a considerable number also of cemented and faced volcanic rubble. Was impressed by the large numbers of small children and also the abundance of small black or brown goats in the town.

At about 4 PM we drew in to the pier at the historic old town of Ternate, the last sizable town we shall see in the eastern islands. The chief feature of interest is the old fort (Fort Oranje), the largest I have seen in the Indies: still in good repair and surrounded by a deep dry moat. The older part of the town itself was evidently built with an eye for defense. A place of high walls of massive stonework with narrow alleys and few doorways. Saw a number of tallish dark people of Arabian countenance and one shop kept by Japanese but most business

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is carried out by Chinese.

April 17th.

Since leaving Ambon we are going the way of a real island ship--doing short runs and loading at all hours copra at every stop. This morning, having left Ternate at 10.30 last night, I was awakened by the rattle of winches at daylight and the thumping overhead to find we were lying off a small plantation on an island on the inner side of Batjan. From there we moved to another little place on Batjan itself and from there crossed to --- near the south end of Halmahera. Everywhere the appearance of the forests, unbroken except for small patches and strips along the coast, denotes a heavy rain-fall. From the aspect of the vegetation and general topography of the land there is from the ship nothing to distinguish these islands from New Guinea, the Solomon Islands or for that matter, any part of the Malaysian-Pacific rain forest area. Here at the south~~west~~ end of Halmahera the people are of broad-faced Malay type and many of the houses of --- are just like those of Hanuabada and Hula on the south coast of British New Guinea.

April 18th.

Soon after daylight we entered the narrow and picturesque strait of Sagewin between Batanta and Salawati; islands of the end of the Vogelkop. Steaming to 11.30 in narrow island-studded waters, we anchored off Yef Kassim, an oil-prospecting base camp, situated just about the extreme point of the Vogelkop. This is a very imposing establishment built on high ground on a deep and narrow passage. The land ridges of yellow clay rising to 50-60 feet. Most of the small islands seem to be formed by such ridges, drowned and isolated as Islands covered with wet-looking rain forest within a fringe of mangroves. Similar ridges, apparently rising out of swamp, form the mainland. The Netherland New Guinea petroleum Coy., to anglicize the name, is operating here. They have installed an oil tank of about fifty thousand gallons capacity at Yef Kassim and are laying a three inch

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PLATE 3

The first thing I noticed when I stepped out of the plane was the cold. It was a sharp contrast to the warm, humid air of the tropics. I pulled my coat tighter around me and looked out over the vast, flat landscape. The horizon was a straight line, and the sky was a pale, overcast grey. In the distance, a few small buildings and a line of trees marked the edge of a settlement. The ground was a mix of brown earth and patches of green grass. I took a few steps forward, feeling the texture of the soil under my boots. The air was still, and the only sound was the soft crunch of my shoes on the ground. I felt a sense of isolation and a small amount of fear. This was a new world, and I was alone in it.

April 1944

The day was a blur of activity. I had to get used to the new surroundings quickly. The people here were different from those I had known before. They were more reserved and seemed to have a different way of life. I tried to make friends, but it was difficult. The language was a barrier, and the customs were unfamiliar. I spent most of my time working in the fields. The work was hard, but it gave me a sense of purpose. I had to learn to use the tools and techniques of the local farmers. It was a challenge, but I was determined to succeed.

pipeline out to their base about 15 km. away. Besides motorboats and many canoes, a steam barge of shallow draft for river work was anchored at the camp. About six white men (using the ~~word term in a broad sense~~ term in a broad sense) came off to the ship and sat drinking until it was time for us to leave, about 3.30. All these men showing signs of fever. So far as I am able to make out the Dutch fear the effects of a daily quinine ration, take about 2 x 2 sugar coated pills a week and when the inevitable fever appears, swallow the stuff in large doses. To me it seems more sensible to take quinine regularly as a daily ration of 5 grs and by this means keep the fever from taking a violent form. In some other respects the Dutch idea of conduct in the tropics differs from any I have observed before. Their idea of shutting a room up tightly during the heat of the day to keep it cool, and letting it stay tightly shut during the night to keep out the cooler night air seems strange to me.

Anchored at Sorong soon after dark to deliver mixed cargo and to take on a consignment of 90 cubic meters of ironwood for Manokwari. This timber is shipped in the log and sawn at the Government mill at Manokwari for use in the construction of new military barracks. Sorong, like all the settlements in the far east of the Indies, is much larger than I expected to see. There are at least half a dozen Chinese stores, two of them being quite sizable establishments, and the European population at the present numbers eleven. These latter include the Americans, Mr. and Mrs. Crockett, Mrs. Lowndes and Mr. Ripley of the Dennison-Crockett Expedition. The chief of the expedition is Mrs. C., whose particular line is ethnology. Her husband assists her and does photography, Mrs. L. is a writer and young Ripley is a trained (Yale) ornithologist. The various branches of the party work more or less independently. Ripley has just returned from a trip of some months in the Tamrau Mountains on the Vogelkop. He starts back for U.S.A. by the returning "Van Imhoff". With him goes his mother, who came out a month ago, and Mrs. Lowndes. The Crocketts stay for another few months. The collections of this party go to ~~the~~ Philadelphia

The first part of the report is a general survey of the situation in the country. It is followed by a detailed account of the work done during the year. The report concludes with a summary of the results and a list of recommendations.

The work done during the year has been of a very high standard. The results have been excellent and the recommendations are of great value. It is hoped that these recommendations will be adopted and that the work will be continued in the future.

The following are the main points of the report:

- 1. A general survey of the situation in the country.
- 2. A detailed account of the work done during the year.
- 3. A summary of the results.
- 4. A list of recommendations.

The report is a very valuable document and it is hoped that it will be of great use to the Government and the public.



The Rattle of winches and excited shouting and splashing of the Papuans on the timber rafts kept me awake far into the night.

April 19th.

Sometime in the early hours we anchored at Saonek, on Waigeu Island, to discharge cargo. The port is actually situated on a very small islet off the coast of Waigeu. Was told at breakfast that Miss Cheesman, who is collecting on Waigeu for the British Museum, came on board to purchase stores from the Chinese traders who rent space on the ship and do business wherever we call.

Coasted along the north coast of the Vogelkop all day: the sea smooth and the sky hazy. Owing to their being obscured by clouds, we saw little of the higher mountains which in places rise quite close to the beach,

April 20th.

Entered the sheltered harbor of Dorei Bay at grey dawn and anchored close in shore at Manokwari, the principal port and administrative headquarters for all of north Netherlands New Guinea. Here resides the assistant resident for the district, the Controlleur, and no doubt some minor officials. There is stationed here the usual grey-painted patrol boat--the "Violetta"<sup>in this instance</sup>--, the Government has a sawmill run by a German, Herr Heesen, ~~and~~ there ~~about~~ are about a dozen Chinese business places and one store, the largest in the place, is owned by Japanese. A Protestant mission has been established here many years. Recently the Franciscans have opened up in opposition. One of these monkish fellows, picturesque in hooded brown habit, girdle and sandals, came on board during the morning. New military barracks are about to be erected at Manokwari. Rising close behind the little town is a long ridge some 200 or 300 feet high covered with tall rain forest. Grey coral rocks litter the narrow beach of white sand. Ranged along the shore and well sheltered for the most part by shady trees are the sawmill, the Government shed<sup>s</sup>, offices and the shops. On rising ground at the rear of these

The Bureau of Census and Statistics is pleased to announce the results of the 1960 Census of the United States. The total population of the United States was 179,325,390 on July 1, 1960.

The 1960 Census shows that the United States has become a more urban and more mobile society. The urban population has increased from 115,000,000 in 1950 to 135,000,000 in 1960. The population has also become more mobile, with a net migration of 10,000,000 people from rural to urban areas between 1950 and 1960.

The 1960 Census also shows that the United States has become a more diverse society. The population has become more ethnically diverse, with a significant increase in the number of people of Hispanic and Asian descent. The population has also become more economically diverse, with a significant increase in the number of people in the service and professional sectors of the economy.

is a row of about half a dozen houses occupied by Europeans. The dominating scenic feature of the place is the cold bulk of the Arfak Mountains, rising clear and blue in the still morning air, some five miles southward along the coast. The most prominent planted tree in the town is kapok.

On the 15th I radioed from Batjan an enquiry to Manokwari for sawn timber for use in Hollandia Base. Yesterday I received a reply to the effect that no timber would be available until next boat. Upon looking through the sawmill this morning I found a quantity of timber which I was able to purchase and have shipped today. The timber is one of the 24 kinds of hardwood sawn here under the collective name of "eisenholtz" or ironwood. Price ¥.50 per cubic meter.

The natives of Manokwari are a disgrace to Government and Mission. A wretched dirty people dressed either in perineal bangs or semi-Malay costume, physically unattractive and often infected with tinea and ulcerous sores. I have never seen natives, in the neighbourhood of a town, so obviously neglected.

April 21st.

A severe thunderstorm and thick weather prevented us reaching the port of Wasior last night. At daylight we were steaming down the narrow and deep Wandamen Bay and soon afterwards dropped anchor at Wasior to load Mosoia berk, the dry stumps and roots of a fragrant wood called Ganaroe in true Malay and Tjsudana locally, trachus--a pearl shell. The K.P.M. steamer calls only once in two months at this place. Native population is evidently scanty and it is of chief importance as the site of the Protestant mission training school for native teachers. There is a mixture of native peoples here. Some we saw are dark "Jewish" Papuans, other a Melanesian type with frizzy hair and light skin. Canoe construction is generally superior to anything seen on the Vogelkop. One canoe was shaped ---- like the Solomon Islands "bena-benas" but with two outriggers and ornamented with large white cowries, etc.

Ernst Mayr made collections at Wasior some few years ago. It looks a promising

~~locality. Mountains rise abruptly~~

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locality. Mountains rise directly behind the beach to an elevation of 2000 feet and behind these, separated by a deep valley, is another ridge rising to 6000 ft. The summit of the second range would probably be reached in  $1\frac{1}{2}$  days from Wasior. The rain forests which cover the whole country have suffered little disturbance. Leaving Wasior we passed through ~~Numamuran~~ Numamuran Strait, leading into Geelvink Bay, between 12 and 1 o'clock. Noticed behind the beach in several places on the small islands of the strait very small patches of recently burnt forest. These patches only a few yards across. One of them was <sup>a</sup> ground elevated to 5 m. immediately behind a tree-grown (Hibiscus ~~filiaceous~~) cove and could have been caused by the burning of a pile of driftwood. Others, however, were further inland though always within 100 yards of the shore. The dry reddish-brown leaves of the scorched trees and undergrowth (trees scorched to tops 50 feet) made these patches very conspicuous.

Anchored at Serui, on the south coast of Japen Island, at 11.30 PM:

April 22nd.

Meilke and self went ashore at daylight to inspect the aeroplane landing ramp of the N.N.G.P.M. So far as I am able to make out this is the aerial base of the company for the whole of West New Guinea. They have stationed here a 2-engined Sikorsky amphibian of rather ancient vintage with which aerial surveys and photography are carried out on the mainland. Their landing ramp, an expensive job of concrete, is rendered useless except at half-tide by a deep trough scoured out of the beach at its outer end.

About 50 canoes came out to the ship last night and this morning we saw many more drawn up on the beach. The canoes are dugouts of the double outrigger type, with sometimes nicely carved or fretworked and grotesquely shaped high stem pieces, decorated with cassowary feathers, tassels of cut white cockatoo feathers and cowrie shells. Sometimes the bows are carved in relief: a common design being raised circular spots 2" in diameter on a ground of red ochre. The people

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a mixture of dark Papuans and brown Melanesia: the former with short crimped hair the latter often with large mops and rather effeminate faces.

White population of Serui is the controleur, doctor and his wife, the N.N.G.P.M. air-pilot, and since the arrival of the Van Imhoff, Nurse Z.T. Pieters, fresh from Holland.

April 23rd.

Called at Sami and another port during the night and reached Wakdi at daylight this morning. Wakde anchorage is a small bay in the passage between two little islands lying about 2 miles off the coast of the mainland. The larger island, perhaps 100 acres in area, is planted with coconuts and owned by a German: one of the numerous Germans who fled to this territory from NE New Guinea in 1914. On the smaller island is a native village and Chinese trading post. The natives have a remarkably well-fed appearance, apparently do a great deal of fishing and have nicely carved canoes and paddles. Besides being carved with intricate designs incorporating sharp points and scrolls along the sides, their dugouts have separate figureheads and sternpieces carved in the form of human heads and birds. The latter pieces present a remarkable resemblance to the carvings of the ancient Mayas of Central America. Nearly every canoe carried across its outrigger beams a large iron-tipped harpoon with carved and sometimes red and white ochred long thick shaft, in addition to very large 4-pronged wooden fish spears, bows and fish arrows and long fishing rods of bamboo.

Passed the red cliffs of Tanah Merah Bay shortly before dark and anchored in Hollandia Bay at 7.30. The Cycloops Mountains end in the point of red soil which gives Tanah Merah Bay its name. At the present time this point is without trees and covered, sparsely it would seem, with grass or fern and shrubs. On the hills about the bay and extending a mile or two east on the slopes of the Cycloops are extensive areas of rain forest second growths, some grass and several large fenced gardens now under crops. Tanah Merah Point has probably been deforested

INDEX BOOK BOND

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by man: but of this I cannot be sure.

If a bad beginning signifies a good ending, the time of our landing at Hollandia was propitious. We arrived in rain, unloaded cargo between showers and ended up wet and tired in the hospital at 1.30 AM. The little township was "full" of people for the arrival of the ship. The rest house was occupied and the hospital was the only place available to ourselves and coolies for the night. Our cargo amounted to about 52 tons, as follows:

European food, household gear, tools and building material.

Timber purchased Sourabaia (camphor wood) and at Manokwari.

Coolie rations from Makassar.

About six Europeans, all Germans, (and the half-caste wives and progeny of some?) appeared on board the ship. We saw none of the half-caste Dutch who have settled here and, it is said, failed miserably. The gesagheber, Mr. Hoogland, was in bed with fever so sent his Javanese doctor to receive us and show us to our quarters. There were also 20 odd boys to carry our baggage. The chief of police, a German named Quirk (or a name like that) speaks little English and was imprisoned by the British in 1914 after the capture of a German possession on the Chinese coast.

April 24th.

Vacated the hospital and shifted to the house of Mr. Brunkman, situated next the beach, and though <sup>an</sup> a low flooded ground on the riverbank, a convenient temporary residence and close to the proposed site of our base. We are paying Brinkman ₧35 per month for his house and a rather shaky go-down next door. The latter building will serve as store and coolie-house. B is an expropriated German from NE New Guinea and has a cacao and kapok plantation behind Pim, about 10 km. down the coast.

Found when our cargo came ashore last night that an awful mess had been made ~~of~~ in shipping the timber from Soerabaia. This timber, bought for the aeroplane, <sup>rank</sup> was invoice<sup>d</sup> as being in thickness of 10 and 20 cm., but was supplied in boards <sup>cm</sup> 2.5 cm. thick. It is therefore useless for the purpose for which it was purchased

The first part of the report deals with the general situation of the country. It is a very interesting and detailed account of the country's history and its present state. The author has done a great deal of research and has gathered a wealth of material which he has used to give us a clear and concise picture of the country.

The second part of the report deals with the country's economy. It is a very interesting and detailed account of the country's economic situation. The author has done a great deal of research and has gathered a wealth of material which he has used to give us a clear and concise picture of the country's economy.

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The sixth part of the report deals with the country's health. It is a very interesting and detailed account of the country's health situation. The author has done a great deal of research and has gathered a wealth of material which he has used to give us a clear and concise picture of the country's health.

The seventh part of the report deals with the country's environment. It is a very interesting and detailed account of the country's environmental situation. The author has done a great deal of research and has gathered a wealth of material which he has used to give us a clear and concise picture of the country's environment.

The eighth part of the report deals with the country's foreign relations. It is a very interesting and detailed account of the country's foreign relations. The author has done a great deal of research and has gathered a wealth of material which he has used to give us a clear and concise picture of the country's foreign relations.

The ninth part of the report deals with the country's future. It is a very interesting and detailed account of the country's future. The author has done a great deal of research and has gathered a wealth of material which he has used to give us a clear and concise picture of the country's future.

but will be handy for flooring, etc. Fortunately Mr. Ebeli, ex-Adjutant of the Ned, Indies Army who has a water driven sawmill on Lake Sentani, was down to meet the boat and I was able to place with him an order for 27 cubic meters of 4" hardwood at a price of f.30 per 6m. Ebeli guarantees to deliver the timber in a month at a transport cost of F/.35 per mc. Payment to be made in part as the timber comes to hand.

Following are distances and modes of transport from the sawmill--

10 km Footpad Dojo Bare (sawmill) to ~~I~~<sup>f</sup>tar on shore of lake.

15 km Prauw ~~I~~<sup>f</sup>tar to Koeyabe (Kuyabu.)

10 km. Footpad Koeyabe to Pim

10 km Prauw Pim to Hollandia.

Examined Hollandia for a suitable site for the base and found only one available, ie, a vacant piece of tollerably dry ground near the end of the jetty. Also made a preliminary examination of the shore for site for the aeroplane ramp.

Shifted our belongings into Brinkman's house and started to transfer cargo from the wharf with our 9 Makassar coolies. The local natives refused to consider Sunday work. One, who spoke Rabaul pidgin English, saying they wished to visit the "ho<sup>y</sup>se paper" or church. Stored two cases dynamite, 200 caps and 150 m. fuse at the police post.

White population of Hollandia itself consists of <sup>J</sup> Hoogland, the gesagheber; Quirk, O/c police; Feninga, commander of the motor patrol boat Bantam.

Natives, half-castes or Chinese, fill positions as doctor, gesagheber's assistant Radio operator and postmaster, clerks, etc. There are 4 Chinese shops and one belonging to a newly arrived British Indian. 28 Papuans turned up for work and were put to cutting timber and bringing it in from the forest for our first go-down. These natives are engaged by Government at our expense and work under a Govt. overseer. Their wages, thirty cents a day without food. They cut and delivered a lot of timber in the day (some of it too crooked to be of use except as firewood) and applied for higher wages upon handing in their tools for the night. Papuans brought in a great deal of timber, a good proportion of which is

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over-crooked or of poor quality.

Makassars shifted to go-down the remainder of the cargo except benzine and galvanized iron: got in timber for kitchen, firewood, etc.

A further examination of the proposed ramp site showed that it is anything but good. There is a good hard beach with a slope to low water mark of 1 in 10 but beyond that it is practically flat, ending in a nasty coral reef about 200 yards off shore and obstructed by a sandbank about half way out. There is barely enough water to float the aeroplane at high tide and a long ramp will be necessary.

Hired a native canoe to inspect other parts of the shore in the morning and had the use of the Bantam's motor launch to examine the north arm of the bay in the afternoon. Was satisfied on these inspections that the only possible site is the original spot near the pier at the township. Will make a detailed survey of this tomorrow.

Engaged an Ambonese named Marcus as mandoer over the Papuans at £30 per month and a food allowance of 40 cents a day.

April 26th.

Showers began during night and did not finally clear until mid-morning.

A few Papuans turned up for work but, under the leadership of one Amus, stuck out for higher pay. In the afternoon however, several came along and offered to work tomorrow at 30 cents. This seems a miserable wage to me but it is evidently the ruling rate. The labor supply being uncertain here, Mr. Hoogland sent to Sentani today for 40 men. He will also send out for sago to feed these people. Ramm, Richardson and myself spent the day sounding and marking out a site for the aeroplane ramp. The site chosen, the only possible place in Hollandia Bay has some serious disadvantages which the following radio sent to Rand at Batavia explains--"Particulars only ramp site available Hollandia Bay 190 feet top beach to high tide depth four feet stop Forty yards beyond ramp a firm sandbank 40 yards wide and shallowing to  $3\frac{1}{2}$  feet beyond which 5 to 6 feet of water to fronting

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reef where blasting niggerhead not difficult stop Calculations on yesterdays tidal rise 53 centimeters stop ~~Can~~ Annual maximum variation 90 centimeters stop Can plane cross sandbank combination wheels and floating"

Found on further checking cargo that we have no flour, the seven bags I ordered in Sourabaia having gone astray. Flour however is less important than some items of tools and building supplies, particularly timber for the ramp, which have been shortsent by Internationale, substituted with inferior or unsuitable articles, or altogether overlooked. Fortunately we are able to buy food and small stores from the twon Chinese.

Makassar coolies building a kitchen, fitting handles to tools, getting firewood, etc.

April 27th.

Fine crisp morning with enough chill in the land breeze to make one blanket rather insufficient covering. <sup>24</sup> ~~The~~ local Papuans came along for work and continued cutting bush timber for the building.

Pegged out sites for two go-downs and the <sup>gallic</sup> ~~dario~~ shack. We are fortunate in having the old concrete floors of previous buildings on which to erect these three structures.

Made further observations on the tides and of the opinion now that except perhaps about the equinox at least one tide a day will give us enough water to float the plane to the ramp. Received a tide chart for today from Capt. Fininga.

About 3 PM, 36 natives from Lake Sentani arrived in answer to the call sent out by the controleur yesterday. At first they asked higher wages than 25 cents a day and found, but later agreed to be ready to start in the morning at that figure. Their food will be rice until supplies of ~~sago~~ sago are obtained (through Govt.) One of their number will act as rice-cook.

Makassars shifting galvanized iron and gasoline from ~~edge~~ the wharf to the base site and later sharpening tools in readiness for the Sentani coolies tomorrow.

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April 28th.

Things are beginning to take shape now and work progress satisfactorily. 37 Sentani and 24 Hollandia coolies getting building timber for houses and go-downs; 12 Hollandias getting rotan; Makassars finished shifting benzine from wharf and began barking timber. Holes dug for both go-downs, as far down as water would allow. The narrow vale in which Hollandia is situated is apparently nothing more than a river channel, swampy right across, but now partly ~~drained~~ drained and filled up. Beneath the old concrete floors on which we are building the godowns we found loose sand saturated with fresh water rising almost to the surface ~~of the~~ with the tide. Holes dug in this sand immediately collapsed at the sides. Was informed by Capt. Fininga (of the Bantam) that, on our survey of the 25th, we will be able to float the plane to the ramp on at least one tide a day throughout the year. Fininga was also good enough to offer us the use of the Bantam's searchlights when bringing in the plane at night and gave us a trial display this evening.

Have asked the controleur to get sago for our Sentani coolies. The atap (3000 sticks ordered through Mr. Jamnsen at Ambon) is beginning to come in today. Payin  $2\frac{1}{2}$  cents per stick of approximately 6 feet.

April 29th.

Had in all 96 coolies working today. 26 Sentanis and 26 Hollandias getting the first stringers for the aeroplane ramp. 4 bringing each a long bamboo for radio from a distant village along the coast, 10 putting atap walls in a big shed to house the Sentani coolies, 2 making a W.C. over the creek at our own quarters and the remainder preparing timbers for the first godown and levelling off the tip of the beach for the ramp.

The two logging gangs brought in between them 63 meters of logs, some of them 14 and 15 meters long and up to -- diameter at the big end. At this rate we would have in a week all the stringer timbers required for the ramp.

The ~~xxx~~ local coolies bringing the biggest logs but the Sentanis choosing better timber.

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Cornelius Samalo, a cross-eyed Ambonese, started today as mandoer over the Sentanis. Marcus commenced as mandoer in charge of the Hollandias on the ~~(The~~ Ambonese 25th. (the latter \* soldier) Papuan  
A good day's work.

Had some fresh meat today from one of the colonists. The scale of values seems all wrong in this country and in the Indies generally. For instance, today we paid \$4.50 for 5 kilos meat and 30 eggs, while a 14 meter heavy log costs only \$3.25 in coolie wages at 25 cents per day for 13 men.

Fresh food is abundant here and cheap. Since arriving we have had daily supplies of greens, eggs, fruit and tombok, besides plenty of eggs, fowls and twice in the week fresh meat. Fish is also plentiful.

April 30th.

Three more local men enrolled for work this morning, making with 9 Makassars, 99 coolies on the job. Today we have another 80 meters of ramp stringers. With yesterdays 60 meters a total of 140 meters or 1/3 of our estimated requirements. Obtaining~~ing~~<sup>ed</sup> permission to use a quantity of portable tramway and 2 one ton hoppers used by the Government for filling swampy land. Shifted to our base camp all the rails we want and nearly completed laying a track of 150 yards from a quarry on a steep hillside to the aeroplane ramp site. A lot of filling will be necessary to make our site habitable and usable in wet weather.

Results for the week are good considering that we have done only four days actual work in the preparation of the base.

Today, being the birthday of Princess Juliana, was a holiday for the Government service.

Following the fashion of the country we worked the coolies 8 hours, making 48 hours for the week.

May 1st.

The event of the day was an invitation ~~April~~ for the members of the expedition to eat

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a rijst-tafel with the gesagheber. Late in the afternoon, when I had got over the sluggishness of overeating, I walked out along the Sentani road for a distance of about  $\frac{1}{2}$  mile. After crossing the gravelly, reed-fringed river on a rickety bridge of loose logs laid in pairs and supported by piles, the gradee road commences a sidelong climb through second growth rain forest on the steep wall of the valley. The rock here is perhaps a grey serpentine crumbling away in small landslipson the deforested slopes. Macaranga spp.? Pipturus, Breynia, Premna, <sup>e</sup>Blechnum orientale and Pennisetum mac~~ro~~rostachyum are prominent ~~along the~~ on these slopes and along the track, as everywhere about Hollandia. Chrysopaga acicularis. At about 300 feet altitude the track passes through a red soil gap in the parallel ridge which walls the valley. Here the ~~ridge~~ ridge is topped by vertical cliffs of crystalline limestone, those seen being 10 to 50 feet high, but the rich looking primary forest screens them for the most part. In the gap is the home of one of the half-caste colonist families, immediately beyond which the track enters the head of a forested ravine at the farthest point reached by me. This particular family of colonists is apparently lazy and not particularly clean. The house seemed untidy, dirty bedclothes hung over the railings and in the very inadequate garden a blowsy middle-aged woman and her lanky son worked bare-footed planting out tomatoes. The garden also contained a few sweet potatoes and odd plants of taro. About a dozen head of cattle, 20 pigs and perhaps 20 strange-looking black-eyed sheep and divers ill-bred fowls comprised the livestock. A society in Java supplies these poor people with rice and therefore they do not have to work to eat.

May 2nd.

With 16 more Sentanis and four new hands picked from about 20, locals offering this morning, we had today 119 coolies on the job--more than we can use to best advantage. Also 53 Sentanis are too many to feed from our stock of rice. Sago is slow coming in. The erection of the frame timbers of the first godown was nearly completed by Mielke's gang. Richardson started to erect the posts of the

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Handwritten notes at the bottom of the page, including the word "Wash" and some numbers like "1901".

second godown and I superintended the filling of a patch of swampy ground over which we must extend the end of the aeroplane ramp. About 40 meters of ramp logs and a quantity of building timber brought in by the two bush gangs. Started to extend the tramline out to the end of the wharf to facilitate handing over cargo arriving by next boat. Yesterday I started negotiations with the Chinaman Po Eng Tie for a very fine building site on the waterfront. This is the only place on which we could build a house commanding a view over the bay.

May 3rd.

112 Papuans on payroll today, getting house and ramp timber, filling ramp site from quarry, laying tramway from go-downs to wharf, building godowns and barking timber for building.

Framework of first godown finished and covering with galvanized iron commenced. The posts and two wall-plates set up on second godown (by Richardson)

May 4th.

Work crew still 112 without reckoning the Makassars--51 Sentani and 61 local coolies. Have 260 meters of logs suitable for ramp stringers, our total requirements being 380 m., and have timbers brought in for buildings and further filling and carpentering on the godowns. Sometimes I think progress is slow but actually things are going well.

Negotiations with Po Eng Tie for a building site on the beach have broken down; my offer of ₪3 per month and the gift of the house when we leave having no attraction evidently. There being no other vacant spot suitable for a building from which the bay can be seen, I have sent by native messengers a letter to Mr. Schneider, missionary at Lake Sentani, asking if we can hire a mission house situated on the beach. This is an old house and in bad repair. It will be necessary to cover the galvanized roof with atap, repair the floor and outhouses and make some alterations to this house. A thorough cleansing with disinfectants

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and a coat of whitewash inside and out will also be required.

May 5th.

The same number of coolies doing work similar to yesterday. Timber becoming more difficult to obtain and every day shows poorer results from the cutting gangs.

Not being sure of his ability to express himself in English, Mr. Schneider came ~~down~~ down from Lake Sentani this morning to reply in person to my letter of yesterday. He raised no difficulties in the matter of our renting the mission house and after issuing warnings as to the condition of the place, agreed to let us have it for the term of the expedition at a rental of ¥15 per month. We can do anything we wish in the way of alterations and repairs. Schneider says Ebeli is working day and night on our timber order.

A dull morning with one or two sharp showers from a north-easterly direction. Yesterday a lalang hillside above the far end of the township was fired by the natives.

Schneider's mission is a Protestant organization called the ~~Utrechlocke Zendiengs-vereiniging~~. ~~UTRECHTSCH~~ ~~ZENDIENG~~ ~~VEREINIGING~~.  
UTRECHTSCH E ZENDIENG S - VEREINIGING.

May 6th.

Still 112 Papuans on the job. The Hollandia gang getting ramp stringers went to the southside of the bay today with better results. The forests of the north side are pretty well depleted of the kind of timber we need. Mielke has the first godown nearly finished and Richardson and Ramm started to nail galvanized iron on the second one. Had 3 Makassars and 2 Papuans disinfecting the old mission house and myself examined the timbers and condemned for replacement any rotten pieces.

Weather fine again today. The "Bantam" awakened us at break of day with her siren as she left harbor on patrol.

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May 7th.

Still a few small jobs to be done on the first godowns such as doors and cementing round the bottom of the walls. Richardson and Ramm have the roof on No. 2 godown and also the lower walls completed. I myself started replacing rotten and termite-eaten timbers in the mission house and a crew of coolies at work rebuilding the kitchen.

This was our first pay-day at Hollandia and a big day for the Chinese stores. The pay-roll amounted to F269.30 for the Papuans and F100.43 for cooks, Makassar coolies and local Ambonese mandoers.

May 8th.

An empty lazy day; showery in the morning. Spent several hours fixing up the coolie pay sheets and cash account. In afternoon took a short walk to a grassy hillside just north of the town and collected three plants--Metrosideres (Xanthostema, Tristanii?) No. --, a small tree with rather large ovate leathery leaves and bright red flowers: a conspicuous clump sedge with stiff glaucous leaves and pointed red nuts: and a Lindsaya?, gregarious under moist rocks and steep ~~drop~~ drops. Chrysopaga acicertaria has a good hold on this patch of Emperata grass-land. One of the commonest of the scattered small trees has the appearance of a small-leaved Mysten.

May 9th.

13 Sentani coolies departed for their villages sometime during the week-end, leaving us with 38. These, with the original lot of 61 locals, make 99 Papuans at work today. The Hollandia timber gang continued on ramp stringers, bringing in 6 logs of 6 m. each. The Sentani gang started getting light buoyant wood with which to make a big raft to float ashore our heavy articles of cargo arriving by next boat. Mielcke rebuilding the mission kitchen and self replacing ~~with~~ rotten timbers in the house. Ramm and Richardson working on the No. 2 godown, putting a 6" layer of filling on top of the original concrete floor in pre-

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paration for a higher layer of ~~concrete~~ cement which we hope will be above flood level..

A fine day. The gesagheber and native doctor left for a trip down the coast and to Lake Sentani.

May 10th.

Made a mistake in counting the coolies yesterday., This week we have the same number as last, ie 112 locals and 9 Makassars.

Measurement of the rather imposing array of ramp logs showed that we have on hand 52 pieces totalling 425 m. in length. Reckoning 60 cm. for each joint, we have 5 m. more than we estimate total requirements. To have plenty on hand to meet emergencies, the lumber gang will work another day or so on this job. The radio shack commenced today. Other jobs as yesterday.

Ebeli sent word that 250 pieces of our ramp decking are on the way from Lake Sentani. This is half our order. He is working day and night and having difficulty in getting coolies for transport work. It seems that labor rates in the district are less than we are paying, that is 30 cents per day without food, and now the Sentani men are unwilling to work for less.

Arranged with W. Kaase, a German colonist, for supplies of ~~food~~ fresh food thrice weekly. Supplies from other sources have greatly diminished in the last few days.

May 11th.

As a final effort the big timber gang brought in 8 logs measuring 56 meters. With this we have 480 m. on hand, giving us about 70 meters over estimated requirements. The Sentani timber gang still getting light timber to build a cargo float. Ramm started putting a layer of cement on the floor of the No. 2 godown. Richardson making doors, etc. for #2 godown. Mielcke working on timbers for the radio house and rebuilding the kitchen at the mission house. Self and 4 Makassars still replacing rotten timbers in the mission house.

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Ebeli sent a request yesterday for 6 drums of gasoline for his ~~an~~ sawmill Ford engine. Upon looking through our stocks I found that all 238 x 10 gallon drums brought from Makassar are 87 aviation spirit. Radioed Ternate today for engine 150 gals. ordinary fuel for radio, and for Ebeli.

May 12th.

Both timber gangs cutting floater wood for the cargo raft. 4 boys searching for rattan, which is hard to get. 4 boys commenced adzing ramp logs. Ramm finished concreting floor of the #2 godown. Richardson making doors for #2 godown. Mielcke dividing his time between the radio shack and rebuilding the mission kitchen. Self and 4 Makassars strengthening the old mission house. About an hour before noon 2 old Fokker ~~seaplanes~~ seaplanes arrived on their regular 3-monthly patrol, having spent half an hour or so at Lake Sentani on their flight from Sarmi. One plane, the T-3, carried a complement of 2 pilots and 4 other ranks: the T-12 had one pilot and four men. These old planes, on their search for Japanese poachers, fly from Govt. station to Govt. station, armed with 3 machine guns and a load of bombs. Ramm, who went aboard the T-12, says he saw 4 x 200 kilo bombs and 16 x 40s. Radio operator Corporal Mueller came around to the houses with Ramm and stayed to dinner.

May 13th

Having refueled immediately after arrival yesterday, the seaplanes departed for Sarmi at 5.30 AM.

Yesterday we received 3 baskets of sago each weighing 50 lbs. It was brought by Javanese doctor Roestamadji on his recent patrol, at 50 cents per basket and 5 cent transport charge. But for this timely arrival we should have had to buy from the Chinese rice for the 52 Sentani coolies. This afternoon a korano from somewhere down the bay came in with 11 more baskets of sago. A group of dis-satisfied Sentanis led by the head-boy, Thidures, assembled before the door this evening and asked to be fed rice for one meal daily and sago for 2 meals.

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Work arranged practically as yesterday. I finished replacing heavy timbers in the mission house and strengthening the roof and began relaying the floor this afternoon. Ramm building an atap shed for the power supply plant.

A thunderstorm early last evening resulted in the biggest fall of rain since our arrival, ie 1/2 inch. This morning very humid and more thunder without local rain this evening.

May 14th.

The timber gangs getting further material such as rotang and sago leaf stalks for the raft and also timbers for the coolie house.

The main work of timber-getting being over, I paid off 22 of the worst Hollandia coolies this evening. Intended to cull the Sentanis as well but as about half of them went home for the week-end immediately after work was finished, this was allowed to stand over until Monday.

May 15th.

Taking a small canoe for the first part of the journey, one Makassar coolie and 3 Sentani coolies as guides, Richardson spent the day on an excursion to Lake Sentani.

The event of the day in camp was a rijs-tafel of 10 dishes, the first attempt by our cook and a very creditable one too. My day was spent writing letters. Bought from local natives four stone adze heads varying in price from 25 cents to \$1.60 according to size, a carved timepot made of a coconut shell and an ornamental flat food bowl carved from some soft wood and carved on the outside.

May 16th.

A number of new jobs were started today--20 Hollandias commenced building the large <sup>Canoe</sup> ~~canoe~~ float. 8 Sentanis started putting an atap roof over the mission house and, most important, a beginning was made with the actual building of the aeroplane ramp. Most of the stringer logs for the ramp have already been

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adzed on one side. Today we set out the ramp and had 7 boys digging trenches to carry the dry land stringers. Had all the sawn lumber from last boat shifted to the base and stacked between the godowns and made a general clean-up in preparation for stacking the ramp decking when it arrives from Lake Sentani. Am rather apprehensive lest this decking should be delivered behind the agreed date ie one month from the 24th of April. There is certainly no chance of the whole lot being here by that date and I realised that when I set time of delivery at one month. It is rather disturbing though that 250 pieces which Ebali advised having despatched a week ago have not arrived.

Paid off 20 Sentani coolies this evening. This leaves us with a payroll of 32 Sentanis and 37 local coolies.

The Patrol boat "Bantam" returned from Sami at daylight this morning. The gesagheber and native doctor left on a short trip to some villages on the north coast.

May 17th

N-easterly weather. Heavy showers of long duration commenced about 4 AM and extended to after 9 o'clock spoiling our morning's work. No sun through day--  
disposition of coolies--

20 making cargo raft

10 collecting sago leafstakks for raft.

10 excavating and setting logs in place on ramp.

8 putting atap roof on mission house.

6 Radio shack.

4 whitewashing interior of mission house.

3 making shelves in godowns.

6 making bathroom site.

Sent 2 drums (x 10 gals) of aviation spirit to Ebali by four of the returning Sentani coolies. Paid the boys each two days wages for the job. Had Mielcke write Ebali a letter in German (as he knows no English) asking him to make

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every effort to effect the immediate delivery of our 4" planks for decking the ramp.

May 18th.

Allotment of coolies much as yesterday, except that 10 men were required to bring more atap timber. A beautifully fine still day after the rain.

A distinct though not severe earth tremor at 7.45 PM:

Yesterday a radio arrived from Internatio, Sourabaia, advising that only "rosa" spotted cowrie shells were available there. Only the white shells are valued as trade in the mountans. Made enquiries locally and was offered 500 white shells at 5 cents each by a local Chinaman.

May 19th.

Most coolies working on the same jobs since Wednesday. The big raft for heavy caggo should be completed tomorrow morning. Getting timber and rotang and ~~xxxx~~ building this raft has been a big job. Our house is whitewashed inside and partly outside and scrubbed out ready for occupation tomorrow. Kitchen also whitewashed. Spent over an hour in an attempt to bail out the mission house well, working 4 boys in shifts of 2. The water, pushed up by the rising tide, proved too much for us.

Mr. Ebeli came down from Sentani in connection with his lumber and in answer to a letter written two days ago by Mielcke. He has 450 of the total 500 planks cut but delivery is held up by transport difficulties. 40 planks are at Pim and 200 more somewhere along the road between Pim and the lake. The difficulty however seems chiefly one of money. Also about 100 Sentani boys are working on roads in preparation for ~~xxxx~~ the arrival of the assistant resident next week. Ebeli's visit was for the purpose of asking for an advance payment to cover the first transport costs. He believes that the sight of money, of which he has none, will draw plenty of men willing to travel. Advanced Ebeli  $\text{f}130.00$ .

Had the gesagheber and Ebeli to dinner.

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May 20th.

This day was occupied chiefly in finishing off jobs for the arrival of the ship tomorrow. The cargo float, radio house, godown shelving and the mission house repairs were all completed. Pressure of other work prevented much being accomplished on the ramp.

Mr. Schneider came down from his station on Sentani Meer and will be our guest until after the departure of the ship. Many strange natives are in town for the great event of the month.

We vacated Brinkmann's house and moved into our own.

The first of the ramp decking arrived on the canoes of the Tabati coolies as they came to work at daylight this morning.

May 21st.

Some odd jobs finished off but most of the day spent in preparing for the arrival of the monthly steamer---which failed to arrive. The steamer was due in at 10 AM. At 10 PM I bathed and went to bed. This was pay-day for the Papuan coolies but, wishing them to work cargo, the pay was held over and the boys told to stand by. Tonight they are sleeping in one of the godowns. Brinkmann, Ebeli, Kasse and Schupper in town for the arrival of the ship.

May 22nd.

Was awakened half hour before daylight by the usual rattling and splashing at the well. A dark morning, thunder rumbling and lightning on the sea-slopes of Mt. Bougainville, and still no ship. Gave the local coolies a basket of sago for breakfast, as they are without food. Schneider very kindly cancelled church service this morning so that if the ship arrived we would be able to work cargo immediately.

May 23rd.

Hoogland's "Gott verdommt" in the radio office this morning was the most ex-

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pressive it has delighted me to hear. Most all European inhabitants and visitors were there to hear news of the "Van Waerijick", now two days late. Most of us had only cargo to worry about but Hoogland's wife, married by "handschoen" or proxy three weeks ago, is on the ship and he is in a frenzy of anxiety. Missionary Schneider came down from Sentani on Friday to make arrangements for the church wedding. By Friday evening the mission school next door to our house was garlanded in and out with the attractive pale decorations of young coconut leaves split down the middle, gay crotons and pompoms of young palm leaf topped with the large orange fruits of an Ervatamia. Today the wilted decorations were being removed.

Just as we got up from the lunch table at one o'clock the call of "sail-o" went up from the hundred or so natives who have camped on the beach since Friday-- the smoke of the steamer could be seen rising from behind the point. Rand was on board, with 2 east-Javanese cooks for the inland party and about 100 tons of cargo. Also, I was surprised to see Lieut. Schroder and seven soldiers had arrived with 900 packages of stores. Schroder, whom I met in Makassar, is attached to the military party of our expedition and had come to make preliminary arrangements. Nobody in Hollandia knew of his coming.

Had all hands working cargo until the ship left at 2 AM. Our raft proved a fine thing for the heavy cargo. On it about 15 tons of large packing cases were floated ashore.

May 24th.

All hands busy unloading the raft and stacking and unpacking cargo. We have from Manokwari --- c. meters of hardwood planking for the ramp, in addition to most of the expedition equipment from U.S.A. and food stores for two months. Our agents at Sourabaia and Makassar have bungled our stores shipment, as was the case last month. Much of the cargo has still to be unpacked and so far as can be seen in the absence of invoices, we are over a dozen cases short. There are no potatoes and no trade tobacco and a number of less important items of

THE BOSTON RECORD

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supplies have failed to arrive. The wharf shed and about 50 yards of the pier are crowded with Schroder's cargo, which includes two months rations for the military party and our 75 Dyaks.

\$ Sentanis and 2 locals threw in their jobs when they received this afternoon the delayed pay for the last fortnight's work. Thiduris, No. 1 Sentani boy, and from the beginning a sore spot, was sacked. This leaves us with 33 local coolies, 27 Sentanis and our permanent unit of 9 Makassar coolies. Have had a good deal of fever in the Makassars during the last two weeks and now several have developed septic sores on the feet and lower legs. Anyhow, only half of them are of any real use. Several are not nearly as good as our better Papuans.

Work on the <sup>ramp</sup>~~raft~~, cutting joints on the shore stringer logs, went on as usual.

May 25th.

A busy day unpacking, sorting and listing stores and field equipment. The shore end of the ramp levelled and partly set in position.

May 26th.

The planking of the <sup>ramp</sup>~~raft~~ commenced. Rand unpacked the aeroplane tender punt and began to put it together. Ramm working on radio and at 4.30 got signals. Richardson started to build the Makassar coolie house. Self listing stores and estimating requirements. 15 Sentani coolies getting house timber. Wrote White asking that he send me 1 doz. 3/4 axes, 2 doz. handles for axes, 6 gross brass screws for boots and a geologists hammer for collecting lichens.

May 27th.

One of the Government "white ships", the Meral, with Assistant Resident Jacobs of Manokwari on board, anchored in the bay about sunrise. A native mission band of flutes and drums, including 15 of our boys, marched in procession behind the Resident from the wharf to the gesagheber's house. Had Jacobs in for afternoon tea and he stayed with us until 7 PM.

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Work goes slowly on the ramp. I started putting on the deck and completed about 2 meters of double 2" planking. Richardson has the plates and ridgepole on the coolies house. Ramm treated us to a radio reception of World's news at 4.30 PM. Rand working on the punt. What with several passengers and a crowd of officers from the "Meral" the town is full of white people. Schroeder started the erection of his godown for military and Dyak stores (13 x 7½ m.). His soldiers skinning posts with their swords.

May 28th.

Heavy rain from showers in the early hours before daylight, followed by an extremely hot and humid clear morning. Richardson had one side of the coolie house roofed with atap. Mielcke has two logs of the first set on the beach in place. ~~As Mielcke~~ As Mielcke joins the logs and sets them in position, I follow with a gang of 6 boys laying the decking. The use of an electric drill enabled me to make good progress with this today. Ramm started rigging his big aerial to trees.

Work this week has been affected by the arrival of the monthly steamer and the necessity of getting our cargo under cover and partly opened up.

Bought for inland trade 500 white cowrie shells from the Chinese Eng Boo Hoo at 2½ cents apiece.

May 29th.

Spent the morning on accounts. At 11.30 we repaired to the gesagheber's house to eat a rice-tafel. As Richardson remarked, a pleasant waste of time.

Richardson started out by prow before breakfast on a visit to Tabati and returned at 11.15 with a load of curios. In the afternoon Ramm tried out one of the field radio sets. Reception good but the engine uncertain in its running and the transmitter out of action. Every evening the native population assembles about the base and especially the radio shack, to view the wonders of the expedition.

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May 30th.

48

Several heavy showers before daylight. Thunder to NE about daybreak and again to W in early evening. A cloudy rainless day.

The ramp is at last beginning to stretch down the beach. As Mielcke lays the logs I follow with the decking.

Mixed developer and hypo ready to develop pictures when temperatures are suitable. This morning water left on the ground in a bucket was 82. f--in the waterbag, 76 f. Rand recorded a temperature of 76. f. at the spring near the hospital at 5.30 PM yesterday. These temperatures too high for fine grain work. The weather is decidedly warmer than during the past month. We miss the crisp mornings which we found so pleasant at first. The night's and early mornings however are still pleasantly cool.

May 31st.

Water temperature in vessels standing on the ground in the open yard of the house was 76. f. at 5 AM.

My boys and I suffered from the heat a great deal while working on the ramp decking. Have reached the edge of the beach (19 m.) with the planks in 4 days. Mielcke spent most of the day hoisting a radio mast into a tall coconut tree near the end of the ramp. The other end of the antenna will be attached to a tall forest tree on the slope of the hill above camp. Rand started to build an atap house next to the main house for the accommodation of some of the white members of our party. Richardson has most of the floor laid in the coolie house. "e must finish this with split palm-trunks, as our supply of sawn timber is running short.

Pay-day for the cooks and Makassars and also the two local mandoers, Marcus and Cornelius. A deputation of Hollandia coolies made application for increased pay--and were refused their request. The last two days have been exceptionally hot and steamy after night rains and anyhow a month is a long time for a Papuan to last at hard work such as ours.

We continue to purchase from village callers sufficient sago to feed our Sentani

1937  
SUPER  
RING BOND  
RAGLESS  
CONTENT



coolies 2 meals a day. For the evening meal they get rice. Sago is priced at 50 cents per basket of 40 lbs.

The "Bantam" with Mr. and Mrs. Hoogland on board left at 6.30 for Sarmi.

June 1st.

Developed my first Leica spool before daylight; temperature 74. f.: air temperature 72. f. Results good as regards both exposures and development. This evening at --- Ramm achieved his first contact with the outside world. ---, Alabama, U.S.A. and received the rather startling news that Archbold was to start the flight across the Pacific in 30 hours.

Richardson finished the Makassar coolie house. Rand started the #2 European house.

June 2nd.

Started to work a late afternoon shift of Hollandia coolies (20) to take advantage of the low tide for ramp construction. The logs are laid as far as the bottom slope of the beach.

Have a deputation of Sentani coolies this evening, asking permission to return to their villages Sunday afternoon for a mission feast, the event being Ascension Day. This religious festival will extend from Sunday to Tuesday. If permission is granted it will mean the loss of the labor of 24 Sentanis for two days and probably the locals will wish a rest as well. As the ramp is to be ready by the 15th--as radioed Archbold this morning--we cannot afford to let them go. Have 35 local coolies on the pay-roll.

June 3rd.

The Guba with Archbold, Rogers, Booth, Brown, a navigator (Yancey) and a second mechanic (Barinka) left San Diego. Scraps of news through U.S.A. amateur radio stations to that effect. No advice at all from Archbold.

RING BOOK BOND

5/2/58

RING BOOK BOND

5/2/58

June 4th.

Guba arrived at Honolulu early this morning (between 1 and 2 PM our time). In the evening a radio from Archbold, dated 1st June, was delivered from the local Government station.

Big radio plant working splendidly but both field plants still out of commission. The Sentani coolies received their tobacco and fortnight's pay and departed for their villages in the late afternoon. Hollandia coolies supposed to turn up for work as usual on Monday morning.

June 5th.

Spent most of the day on wage sheets and accounts. Rand and Richardson took a walk into the forest on the ridges rising to the north of the town and returned with three birds and specimens of a few plants. Two of the plants--Dacrydium? and a species of --- are common and characteristic plants of the light dry forests and forest ridges at Oriomo, in SE New Guinea.

June 6th.

As I expected the local coolies did not put in an appearance for work. However with the Makassars and the two mandoers (Marcus and Cornelius), work was continued on the #2 dwelling, making a verandah room in front of #1 dwelling, and laying ramp decking.

The rising tide stopped our work of laying decking at 11 o'clock. The rest of the day spent in cutting and boring planks for laying tomorrow. After tomorrow most of our actual laying must be done under water. Unfortunately we have only enough planks on hand for tomorrow. Ebeli, in spite of his promise to complete delivery on Saturday (4th) has so far delivered only 170 pieces of the total of about 500 and 12 of these are too faulty to be used. I have never seen timber so badly sawn. The necessity for matching planks for thickness and straightness adds a lot to a job already arduous enough. Worst of all, most of the planks float and we are obliged to make stone rafts to anchor the whole under-

RAJ GOVIND



The first part of the document discusses the general principles of the organization and its objectives. It outlines the mission and vision statements, which are central to the organization's identity. The text emphasizes the importance of transparency and accountability in all operations.

The second part of the document details the organizational structure and the roles of various departments. It describes the hierarchy and the reporting lines, ensuring that each employee understands their position and responsibilities. This section also highlights the collaborative nature of the organization, where cross-functional teams are encouraged to work together.

The third part of the document focuses on the financial aspects of the organization. It provides a comprehensive overview of the budget, revenue streams, and expenditure patterns. The text discusses the financial goals and the strategies implemented to achieve them, ensuring long-term sustainability and growth.

The fourth part of the document addresses the human resources management. It covers recruitment, training, and development initiatives. The organization is committed to providing a supportive work environment and opportunities for professional growth to its employees. This section also discusses the performance evaluation process and the incentives provided to motivate the workforce.

The fifth and final part of the document discusses the organization's commitment to social responsibility and community engagement. It outlines the various initiatives and programs implemented to support the local community and promote sustainable development. The text emphasizes the organization's role as a responsible corporate citizen and its commitment to making a positive impact on society.

water part of the ramp. Truly a hell of a job.

Archbold and Rogers spoke to us through an amateur station in Hawaii at 9.30 last night. We all said a few words in reply. The Guba will leave Honolulu at 1-2 PM our time tomorrow. Only one stop, at Wake Island, will be made between Hawaii and Hollandia. The plane is due here early on the morning of Friday, 10th.

June 7th.

Work held up on ramp for lack of decking planks. Also Mielcke has been trying to take short cuts by putting in floater logs, which are easy to work. Richardson installed the plane winding gear. A mandrill and 10 boys roofing #2 house. Other boys getting stone for anchoring ramp.

The Guba left Hawaii for Wake Island during the afternoon our time, a flight of about 1250 miles; Ramm spending the night making hourly contacts during the flight.

Position report from the Guba 5 AM 7/6/38:- Lat 25.21 north, long. 162.18 west, 230 miles out of Hawaii, speed 128 knots, altitude 7500 feet. Flight accomplished in \_\_\_\_\_ hours.

June 8th.

Plane was to have left Wake Island today but plans altered to rest the crew.

June 9th.

Plane left Wake for Hollandia at 2.30 PM our time. Weather bad here: rain practically all day from NE and some moderate squalls.

*Friday*. June 10th.

Guba arrived 6 AM after hanging around down the coast waiting for daylight. Time 16 hours and 50 hours flying from San Diego (San Diego-Honolulu, \_\_\_\_\_ miles \_\_\_\_\_ Hours Honolulu-Wake Island \_\_\_\_\_ miles, \_\_\_\_\_ hours; Wake Island-Hollandia \_\_\_\_\_ Miles 16 hours

The Guba flew low over the town once and then landed without fuss. Richard Arch-

THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT

REPORT OF THE COMMITTEE ON THE PROGRESS OF THE WORK

FOR THE YEAR 1954

# RING BOND

## ABSTRACT

1954

1954

The following is a summary of the work done during the year 1954.

The first part of the report deals with the work done in the field of

the study of the properties of the ring bond.

The second part of the report deals with the work done in the field of

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The third part of the report deals with the work done in the field of

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The seventh part of the report deals with the work done in the field of

the study of the properties of the ring bond.

The eighth part of the report deals with the work done in the field of

the study of the properties of the ring bond.

## SUPPER

The following is a summary of the work done during the year 1954.

The first part of the report deals with the work done in the field of

the study of the properties of the ring bond.

The second part of the report deals with the work done in the field of

bold, Russell R. Rogers, L. Yancey (navigator), Gerald Brown (1st mechanic), Steve Barinka (2nd mechanic), and Raymond Booth (radio operator) on board. Richardson and self started blasting niggerheads in a passage in the reef to clear an entrance for the plane. Archbold and Richardson carried on the work but due to dud detonators did not succeed in firing any more shots. Work of laying ramp logs progressing well. Put in a few more sets of planks. The planks arrive slowly--18 yesterday and 2 today. Damn Ebeli.

June 11th.

Borrowed the Bantam's launch and went to Tabati and Pim to see what planking if any was there awaiting transport to Hollandia. Found no timber at either place so walked in on the Sentani road as far as Brinkmann's plantation. Saw Sentani men carrying two planks along the road. Brinkmann knows nothing.

From Hollandia to Pim is about 3/4 hour by the Bantam's launch. Brinkmann's plantation can be reached in 20-30 minutes walk from Pim. Kapok is the chief crop with cacao and Tebisian coffee planted between the rows. Kapok trees about 80 feet high, now almost leafless and with young fruit. B's sister, who speaks no English, lives with him. Large well-built house with atap roof, board floors and walls partly gaba-gaba and partly wood. B. far from prosperous though evidently an active, enterprising man.

June 12th.

Far from satisfied with the lumber position, I borrowed Hoogland's <sup>grey</sup> pony and with an orderly and a Papuan walking in attendance, rode up to Lake Sentani. Left at 7 AM and arrived at Kaiabu canoe landing, at the east end of the lake, about 11 o'clock. From there I took the post canoe to Schneider's house at Joka, a matter of 15 minutes easy paddling. Found 46 of our planks at Kaiabu. Ebeli has certainly fallen down on his timber contract.

Kaiabu is 19.550 km. from Hollandia by road, according to the km. posts erected along the way. These posts are carved in the form of human figures 8 feet high.

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From Hollandia to about the 8 km. post, the road is through rain-forest covering limestone hills in which most of the drainage goes underground. Saw only one running stream. Rain-forest not very rich in spp. though tall in some parts. Selaginellas are common ground cover and form much of the low vegetation along the track. A clumped Arenga and a tallish palm with rather narrow leaflets (branic?) common. Pandanus of one or two spp. also common. Celanus and Freycinetias scarce. Both smooth and prickly sago in small swamps. Forest little disturbed. At 8 km. begin the gardens of the Tabati people. Casuarina nodiflora is common in the second growths and one sees ahead open grasslands. The 9 km. peg is out in the open grassland slopes beyond the forest. These grasslands undoubtedly secondary. The process by which they are formed--clearing for gardens--can be seen around the edges. Dominant grass Themeda triandea forming a thick cover 1 meter high with taller Ophiurus abundant. Euphorbia servulata, Knoxia corymbosa, Sapubia trifida seen. Melastema sp. present as a shrub in grass but Mussaenda much commoner. Red-flowered Metrosidius? 8801 here and there as a shrub protruding above the grass. No trees out on grass. Casuarina nodiglora and Pandanus common in light forest left in ravines (perhaps largely second growths resisting the invasion of grass). The beginning of the grasslands coincides with a change in rock from limestone to serpentine (?) but this probably because the soils weathered from the serpentine (?) are more fertile. Soil black A horizon of a foot or less over yellowish pebbly B horizon perhaps clayey: soil of ridge ??? red. The road follows along the grassy hillsides at about 200-300 feet altitude to a point above Pim where it joins the more used road leading from Pim to Sentani at about 10 km. (10 KM peg missing). The roads junction is a saddle from which opens out a view of the valley of Creek in which are situated first Steuben's dwelling and then Brinkmann's plantation. About  $\frac{1}{2}$  km. from the gap on the down grade, the grass ends in the sago swamps which seem to occupy a good deal of this valley. A little past Brinkmann's plantation the 13 km. peg is on low ground with sago and neglected native plantings of coconuts, cassava and bananas. Lalang, Hibiscus

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lilicac and Kleinovie hospite characteristic. In forest remnants near road many trees vine-clad to their tops. 14 km. past in a rather large area of shady sago swamp in a branch of Brinkmann's valley. Road of springy black soil built 1 meter above swamp level. Pumpkins with white spotted leaves and Eleusina indica overrun road. Erythrimas, cassava and bananas planted in openings. 14 3/4 km. timber dressing sheds near a garden and a native house in fine tall forest of straight boled trees. Selaginella characterize ground cover. Soil black with numerous laterite pebbles (as on grasslands further on). 15 km. post on a grass patch of a score or so acres. 3 small brown deer feeding on ~~small~~ burnt grass near edge of forest. 16 km. Old secondary forest with numerous breadfruit trees, Dammaropsis and Zingiberacea. Mephrolipes ground cover. Lalang patches (small) on roadside. Another grass patch begins 100 yards toward the lake. 17 km. peg missed by following a well-used short cut through forest. 18 km. post in a big open grass area 1 km wide. Forest on slopes to right (rising some way up slopes of Cyclops Mts.) and left. One conspicuous remnant forest patch on a limestone knob. Rock of grassland apparently serpentine (schist like that of Whatton Range seen nearer lake) Soil of flats and damper hollows and slopes black. Soil of higher ridges red. All with laterite pebbles. Grasses Themeda triandria, Ophirium, Sorghum fulvum, Pollinia, with Knoxii, teraria, Mussaenda common as shrub. Few trees on grass slopes. On damp flat holding a small swamp filled with wet season ???, tall Ophiuses, with Albizia ??? and a pubescent Sarcouphalus as trees. Pandanus spp. common in some dry gullies and clumped on flat. Themida gigantea conspicuous along forest edges. This is on the lake divide. 15 head of Zebu cross cattle feeding around the little swamp. 19 km. in sago swamp filling a swampy hollow draining between grass ridges towards the lake. Scrambling Stenochlaemi, climbing large Ghomarea (white flowers) and Girsen, a tall Saccharum, a large Scleria, Hibiscus liliaceus and Blacknum orientale. At 19.550 km. post at the canoe landing. Here Saccharum largely overgrows a small clearing in sago swamp. Lake shore at this end narrowly fringed with sago swamp under the hills. Shores low sedgy in parts.

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Water speckled with unnumerable small clots of some minute green alga. Circular fish traps of upright sticks ringed with rattan in great numbers close in shore in the shallower water. Schneider says only 8 kinds of fish in the lake. From Kaiabu one has a magnificent view of the lake surrounded by hills rising abruptly from the shores, partly dark forest and partly treeless grassland. Forest and grassland very abruptly demarcated. Grass undoubtedly a secondary condition. The lake and surrounding hills remind one very forcibly of Port Moresby. The foothills of the Cyclops descend to the lake on the north side. Several large villages built on piles on the south shores.

While at Schneiders, eating a very excellent lunch, the orderly disappeared with my horse and I was obliged to follow him back on foot. Called at Steuben's place for about 1/2 hour. S. married to a German x Papuan woman; living in squalor. S has wandered back and forth over the border for many years, collecting insects and orchids and prospecting for gold. Now in charge of a new Govt. station which with 12 Papuan police he has opened about 10 miles from the border 20 kms. south of Hollandia. From Pim I took canoe to Sian landing, from which I walked the remaining 4 or 5 kms. to Hollandia in the dark.

June 13th.

Airplane crew took over all camp duties leaving Rand, Richardson and myself free to start collecting. Richardson with 2 Sentani boys, set out 100 rat traps in the forest beyond Van Zoylen's homestead. I took 2 Tabati boys and set them making gaba-gaba (split sago rhachis), ventilators for my ovens. Started pictures with the big field camera.

18 planks arrived from Ebeli.

June 14th.

My first day in the field. With my two Tabati boys, Domingis and Othniel, I took a canoe and set out to examine the grasslands which cover a considerable area of ridges on the north side of the bay. Landed at a fishing village of 4 or 5 houses

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in a small cove, just as a group of natives were beginning to cut up a freshly harpooned dugong rolled up on the gravelly beach. Sent messengers back to camp immediately with a note for Richardson who is anxious to get bones of this beast. Sat by the carcas for  $1\frac{1}{2}$  hours until R. arrived, then climbed up a steep forested slope of some 100-150 feet and was on the grasslands. Grasslands is a misnomer for this community. So far as I could see only 2 grasses--Eschaemem #8815 and Eriachne # occur. The former can be said to dominate the community in some few places, but Gleichemia 8807 covers most ground. The tall sedge #8802 is also abundant, particularly in widely spread clumps on otherwise bare red laterite soil. It would perhaps be best to call this an open ground fern and small tree community of Gleichemia and the spindly open foliaged small trees Xanthostema 8801, Acacia Simsii and Deplancha 8821. The purple mauve flowering orchid 8816 is common. I believe the community to be secondary to rain forest. Serpentine rocks stick out above the hard now damp red soil in parts. Will examine the community further at an early opportunity.

In his 100 traps Richardson caught only one Melomys last night. Saw no grassland birds. Shot a yellow sun bird feeding on the conspicuous red flowers of Xanthostema 8801. A fair number of planks delivered by Tabati canoes.

June 15th.

This morning we flew up to Lake Sentani to enquire about the timber and returned with 21 planks. After circling round the middle part of the lake for a while, we landed at Ifar, where the bestums assistant of the lake district is stationed and from which point the road leads 10-15 km. inland to Ebeli's sawmill on the slopes of the Cyclops. Ifaar consists of the government establishment and two Chinese --\*-- situated 1 km. back from the shore of the lake, Several large villages built on piles over the water, are situated on islands nearby, and other smaller ones are scattered along the shores.

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Large sago swamps occur near Ifar, and much of the land behind the north shore, about the middle section of the lake is low lying and swampy. A view of the grass lands from the air confirms my opinion that they are secondary and maintained by burning. According to the Minadonese bestums assistant, Miss Cheesman, on her visit to the lake last year, climbed to an altitude of 700 m. on the south slopes of the Cyclops. He knew of no European who had gone higher. Ernst Meyer claims to have gone to the summit some years back.

Probably the top of the Cyclops could be reached from Ifar in two days with carriers. Natives are said to hunt far up the slopes but not to the summit. A small party could obtain all the requirements from the Chinese stores at Ifar.

June 16th.

Made some full plate pictures and collected 21 plants in the rain forest near Van Zolter's homestead. On the deeper soil deposits under limestone cliffs and in saddles and ravines between the hills is good rain-forest of trees of which I recognize only one species- a Casuarina. Though tall and carrying some trees of large girth, the forests are apparently poor in species. Selaginella 8830 characterizes a largely herbaceous undergrowth in which the ferns 8826 and Dyopteris 8839 and Leptaspes 8824 are rather abundant. Selaginella and Diplazium 8836 come in on the clayey banks of the Hollandia-Pim road and Begonia 8841 with large tuberculate leaves and small whitish flowers was collected in the bottom of a shady ravine. Tecomanthe 8823 is common and very conspicuous as a climber in rather open secondary forest ~~and~~ or old clearings. The tree fern Cyathea is a feature of the latter community.

About 4 PM 3 Navy Fokker patrol ~~planes~~ seaplanes arrived with Capt. Teerink of the expedition military party on board. The Dutch seem very anxious that their prestige be upheld in all matters in connection with this expedition. If the Americans have an aeroplane they must have three. Better diplomacy than is being shown at present on our side will be essential for the preservation of good feeling between the Dutch and American parties.

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June 17th.

Took a small prow and 2 boys and went to Tabati village to examine the dry limestone hills and make pictures. Tabati is a village of perhaps 300 people, built on piles over the water. Most of our local coolies belong there. Was struck by the great number of children in the place. Sago and fish seem to be the chief articles of food. Bananas, taro, sweet-potato, sugarcane, etc., are cultivated on the mainland.

Saw only the shore and near shore parts of the interesting dry brushes which cover the limestone along the shore. The rock pale and eroded into a very rough surface. It weathers down to a rich-looking red soil which is deposited in pits and small pockets in which root the trees and shrubs of the gnophtous brushes. Characteristic plants collected near the shores are --Mallotus 8844, Myoporum 8848, Rubriaceae 8849, with crowded small leaves (shrubs), epiphytic Hydnaphytum 8851, Hoya 8843 with beautiful velvet purple flowers, Hoya 8847. the small tree Piltosporum 8852 and, very conspicuous, the stiff agave-like tree Cordyline? 8857.

The K.P.M. regular monthly steamer arrived at 4 PM with the Dutch members of the expedition, soldiers, prisoners and 73 Dyak carriers.

June 18th.

Discmssion of plans; not much work.

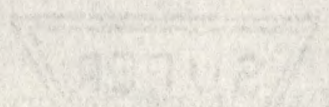
June 19th.

Took a walk up the river with Dr. Toxopeus and gathered a few plants while he preserved insects of various kinds. Was fortunate in getting good flowering specimens of Sapindanae 8858--one of the commonest of the large trees of the rain-forest hereabouts. It is conspicuous for its large crwon of large pinnate leaves to over 1 m. long. The tree from which I took specimens had been cut down by natives.

June 20th.

Rand took 3 Dyaks, Richardson 3 and myself 4 as collecting boys and started their instruction. These boys were assigned us by the capella ss particularly intelligent

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Actually they are the tail end of the whole Dyak contingent, some of them physically unsound and at least one sub-normal mentally. About half of them probably good boys.

Making preparations for our first reconnaissance flight tomorrow. Toxopeus ill and asks to be omitted as an observer.

June 21st.

Took off at 6.6 AM with Archbold and Rogers as pilots, Yancey navigator, Booth radio operator and Rand, Teerink, Van Arcken, Richardson and myself as observers. Flew in to the approximate position of our proposed base on the Idenburg and then direct to Lake Habbema. The lowlands were covered in cloud for the whole of the flight but the mountains were clear. Archbold made a few aerial pictures of the lake and vicinity. The lake pronounced by the airmen as a suitable landing place. Returned to Hollandia at 10.31 AM.

June 22nd.

Rainy morning and also showers in the afternoon. Conditions unsuitable for flying. Worked on cataloguing of photographs and in afternoon took my Dyaks into the field. Was pleased with the Dyaks.

June 23rd.

Second reconnaissance flight. Flew round Mt. Wilhelmina and discovered a great populated valley and a new lake between Habbema and the Idenburg; fine flight.

June 24th

Third reconnaissance flight; re-examined country discovered yesterday but clouds forced us to return without determining the outlet of the "Grand Valley" found on yesterday's flight.

June 25th.

Yancey, Rand and self spent day correcting data and getting it on the map.

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21/6/38 Notes on First Reconnaissance Flight.

Xeric brushes of limestone hills along coast are restricted to the coastal slopes. Rain-forest, rather pale in cutover, succeeds them immediately inland.

North shores of Lake Sentani largely low, swampy and carrying sago. South shores generally ridgy. Large areas of ridges round the lake are devoid of trees and covered with grass. These grasslands a secondary condition following disturbance by native cultivation, and are maintained by fire.

On outward journey population was seen to extend into the hill country 6 minutes. On return the first houses were seen 17 minutes out from W. end of lake.

Between Lake Sentani and the Idenburg all rain-forests, elevated to  $\pm 1000$  m.: rock probably limestone.

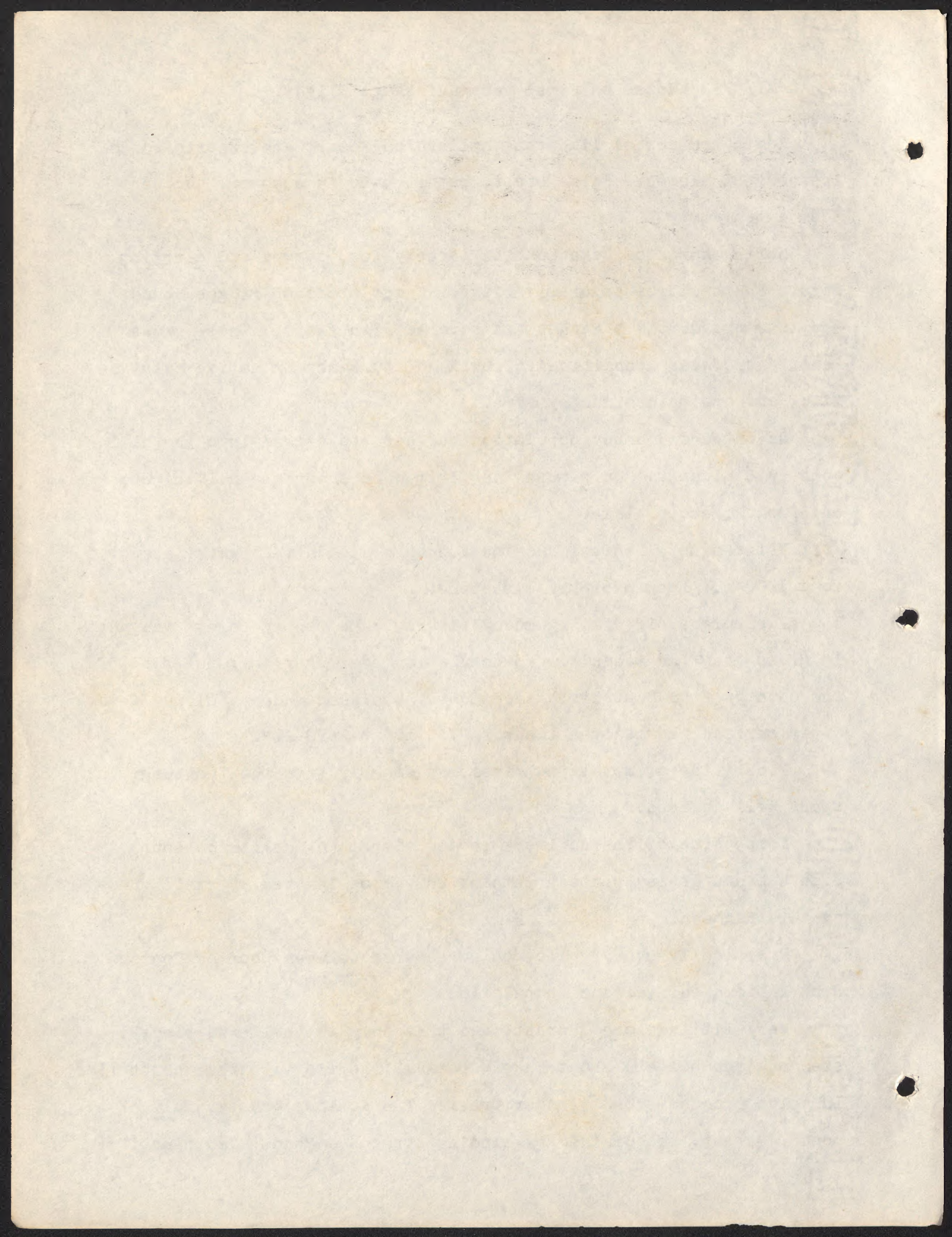
Idenburg a big winding muddy river: banks partly forest and partly grass (cane and reeds?). No population seen on river: but most of the country from Sentani to the mountains hidden under a cloud field. Upper surface clouds over Idenburg 700 m. at 9:20 A.M.

First line of mountains rises very steeply from the Idenburg: but spurs well defined.

North side of the Angimoek wooded almost to summit: on south side a brown grassy plateau perhaps 200 acres in area: 2 small ponds on this plateau.

Practically every valley on our course between Doorman Top and Lake Habbema carried some population.

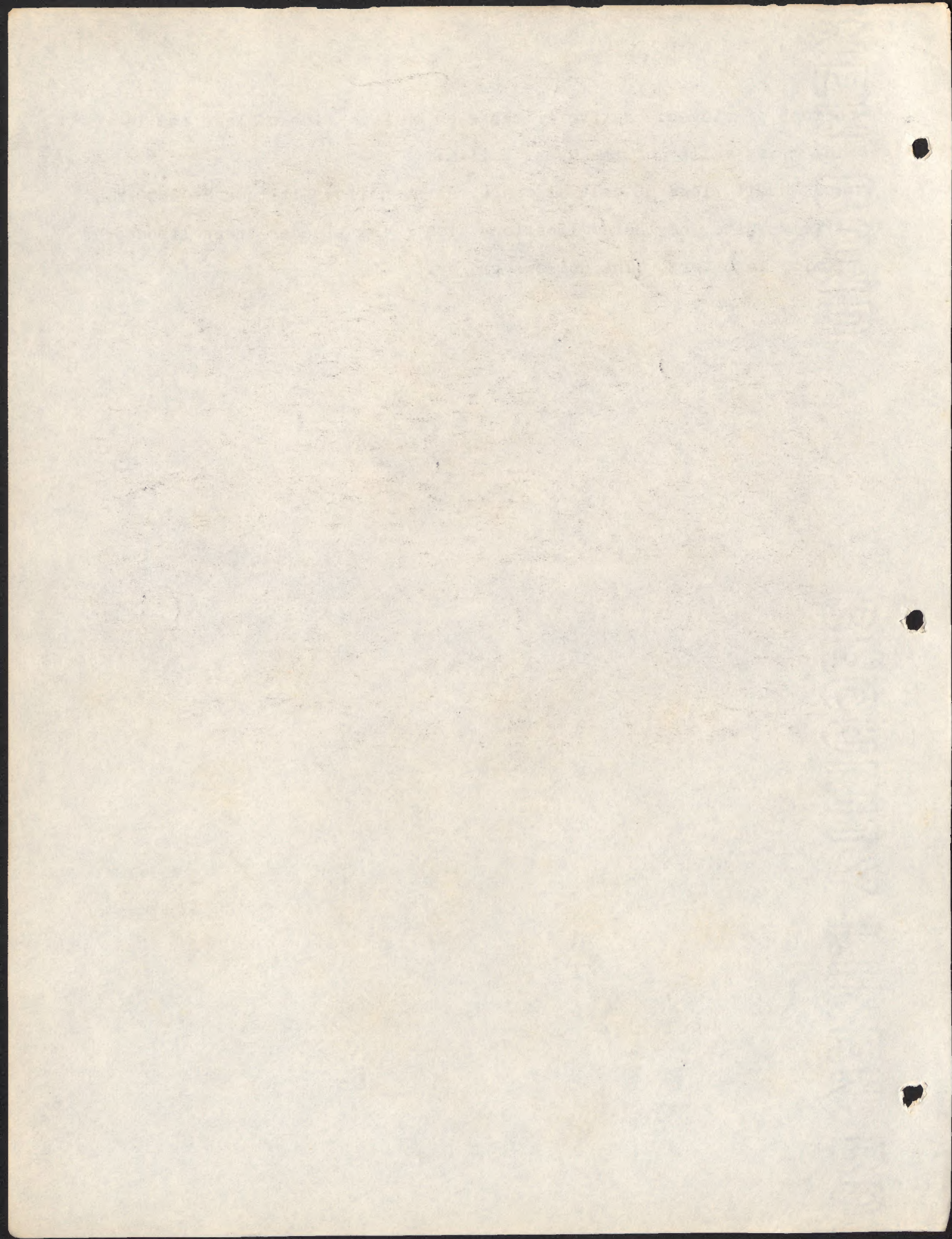
Very little closed forest, and that only in sheltered places, seen on high plateau about Lake Habbema. The ridges carry shrubberies in which grow numerous slender trees. The hollows grassy, full of ponds, marshy, and drained by winding streams. Ponds also plentiful





on tops of ridges. Native tracks seen on S.E. side of lake and in wide grass valley of the upper Baliem.

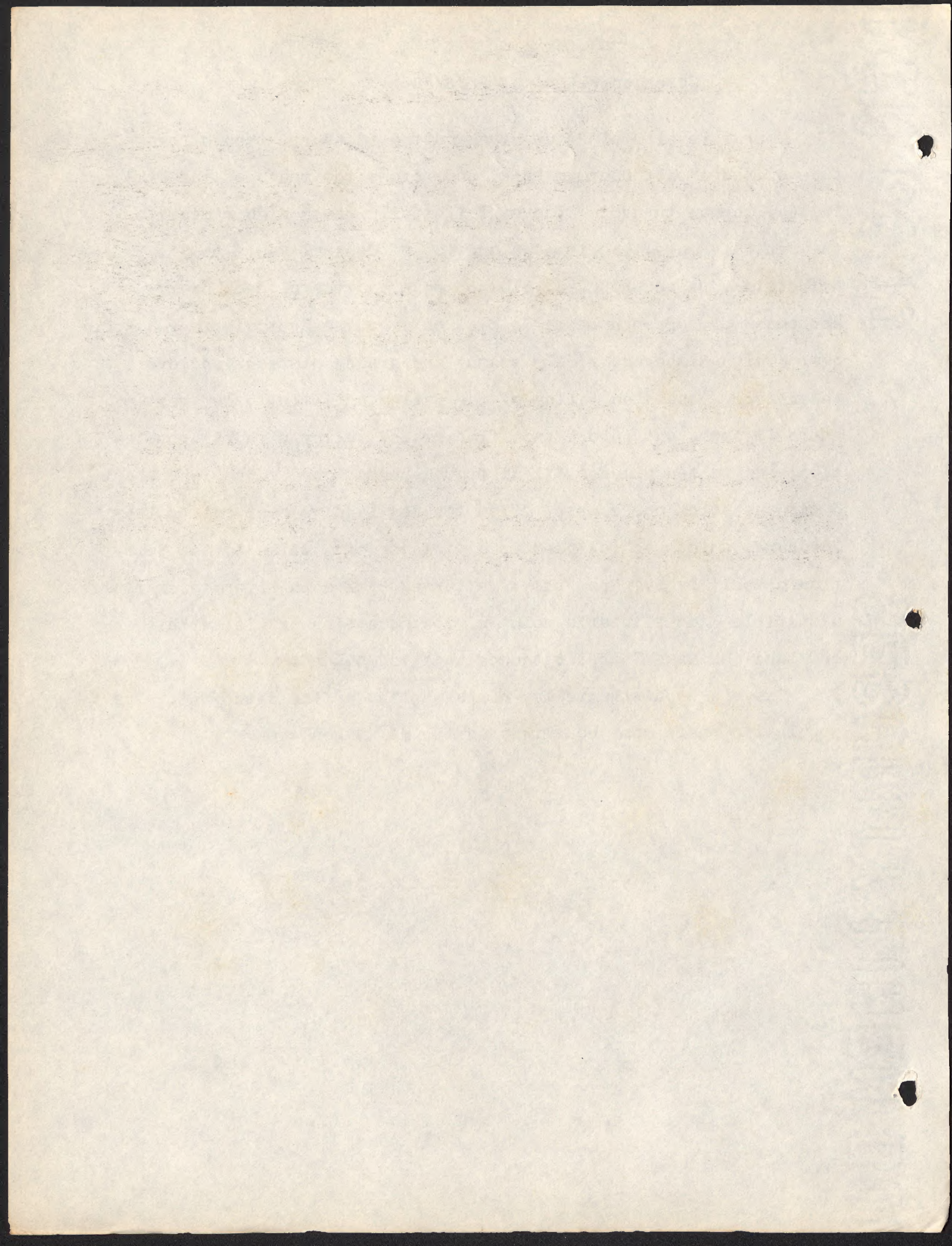
Summit ridge of central range, as seen from altitude of 4500 m., largely white, weathered limestone with a few slender trees libocedrus growing in cracks. The hollows grassy.



Notes on Flight of 23/6/38

Course to site of Prauw Bivak on the Idenburg, thence round face of range past Doorman Peak, and across the mouth of the Dika Valley, thence turned S. over frightfully rough high ranges to the Central Range. Followed along top of Central Range to Mt. Wilhelmina, passed round S. side of peak and thence back over Habbema Meer. From Habbema we flew on a course approximately N.W.E. over a high timbered, partly swampy and grassy plateau: and over the heavily populated valley of the Baliem a little to the west of where it opens out into a vast flat grassy valley with big population; and in ten minutes flight from Habbema found a new lake about 3 miles east of our course. From the new lake we went out to the Idenburg, which was followed up a distance of 12 miles to the junction of Wal River. From there we turned back down river to examine a possible camp site at a point of low mountains in line with the new lake and Lake Habbema: thence back to Hollandia.

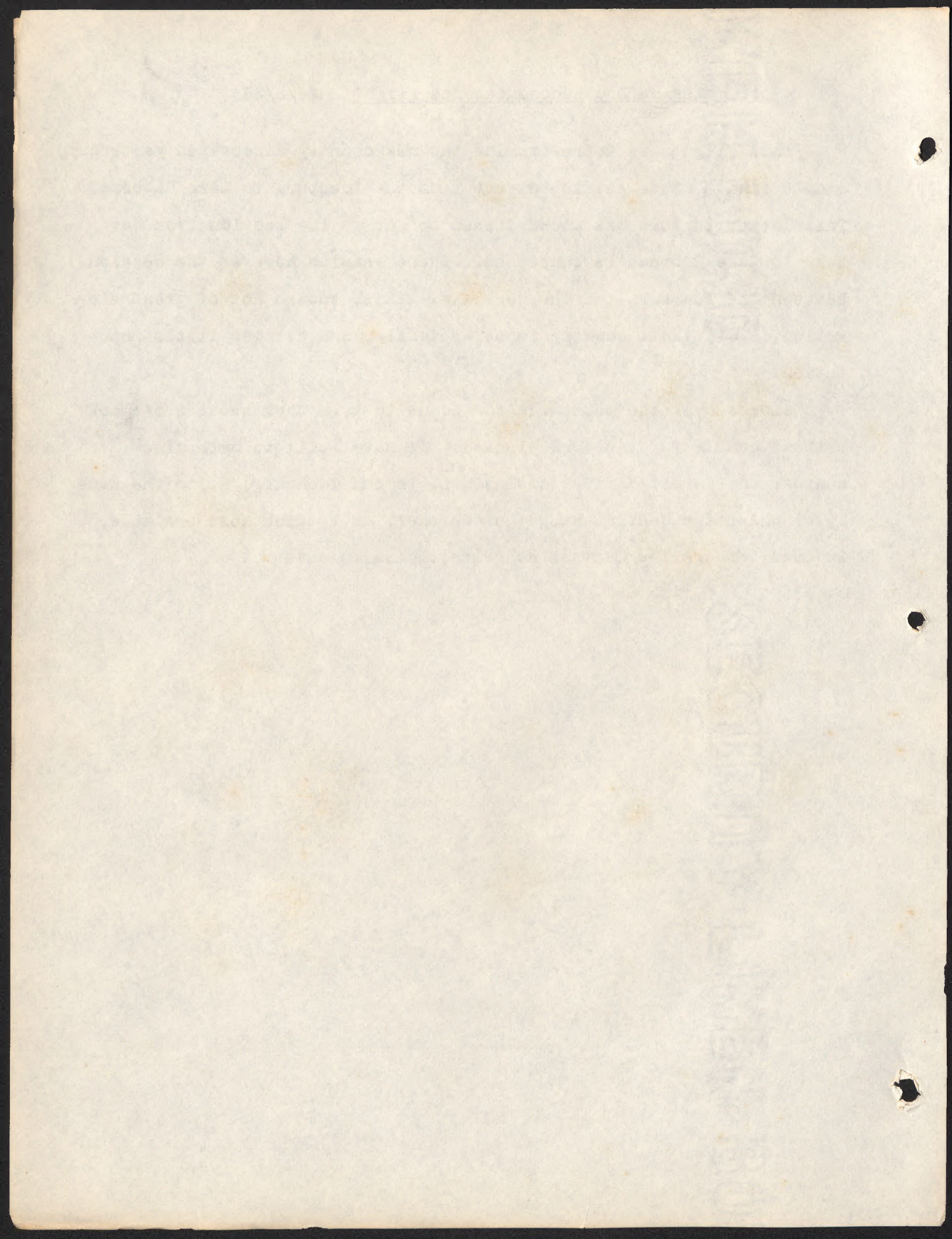
The big populated valley of the Baliem a fine discovery. The population there must equal any in the Mt. Hagen area.



Notes on 3rd Reconnaissance Flight 24/6/38

This flight was to re-examine the new country discovered yesterday, and to find a route leading direct from the Idenburg to Lake Habbema. This latter purpose was accomplished so far as the section from New Lake to Lake Habbema is concerned. There remains however the section between the Idenburg and the new lake. This, though not of great elevation, is difficult country topographically, and carries little population.

Clouds over the mountains forced us to turn back about 9 o'clock without completing the work planned. We have still to determine whether the "Great Valley" drains N.E. to the Idenburg, E. to the same River under the Central Range; or whether, as I think most probable, it cuts through the Central Range to the south coast.



The discovery of the Great Valley opens up a new, more direct and easier route from the Idenburg to Habbema Lake. Teerink therefore suggests that plans be altered to take advantage of this--first establish a military party on the Idenburg: fly scientific party to Habbema: send a second military party to Habbema: the two military parties to start trail-making from their respective ends and meet in the Grand Valley.

The failure of the engines for our three portable radio sets necessitates a flight to Port Moresby for other equipment. This must be done before the party can be flown to Habbema Meer.

June 26th.

Developed some of my 8 x 10 field camera pictures, using the aero camera equipment. As on the Fly River expedition there is no proper equipment for handling these negatives.

June 27th.

The fourth and last reconnaissance flight took place today with the usual airplane crew of Archbold, Rogers, Brown and Booth and Rand, Teerink, Van Arcken, Richardson and myself as observers and Hoogland as passenger. Flew a direct course to #2 camp on the Idenburg and thence direct to Lake Habbema. On the return we dropped down into the Great Valley and flew low over many small stockaded villages and beautifully patterned gardens. Much of the main flat section of the Great Valley is low-lying and swampy, with small sharp ridges on which the people live. The drainage ditches in the gardens were in many cases full of water.

June 28th.

In the morning the plane made a trial landing on the Idenburg with only the crew and Teerink and Van Arcken on board. After lunch the first detachment of the military was landed on the Idenburg--ie Teerink, Van Arcken, 5 soldiers and 3 prisoners. The load totalled 2350 kilos. The average weight of a soldier with

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equipment works out at 85 kilos, of a Dyak, 75 kilos. Unfortunately the river is too low and there are too many snags to permit of the plane being landed on the river opposite the proposed camp site. Men and stores (food for 3 months) had therefore to be landed on the low bank of a billabong and left to make a way from there to high ground. Booth took in a field radio set and stayed overnight to set it up and make test contact with Hollandia:

The expedition is two or three days ahead of schedule so far as the Idenburg landing is concerned and apart from faulty field radio plants, things are generally very satisfactory indeed.

June 29th.

Plane made two flights to the Idenburg. Booth, who stayed at the Idenburg, relates how, during the night, two alarms were caused by the guards firing (according to Teerink) at crocodiles; shots being fired by the awakened soldiers. Probably through some misunderstanding Booth was left without food by the military party until the plane took him off this morning.

Re-examined the open ferny slopes on the North side of the bay and made some pictures with the big camera. I still think these ferny slopes are the result of clearing by natives. Considerable patches had been burned since my visit a few days ago. A thick growth of young Acacia Simsii follows severe burning of the fern. Mature Acacia scrubs are practically destitute of ground vegetation except for a thin scattering of wire grass (Griachne?) 8881. The next stage towards grassland is probably an almost pure growth of Eschaerium 8815. Themeda might follow this: but I did not see a single plant of this grass although, a few miles South on Jautefa Bay, it dominates the open slopes.

June 30th.

Plane took two more loads to the Idenburg. Some of the Dyaks air-sick.

With my two Dyaks Ait and Leyong, I made a long trip up the slopes of the Cyclops

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in a NW direction in search of Aruacarias which are conspicuous on the skyline from the bay. Followed a good hunting track leading up the spur to 1000 feet where the oaks commence and where I started cutting track. Several small open patches crowded with Gleichenia occur along the track. Higher up in undisturbed forest, the same fern is common in the undergrowth. Cutting through poor low dry-appearing forest to about 550 meters: when, on a plateau-like area of no small size, there is fine tall moist forest containing big oaks, but typical rain-forest as regards undergrowth and much like the forests of the flat ridges of the Black River. The moist hollows especially are crowded with the climbing Cyathea? 8947. From 430 meters upwards on the spur a fine pitcher plant #8942 is common as a substage climber. The Cyathea and a very similar pitcher plant occur on the Black. Another conspicuous feature of the higher moist levels is the fine treefern #8940. The trip occupied  $11\frac{1}{2}$  hours, during which time we had no water, except a little drained from the stems of leaves. The Dyaks seem to show no discrimination in the choice of vines from which to drink. Some which they cut contained milky sap (See small note book #2).

July 1st.

Plane made fifth trip with men and stores for Idenburg Camp. Aeroplane crew report that the military party found a camp recently abandoned by natives. The natives stuck arrows in the path by which they departed.

July 2nd-6th.

Flew to Port Moresby to procure A.W.A. field radio sets. P.M. very active with business due to prospecting for oil in the west. Papuan Oil Development Ltd., (Shell) said to have spent £250,000 in about 18 months. Islands Exploration Ltd., (Vacuum) also doing things in a big way. Met Higgins (Manager) and Dr. Taverne (Chief geologist) of P.O.D. and Ahearn, manager of I.E.C.

Daru much altered since we were there in 1937. Dr. Vernon has moved down to Port

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Saw Beach, Madment, Luff and Gordon, also Austen, Claude Champion and Joe Hartley.

July 7th.

Hoogland received a radio last night from Batavia advising that the patrol boat "Bantam" bound from Mankkwari to Hollandia with Assistant Resident Jacobs and family on board ran aground on one of the Islands three days ago. Expedition asked to fly to the assistance of the stranded ship with 200 kg. rice and one of our portable radio sets. The Guba, with Rogers, Yancey, Brown and Booth as crew, therefore took off at daylight and returned about mid-morning with Mr. and Mrs. Jacobs, their two sons and 2 sick natives.

July 8th.

Guba with Rogers, Yancey, Brown and Booth as crew and Ramm as extra radio man, and a cargo of 10 men and stores to the weight of 2750 kg. left on sixth flight to the Idenburg at 2 PM. Two new A.W.A. radio sets were taken to be tested and handed over to the field operators at the Idenburg.

Three Naval Dornier flying boats arrived from Ambon during the afternoon.

Collected in second growths and tall primary forest on the ridge immediately north of camp. (For notes on origin of grass and fern savannahs see field notebook, also journal for June 14th and 29th.)

July 10th.

Labelling specimens. It seems likely that Meyr-Drees will remain at Hollandia when we go to Habbema, spend a month at the Idenburg, then follow us to the lake about the end of August. There is little of interest to a forester at the higher altitudes.

July 11th.

Rand, Richardson and myself began packing equipment, supplies and stores for use

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inland. Naval planes went out to see the Bantam and returned during the day.

July 12th.

Completed packing three months stores to be flown to Habbema.

Collected in afternoon a common Dipterocarp fruiting in the near by rain-forest #9000. Among other things collected were Freycinetia 9004, a fine species with orange bracts and the fifth or sixth species for the locality.

Put together one of my portable ovens and packed it with best insulating mixture of asbestos and pipeclay in preparation for a test with the Dyaks tomorrow.

July 13th.

My Dyak, Ung-Au, appointed to look after the collapsable oven, made a good job of it: but my regular boy in charge of drying specimens burnt out two water-jacket ovens during the day.

July 14th.

Packing equipment and supplies for Habbema.

July 15th.

Trial landing of aeroplane on Lake Habbema: this the critical day of the whole expedition. The Guba behaved splendidly. From her performance Rogers says a pay-load of 2500 k. can be lifted from the lake. The clouds closed down just as the plane arrived at the lake at 7.30 AM, but having one edge of the lake in view, a blind landing was effected. A good anchorage, landing and camp site were found in the bay on the north side of the lake. Tests with a field radio (A.W.A.) set rigged on shore with antenna on a 15 foot tree proved very satisfactory. On the return flight in the afternoon it was necessary to climb to 6000 m. to clear the clouds.

K.P.M. mail steamer "Van Imhoff" arrived in the afternoon and left at 10 PM. She attempted to haul the Bantam off the reef on tomorrow morning's tide.

WATERBURY  
RING-BOND  
PAPER COMPANY

WATERBURY  
RING-BOND  
PAPER COMPANY

WATERBURY  
RING-BOND  
PAPER COMPANY



July 16th.

Working on organization of stores and supplies for Habbema.

July 17th.

As yesterday.

July 18th.

Plane took food replenishments to Bernhard Camp on the Idenburg and also Meyr-Drees, two of M-D's assistants and Toxopeus' chief European assistant.. Meyr-Drees will work a month at the Idenburg and follow us to Habbema in mid-September. Working with Rand on organization of the flights to Habbema and freighting.

July 19th.

Teerink, Richardson, 5 soldiers and our cook, Amat, wit two months supplies and some equipment were flown in to Habbema on the first flight of the freighting schedule.

Sawn planks taken to lake and a wharf made for landing cargo.

Busy myself labelling specimens.

July 20th.

Plane called at Idenburg on return from lake and brought in an A.W.A. receiver which had broken down. Having a lot of trouble with the Idenburg station.

Plane returned 10.20 AM from Habbema. The three Dornier flying boats of the naval patrol which have been here for some time past, left this morning for Ambon.

Making preparations for my departure for Habbema in the morning.

Booth brought back about 50 spp. of plants gathered at Habbema by Richardson and himself yesterday afternoon. These mostly plants of forest margins; including Myrmedoma, Araliad, Phyllocladus, I regard as mossy forest elements. Among the plants are--4 or 5 Rhododendrons; 2 Epacrids; 1 Gentian; 1 Phyllocladus; 1 Libocedrus; 2 grasses (Agrestis and ); 1 Gahnia; 1 Eriocantus; 1 Gaultheria; 1 or 2

1917  
SUESS  
RING BOND  
RAG CONTENT

1917  
SUESS  
RING BOND  
RAG CONTENT

Diplocacia and other similar Ericacia; 1 Potentilla; 1 Cyathea; 1 Humata and two or three other forms; 1 Erect Gleichenia; 2 Lycopods; 1 Pittosporum (Biri); 1 Didea; 1 Drimys; ; Myrmedoma; 2 Epacrids; 1 Didiscus; 1 Composite (shrubby); 1 Coprosma; 2 Orchids (one the little red Dendrobium of Mt. Albert-Edward)

SUPER  
RING BOOK BOND  
FRAG CONTENT

SUPER  
RING BOOK BOND

1898  
SUPER  
RING BOOK BOND  
PATENT

1898  
SUPER  
RING BOOK BOND  
PATENT

1898  
SUPER  
RING BOOK BOND  
PATENT

Friday, July 22, 1938.

With five soldiers, four convicts and supplies and equipment making a total of 2450 kg., I arrived at Lake Habbema at about 7.15 AM on the second freighting flight to the lake. It was a perfectly clear morning and fine views were had of the mountains, especially Mt. Wilhelmina. Much more snow lies on the peak than at the time of our survey flights.

Teerink, Richardson and six soldiers arrived at the lake on the 20th. The soldiers were rather uncomfortably housed under a low lean-to shelter of green oil cloth. Teerink and Richardson had a tent on a marshy slope nearer the lake. After consultation with Teerink it was decided to move the European section of camp to a comparatively dry ridge across a gully and about 60 yards from the soldiers' camp. The kitchen and cooks quarters were erected on the new site forthwith. Teerink, Richardson and self spent a rather comfortless night in the tent on the wet slope.

Saturday, July 23, 1938.

Temperature outside the tent at 6 AM, 40 degrees Fahrenheit. Thick fog covering the lake and camp. Plane, coming in with another load of men and stores, had to circle until the fog lifted at eight o'clock. Additions to personnel today consisted of two Ambonese collecting boys and eight Dyak carriers.

Had my tent rigged and floored with a platform of poles raised about 15 inches above the ground and covered with a thick layer of springy Libocedrus twigs. A very comfortable camp. Teerink also rigged his pup tent.

Yesterday I had some difficulty in getting about and was not in a mental condition to do much work. Not until this afternoon did these effects

Friday, July 24, 1938.

With five soldiers, four convicts and supplies and equipment being a total of 2550 kg., I arrived at Lake Hahama at about 7.15 am on the second freighting flight to the lake. It was a perfectly clear morning and fine views were had of the mountains, especially Mt. Tachibana, and some snow lies on the top of the ridge of our surroundings. The soldiers and six soldiers arrived at the lake on the 20th. The soldiers were rather miserably housed under a low lean-to shelter of green oil cloth. Tachibana and Richardson had a tent on a marshy slope near the lake. After consultation with Tachibana it was decided to move the Japanese section of camp to a comparatively dry ridge across a gully and about 50 yards from the soldiers' camp. The kitchen and cook quarters were erected on the new site. Tachibana, Richardson and self spent a rather comfortable night in the tent on the wet slope.

Saturday, July 25, 1938.

Temperature outside the tent at 6 AM. 10 degrees Fahrenheit. Fog covering the lake and camp. Fine, blowing in with another ridge of men and stones, had to excise until the fog lifted at eight o'clock. Additional to personnel today consisted of two Japanese collecting boys and eight pack carriers. Had my tent set up and floored with a layer of poles raised about 15 inches above the ground and covered with a thick layer of sawdust. Dipodops signs. A very comfortable camp. Tachibana also raised his tent. Yesterday I had some difficulty in getting about and was not in a mental condition to do much work. Not until this afternoon did these effects

of the altitude pass off. Teerink unwell: ate little breakfast or lunch and no dinner. Think it is probably malaria. One of the natives arriving this morning was in a state of collapse upon landing. Some of the Dyaks, and one of the Ambonese also suffered a good deal.

A fine clear day with no cloud until sundown. Can see fire at a native shelter across the bay from camp.

Sunday, July 24, 1938.

Plane arrived at 7.40 with a sergeant, five soldiers and four convicts. Left about an hour later, taking Teerink down to the Idenburg to confer with van Arcken on the route the latter will follow in to the Grand Valley. After today's flight we have a full unit of sixteen soldiers, ten convicts, six Dyaks, two collecting boys and a cook, and the party is now large enough to stand a good chance of getting out to the Idenburg should anything happen to the plane.

Richardson's tent and the radio shifted up to the new camp. Rain most of afternoon after two o'clock and thunder rattling under the edge of the plateau towards Grand Valley.

Early in the afternoon smoke began to rise from the native shelter over the bay, and about 4 PM two men were seen coming along a trail in the direction of our camp. Perhaps it would have been possible to make contact with these two strangely nonchalant men had there been less shouting from some of our personnel. They seemed men of very good stature, light of color, and each carried on his shoulder a long cylindrical package covered perhaps with Pandanus leaves.

There was light frost on the ground this morning.

of the altitude pass off. Terrain smooth. The little breakfast on  
lunch and no dinner. Think it is probably malaria. One of the natives  
arriving this morning was in a state of collapse upon landing. Some of  
the Dyaks and one of the Ambones also suffered a good deal.  
A fine clear day with no cloud until sundown. Can see line at a native  
shelter across the bay from camp.

Sunday, July 24, 1938.

Spans arrived at 7.40 with a sergeant, five soldiers and four convicts.  
Left about an hour later, taking trail down to the landing to confer  
with van Arcken on the route the latter will follow on to the Grand Valley.  
After Jones's flight we have a full unit of sixteen soldiers, ten convicts,  
six Dyaks, two collecting boys and a cook, and the party is now large  
enough to stand a good chance of getting out to the assembly should anything  
happen to the plane.  
Richardson's tent and the radio shifted up to the new camp. Main part of  
afternoon after two o'clock and thunder rattling under the edge of the  
plateau towards Grand Valley.  
Early in the afternoon smoke began to rise from the native shelter over  
the bay, and about 4 PM two men were seen coming along a trail in the  
direction of our camp. Perhaps it would have been possible to make con-  
tact with these two strangely nondescript men had there been less shouting  
from some of our personnel. They seemed men of very good stature, light  
of color and each carried on his shoulder a long cylindrical package  
covered perhaps with banana leaves.  
There was light frost on the ground this morning.

SUPER  
RING-BOOK BOND  
RECORDS



Monday, July 25, 1938

Plane landed at 7.45 on fifth freighting flight from Hollandia. Teerink returned. New arrivals are a quartermaster-sergeant, medical orderly and eight Dyaks.

Except for early morning fog over the lake and some misty showers during late afternoon the day was fine and clear.

Camp activities include the erection of our dining shelter, a mess fly for the soldiers, first work on a latrine over the lake for the natives, addition to Dyak and prisoner's quarters.

I set up my maximum and minimum thermometers. Richardson set out about fifty traps. Prisoners discovered an adult Pseudochirus of a very small species, and two young ones in the mossy mound at the base of a tree, and succeeded in capturing the young ones.

Teerink started short local patrols by sending out a group of four men and a corporal this afternoon. No signs of natives today.

Tuesday, July 26, 1938.

On the fifth freighting flight, the Guba brought in Dr. Huls and more soldiers and convicts. After returning to Hollandia, a trip was made to Wewak, in NE New Guinea, to pick up further A.W.A. radio equipment which was brought there by regular Guinea Airways service.

The plane arrived at about 8 o'clock - just after the fog had lifted from the lake - the 5.30 AM starts from Hollandia having been altered to suit Habbema weather.

Hear from Teerink that Ebeli, lately engaged by Archbold as a field radio operator, is to accompany Teerink on his patrol to the Grand Valley next week.

From fifty traps set last night on the nearby ridges and along the grassy

Monday, July 22, 1938

Plains landed at 7:45 on firm footing light from Hollandia. Teerink returned. New arrivals are a Dutchman, sergeant, and two natives and eight Lyaks.

Except for early morning fog over the lake and some misty showers during late afternoon the day was fine and clear.

Camp activities include the erection of our dining shelter, a new fire for the soldiers, first work on a latrine over the lake for the natives, addition to Lyak and prisoner's quarters.

I added my machine and machine tools. Richardson set out about fifty traps. Prisoners discovered an adult Peromyscus of a very small species, and two young ones in the nesty room at the base of a tree.

And succeeded in capturing the young ones. Teerink started short local patrol by sending out a group of four men and a corporal late afternoon. No signs of natives today.

Tuesday, July 23, 1938

On the fifth floating light, the Goba brought in Mr. Hale and some soldiers and convicts. After returning to Hollandia, a trip was made to Newk, in the New Guinea, to pick up further A.M.A. radio equipment which was brought there by return Guinea Airways service.

The plane arrived at about 8 o'clock - just after the fog had lifted from the lake - the 2:30 start from Hollandia having been altered to suit Indonesian weather.

Hear from Teerink that Ebeli, lately engaged by Arcoch as a radio operator, is to accompany Teerink on his patrol to the Grand Valley next week.

from five traps set last night on the heavy ridges and along the grassy

lake shore, Richardson caught four rats - three Stenomys and 1 Pogonomys. The necessity of constantly watching the soldiers and prisoners erecting our tents and flys has prevented me from collecting more than a few things around camp, and these I have not had time to catalogue and prepare.

Wednesday, July 27, 1938.

Two degrees of frost recorded on thermometers. Heavy frost in camp and ice in our wash dish. From at least 5.45, perhaps earlier in the morning, the lake and ridges about camp were covered with a blanket of fog. This, as seems a general thing, cleared off about eight o'clock. A gloriously fine, dry day, relative humidity falling as low as <sup>33°</sup>~~83%~~ (at noon). Whole party invigorated by the frost and sun, and a great deal of work accomplished in constructing camp.

Capt. Teerink and Dr. Huls, with five soldiers and a prisoner carrying food, made a patrol with the object of finding a path leading down to the Grand Valley. They left at 7.30 and returned at 4 PM, having followed a track going SE through a small grass valley near camp. They report a good track leading in the right direction. A party of five Papuans were seen about a kilometer from camp. These men disappeared, as have all Papuans seen in the locality, in an easterly direction. An Ambonese (Marcus), going around traps in the early morning, reported having seen a party of natives on the far side of the lake. Apparently we are being closely watched.

Thurdsy, July 28, 1938.

Eighth freight flight from Hollandia. Military party received and erected as officers quarters and store their great tent: a huge thing of heavy canvas, weighing 400 kilos.

like shore, Robinson caught four rats - three Blanfordia and 1 Peromyscus.  
The necessity of constantly watching the soldiers and prisoners erecting our  
tents and flies has prevented me from collecting more than a few things  
around camp, and these I have not had time to catalogue and prepare.

ON BOARD  
WHEAT

Wednesday, July 25, 1938.

Two degrees of frost recorded on thermometer. Heavy frost in camp and  
ice in our wash basin. From at least 1 A.M. onwards earlier in the morning  
the lake and ranges about camp were covered with a blanket of fog. This  
as seems a general thing, cleared off about eight o'clock. A thoroughly  
fine, dry day, relative humidity falling as low as 33% (at noon). (Note  
party disappointed by the frost and sun, and a great deal of work accomplished  
in constructing camp.)

Capt. Terrell and Dr. Hilla, with five soldiers and a prisoner carrying  
food, made a patrol with the object of finding a path leading down to the  
Grand Valley. They left at 7.30 and returned at 4 PM, having followed a  
track going N through a small grass valley near camp. They report a good  
track leading in the right direction. A party of five Japanese were seen  
about a kilometer from camp. These men disappeared, as have all Japanese  
seen in the locality, in an easterly direction. An Indonesian (Maroon),  
going around traps in the early morning, reported having seen a party of  
natives on the far side of the lake. Apparently he was being closely  
watched.

Thursday, July 28, 1938.

Light flight from Hollanda. Military party received and  
erected an officers' quarters and store their great tent; a huge thing  
of heavy canvas, weighing 100 kilos.

ON BOARD

Another dry day turning cloudy towards evening. Thunder clouds west towards Mt. Carstenz and rolls of thunder audible down in the Grand Valley.

Friday, July 29, 1938.

Dr. Toxopeus and Mr. Ebeli arrived on the 9th freighting flight. Ebeli has joined the expedition as a field radio operator in the pay of Archbold, but under control of the military commander for the time being. He will accompany Teerink on his patrol down to the Grand Valley. Ebeli has been put into the sergeants' mess.

American party of the camp completed today, except for a few odd jobs, such as pathways, additional protection at the open ends of flys, etc. Toxopeus, with characteristic <sup>misadventure</sup> energy, started chasing butterflies immediately upon arrival, and afternoon rain caught him with his tent still to erect.

Still no contact with natives, and no sight of them today or yesterday.

Weather: Usual early fog followed by a fine, hot, dry day with gusty wind from NE until 3.20 PM when steady rain set in from black clouds rolling up from NE.

Rain cleared up at .

Saturday, July 30, 1938

Rand came in on the tenth freighting flight, bringing eight collecting boys and our second cook Soerip.

Sunday, July 31, 1938.

The eleventh and last of the first series of freighting flights and the last day of a very full month for the expedition. Archbold, Rogers, Brown and Booth came in, bringing seven Dyaks and prisoners, & stayed the day.

Another day turning cloudy toward evening. Thunder clouds rest  
toward W. Carstens and rolls of thunder audible down in the Grand  
Valley.

Friday, July 27, 1938.

Dr. Foxworth and Mr. Ebel arrived on the 9th breakfast light. Ebel  
has joined the expedition as a field radio operator in the way of records.  
but under control of the military commander for the time being. He will  
accompany Ternus on his patrol down to the Grand Valley. Ebel has been  
put into the sergeant's mess.

American party of the camp completed today, except for a few odd jobs.  
such as patrolling, additional protection at the open ends of the camp.  
Foxworth, with chains and energy, started clearing out the tent. Ebel  
stays upon arrival and afternoon rain caught him with his tent still to  
erect.

Still no contact with natives, and no sign of them today or yesterday.  
Weather: Usual early fog followed by a fine, hot, dry day with gusty wind  
from NW until 2:30 PM when steady rain set in from black clouds rolling in  
from NE.  
Rain cleared up at

Saturday, July 28, 1938

Rain came in on the tenth breakfast light, bringing eight collecting  
boys and two second-class boys.

Sunday, July 29, 1938

The eighth and last of the first series of freighter lights and the  
last day of a very full month for the expedition. Records, logs, maps, books  
and boots were in, bringing seven boxes and packages, a stove for the day.







16 soldiers, prisoners and Dyak carriers left on an exploration patrol to the Grand Valley. (34 men all told in Teerink's party). They disappeared into the mist in "military" order, Teerink in the lead followed by half his soldiers, then the prisoner carriers with the rest of the soldiers on their heels, and last of all, guarding the rear, the heavily laden Dyaks. The carriers are, according to Teerink, loaded with packs of 30 kilos. To me the Dyaks seemed to be carrying much more than that. This, our first day in the field, proved very profitable. My collections for the day number about 40 spp. Rand got 12 spp. of birds, including a cormorant, two ducks (Salvadorina and a kind of black duck), a coot, pippit, brown finch, etc. Toxopeus reports a new butterfly, the fifth sp. collected at the camp, and also found a display tree of Macgregor's bird of paradise. (50 spp. of plants gathered).

Heavy rain from 7 to 8 PM.

During the rain a corporal, two soldiers and a Dyak of Teerink's party came into camp carrying Teerink's personal convict cook Miong, who had been injured by a rock falling on his stomach.

Tuesday, August 2, 1938.

A dull, cloudy day: heavy shower with small hail at 5.30 PM. Slight showers afterwards.

Collected about 30 plants, excluding a number of lichens, mosses, and liverworts on the shrubby Libocedrus ridges S. to SW from camp.

Yesterday and today Rand I have worked till dark preparing specimens.

No contact with Papuans since Sunday. Saw a party of fifteen people, including two boys travelling west over the grasslands on opposite side of the lake. There were others on the ridge above them, whom I heard but did not see.

is soldiers, prisoners and their carriers left on an exploration  
party to the Grand Valley. (A man all told in Tewa's party). They  
disappeared into the night in "military" order, leaving the team followed  
by half his soldiers, then the soldier carriers with the rest of the  
soldiers on their heels, and last of all, guarding the rear, the heavily  
laden pack. The carriers are according to Tewa, loaded with packs of  
30 rifles. To be the pack seemed to be carrying much more than that.  
This, our first day in the field, proved very profitable. In collecting  
for the day, number about 30 spp. and got 12 spp. of birds, including a  
coronatus, two like leucostictus and a kind of black one, a cool, quiet,  
brown line, etc. Tewa reports a new variety, the fifth sp. collected  
at the camp, and also found a display tree of leucostictus bird of paradise.  
(30 spp. of plants gathered).

heavy rain from 7 to 8 PM.  
during the rain a coronatus, two soldiers and a pack of Tewa's party came  
into camp carrying Tewa's personal contact cook Kiang and had been  
injured by a rock falling on his stomach.

Tuesday, August 2, 1933.

A dull, cloudy day; heavy shower with small hail at 3:30 PM. Clouds broken  
afternoon.  
Collected about 30 plants, including a number of leucostictus, mosses, and  
laverorts on the leucostictus ridge S. to SW from camp.  
Yesterday and today I have worked till dark preparing specimens.  
No contact with Tewa since Sunday. Saw a party of fifteen people, in-  
cluding two boys travelling west over the mountains on opposite side of the  
lake. There were others on the ridge above them, whom I heard but did not  
see.

Wednesday, August 3, 1938.

Fine sunny day: no rain at all. Heavy frost in morning.

Collected round north shore of ~~sinks~~ lake to a native shelter conspicuous towards the west and about two miles from camp. This shelter the best of two on the path, is a surprisingly poor affair considering the abundance of good Libocedrus bark in the locality. A <sup>high</sup> roof of poorly laid Libocedrus bark and boughs of other trees and bits of grass, raised over four feet walls of sticks set wide apart and very imperfectly stuffed with any kind of leafy twigs to hand - the whole thing perhaps 10 x 8 ft. Inside was a thin covering of grass round a central depression, ~~probably~~ burnt in the peaty ground, containing the remains of fire. A pile of dry, broken sticks lay at one end ready for use. Remains of two more camps of the type, consisting of fire pits, and in one case a few sticks of a former shelter, were seen.

My object today was to examine some patches of <sup>cleared</sup> forest seen from camp, but so many interesting plants were found about the ~~forest~~ <sup>gardens</sup> that I no more than entered the forest. However, I saw enough to convince me that they are not true sub-alpine forests. The undergrowth of Elatostemma, etc. is certainly that of mossy forest. Dacrydium (Podocarpus papuanus?) is plentiful, also Macgregor's bird of paradise which feeds on the fruits. Gather 3 spp. of Rubus (including R. ferdinandi - <sup>Muelleri</sup> ~~Muekin~~), a <sup>by</sup> Polygonum and a Nettle about the forest borders, and two arborescent <sup>Olearias</sup> Oleas and a <sup>rus</sup> Xanthomyces in the borders themselves.

News over the radio to the effect that Teerink is in a populated valley about 21 km. NE of Lake Habbema. Yesterday he contacted about 300 people, and today 400, all friendly. Has brought pigs with cowrie shells.

No Papuans seen or heard about the lake today.

Wednesday, August 3, 1938.

This sunny day: no rain at all. Heavy frost in morning.

Collected some north shore of Lake to a native shelter camp. The shelter was built on the west end about two miles from camp. In a shelter the best of two on the site, as a very slightly poor shelter considering the abundance of good alpine plants in the locality. A high roof of scrubby Salix and Juniper bark and some of other trees and life of grass, raised over the top walls of rocks set close apart and very thickly stuffed with any kind of leafy twigs to hand - the walls being perhaps 10 x 8 ft. Inside was a thin covering of grass round a central depression, probably built in the rocky ground, containing the remains of fire. A pile of dry broken sticks lay at one end ready for use. Remains of two more camps of the type, consisting of fire pits, and in one case a few sticks of a former shelter, were seen.

My object today was to examine some patches of cleared forest seen from camp, but so many interesting plants were found about the forest garden that - no more than entered the forest. However, I saw enough to convince me that they are not true sub-alpine forests. The undergrowth of Salix, Juniper, etc. is certainly that of mossy forest. Podocarpus (Podocarpus) as Went also suggests a kind of Podocarpus which feeds on the forest. Juniper & Salix (including Salix - Juniper) a Podocarpus and a Juniper about the forest garden, and the abundant Podocarpus and a Juniper in the border themselves. Here over the radio to the effect that Juniper is in a Podocarpus valley about 21 km. W. of Lake Habbema. Yesterday he collected about 300 plants, and today 200, all primarily. He brought pigs with cowrie shells. No Podocarpus seen or heard about the lake today.

Thursday, August 4, 1938.

Dull to rainy. Gathered a few plants about camp, labelled and catalogued a number of mosses, lichens, etc. previously collected, and stayed up till midnight developing field camera pictures.

Friday, August 5, 1938.

Collected mostly dwarf <sup>o</sup>bag plants in the open hollow E. to NE from camp.

Saturday, August 6, 1938.

Unrelieved cloudy and rainy wather of last two days continues. Dark clouds cutting off Wilhelmina and riding high over our levels until 3.45, when heavy rain commenced and lasted the best part of an hour. Wind E. to S. of east.

Took the larger collapsible boat and with three boys collected in the narrow outlet valley to about one quarter of a mile below the lake, <sup>where</sup> ~~when~~, on the west side, Dacrydium forms on not well drained slopes a sparse forest 50 ft. high with various broad-leafed trees in a low understorey.

A Native sergeant and  sent back from the Grand Valley by Teerink returned to camp with a bundle pf plant specimens gathered enrout.

Another momentous day for the expedition. Supplies were parachuted to Teerink on the S. slope of the Grand Valley, and van Arcken being found at the New Lake, a landing was made and food delivered to him there.

For the last three evenings (including today) Teerink has reported friendly contacts with some hundreds of people of the S. branches and slopes of the Grand Valley. The sergeant who returned says they have met many (thousands!) of men but no women or children. Food has been bought from the natives by Teerink, pigs, sweet-potatoes, etc. Short thick bananas tasting like an apple were mentioned by the sergeant.

Thursday, August 2, 1933.

Bill to rainy. Gathered a few plants about camp, labelled and catalogued a number of mosses, lichens, etc. previously collected, and stayed up till midnight developing field notes and diagrams.

Friday, August 3, 1933.

Collected mostly downy leaf plants in the open hollow E. to Mt. from camp.

Saturday, August 4, 1933.

Overcast cloudy and rainy weather of last two days continued. Rain clouds came off the mountains and rising high over our levels until 3:30 when heavy rain commenced and lasted the rest of an hour. Wind E. to S. of camp.

From the larger accessible part and with three more collected in the narrow outlet valley to about one quarter of a mile below the lake, on the east side, Psidium forms on well drained slopes a coarse forest 20 ft high with various broad-leaved trees in a low understorey. Went back from the Grand Valley by Teshik

returned to camp with a bundle of plant specimens. Gathered another specimen day for the expedition. Supplies were distributed in Teshik on the S. slope of the Grand Valley, and was taken being found at the hot lake, a landing was made and food delivered to his tribe.

For the last time (including today) Teshik has reported friendly contacts with some numbers of people of the S. prong and slopes of the Grand Valley. The sergeant who returned says they have met many (the number) of men but no women or children. Food has been brought from

the natives by Teshik, high, sweet-potatoes, etc. about 100 lbs. Teshik like an eagle with feathers by the sergeant.

Toxopeus and Huls walked to the top of the Grand Valley divide (3500 m.) in the hope of seeing the parachute delivery. The plane was heard but not seen.

Sunday, August 7, 1938.

Had an easy morning in the field, sorted out mosses and hepatics in the afternoon, and stayed up till 12.30 developing field camera pictures. A message from Teerink to the effect that all parachute loads but that containing fuel and oil for his radio engine were found yesterday. He will therefore be obliged to curtail his radio contacts and will not be on the air again until the 13th, the day before the parachute delivery at his meeting place with van Arcken in the Grand Valley.

Monday, August 8, 1938.

Toxopeus, Huls and self went up on to the ridges forming the Grand Valley divide to collect a very fine white Rhododendron (#9271) seen by Huls while on patrol some few days ago. During the morning I gathered eight more spp. or forms of this, in the locality, very variable genus. I must have thirteen good species to date. I have lost count of varieties and minor forms.

The day was cloudy, but from several parts of the divide which rises to perhaps 3500 m., we had glimpses of the wide cultivated lands of the Grand Valley. From one point, nearly N. of camp, we looked down into a narrow branch valley carrying a heavy population which could be reached in one day from our lake camp (Bele River).

Tuesday, August 9, 1938.

Since the 4th the weather has been cloudy and unsettled with showers

Togoos and his walked to the top of the Grand Valley divide  
(3500 ft.) in the hope of seeing the peregrine delivery. The plane  
was heard but not seen.

Sunday, August 7, 1938.

In an early morning in the field, sorted out mosses and hepatics in  
the afternoon, and stayed up till 12.30 developing field notes and  
a message from - back to the effect that all peregrine found out that  
containing fuel and oil for his radio engine were found yesterday. He  
will therefore be obliged to contact his radio contacts and will not  
be on the air again until the 13th, the day before the peregrine deliv-  
ery at his meeting place with van Trocken in the Grand Valley.

Monday, August 8, 1938.

Togoos, Hain and I went up on to the ridge forming the Grand  
Valley divide to collect a very fine white Hendersonia (W2171) seen to  
Hain while on patrol some few days ago. During the morning I gathered  
eight more spp. or forms of this, in the locality very variable forms.  
I must have written good species to date. I have lost count of  
varieties and minor forms.

The day was cloudy, but from several parts of the divide which I  
to perhaps 3500 ft., we had glimpses of the wide cultivated lands of the  
Grand Valley. From one point, nearly N. of camp, we looked down into a  
narrow branch valley carrying a heavy population which could be reached  
in one day from our lake camp (Pelle River).

Tuesday, August 9, 1938.

Since the 17th the weather has been cloudy and unsettled with showers.



and sometimes heavy rain generally from E. to SE. During that time, and including this morning, we have had clear mornings. When I say clear mornings, I mean no fog on the lake.

Had some fever today and therefore did little work.

Wednesday, August 10, 1938

Another cloudy day with spots of sunlight, and light ~~showers~~ showers during the afternoon.

Rand, Huls and myself crossed the lake by boat and climbed the ridge overlooking the grassy valley of the Balim for the purpose of selecting a site for a collecting camp on the slopes of Mt. Wilhelmina. A suitable site being seen, Huls continued on to find a suitable route across the valley of the Balim; Rand and I collecting on the ridge and the marshy grass flats bordering the lake. The ridge drier and more sterile than that on which our camp is situated and covered with similar open Libocedrus and mossy shrubbery. The flat very wet under foot and in places too soft to bear <sup>ones</sup> ~~over~~weight - poor in plants.

Thursday, August 11, 1938

Spent a not very profitable morning collecting along the stream and on the dry stony knolls of the grass valley east of camp.

During the afternoon two parties of natives, about 20 in all, passed by camp. My boys, sent back to the grass valley to do some more collecting, saw a party of four men leading a pig. Rand, while observing the nest of Macgregor's bird of paradise across the bay, was passed unseen by a party of fifteen men, women and children. One of these men wore a cassowary feather head-dress.

and sometimes heavy rain generally from E. to SE. During the day  
and including this morning, we have had clear mornings. When I say  
clear mornings, I mean no fog on the lake.

Had some fever today and therefore did little work.

Wednesday, August 10, 1938

Another cloudy day with a good deal of sunlight, and light showers  
during the afternoon.

and, this and myself crossed the lake by boat and climbed the ridge  
overlooking the grassy valley of the Basin for the purpose of selecting  
a site for a collecting camp on the slopes of Mt. Williams. A little  
this side being seen, Hala continued on to find a suitable route across  
the valley of the Basin and a collecting on the ridge and the  
marshy grass flats bordering the lake. The ridge was and more sterile  
than that on which our camp is situated and covered with similar open  
littered and mossy shrubbery. The flat very wet under foot and in places  
too soft to bear straight - poor in places.

Thursday, August 11, 1938

Spent a not very profitable morning collecting along the river and on  
the dry stony knolls of the grass valley east of camp.  
During the afternoon two parties of natives, about 20 in all, passed by  
and, I hope, left part to the grass valley to do some more collecting.  
Saw a party of four men leading a dog, Hala, while observing the nest of  
Gregory's bird of paradise across the bay, was passed unseen by a party  
of fifteen men, women and children. One of these men wore a cassowary  
feather head-dress.

The reason for these people passing over the highlands still remains a mystery. To me it seems most probable that they are people of lateral valleys of the Grand Valley passing to the country of friendly tribes <sup>or</sup> of clans separated by the territory of other clans probably hostile.

Friday, August 12, 1938.

Most of the day occupied in making pictures with the 8x10 camera: various foregrounds to views of Mt. Wilhelmina.

Plants for the day include a Podocarpus (#9341) from a forest patch at the head of the grass valley E. and NE of camp. This is the fourth species of Conifer from this locality and it much resembles a species which occurred on the Waria slope <sup>of</sup> Mt. Albert Edward (i.e. Podocarpus brassii Pilger)

Weather: foggy morning, followed by a very dry, sunny day.

Saturday, August 13, 1938

Plane dropped mail at camp after having delivered supplies by parachute to Teerink and van Arcken in the Grand Valley. van Arcken was found at the pre-arranged meeting place: Teerink at a position 15 km NW, where he had been camped for some days.

After dropping our letters the plane proceeded to explore the eastern end of the Grand Valley, and found that the river cut through the Central Range and joined one of the large rivers flowing to the south <sup>coast.</sup> ~~west~~. Low clouds over the southern coastal plain prevented the plane crew from ascertaining their position and the identity of the river into which the waters of the Grand Valley empty. Archbold reports over the radio that a numerous population extends down to the southern plain. The gorge through the range is also heavily peopled; the gardens being very steep and retained by stone walls.

The reason for these people passing over the highland still remains  
a mystery. It is possible that they are people of Indian  
descent of the Grand Valley passing to the country of friendly tribes  
of clans separated by the territory of other clans probably hostile.

Friday, August 12, 1938.

Most of the day occupied in making pictures with the film camera.

Various foregrounds to views of Mt. Linn.

Plants for the day include a Podocarpus (No. 1) from a forest near

at the head of the Grand Valley E. and W. of camp. This is the fourth

specimen of Podocarpus from this locality and it much resembles a specimen

which occurred on the Faira slope at Albert Island (I. e. Podocarpus).

(Podocarpus)

Weather: foggy morning, followed by a very dry, sunny day.

# FIELD BOOK BOND

Saturday, August 13, 1938.

Plants dropped half of camp after having delivered supplies by pack

to Teraik and van Anken in the Grand Valley. Van Anken was found at

the pre-arranged meeting place: Teraik at a position 15 km W. where

he had been camped for some days.

After dropping our letters the plane proceeded to explore the eastern

end of the Grand Valley, and found that the river cut through the Central

Range and joined one of the large rivers flowing to the southwest. Low

clouds over the southern coastal plain prevented the plane crew from

ascertaining their position and the quantity of the river into which the

waters of the Grand Valley empty. Airphoto reports over the radio that

a numerous population extends down to the southern plain. The river through

the range is also heavily populated; the gardens being very steep and retained

by stone walls.

Another fine day here, with a thunderstorm in the afternoon followed by gentle rain through much of the night.

Stayed up till 12.15 developing 8x10 photos.

Sunday, August 14, 1938.

Dull slightly rainy day following a fogless, overcast dawn. Another thunderstorm passed near to the west.

Preparing for a trip of exploration for the purpose of finding a suitable high altitude collecting camp on the slopes of Mt. Wilhelmina.

Monday, August 15 to Wednesday, August 17, 1938.

Rand, Toxopeus, ~~Richardson~~, Huls, Brass, a coloured (European!) sergeant (Wilden<sup>boer</sup>~~blow~~), two soldiers, eight collecting boys, eight Dyak and two convict carriers away on excursion to NE slopes of Mt. Wilhelmina. Following a native track from the valley of the Balim and crossing the Wamena River, we camped in a grassy valley on the night of the 15th, about five miles NE of Wilhelmina top at 3440 m. altitude. That night Toxopeus, having wandered away from the party without boy or gun during the afternoon, slept under a rock an hour or so back along the track.

On the morning of the 16th, Rand, Brass and three Dyak collectors pushed on up the valley in which camp was situated and reached a small lake at 3650 m. about three miles East of the peak. A site for a collecting camp, in a forested valley with grassy and swampy bottom, was selected enroute. The proposed camp site is at an altitude of about 3550 m.

We reached Lake Habbema camp on the return journey at 2 PM. Distance from Habbema to proposed high altitude camp about eight hours for carriers. It is proposed to establish a subsidiary camp on the small lake at 3650 m. about an hour farther on.

Another fine day here, with a thunderstorm in the afternoon followed by gentle rain through much of the night.

Stayed in the tent, with developing colds.

WEDNESDAY  
AUGUST 15, 1933

Dull slightly rainy day following a clear, overcast dawn. Thunderstorm passed west to the west.

Preparing for a trip of exploration for the purpose of finding a suitable high altitude collecting camp on the slopes of Mt. Wilhelm.

Monday, August 15 to Wednesday, August 17, 1933.

Band, Toxopneustes, Pteropoda, Mollusca, a coloured (hydrozoan) zoogeant.

(Mollusca), two soldiers, eight collecting boys, eight dogs and two

convict carriers went on excursion to the slopes of Mt. Wilhelm.

Following a native track from the valley of the Balin and crossing the

river, we entered a grassy valley on the right of the river, about five

miles NE of Wilhelm. Camp at 3400 m. altitude. That night Toxopneustes

having wandered away from the party without box of gun during the after-

noon, slept under a rock on shore or so near along the track.

On the morning of the 16th, band, five and three Dog collectors departed

on to the valley in which camp was situated and reached a small lake at

3500 m. about three miles east of the camp. In ride for a collecting camp

in a forested valley with grassy and stony bottom, was selected enclosure.

The proposed camp site is at an altitude of about 3500 m.

We reached Lake Hapben camp on the return journey at 2 PM. Distance from

Hapben to proposed high altitude camp about eight hours for carriers. It

is proposed to establish a subsidiary camp on the small lake at 3500 m.

About an hour farther on.

THE BOOKS  
AND DOCUMENTS

Altitudes are the mean of aneroid readings by Rand and Brass.  
For details of trip see the following, taken from field notebook  
No. 1.

August 15, 1938

Excursion Habbema to slopes Mt. Wilhelmina.

Party: Rand, Toxopeus, Huls, Brass, 1 sergeant, 2 soldiers, 8  
collectors, 8 Dyak carriers, 2 convicts.

6.40 AM Sergeant left with carriers following track made round  
upper end of lake.

7.20 Rand, Toxopeus, Huls, Brass and two boys left in boat  
to cross lake. Barometer adjusted to 3225 m. (altitude  
of Habbema bank).

7.50 Landed at Kremer's Camp, altitude 3200 m.

8.10 Native shelter 3250 m.

8.15 Crest Balim Divide.

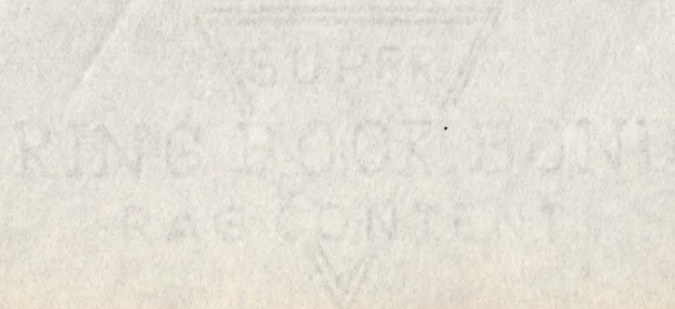
3260 m. (3300) Kremer's Camp - lake five degrees - Wil-  
helmina Peak 175 degrees - proposed camp 145 degrees.

Scattered Libocedrus fifteen to thirty feet high: Tough  
rather clumped shrubby thickets Phyllocladus, Symplaccus,

<sup>87 grams</sup>  
Dydia: much low Rhododendron between 60-70<sup>c</sup>m. also

Leucopugon.

8.20 Started down over soft springy moss through thickets of  
slope and skirting a marshy hollow with numerous shallow  
pools reached at



... are the main of ...  
For details of trip see ...

No. 1

August 12, 1932

Excursion ...

Party: ...  
collector, ...

...  
upper end of lake.

...  
to cross lake. ...

of ...

...  
altitude 3500 m.

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altitude 3550 m.

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altitude 3500 m.

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altitude 3500 m.

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- 8.40 Grassy bottom of Baliem Valley at 3240 m.
- 8.45 Started over valley.
- 9.15 Stopped to rest at small creek filled treeferns and Gahnia and Gleichenia, flowing to nearby Wamena, alt. 3160 m. Valley soft underfoot and covered tufted stiff grass 8-18" high growing out of a bog mat of dwarf grasses, pale leaved rosettes of buttercups, gray and black lichens and deep brown Hepatic. Number of shallow rusty ponds partly empty and slight dips running to Balim. Our course swinging westerly to avoid feeder gullies of Wamena.
- 9.30 Left resting place and continued over grassland.
- 9.50 to Wamena. Pretty bouldery stream 10 m. wide flowing in bottom steep sided valley 300 m. wide cut to depth of 35 m. (alt. 3140 m.)  
Green Equiostum under steep banks: Wahlenburgi, Imperator. Grey lumps forest thrown up on sandy edges.
- 10.05 Left stream. Soft knee-high grass in bottom plain. Burnt grass and tree-ferns.
- 10.10 Top east bank 3175 m. opposite the conspicuous white vertical scar  $\frac{1}{2}$  mile 210 degrees 1 m. high shrubberies 2 Rhododendrons ( & another) and fewer Drimys line top bank in strip 20 m. wide.
- 10.15 Left (S.E.)
- 10.35 Shelter, 3200 m.
- 10.50 Stopped to rest in a pleasant grassy point (3270 m.) over looking the Wamena (N.) sweeping round to East, and the broad valley of Balim NW. Due South. The East Knob (above

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proposed camp site) with a broad valley of broken forest, grass, shrubberies and tree ferns leading up to it.

11.10 Left resting place and still following native track E. up over narrow grass valley with numerous tree ferns. On sides upper East dead trees on old burnt over land now regenerated to shrubbery and forest.

11.18 Three great rocks in bottom of narrow valley.

11.35 Stopped to rest at a large sinkhole about 50 feet deep oval in shape, with Papuan fireplaces and beds in bottom under steep overhanging wall of waterworn boulders cemented with whitish lime (?) <sup>Glacial Till?</sup> into a sort of conglomerate valley bottom and lower slopes long grass tree fern, Hyperamia Caprosma. (alt. 3330 m.)

11.45 Resumed.

12 Noon Reached small stream coming from high white bluff to SSW about one mile and curving round to N and then going underground NW towards rest place of 11.35.

Umbrella trees like mops sticking out on E. skyline.

Pleasant grassy valley, with Drimys open shrubberies 1.5 m.

high. Many tree ferns on slopes. Sides of valley forested.

West side apparently primary rather open forest with plenty dark Libocedrus and lighter Dacrydium. East side seemingly old regenerated growth of original low forest trees. Few old living Libocedrus, more dead and white: young trees common in regeneration growth.

Wilhelmina Peak (just visible over east shoulder central bluff) 185 degrees.

<sup>for lunch</sup>  
Camped on grassy bank of stream a little above native crossing at 12.10, altitude 3320 m.

proposed camp site) with a broad valley of broken forest. Great  
shrubbery and tree ferns leading up to it.

11.10 Left resting place and trail following native track to go over  
narrow grassy valley with numerous tree ferns. On either side  
East dead trees on old burnt over land now regenerated to shrub-  
bery and forest.

11.11 Three great rocks in bottom of narrow valley.  
11.12 Stopped to rest at a large sinkhole about 50 feet deep oval in  
shape, with Roman limestones and beds in bottom under steep  
overhanging wall of waterlain limestones cemented with whitish  
lime (Y) into a sort of conglomerate valley bottom and lower  
slopes have grassy ferns, Hypolepis, Polypodium, (11.11, 11.12, 11.13)

11.13 Resumed.  
11.14 From Hatched small stream coming from high ridge only to 250 about  
one side and curving round to N and then going underground to  
towards east base of 11.15.

11.15 Upland trees like those at 11.14 on E. slope.  
Pleasant grassy valley, with Hypolepis and Polypodium 11.16  
High, many tree ferns on slopes. Sides of valley forested.

11.17 East side apparently primary forest open forest with plenty oak  
limestones and lighter Psidium. East side seemingly old re-  
generated growth of original low forest trees. Few old living  
limestones, much dead and white; young trees common in regener-

ation growth.  
11.18 Remaining forest (just visible over east shoulder central peak)  
120 degrees.

11.19 Camped on treey bank of stream a little above native crossing  
at 12.10, altitude 3320 m.

- 1.00 Rand, Toxopeus, huls, Brass and one soldier left camp to ascend ridge to east. Low forest. Limestone rock. Track deep cut.
- 1.18 Crest. Track branches to one NE, one SE. Follow latter across a marshy hollow and up through regenerating forest. Still on tracks of man and woman followed from Wamena.
- 1.30 Top of ridge 346 degrees. Crossing place on Baliem Ridge 345 degrees. East bluff 185 degrees.
- 1.50 After crossing and ascending sterile hollow reached crest of ridge, alt. 3480 m. Low broken mossed forest dominated by umbrella trees. No Libocedrus or Dacrydium. Below (close) a marshy flat shelf with number shallow <sup>holes</sup> parts. East Bluff 185 degrees about 1 mile across sheltered valley of grass and forest. Soldier sent back for carriers as somewhere in the valley below our vantage point we will camp
- 2.00 Descended half way down slope to valley bottom by a very old track, wide, deep cut and boggy on the wetter ground. Dwarf yellow flowered rosettes of <sup>Potentilla</sup> Potentia cover boggy ground with blue grey <sup>Ericacanth</sup> Ericumber # of equal size and pigmy bog grasses. Drier slopes (prevailing) covered <sup>long</sup> dry grasses as at Habbema, tussocked <sup>Gabnia</sup> ~~\*-~~, Gleichenia alpina, <sup>wiry ferns?</sup> wiry Caperania # accompanied by white fr. <sup>Myrsin</sup> Myrcites (183) small pink Vaccinum. Drimys (brownish ), <sup>red</sup> Gill Rhododendron, Coprosma and one or two larger Rhododendrons form shrubberies on drier ridge back and surrounding the numerous small forest patches dotted about the slight <sup>elevation</sup> aberration of the slope and valley bottom. Umbrella trees with its flat spreading pink inflorescence protrudes from most of these patches of Vaccinum (pink <sup>Gill and prominent</sup> ~~\*-~~ Habbema) Pittisposum, Drimys, Rapanea, and is the most conspicuous feature of the

1.00 Hand, Toropos, Mala, Hages and one soldier left camp to examine ridge to east. Low forest. Limestone rock. Track deep cut.

1.13 Crest. Track branches to one NE, one SE. Follow latter across a narrow hollow and up through regenerating forest. Hill on tracks of an old woman followed from summit.

1.20 Top of ridge 345 degrees. Overlying place on British Ridge 345 degrees. East drift 185 degrees.

1.25 After crossing and ascending steeply hollow reached crest of ridge. Alt. 3450 m. Low broken massed forest dominated by Pinus hillebrandii. No Podocarpus or Myrsine below (elsewhere) mainly flat with much Pinus hillebrandii and Myrsine hillebrandii. Regress about 1 mile across valley of Pinus hillebrandii and forest. Soldier sent back to explore Podocarpus hillebrandii in valley below our starting point we will camp.

1.30 Descended half way down slope to water, bottom of a very old track, wide, deep cut and boggy on the better ground. Dried yellow flowers Podocarpus hillebrandii cover boggy ground with blue Podocarpus hillebrandii of equal size and many bog grasses. Other species (prevailing) covered dry grasses at intervals. Podocarpus hillebrandii, Myrsine hillebrandii, Podocarpus hillebrandii and one or two larger Podocarpus hillebrandii on other ridge here and surrounding the narrow Podocarpus hillebrandii forest in lower dotted part. The hill to northeast of the slope and valley forest. Umbrella track with the line spreading pink inflorescence protrudes from most of these patches of Podocarpus hillebrandii (one Podocarpus hillebrandii, Podocarpus hillebrandii, Podocarpus hillebrandii and as the most conspicuous feature of the

vegetation. A solitary Libocedrus stands near my position of observation. Cyathea # 1-4 m. high, is very abundant and striking on the slopes with its golden-brown young fronds. Tree fern savannahs, with shrubs and yellowish dry grass cover a goodly area.

Track where I sit cuts through brown peaty soil more than knee deep to green grey sandy clayey bottom containing angular and rounded fragments of white limestone <sup>(?)</sup> 4-5" dia.

Frequent dark shallow pools, with sharp cut edges of peat, occur in flat ~~of~~ <sup>of ridges and</sup> ridges. Tops on sides valley.

Track continues ~~with~~ up valley SE by S. Plagiogyria of Habbema very abundant in the ~~the~~ <sup>the</sup> patches.

One Myrmedonia <sup>on</sup> and an umbrella tree.

Camped at 3440 m. alongside a treefern fringed ~~with~~ <sup>creek</sup> Mt. Wilhelmina Peak due SW from camp.

(The following from field note book-continued-August 16)

- 1872.
- 8.00 Left camp and followed ~~native~~ track about S. up valley towards prominent Scarp.
- 8.30 Climbed over a low treefern spur completely blocking valley through which the creek we have followed issues by ~~the~~ a <sup>glue</sup>.
- 8.45 Topped another treefern ridge and rested (3480 m.) to view a beautiful circular pocket spreading 10 m. below us to white cliffs on the far side. Pocket about one third of a mile across. ~~to~~ In bottom sowa-like swamps. Forest all round on the steep sides. Tree ferns round lower slopes below forest.
- 9.30 Skirting pocket on W. side past a moss-~~ed~~ <sup>fringed</sup> waterfall 60', ~~to~~ <sup>back</sup> through forest back to Papuan camp under a conspicuous white cliff. Sharp peak (under ~~the~~ <sup>cloud</sup>) N.

KING'S BOOK BOND

vegetation. A solitary Albizia stands near the position of observation. Quercus 1-4 m. high, is very abundant and striking on the slopes with its golden-brown young fronds. The fern sevensants, with shining and yellowish-green cover a goodly cover.

Track there is a cut through crowns soil more than knee deep to trees very sandy clay bottom containing angular and rounded fragments of white limestone 4-5" dia. frequent dark shallow pools with sharp and edges of peat, occur in flat-top of ridge. Top of side valley.

Track continues with no valley to the E. Parthenon of habitats very abundant in the valley. Quercus and an umbellifer. Camped at 3440 m. along the western ridge. Mt. Wilhelms Peak on SW from camp.

(The following from this note book-continued-quest 10)

3:00 Left camp and followed native track eastward up valley to prominent scarp. 3:30 Climbed over a low summit and completely blocking valley through which the creek we have followed ascend by the.

3:45 Topped another western ridge and reached (3430 m.) to view a beautiful circular pothole stretching 100 metres to width off the top of the ridge. Pothole about one-third of a mile across in bottom bowl-like shape. Forest is found on the lower slopes. Forest is found on the lower slopes below level.

3:50 Climbing pothole on W. side part a mass of limestone is seen through forest back to peak and under conspicuous white cliff that is seen (upper part of W.



- 9.50 Continued ES<sup>ld</sup> through forest (mostly high thickets).
- 10.5 Crossed over a sharp rocky <sup>limestone</sup> ~~limestone~~ ridge above which is another amphitheater a pocket more sterile than the last. ~~the~~ <sup>the</sup> Scarp conspicuous from that night's camp. Alt. 3580 m. ~~Black~~ <sup>Black</sup> white peak of Wilhelmina about due west. Three miles. Stream draining pocket goes underground through ridge we have just crossed.
- 10.20 Left ridge crest.  
Bottom of pocket, 3500 m.
- 10.45 At 3650 shallow lake with stony bottom about 400 x 300 yards. Photos lake and Wilhelmina Peak 10 degrees N. of W. Three miles E. of Wilhelmina top.
- 11.50 Left lake on return to camp.

August 18, 1938.

Guba came in from Hollandia and stayed over day in preparation to move Teerink's party from the Grand Valley to Habbema. Crew went duck shooting in afternoon.

Friday, August 19, 1938.

In two trips Teerink's party of 34 all told were flown from the Grand Valley river to Lake Habbema. Teerink reports good contacts all through for his party. It seems that van Arcken's corporal was responsible for the shooting of a native reported some few days back. This shooting occurred it appears in a lateral of the Grand Valley about two days this side of the new lake. Teerink's Dyaks in bad shape, several of them pretty well exhausted. Some of the loads brought up by plane weight at least 70 lb. The convict carriers are in much better shape.

0.30 continued up through forest (mostly high timber).

10.5 Crossed over a sharp rocky ridge above which is another

ascender a pocket more sterile than the last.

the party's camp. Alt. 3500 m.

There is a peak of Wilhelms about one mile. Three miles

stream draining pocket was underfoot through it. We have

10.30 left ridge crest.

Bottom of pocket, 3200 m.

10.45 At 3000 shallow lake with stone bottom about 100 x 300 yards.

Bottom Lake and Wilhelms Peak 10 degrees W of W.

Three miles E. of Wilhelms.

11.30 left lake on return to camp.

August 18, 1938.

Gips came in from Holman and stayed over day in preparation to  
have Terzin's party from the Grand Valley to Laska. One went  
once shooting in afternoon.

Friday, August 19, 1938.

In two trips Terzin's party of 31 all told were flown from the  
Grand Valley river to Lake Habbema. Then in reports good contacts  
all through for his party. It seems that van Aken's corporal was  
responsible for the shooting of a native reported some few days  
back. This shooting occurred at a point in a lateral of the Grand  
Valley about two days this side of the new Lake. Terzin's party  
in had ample, several of them pretty well exhausted. Some of the  
loads brought up by plane right at least 70 lb. The carter car-  
riers are in much better shape.

10.30 continued up through forest (mostly high timber).

Saturday, August 20, 1938.

Guba left at 9 AM to pick up van Arcken's party at the new lake (24 men). In spite of bad weather these were safely landed at Bernhard Camp in two loads, and the Guba returned to Hollandia. Archbold is staying on at Habbema until the end of September and will be with us at the top camp.

Sunday, August 21, 1938.

Collected in forest, the tallest seen here, at head of the broad grass hollow NE of camp.

Monday, August 22, 1938.

Revisited the NE hollow for the main purpose of making pictures with the big camera. Found upon examining the peaty ridges around camp, that not a single spot is left undisturbed by the soldiers and Dyaks. These 100 or so vandals, with swords and knives, have played havoc with especially the Libocedrus trees and the Myrmecodias.

Escorted by five soldiers and accompanied by one personal boy, Toxopeus left this morning to examine a site for a mossy-forest collecting camp. A good site, at 2700 m., three hours from Habbema, was reported by a military patrol sent out during last week.

Tuesday, August 23, 1938.

Spent a fairly profitable morning in the forest strips of the lake outlet stream. Found there, in moist gully forest, two spp. of Timonius.

Discussion of plans for transport of the party to Mt. Wilhelmina Camp. Rand and Teerink leave to establish this camp on the 26th.

Saturday, August 20, 1938

Left at 9 AM to pick up van Laken's party at the new lake  
(22 men). In spite of bad weather there were safely landed at  
Berghart camp in two loads, and the boys returned to Hollister.  
Archbold is staying on at Habema until the end of September and  
will be with us at the ion camp.

Sunday, August 21, 1938

Collected in forest, the Wilhelms area, at head of the stream  
grass hollow NE of camp.

Monday, August 22, 1938

Maintained the NE hollow for the main purpose of taking pictures with  
the fly camera. Found upon examining the nearby ridges and lake  
that not a single spot is left unvisited by the rodents and lizards.  
There 100 or so vandals, with axes and knives, have played havoc  
with especially the hoped-for trees and the Wilhelms.  
Packaged by five soldiers and accompanied by one general boy, the  
party left this morning to examine a site for a mossy forest collect-  
ing camp. A good site, at 2700 m, three hours from Habema, was  
reported by a military patrol sent out during last week.

Tuesday, August 23, 1938

Spent a fairly prolific morning in the forest along the lake  
outlet stream. Found there, in not a single forest, two spp. of  
Tremula.  
Discussion of plans for transport of the party to St. Wilhelms  
Camp. Land and Terman leave to establish this camp on the 24th.

Wednesday, August 24, 1938.

Making 8 x 10 pictures. Collected in inferior Vaccinium forest overtopped by Dacrydium, in first hollow NW of camp.

See field notebook #1.

Toxopeus returned from his excursion to the slopes of the Grand Valley, full of new discoveries. He has selected a camp site in very mossy forest at about 2800 m. Says there is a Dacrydium forest zone above this. Tox. ventured down to the edge of population in a branch valley at about 2400 m. People friendly.

Thursday, August 25, 1938.

Collected a few plants on sterile rocky slopes on the west side of the lake (Balim Divide).

A dull raw day following (strangley) a foggy morning. Heavy thunder-showers with much small hail in afternoon.

Teerink and Rand preparing to depart for the slopes of Wilhelmina.

Friday, August 26, 1938.

The following party left early this morning to establish the high altitude base:-

Teerink

Rand

2 collecting boys (Cornelius and a Dyak)

1 Sergeant

14 Soldiers

22 Dyak carriers

11 Convict carriers

1 cook (Soerip)

Wednesday, August 24, 1938

Working in the morning. Collected in the Washburn Forest

overlooked by Washburn, in the hollow W of camp.

See field notebook #1.

Forester returned from his excursion to the slopes of the Grand

Valley, full of new discoveries. He has selected a camp site in very

moor forest at about 2800 m. says there is a Leucophaea forest

some above this. Fox, venture down to the edge of bog in

a branch valley at about 2400 m. Leucophaea

Thursday, August 25, 1938

Collected a few plants on the rocky slopes on the west side of the

lake (below divide).

A dull raw day following (Thursday) a heavy morning. Heavy thunder-

showers with much small hail in afternoon.

Teunis and I were preparing to depart for the slopes of Washburn.

Friday, August 26, 1938

The following party left early this morning to establish the high

altitude base:

Teunis

land

2 collecting boys (Wormelin and a Dyak)

1 sergeant

14 soldiers

22 Dyak carriers

11 logistic carriers

1 cook (Dyak)

Saturday, August 27, 1938.

Commenced labelling dried specimens.

A party of five Papuan men and six youths appeared in camp at three o'clock in the afternoon, unheralded by any sentry. They seem to have come from the branch of the Grand Valley due north. For the first time these people smoked our tobacco and cigarettes and accepted presents of small cowries and odds and ends. Natives wore string nets, some partly ornamented with yellow material from orchid stems, covering their heads and hanging back over the neck. All had small string bags containing tobacco, leaves for rolling cigarettes and ~~fire~~ fire making rattans hanging under one arm. All armed with bows and arrows. Some had stone adzes, one a steel tipped adze and several carried newly bent adze handles with rattan ~~adze~~ still attached.

Sunday, August 28, 1938.

Two more natives in camp this afternoon, this time quite unarmed and carrying only short staves of some light wood. Mirrors and small cowries with back removed ~~in~~ are the popular articles of trade. A clasp knife and red handkerchief were accepted as gifts. Razor blades, on account of their cutting qualities, not popular.

Monday, August 29, 1938.

Toxopeus left for Mt. Wilhelmina with the following party:

Toxopeus

Two Javanese collectors

1 Cook

1 Dyak collector (my boy U-Sang) for Rand

Dyak carriers, convicts and soldiers.

RIVER BOOK BOND

Monday, August 27, 1935

Unmanned landing strip operation.

A party of five Japanese men and six natives appeared in camp at three o'clock in the afternoon, unharmed by any enemy. They seem to have come from the beach of the Grand Valley, one north. For the first time these people smoked our tobacco and cigarettes and accepted presents of small bottles and soap and other things. Some partly ornamented with yellow material from ground stems, covering their heads and painting black over the neck. All had small string bags containing tobacco, knives for making cigarettes and small fire making sticks hanging under one arm. All armed with bows and arrows. Some had stone axes, one a steel tipped axe and several carried newly bent axes (shades) with katan.

--- still attached.

Monday, August 28, 1935

Two more natives in camp at afternoon. One fine guide unharmed and carrying only small axes of some light wood. Arrows and small knives with black removed texture are the typical weapons of these. A class of 15 and very unskilled were accepted as guides. Later shades, on account of their cutting qualities, not regular.

Monday, August 29, 1935

Departed for the following party:

RIVER BOOK BOND

The Japanese collectors

1 cook

1 deer collector (Mr. Toyu-San) for land

1 deer collector, mounts and collectors



Teerink returned in afternoon with an escort of soldiers and the carriers who made the first journey.

A party of about eight men and one small girl appeared during the morning. These people, who came from towards the east and apparently belonged to a different valley to our visitors of yesterday and the day before, brought three half grown pigs and a bundle of penis gourds to trade. A pig purchased for ten small cowries and Archbold traded a red handkerchief for a gourd.

Tuesday, August 30, 1938.

Dull day with little sun.

Richardson caught in a steel trap in a grassy sinkhole near the edge of forest one of the mammal prizes of the expedition to date, a large Mallomys with a broad white band over the back.

Teerink composed in Dutch a telegram to H. M. Wilhelmina conveying from the slopes of Mt. Wilhelmina congratulations on the 40th year of ~~the~~ her reign as queen. Tomorrow is the Queens' birthday and jubilee day is 6th September.

Another party of 11 natives, some of them visitors of two days ago, turned up during the afternoon. Somewhat to my surprise, they were willing to sell their weapons, and Richardson did some hard trading for bows and arrows, a spear, jaws harp, hair net, and other articles. A small cowrie secured a bow and bunch of arrows, a spear, or a stone adze.

Our Dyaks traded for sweet potatoes - a box of matches for two large roots. The Guba took a load of supplies to Bernhard Camp and conveyed Lieut. van Arcken to Hollandia.

Three days ago, by a coincidence on the same day that natives first came into our camp, the camp on the Idenburg was visited by natives bringing

Tealick returned in a wagon with an outfit of soldiers and the

carriage who made the first journey.

A party of about eight men and one small girl appeared during the

morning. These people, who came from toward the east and apparently

belonged to a different valley to our visitors of yesterday and the

day before, brought three half grown pigs and a bundle of beads for

to trade. A pig purchased for ten small cowries and Ardebein traded a

red bannerchief for a gun.

Tuesday, August 30, 1878.

Went out with little son.

Ardebein caught in a steel trap in a grassy area near the edge

of forest one of the mammals, a species of the genus *Peromyscus*, a large

Salpatria with a broad white band over the back.

Tealick composed in Dutch a message to H. M. Williams conveyed from

the slopes of Mt. Williams on the 20th year of the

her reign as queen. Tomorrow is the Queen's birthday and jubilee day

is 5th September.

Another party of 11 natives, some of them visitors of two days ago,

turned up during the afternoon. Some went to my surprise, they were ill-

ing to sell their weapons, and Richardson did some hair trading for bows

and arrows, a spear, jaws, hair, hair net, and other articles. A small

cowrie secured a row and bunch of arrows, a spear, or a stone case,

Our boys traded for sweet potatoes - a box of matches for two large roots

The gate took a load of supplies to Richard camp and conveyed about an

Ardebein to Williams.

Three days ago, by a coincidence on the same day that natives first came

into our camp, the gain on the island was visited by natives bringing

pigs and cassowaries. According to the radio report these were brought for tobacco and cigarettes. Poor pay, if the report is true. Radio conversations between camps are sometimes amusing. This afternoon the sergeant in charge of Bernhard Camp during van Arcken's absence asked Schroeder's permission to kill for the feast of the Queen's birthday, some hens Schroeder had sent out to furnish the camp with eggs.

Wednesday, August 31, 1938.

More natives in camp - some of them previous visitors.

Very heavy rain from a thunderstorm in late afternoon and early evening: a little small hail: severe lightning.

September,  
Thursday, ~~November~~ 1, 1938.

A cold rainy day, although, between showers, the thermometer rose to 19.5 degrees.

Rand returned from Mt. Wilhelmina camp with two boys. On the way, between the upper and middle camps, he met a party of fifteen middle aged men and one woman who were not friendly in their manner. At a bark shelter near the Wamena he met a smaller party who ignored him altogether. Strange people.

The plane, due at the lake today, was prevented from coming in by the weather.

Friday, September 2, 1938.

Weather continues unsettled and showery.

Guba came in with stores for the Dutch party and brought Lieut. van Arcken and Schreuder and Myer-Drees and his half caste Javanese as-

lights and eassewires. According to the local report there were  
wrought for tobacco and cigarettes. Poor day, if the report is true.  
Radio conversations between camps are sometimes amusing. This after-  
noon the sergeant in charge of Benbow camp during van Arden's  
absence asked Benbow's permission to kill for the lack of the  
women's birthday, some hens Benbow had sent out to furnish the camp  
with eggs.

Wednesday, August 31, 1938.

More arrived in camp - some of them previous visitors.  
Very heavy rain from a thunderstorm in late afternoon and early even-  
ing. A little small hail; several lightning.

Thursday, September 1, 1938.

A cold rainy day, although, between showers, the thermometer rose to  
19.5 degrees.  
Lard returned from Mr. Williams camp with two boys. On the way,  
between the open and hidden camps, the party of fifteen, twelve  
aged men and one woman who were not friendly in their manner. At a  
dark shelter near the Benbow he met a smaller party who ignored him  
altogether. Strange people.  
The crane, one of the lake boys, was prevented from coming in by the  
weather.

Friday, September 2, 1938.

Weather continues unsettled and stormy.  
Dutch came in with stores for the Dutch party and brought lard.  
Arden and Schreiber and Iyer-Drees and his half caste Japanese as-

sistant, Ch. Versteegh.

A very heated dispute between Rand and Myer Drees. Notwithstanding previous agreements in conference at Hollandia, Myer-Drees at first refused ~~refused~~ to work under my direction. Considerations of prestige in Java appear to weigh heavily in this connection. Myer-Drees has agreed again to recognize my authority on matters botanical. He will, on my suggestion, spend most of his time in working distant localities from subsidiary camps of two or three days duration.

Saturday, September 3, 1938.

Dull drizzling day: Heavy rain in afternoon.

Plane was forced by clouds to turn back after getting within hearing distance on a cargo delivery flight.

Cataloging photographs and making preparations for a move to Mt. Wilhelmina Camp.

Sunday, September 4, 1938.

Guba, with Rogers, Booth, Barrinka and Brown, came, delivered the remainder of our September supplies and also brought in eight additional Dyaks transferred from the Idenburg.

A reconaissance flight over Mt. Wilhelmina lasting 27 minutes, made by Archbold, Teerink, Rand, Richardson and Brass. The object of the flight was to spy out a feasible route to the summit. Unfortunately, clouds from the SE drifted over the mountain and we had little more than a glimpse of the snow cap as we passed directly over the summit. It seems however, that a fairly easy approach can be made from the eastward. The afternoon spent in making up loads in preparation for a move to Mt. Wilhelmina camp tomorrow.

Assistant, C. Versteeg.

A very heated dispute between land and river crews. In previous agreements in conference at Hallsboro, river-crews at first refused to work under my direction. Consideration of pressure in fact appear to weigh heavily in this connection. River-crews has agreed again to recognize my authority on matters pertaining. He will, on my suggestion, spend most of his time in working distant localities from temporary camps of two or three days duration.

Saturday, September 3, 1932.

Half brilliant day; heavy rain in afternoon. Plans were forced by clouds to turn back after getting within bearing distance on a cargo delivery flight. Cataloging photographs and making preparations for a move to Mt. Williamson Camp.

Sunday, September 4, 1932.

Clear, with fog, fog, haze and heavy rain. Relieved the weather of our September weather was also bright in night additional. Plans transferred from one location to another. A reconnaissance flight over Mt. Williamson lasting 27 minutes, made by Archbold, Tenink, Rand, Richardson and Brane. The object of the flight was to spy out a feasible route to the summit. Unfortunately, clouds from the SE drifted over the mountain and we had little more than a glimpse of the snow top as we passed directly over the summit. It seems however, that a fairly easy approach can be made from the eastward. The afternoon spent in making up loads in preparation for a move to Mt. Williamson camp tomorrow.

A large party of Papuans in camp during the forenoon. Some of these were frequent visitors, but most of them somewhat shy strangers who indicated by signs that they had come from the SE. Some wore a sort of half-coronet of plain pandanus leaf, another had a similar head-dress covered, with the fur of a large mammal. Several had pieces of a large white fungus (Polyporus?) attached to their hair in front. They sold bows and arrows, spears and stone adzes freely for small cowries.

Monday, September 5, 1938.

A fine clear morning for our journey. Following the carriers, we were ferried over the lake at Kremer's Point by Schroeder, who walked with us as far as the top of the Balim Divide. Tusschen (<sup>Minden</sup>~~Minden~~) Camp was reached at 12.40 AM: about six hours journey for carriers.

Our party consists of:-

Archbold, Teerink, Rand, Richardson, Brass

Cooks: Amat and Soerip

13 soldiers and Sergeant ~~Mildenbow~~ <sup>Widmeyer</sup>

17 Dyak Carriers

5 Convict Carriers

1 Ambonese collecting boy (Marcus)

7 Dyak collecting boys.

Richardson continued on to Mt. Wilhelmina Camp, ~~having~~ leaving Tusschen Camp at 2.30 PM.

Collected in the afternoon eight or ten plants new to the collections, mostly from the wet grassy banks of the fast bouldery stream running past the camp.

A large party of Japanese in camp during the forenoon. Some of these  
were frequent visitors, but most of them seemed very interested who  
indicated by signs that they had come from the U.S. Some wore a sort  
of party costume of plain domestic fabric, another had a similar dress-  
dress covered with the fur of a large mammal. Several had pieces of  
a large white fungus (Polyphorus) attached to their hair in front.  
They sold hats and shoes, spears and stone axes freely for small  
coppers.

Monday, September 24, 1933.

A fine clear morning for our journey. Following the carriers, we set  
forth over the lake at 7:30 AM. Found by 10:30 AM, and walked with us  
as far as the top of the Balla Divide. (Taschen Camp was  
reached at 12:40 PM. About six hours' journey for carriers.

Our party consists of:-

Archbold, Leach, Land, Nicholson, Brass

Books: Amal and script

Food and supplies

13 soldiers and 10 porters

14 pack carriers

2 convict carriers

1 Chinese collecting boy (Kichin)

7 pack collecting boys

Nicholson continued on to Mt. Wilhelm's Camp, leaving leaving

Taschen Camp at 2:30 PM.

Collected in the afternoon eight or ten plants new to the collection.

Mostly from the wet grassy banks of the fast flowing stream running

past the camp.



Tuesday, September 6, 1938.

Cold drizzling rain delayed our departure until 7.45 AM.

Arrived at Wilhelmina Camp about 10.30. Carriers all arrived at 12.15 and returned to Tusschen Camp at 1.00 PM. There was further rain between the arrival and departure of the carriers. A dull unpleasant day.

We found upon arrival that the living room, preparation room and stove tent were erected and ready for use, besides, of course, the tents of Rand and Toxopeus and the Dyak's fly. The soldiers and convicts have their usual low shelter covered with green American oilcloth and floored with spears laid on the ground on sticks. The advantage of a floor in country such as this is not apparent to the Dutch.

Camp is situated on a long slope formed by debris from landslips on the slopes above and covered with tussock grass. Above and on both sides are low clumps of small leaved trees which seem to close in to form low continuous forest in parts. The ground under the grass of our camp site is dark coloured and mucky, and in the shallow drains which have been dug are large numbers of small angular rock fragments carried down by the landslip.

The party in Mt. Wilhelmina Camp is at present comprised of:

Archbold, Teerink, Toxopeus, Rand, Richardson, Brass.

Sergeant Wildenbow and soldiers.

2 Ambonese collecting boys

8 Dyaks

2 American cooks

1 Dutch party cook

2 Javanese collecting boys (Toxopeus)

5 Convicts.

Thursday, September 2, 1932.

Left at 7:45 AM. The train delayed our departure until 7:45 AM. Arrived at Williams Camp about 10:30. Campers all arrived. It is and returned to Tushnet Camp at 11:00 PM. There was a full rain between the arrival and departure of the campers. A dull misty day.

The found upon arrival that the living room, preparation room and stove tent were erected and ready for use, besides, of course, the tents of hand and Toxness and the Duke's. The soldiers and some of the have their usual low shelter covered with green material which and flanked with spars laid on the ground on sticks. The advantage of a floor in country such as this is not apparent to the

camp is situated on a long slope formed by debris from landslides on the slopes above and covered with tussock grass. Above and on both sides are low clumps of small leaved trees which seem to close in to form low continuous forest in parts. The ground under the trees of our camp site is dark colored and mossy, and in the shallow drains

which have been dug are large numbers of small aquatic rock plants carried down by the landslip.

The party in St. Williams Camp is at present composed of:

- 1 Japanese collecting boys
- 8 Dwarfs
- 2 American boys
- 1 Dutch carry boy
- 2 Japanese collecting boys (Toxness)
- 2 Scouts.

Wednesday, September 7, 1938.

Fine, though cloudy, for an hour or so after daylight, then rain most of day.

Little work done in camp. Our #1 cook, Amat, too stiff to <sup>walk</sup>~~work~~ after the unaccustomed hard excursion of yesterday and the day before.

Left two boys to start preparations for drying plants, and with one boy collected along the base of the cliffs S-SW of camp, and from there up the side of the spur to the summit through wet and mossy low forest clinging to the steep slopes. For some distance I followed up the narrow bed of a stream, walking on a thick mattress of moss and small shrubs (Vaccinium ), and although the stream wound underfoot, for the whole distance I saw no water.

So far as I have seen, the low, broken forests are composed chiefly of Vaccinium 9690 (one of the major forest species of Habbema) and a small leaved Eurya ( ) not yet seen in flower or fruit.

Thursday, September 8, 1938.

Bright clear morning: fine view of the main ridge leading to the summit of Mt. Wilhelmina. The E. tip of which is just visible from our tents. A good frost on the grass in camp. Ground frightfully wet and squishing underfoot.

Archbold, Teerink and Toxopeus with two boys and an escort of four soldiers, made a trip beyond the lake and picked a subsidiary camp site on the ridge above, at about 3800 m. altitude.

A party of Dyak and Convict carriers arrived with supplies and returned for Tuschen Camp during the morning.

WILSON'S BIRD BOND

Wednesday, September 7, 1938.

Time, though cloudy, for an hour or so after breakfast. Then rain  
 most of day. A few birds seen. The birds were seen in pairs.  
 Distillate work done in camp. The birds were seen in pairs.  
 the unaccounted hard excursion of yesterday and the day before.  
 left two boys to start preparations for drying skins, and with one  
 boy collected along the base of the hills 5-6 of camp, and from  
 there up the side of the camp to the summit through wet and mossy  
 forest clinging to the steep slopes. For some distance I followed  
 the narrow bed of a stream, walking on a thick mat of moss and  
 small shrubs (*Vaccinium*), and although the stream wound underfoot,  
 for the whole distance I saw no water.  
 As the day had been, the low broken forests are composed only of  
*Vaccinium* 9000 (one of the major forest species of Labrador) and a small  
 leaved *Myrica* ( ) not yet seen in flower or fruit.

Thursday, September 8, 1938.

Bright clear morning. Fine view of the main range leading to the  
 summit of Mt. Wilkes. The birds of which is just visible from  
 our tents. A good trout on the grass in camp. One or two  
 wet and refreshing weather.  
 Archibald, Teevik and Toxopans with two boys and in escort of four  
 soldiers, made a trip beyond the line and placed a small camp  
 site on the west slope, at about 3000 ft. altitude.  
 a party of 4 pack and Convict carriers arrived with supplies and  
 returned for Tuesday camp during the morning.

Collected over 30 spp. in low forest, Coprosma shrubberies and on a small strip of bog turf just beyond the small waterfall about three-quarters of a mile from camp on the west side of the valley. The best plants were Cincinina #9847 from the forest floor and dwarf Ranunculus #9866 from bog turf.

Weather became dull about 11.30 and at 1.15 was heavy rain with small hail. Afternoon cold and raining intermittently: no sun. Thunder down valley.

Friday, September 9, 1938.

Fine clear day to about noon, when clouds covered the camp valley. The main ridge remained clear until 2 PM when clouds obscured it and rain began to fall at camp. Dull afternoon with intermittent rain, and raining heavily at 8 PM. Good frost this morning: sunrise in camp 8 AM.

Set up my maximum and minimum thermometers.

Teerink left to establish the 3800 m. subsidiary camp, with four carriers and soldiers. The carriers and two soldiers returned during afternoon. A party of seven natives, comprising two men, several boys and one small girl camped for the night under the cliff near camp. When first sighted they were on the other side of the valley, travelling slowly in the rain under long, peaked hoods of Pandanus leaf. We watched their arrival from camp. Setting down their hoods and loads under the dry shelter of the cliff they motioned that they intended to sleep there, and gesturing with the palm of the hand turned outward, indicated / that we were to keep away. An hour or so later, after Richardson had made contact with them by going one half way down to their camp, a solitary man, obviously fatigued, paid us a visit. These people, though in all noticeable respects similar to those who visited us at Lake Habbema, apparently belong to a different tribe. Their word of

Collected over 30 eggs, in low forest, Scopeloglossus sp. and on a  
small stump of log that lay beyond the well established about three  
quarters of a mile from camp of the new camp of the valley. The first  
trails were discovered from the first trail and were tracing  
what had been said.

Feather became dull about 11.30 and it is not very clear with small  
fall. A person came and taking in feathers to camp. Under cover  
valley.

# RING BOOK BOUND

## FRANK S. COVETT

The first day of about noon, then clouds covered the camp valley. The  
rain began to fall about 11.30 and it was then that the rain began to  
fall in full of camp. This afternoon with lightning and rain, and falling  
heavily at 8 PM. Good food was brought, and in camp 8 AM.  
set up by lantern and animals for some days.

Trails left to establish the 3800 ft. subsidiary camp, with four carriers  
and mules. The carriers and two mules returned during afternoon.  
A party of seven natives, comprising two men, several boys and one small  
girl, came to the right under the cliff near camp. When first sighted  
they were on the other side of the valley, traveling slowly in the rain.

Under foot, packed loads of Parsons feet. We watched their arrival from  
camp, seeing down their woods and roads under the old shelter of the cliff.  
They noticed that they intended to sleep there, and resting with the pain  
of the pain turned outward, indicated that we were to be soon away. In how  
or so later, after discussion and made contact with them by going one half  
way down to their camp, a soldier was obviously followed, paid as a reward.

These parties, though in all respects, resemble trails to those who visited  
us at late hours, apparently belong to a different tribe. Their word is

FRANK S. COVETT

greeting is WAI instead of NAP. The man who visited camp was minus two joints of the first and second fingers of the left hand - a mutilation general, it seems, in the people seen at Habbema.

There being no firewood out for my use, I had to spend the day in camp while my boys got in a supply. Much work in the way of drain making and general establishment of camp remains to be done. Military supervision of camp making has proved far from satisfactory.

Saturday, September 10, 1938.

Ill and confined to my tent all day: violent headache, vomiting and bowels disordered.

Schreuder, van Arcken, Huls and Myer-Drees arrived during the morning: having slept at the Middle Camp.

Sunday, September 11, 1938.

Archbold and Rand with two collecting <sup>boys</sup>, Soerip as cook, seven Dyak carriers, two convicts and an escort of five soldiers left for the top camp. Schreuder and Huls went with them and returned with the carriers and escort at one o'clock.

Collected on the summits SE and SSE of camp. Climbed up by a grassy landslip clumped with timber directly behind camp and attained the top at a low place - 3720 m. alt. From there I followed the ridge top S., past a sharp peak of about 3800 m., on to the two E. summits of a three topped semicircular eminence. These tops both 3900 m. by aneroid. From the easternmost a village and cultivation were seen on the southern fall on a bearing of 165 degrees. Close behind the cultivated lands is a big landslip. From here the middle of Lake Habbema bore 340 degrees. From the central top the upper camp (Waterfall sic Camp) bore due west.

For notes on vegetation see Field notebook #1.

giving to the... of the...  
joints of the... and second...  
general, it... in the...  
there being no... out for...  
while my boys... in a...  
general... of camp... to be...  
of camp... has... for...  
Saturday, September 10, 1938.

I... and... to my... all... violent...  
disorderly...  
... van... and...  
... at the... camp.

Sunday, September 11, 1938.

... and... with...  
two... and... of...  
and... with... and...  
o'clock...  
Collected on the... and...  
climbed... with...  
... about...  
... from the...  
and... were... on...  
... the...  
of... base...  
(... to...)  
... on... see...



A dull cloudy day: rain intermittently in camp from 1 PM. Rain commenced about 11 AM at 3900 m. burst of showers coincided with a shift of wind from SE to NE.

Monday, September 12, 1938.

The event of the day for me was a trial of strength with Myer-Drees. In a discussion of working plans for our combined botanical work on Saturday, I suggested, and he agreed, to proceed to the Middle Camp today and collect there, returning on the 15th. Seeing that he had made no preparation to start, I asked in a conversational way whether he was ready to go, and was thereupon informed that he intended to postpone the trip until after the ascent of Mt. Wilhelmina. Some plain talk followed, with the result that Myer-Drees departed for the Middle Camp after lunch, with three Dyaks. He travelled with a convoy returning after delivering supplies.

Hear that several Dyaks are on strike at Lake Habbema. Loads too heavy, they say, and the country too cold.

The first day since our arrival on the sixth. Clear frosty morning soon clouding but spots of sunshine to 5 PM. First rain at 1.15: heavy rain 6.30 to 8 PM with thunder rumbling to NE.

It is warm in the tent tonight: 53 degrees F.

Tuesday, September 13, 1938.

This morning at 6.15 the temperature against the frozen wall of our tent was 23 degrees F. Grass temperature at 6.40 was -5 degrees C: standard minimum -2 degrees C. A beautifully fine day followed, the peaks being quite clear until late afternoon.

Van Arcken and self went up to the top camp, partly to see the country and partly to receive mails dropped by parachute. Two parachutes were dropped.

and cloudy day. rain intermittently in some from 1 P.M. rain com-

manded about 11 A.M. at 5:00 M. burst of showers continued until 11 P.M. of

and from 11 to 12.

RECEIVED  
SEP 21 1938

Monday, September 19, 1938.

The start of the day was a trial of stormy weather.

In a discussion of working plans for our combined botanical work on 19th

day, I suggested, and he agreed, to proceed to the Middle Camp today and

collect there, returning on the 19th. I said that he had made no prepara-

tion to start, I asked in a conversational way whether he was ready to go,

and was therefore informed that he intended to postpone his trip until the

beginning of the 20th. Some rain fell followed, with the result

that I have been engaged for the Middle Camp since lunch, with three days.

He travelled with a heavy raincoat after leaving my house.

But that several days were on strike at Lake Umbagog. I found too heavy,

they say, and the country too cold.

The first day since our arrival on the 19th. Clear frosty morning soon

showing but soon of sunshine in P.M. First rain at 1.15 P.M. heavy rain

6.30 to 8 P.M. with thunder rumbling to W.

15.15 rain in the best tonight. 23 degrees F.

Tuesday, September 20, 1938.

This morning at 6.15 the thermometer against the frozen wall showed

that the 23 degrees F. Great temperature of 21.5 degrees F.

standard minimum - 2 degrees F. A beautiful line of fog followed, the work

being quite clear until late afternoon.

Mr. Anderson and I went up to the top of the mountain to see the country and

to see the views from the summit. The mountains were covered

RECEIVED  
SEP 21 1938

One, carrying the mails and fruit, opened beautifully but landed on a grass valley on the south side of the range a good ~~one~~ half mile from the camp. The other chute, carrying bamboos for the radio rig, failed to open and the poles shattered rather badly.

Mr. and Mrs. Hoogland were passengers on the plane: which landed at both Lake Habbema and the Idenburg.

Wednesday, September 14, 1938.

A peculiar day - very high overcast, little sun, peaks clear to mid-afternoon: a little rain in evening from a thunderstorm down to the NE.

Heavy frost: minimum temperature  $-1.5$  degrees C.

Feeling rather unwell - stomach - so collected a few things in the vicinity of camp.

Thursday, September 15, 1938.

Myer-Drees returned from Middle Camp with a collection of something over 100 numbers of plants, many of them mosses and much of the material scrappy, but rather better than I expected. ~~No~~ more than three or four flowering plants and ferns new to the collection.

Still unwell and not able to do much in the field.

Fine day, with heavy rain from a thunderstorm in the evening.

Friday, September 16, 1938.

Spent the day catalogueing an accumulation of plants on hand and making other preparations for a move to the top camp. Archbold and Teerink with two carriers and a soldier left the top camp on the fourteenth to explore a route to the summit of the peak. We expected word today for the main climbing party to move up to the top camp in preparation for the climb.

One, carrying the water and fruit, opened up a trail to the  
grass valley on the south side of the range a good one mile from the  
camp. The other chutes, carrying the lumber for the house, led to a  
and the pole scattered rather badly.  
Mr. and Mrs. Hooper were passengers on the plane, which landed at  
Lake Hopper and the landing.

Tuesday, September 11, 1938.

A peculiar day - very high clouds, little sun, some steady rain  
afternoon, a little rain in evening from a thunderstorm down to the  
heavy forest; a slight temperature - 1.5 degrees C.  
Feeling rather unwell - stomach - as collected a few things in the vicinity  
of camp.

Wednesday, September 12, 1938.

per-ices returned from a collection of plants in the  
100 meters of plants, many of which were new to me. I collected  
surgery, but rather better than I expected. No more than three or four  
flowering plants are found near the collection.  
Still unwell and not able to do much in the field.  
This day, with heavy rain from a thunderstorm in the evening.

Friday, September 14, 1938.

Today, the day dedicating an accumulation of plants to my and making  
other preparations for a move to the top camp. Anchores and fishing with  
the carter and a soldier left the top camp on the mountain to explore  
a route to the summit of the peak. The expected word today for the main  
climbing party to move up to the top camp in preparation for the climb.

Letter from Archbold, received at 3560 m Camp Sept.16.

Brass or Richardson:

Rather bad news regarding climbing Wilhelmina from the East or South. We could find no feasible way to do it. We got to the top of the ridge directly south of this camp in two hours or a little under. Altitude of saddle 4230 m. We then spent about an hour looking for a way to the west. We could find no feasible way of traversing along the top of the ridge and as both sides were precipitous it looks as if the only way to do was to go down a narrow couloir or valley that ran between the grey limestone and a blackish rock (basalt?) in a westerly or a little south of west and then cross an old rock-slide to a small basin. At the foot of the cliff there was a waterfall, at the edge of the basin a few shrubs and a couple of holes about three meters deep where an underground stream ran. We decided to camp in the basin as it then was about noon and as the carriers had to get back it did not seem advisable to keep them any longer. We had quite a hailstorm that afternoon and some of the hail stayed on the ground until eight <sup>next</sup> in the morning, camp 5982 meters. The next morning we went up a valley with one or two old rock falls between the limestone and a brownish sandstone. We rested just short of the saddle at an altitude of 4270. We forgot to look at the time or the altimeter after this, but I judge we were about fifteen minutes from the saddle. From the saddle we got a fine view of Carstens and the south coast to the west. To the south there were two small peaks, the sandstone one and a black basalt? one, then another apparently of the same stone as Wilhelmina. That was quite high and very massive with a flat top. Directly to the north was the snow of Wilhelmina, towards which we climbed. We had to use the rope as the rock was steep, smooth and there were few handholds. It soon was apparent that we had climbed a ridge to the south of the peak itself so that

~~then we~~ <sup>XX</sup> got

RINGBOK BOND

when we got to the top we commenced to climb to the east with the idea of trying to see where we could get down but everywhere it apparently was an overhanging cliff that we were on and the valley between was far from inviting, being strewn with falling rocks which are constantly coming down from the top. I heard six or seven and saw one or two. Another thing - we could see no easy route up. I saw one quite difficult route, possibly needing the help of a piton or two in order to get into a couloir which went straight up under the V of the snow. The other route I could not follow very well but I don't think it would prove easy. It was the southeastern arete. I estimate that we got to an altitude approximately 250 meters <sup>under</sup> ~~from~~ the top. We returned to camp and spent the afternoon trying to work out an alternative but as there did not seem to be any we came back to Scree Valley camp yesterday, getting in about ten o'clock. At this time I hold little hope of finding a feasible route up in the time allowed. We intend to go to the north of Wilhelmina and see if the couloir on the north face is climbable and if not, then to try and pick up Kremer's route. I do not remember if there are two ridges starting from the main peak itself, one going west, the other southwest. If there are, then Kremer's route probably is still practicable, though whether we can do it in the time is another question. If there are not two ridges in a westerly direction, then the mountain has shifted and changed so that there is no feasible route up. That is only my opinion, based on what little I have seen.

I don't ~~think~~ feel that it is worth interrupting the collecting greatly to climb Wilhelmina, which has no scientific value as far as we are concerned. What are your views on the subject?

With best of luck to you both, I am,

(Unsigned)

RING  
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The only news was, however, that more food had been sent to their bivouac. This, in conjunction with the present indications of a spell of wet weather, will probably mean the delay of the climb for several days.

Weather fine with broken clouds to about noon. Rain commenced at 1 PM and continued intermittently, heavily at times to the present moment - 8.45 PM - when another shower is falling.

Saturday, September 17, 1938.

Took two of my Dyak collecting boys, AIT and UNGAU, and moved up to the 3800 m. (<sup>Sira</sup>Sira Valley) Camp under Mt. Wilhelmina. <sup>Sira</sup>Sira Valley Camp is situated about two km. slightly S. of E. from Wilhelmina-top, on the timbered side of a small grass pocket, with a 60 ft. waterfall nearby. Timber, in the form of broken struggling scrubs of Vaccinium and Drimys, reaches to about 3900 m. about camp, and perhaps 100 m. higher in the upper part of the <sup>Sira</sup>Sira Valley. Above the closed timber ~~the upper part of~~ Coprosma occurs, usually in ~~the fern~~ <sup>form</sup> tree fern to about 4150 m. Camped here now are Archbold, Rand, Teerink and Toxopeus.

Sunday, September 18, 1938.

A big day in the field. Collected to the head of <sup>Sira</sup>Sira Valley and at 4150 m., crossed over a divide to a hollow directly under the north face of the peak containing a small lake or rather a collection of shallow ponds at about 4120 m. altitude.

Rand and Teerink went farther to the west, past the ponds and discovered Kremer's 1925 route, or at least a place appearing to correspond with Kremer's Wilhelmina Pass.

The only news was, however, that more food had been sent to their  
divorce. Thus, in connection with the present indication of a spell  
of wet weather, which probably means the relief of the clouds for several  
days.

Weather fine with broken clouds to about noon. Rain commenced at 1 PM  
and continued incessantly, heavily at times to the present moment.  
S. A. R. - when another shower is falling.

Saturday, September 17, 1938.

Took two of my Dyer collecting boys, AT and UMBEL, and moved up to the  
1800 ft. (near Valley) Camp under Mt. Wilhelm. Some Valley Camp is  
situated about two or three miles from the main camp, on the  
southern side of a small grassy pocket, with a few scattered trees.  
In the form of broken fragments of Yucca and Juniper  
reached to about 1800 ft. about camp, and set out at 10 AM. Higher in the  
upper part of the side Valley. Above the forest to the westward  
looking down, several in number first seen to about 1800 ft.  
Ground here now is exposed, and the Yucca and Juniper  
HAG CONTENT

Sunday, September 18, 1938.

A big day in the field. Collected to the head of the Valley and so  
1150 ft., crossed over a divide to a hollow directly under the north face  
of the peak containing a small lake or rather a collection of shallow  
pools at about 1150 ft. altitude.  
Hans and Feiler went further to the west, past the ponds and discovered  
Kramer's 1935 route, or at least a place appearing to correspond with  
Kramer's Wilhelm Pass.

Monday, September 19, 1938.

Spent the day in camp cataloging the plants collected yesterday (- 60 spp.). Sent word to Myer Drees to move up here to assist in collecting. Teerink went down to the 3560 m. Camp after breakfast and returned late in the afternoon with Myer-Drees, Schr<sup>eu</sup>öder and a convoy of eight carriers.

Tomorrow Archbold, Rand, Teerink and Schr<sup>eu</sup>öder leave for the west side of the main ridge to make another (second) attempt to find a possible route to the summit of Wilhelmina.

Tuesday, September 20, 1938.

Went with Archbold, Rand, Teerink and Schroeder to their camp on the south side of Wilhelmina, and returned to ~~Sira~~<sup>Sira</sup> Valley Camp in the afternoon (see field notebook #1). The south slope camp is situated in a small grass pocket at 4000 m. altitude about 1-2 km. from the top. On the section of the mountain trees (Rhododendron #9833 and Coprosma , 6-8 ft. high, with some bushy Drimys and odd examples of Rapania) form interrupted low scrubs on the sides of the camp pocket. This is tree limit hereabouts.

The main ridge <sup>washed</sup> ~~messed~~ at an altitude of 4240-4250 m. and the journey to the camp occupies about three hours.

No change in flora on south side. That side of the range seems, however, wetter than the northern slope. Probably this is due to an earlier blanketing with mist clouds. At one o'clock the south slopes were covered in mist today, while the north slopes were clear until between four and five o'clock.

Monday, September 17, 1934

Spent the day in camp cataloging the plants collected yesterday  
(1-30 spec.). Sent word to Van Dine to move up here to assist  
in collecting. Tetter went down to the 3500 m. camp after breakfast  
and returned late in the afternoon with Van Dine, Schneider and a  
convoy of eight carriers.

Tomorrow Arnold, Van, Tetter and Schneider leave for the west side  
of the main ridge to make another (second) attempt to find a possible  
route to the summit of Winkelman.

Tuesday, September 20, 1934

Went with Arnold, Van, Tetter and Schneider to their camp on the  
south side of Winkelman, and returned to our Valley Camp in the after-  
noon (see field notebook #1). The south side camp is situated in a  
small grass pocket at 4000 m. altitude about 1-1/2 km. from the top. On  
the section of the mountain mass (Winkelman 1933) and Gorham,  
0-3 ft. high, with some heavy grass and old examples of shrubs.  
Form interrupted the grass on the side of the camp pocket. This is  
tree-like herbaceous.

The main ridge rose at an altitude of 440-450 m. and the journey to  
the camp occupies about three hours.  
No change in flora on south side of the ridge seen, however,  
wetter than the northern slope. Probably this is due to an earlier  
blanketing with mist clouds. At one o'clock the south slope was covered  
in mist today, while the north slope was clear until between four and five  
o'clock.

Wednesday, September 21, 1938.

Early morning high overcast: open towards N.: mist closed over tops before seven o'clock and remained at about 4000 m. until 11 o'clock, when light rain commenced at camp level. Mist closed down on camp by noon.

A bad day for the Mt. Wilhelmina party.

A convoy of four Dyaks and two soldiers brought loading and returned to the 3560 m. camp with an accumulation of botanical material for drying.

Collected down the continuation of the <sup>Sira</sup> ~~Sira~~ Valley E. or a little S. of E., from camp to about 3700 m. altitude. Found <sup>Compositae</sup> ~~Xanthopus~~ like the N. slope thicket and forest sp. but different, also a Diplycosia and a Hypericum not found on the N. slopes.

Thursday, September 22, 1938.

Made a visit of inspection to the 3560 m. Camp, taking two loads of specimens for drying, and returned in the rain at 4.30. Found everything in good shape in the competent hands of LEYONG. Prepared two bundles of dried material (packed in painted canvas bags) for transport to Habbema.

Dull day: mist covering the mountain: rain commenced at noon: mist sweeping down in <sup>Sira</sup> ~~Sira~~ Valley Camp since mid-afternoon.

Friday, September 23, 1938.

Rain and mist all day, confined us to our tents. Towards evening there were signs of a break and we had about five minutes sunshine and glimpses of the peak.

Four Dyaks and two convicts were sent back through the rain by the climbing party for more food - supplies for four days. Little climbing has been possible owing to the weather. Archbold says in a note that they saw sufficient to convince them that there is no approach from the east or south. When

Wednesday, September 21, 1938

Early morning high overcast: open towards N. Wind closed over tops before 8:00 a.m. and returned at about 11:00 a.m. until 11:00 a.m. when light rain commenced at camp level. It closed down at camp 11:00 a.m.

A party for the Mt. Williamson party  
a convey of four Dyak and two soldiers brought food and returned to the 3500 ft. camp with an accumulation of botanical material for drying. Collected down the continuation of the Star Valley. At the latter end of the Star Valley to about 3000 ft. altitude. Found Salpiglossis like the A. nigra thicker and breast so. but different, also a Diplosoma and a Paracerasia not found on the A. nigra.

Thursday, September 22, 1938

Made a visit of inspection to the 3500 ft. camp, taking two boxes of specimens for drying, and returned to the rain at 11:00. Found everything in good shape in the competent care of LINDSAY. Requested two bundles of dried material (placed in paper canvas bags) for transport to Hesperia. Wind covering the mountain. Rain commenced at noon. After sweeping down in Star Valley Camp since mid-afternoon.

Friday, September 23, 1938

Rain and river all day, confined to lower levels. Toward evening there were signs of a break and we had about five minutes sunshine and glimpse of the peak.  
Four Dyak and two cowboys were sent back through the rain by the climbing party for more food - supplies for four days. The climbing has been postponed owing to the weather. Archbold says in a note that they are sufficient to convince them that there is no response from the east or south. When

their food arrives they will move to a valley farther west and attempt the western side, where three ridges offer some possibility of a route. A convoy of four carriers came up from the 3560 m. camp and returned. Rain or shine, these poor devils make the trip every day. Treatment such as this probably accounts for the trail of bones left by other expeditions in Dutch New Guinea.

Saturday, September 24, 1938.

Fine clear morning with a little frost: clouds closed over peak at 9 AM and by 10 o'clock the mists were down to camp level and intermittent rain commenced.

The carriers, four Dyaks and two prisoners, in charge of two soldiers, returned to the S. Mt. Wilhelmina Camp. Rand wrote by the returning soldiers that they were moving off through heavy mist to establish a new camp to the west.

Huls came up from 3560 m. camp and returned. Ebeli, who is employed as radio operator and collector at Habbema, has sent his resignation to Archbold. Collected on the grassy heights NW of camp up to 4130 m. alt. From the steep edge of this irregular plateau fine views are had of the Tusschen Camp Valley, Lake Habbema and a westward extension of the Nassau Range. Gathered a number of marine fossils in a bed of <sup>marly limestone</sup> grey ~~limestone~~ outcropping on the plateau and dipping at a sharp angle to the south.

Sunday, September 25, 1938.

Rainy, misty day breaking about sundown and the stars shining in the evening. No field work except by Richardson who had to attend his trap lines. Wrote letters and tried to dry an accumulation of wet clothes over a lamp in the tent.

A convoy up from the 3560 m. camp in spite of the rain.

... arrived that will move to a valley ...  
... where they stayed after some ...  
... from the 3500 ft. camp and returned ...  
... the trip every day. Treatment ...  
... for the fall of James Hill by other ...  
... Dixon New Guinea.

Saturday, September 25, 1938.

The first morning with a little frost ...  
... and by 10 o'clock the mist was down to ...  
...  
... returned to camp. In three ...  
... to the H. M. ...  
... were moving off through ...  
... this came up from 3500 ft. camp ...  
... radio operator and collector ...  
... collected on the grassy ...  
... edge of this ...  
... late ...  
... gathered a number of ...  
... the plateau and dipping at a sharp angle to the south.

Sunday, September 26, 1938.

Rain, heavy but ...  
... the first ...  
... and tried to ...  
...  
... from the 3500 ft. camp in ...



Weather clear and fine on the coast.

An analysis of my Lake Habbema plant collection shows that about 350 flowering plants are represented, or with bryophytes and lichens, about 400 ~~specimens~~ species.

Temperature in the tent at 8 PM, after burning a lamp in it all day, 49 degrees F., which is about average for the hour.

Monday, September 26, 1938.

It was raining when I awoke at 6 AM, cleared off a little later to give a view of the peak with snow down to 4250 m. and by nine o'clock mists were driving along the ground again and rain. <sup>falling</sup> A break occurred at about 3 o'clock, but mist and showers continued and at eight o'clock rain is beating on the tent and mist sweeping up the valley.

Tired of the inactivity enforced by the weather, Richardson and I decided to go out and get wet. So, without boys, we climbed up to the lake at 4150 m. under the N. wall of the peak. Travelling in constant mist and rain we left camp at nine and returned <sup>half frozen</sup> at 12.15. Collected a number of bryophytes on the rocks and saw enough to convince me that my plant collections are pretty well complete.

Tuesday, September 27, 1938.

Rain falling at 6 AM and gusts of wind shaking the tent. For a while the weather looked doubtful. I thought of the gales <sup>we</sup> experienced on the high mountains of SE New Guinea. But by 7 o'clock the sun came out and there followed a pleasantly fine day. A good deal of scattered cloud about (SE) but the peak, except for short disappearances, clear to 5 PM. At that hour the mists closed down on camp and rain commenced. Still raining intermittently at 8.30.

weather clear and fine on the coast.

An analysis of my base Hobson plant collection shows that about 350

flowering plants are represented, or with dry fruits and 1700 seeds.

1800 specimens analyzed.

Temperature in the tent at 8 PM, after turning on lamp in it 11.5°C.

A breeze S.W. which is about average for the hour.

Monday, September 26, 1938.

It was raining when I awoke at 6 AM, cleared off a little later to give

a view of the peak with snow down to 4300 ft. and in some places

were driving along the ground again. A breeze occurred about

3 o'clock, but mist and showers continued about eight o'clock rain

beating on the tent and mist sweeping in the valley.

Time of the activity shifted to the weather, Richardson and I de-

ided to go out and get wet. 6:30 without delay, we climbed up to the lake

at 4150m. under the N. wall of the peak. Traveling in constant mist

and rain we left camp at nine and returned at 11. 12.5 collected a number

of specimens of the rocks and saw enough to convince me that my plant

collections are pretty well complete.

Tuesday, September 27, 1938.

Rain falling at 6 AM and gusts of wind shaking the tent. For a while the

weather looked doubtful. I thought of the experiences on the high

mountains of St. Bar. But by 7 o'clock the sun came out and there

followed a pleasant day. A good deal of scattered clouds about 10:30

but the peak, except for short outbursts, clear to 5 PM, and that

hour the mist closed down on camp and rain commenced. Still raining inter-

mittently at 6:30.

The first good climbing day since the 20th: the day Archbold, Rand, Teerink and Schroeder established camp on the south slope. Expect to hear that they climbed the peak. They will send carriers in, or themselves return tomorrow, as their food will be exhausted.

Spent a long morning making 8x10 pictures (15).

Rand's Ambonese, Cornelius, and his Dyak off sider made a journey up from the 3560 m. camp for cartridges.

Wednesday, September 28, 1938.

A slight change in the weather: heavy broken clouds driven by a strong wind at daylight gave promise of a gale. Mists soon closed down and rain recommenced before noon. Very misty day.

Archbold, Rand, Teerink and Schro<sup>er</sup>eder returned from the west side of Mt. Wilhelmina about noon, having failed to attain the summit of the peak.

They had only one good climbing day -- yesterday -- when A. and R. ascended the west ridge and got to about 200 m. from the summit. They went as far as a very high and narrow razorback, which they considered too risky to cross, <sup>with ropes</sup>. The ridge is, however, passable.

Teerink was not physically equal to the high altitude. The party camped under a rock on the west side of the mountain.

Considering the continued bad weather, and the time already lost in attempting to climb the peak, it is decided to abandon further efforts in that direction and return to Lake Habbema.

Thursday, September 29, 1938.

Archbold, Rand, Toxopeus and self returned to the 3560 m. camp and packed specimens in preparation for transport to Habbema tomorrow. Rain and mist all day. Huls and Schroeder to Habbema.

The first good climbing was made the 4th day after the start.

Taylor and Schroeder established camp on the south slope. They

felt that they climbed the peak. They all had serious colds or flu-

and they return tomorrow, as their food will be exhausted.

Spent a long morning making 3x10 pictures (12).

Had a luncheon of cornmeal and its drink of - later made a journey up the

the 3500 ft. peak for cartridges.

Wednesday, September 24, 1933.

A slight change in the weather. Heavy packed clouds driven by a strong

wind at a slight angle gave promise of a fall. Light soon closed down and soon

recommended before noon. Very misty day.

Archbold, Hays, Taylor and Schroeder returned from the west side of the

mountain about noon, having failed to obtain the summit of the peak.

They had only one good climbing day - yesterday - when H. and R. succeeded

the west ridge and got to about 3000 ft. from the summit. They went up in an

very high and narrow track, which was very narrow and very steep.

The ridge is, however, possible.

Taylor was not physically equal to the high altitude. The party camped

under a rock on the west side of the mountain.

Considering the conditions and weather, and the time already lost in attempt-

ing to climb the peak, it is decided to abandon further attempts in that

direction and return to Lake Umbagog.

Thursday, September 25, 1933.

Archbold, Hays, Henshaw and Bell returned to the 3500 ft. camp and packed

specimens in preparation for transport to Hopedale tomorrow. H. and H.

all day. Hays and Schroeder to Hopedale.

Friday, September 30, 1938.

Archbold, Teerink, Toxopeus, Van Arcken, Rand and myself moved down to Habbema with 32 carriers. Teerink and Richardson shifted from Sira Valley to 3560 m. camp.

We are taking out only equipment and specimens: practically all food-stuffs being abandoned.

As we moved down to lower levels we kept ahead of the mists and rain, which, beginning early at the 3560 m. Camp, closed down on the Wamena about noon.

Rand, self and our Dyaks stayed an hour for lunch at a leaky old native shelter on the west bank of the Wamena. While there, all the carriers except three prisoners who failed under their loads, passed us. One of these prisoners carried a load of my specimens, two bags of which I gave to my personal boys to carry on to the lake.

Continuing our journey in steady rain, we reached the lake about mid-afternoon and were ferried across to camp. Upon arrival my hands were so benumbed by cold that I was unable to pull the zip fastener on my jacket.

Green algae waving in the drains testify to the long spell of wet weather experienced. The lake about six inches over its banks.

SUPER  
RING BOND

Friday, September 26, 1938

... ..  
... ..  
... ..

Valley to 3500 ft. camp.

We are taking out only equipment and specimens; practically all food-  
stuffs being abandoned.

As we moved down to lower levels we kept east of the lake and rain,  
which, beginning early at the 7500 ft. camp, closed down on the plateau

about noon.

Rain, sleet and our dogs stayed an hour for lunch at a leaky old native  
shelter on the west bank of the lake. While there, all the caribou

except three prisoners who failed under their loads, passed us. One of  
these prisoners carried a load of specimens, two bags of which I gave

to my personal boy to carry on to the lake.

Continuing our journey in steady rain, we reached the lake about mid-  
afternoon and were forced across to camp. Upon arrival my hands were

so numb by cold that I was unable to pull the air fastener on my  
jacket.

Green light waving in the wind, testify to the long spell of rest  
enjoyed. The lake about six inches over its former

REPORT  
... ..

October 1st.

A wet day both here and on the coast. The plane due here today, unable to take off on account of the weather. The Idenburg in high flood for some days. 20 Dyaks sent back to the 3560 m. camp. Richardson and Teerink arrived.

October 2nd.

The wet weather continues. Carriers in with the last loads from the upper camp.

October 3rd.

Guba arrived with supplies from Hollandia and took Huls and Van Arcken to the Idenburg. Schroeder returned by the plane to Hollandia and also Ebeli, who has resigned his position as radio operator at Habbema.

Another wet day. The Guba was fortunate in getting and almost immediately after taking off became closed up in clouds and accumulated a heavy load of ice.

The Idenburg said to be 11 m. above normal.

October 4th.

The first reasonably fine day since Sept. 27th., but still a good deal of rain during the afternoon. Since Sept 20th we have had only one fine day. Rand commenced the collection of material for a Snow Mountain group for display in the bird section of the American Museum. Material being dried over Coleman lamps and charcoal fire in a tent and our preparations fly. Myslef busy labelling specimens for the past three days.

October 5th.

Guba arrived with another load of stores after first landing on the Idenburg. Rogers, Booth, Brown and Barrinka will assist Rand to collect, prepare and pack material for the museum group.

October 1911  
The first section of the bill was passed by the House on October 10, 1911. It provided for the establishment of a Federal Reserve Bank in each of the twelve Federal Reserve Districts. The bill was passed by the House by a vote of 287 to 127. The Senate passed the bill on October 19, 1911, by a vote of 53 to 31. The bill was signed into law by President Taft on October 23, 1911.

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✓  
SUPER  
FIVE BOOK BOND

✓  
FIVE BOOK BOND



About 30 Dyaks formed a deputation asking to be returned home on account of the cold climate and hard work. At least, that is what we are told is the nature of their complaint. Two of my boys, Ait and Ung-Au,, were amongst them and also boys of Rand and Richardson. Whatever the real nature of the complaint may be, certainly my boys have nothing to complain about as regards conditions of work. On the plane were several ducks and fowls, baskets of corn and papaws, eggs, and other fresh food for European consumption.

Dr. Huls returned by plane from a medical inspection of the Idenbyrg detachment. Everybody in good health. No fever cases at the present time and not one bad fever case since the inception of the camp. Dyaks all in good form and catching plenty of fish.

The Idenburg continues to rise. Water surrounds the camp and a rise of another two feet will flood it.

Weather gradually improving: a more or less rainy morning: afternoon fine but with heavy broken black clouds: some rain and gusty wind in evening.

October 6th & 7th.

Finished labelling Mt. Wilhelmina material and prepared to move down into the Grand Valley to establish camp in the mossy forest. weather continues very wet and difficulty is being experienced in drying material for the msseum group.

October 8th.

Toxopeus and self with Sergeant Wildenbo<sup>er</sup>, 5 soldiers, 4 collectors, cook, 16 Dyaks and 4 convict carriers left Lake Habbema at 7.30 AM to establish camp in the mossy forest on the slopes of the Grand Valley. Toxopeus and self, with 2 of the soldiers, went ahead of the carriers to select a camp site. At 11.40 we came to a place where Toxopeus had on a previous excursion camped in a Pandanus grove at 2860 M. altitude. Here we left a note instructing the sergeant to wait with the carriers while we went on to examine the country below. Passing

WATER  
KING'S BOOK BOND

October 8, 1938.

From field notebook #2

Route Lake Habbema - south slopes of Grand Valley to establish camp in the mossy-forest region.

Toxopeus, Brass, Sergeant Wildenboer, 5 soldiers, 4 collectors, cook (Soerip), 16 Dyak carriers and 4 convict carriers.

- 7.35 Tox and Brass left Habbema 10 minutes after the carriers. Trail over grasslands and peaty slopes wet and mired by native traffic.
- 8.00 Rest  $\frac{1}{2}$  way up ridge (Grand Valley Divide) 3300 m. Burnt Libocedrus forest. Good regeneration Libocedrus (4-5 ft.) in woody regrowths in which Gaultheria, Drimys and Leucopogon abundant.
- 8.10 Resumed, Tox, Brass and 2 soldiers going ahead to choose a camp site. Toxopeus had previously (about a month ago) been down the track to about 2400 m.
- 8.20 Edge of flat summit (3400 m) of Grand Valley divide. Low Libocedrus and mossy thickets broken by swampy pools and grass glades and disturbed by burning and cutting along the track by natives.  
Wood swallow (Artemis) flying overhead.  
Photos. Libocedrus killed (by fire ?) and others blown over; shallow rooting in peaty overburden on saturated grey sand.
- 8.30 Photo of track leading down from summit of divide (3400 m) through a peaty grass hollow; also open stand low Libocedrus and and epiphytic Myrmecodia (concave leaves).
- 8.35 Limestone (?) sinkhole under a burnt forest ridge with dense forest regeneration and dead Podocarpus papuanus to 2 ft, diameter.
- 8.45 Broad plateau-like divide begins steep ~~xxx~~ slope to Grand Valley at 3380 m. alt. On crest and extending down slope, large shrubby burnt area with a few dead Popocarpus papuanus; shrubs Drimys, Leucopogon, Tetramolopium 2-4 ft. Selligaea abundant on ground. Myrmecodia on

Introduction

The purpose of this study is to investigate the effects of various factors on the growth and development of the human body.

The study is divided into two main parts: a theoretical part and a practical part.

The theoretical part deals with the general principles of human growth and development, and the practical part deals with the application of these principles in the field of medicine.

The study is based on a review of the literature on the subject, and on the results of a series of experiments conducted in the laboratory.

The results of the study show that there are a number of factors which influence the growth and development of the human body, and that these factors can be controlled to a certain extent.

The study has a number of practical implications, and it is hoped that the results will be of use to those concerned with the health and well-being of the human race.

The study is a preliminary one, and it is hoped that it will be followed by more extensive research in the future.

The study is a contribution to the knowledge of human growth and development, and it is hoped that it will be of use to those concerned with the health and well-being of the human race.

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small trees 3-4 m from ground.

Soil greyish peaty loam 1 ft. over stiff yellow clay; rock sandstone.

3300 m Elaeocarpus and Alyxia more abundant in regrowths; sandstone.

Photos over forest of valley and close up of forest of Podocarpus papuanus including pale green trees (Quintinia)

9.05 3300 m. Homalanthus - spreading young trees 4 ft. high- appear in shrubby regrowths. Rhododendrons common. Travelling slowly.

3280 m. Photo forest edge below.

3260 m. Photo Myrmecodia and Pteridium.

3240 m. Enter forest Podocarpus papuanus and Phyllocladus. Araliaceae, Timonius (??) sp. and Rapanea sp. abundant large trees. Red-hairy Dicksonia plentiful in undergrowth. Heavily mossed ground rooty; slopes steep.

3200 m/9

3100 m. Forest 60 ft. high of Phyllocladus but no Podocarpus papuanus. Rather open and very mossy. Araliaceae common in substage.

3060 m. Crossed small brook on swampy flat. Giulianettia sp. very abundant scrambling in deep mounded moss of open forest. Here Podocarpus papuanus predominates on the wet ground.

Photo small patch open Gahnia marsh and low Pod. papuanus.

3080 m. Track swings north on a rise topped by a shrubby rather wet clearing or natural opening on which are old native camps.

3040 m. First Pandanus appear in forest.

10.40 2860 m. Well built round native house of double stakes with square hip roof of bark in a Pandanus grove. The first Pandanus grove seen. Stopped to rest. Toxopeus camped here on his trip of a month ago. Left a note instructing the sergeant to wait and continued down the valley at

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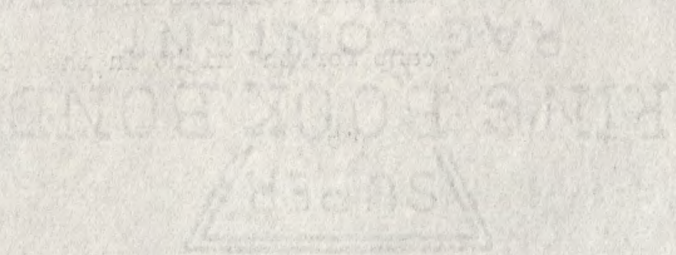
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- 11.40 Another native house in a small grassy clearing surrounded by dense second growths of lowland character at 2730 m. Strong lowland element in flora below 2860 m. Valley drops steeply in swampy ledges carrying tall Sama (?) forest and numerous treeferns including a big Marattia. Boehmeria, Cissus, Macaranga, Evodia, etc. in open places and house clearing.
- 11.45 2700 m. 3rd native house. Small parrot feeding on red flowers of Evodia sp. shot by Tox. Course NE.
- 12 noon 2660 m. crossed stream which flows past 2860 m house and climbed up ridge covered with good mossy forest on N. side.
- 12.25 4th. native house at 2630 m. in a natural rather wet opening filled with grass and shrubs growing on leached grey sandy soil. 2 or 3 Rhododendrons, Juncus, and a clump of wild Saccharum 4ft. high. Here Tox opened a can of nassi-goreng and we bought bananas from 4 natives carrying food probably intended for trade at Habbema.
- 1.15 Tox and self started back up track in company with 4 Papuans, having sent the soldiers on ahead with a message to Wildenboer to establish camp for the night in the 2860 m. Pandanus grove.

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2 native shelters in the rather steeply falling valley, we reached a third house in a shrubby natural opening at 12.15. Here, in pleasantly open surroundings at 2630 m., we rested a while and ate some canned nasi-goreng which Toxopeus had carried in his haversack. While resting, several Papuans arrived from down the valley with string bags of sweet potatoes and very good quality bananas packed in grass. Some of the bananas were purchased on the spot, for a small shell, and served to complete our lunch.

The 2860 m. site being considered most suitable for a collecting camp, we sent the soldiers back to tell the sergeant to establish camp and ourselves commenced the ~~journey~~ return journey at 1.15, escorted by the Papuans carrying food. Travelling rather slowly, we were back at the Pandanus grove at 2.45.

Wildenbow had camp preparations well in hand and by 5 o'clock we were all comfortably settled for the night. Space being limited, we were obliged to place our own tent within 12 feet of the house of the owner of the grove, and were somewhat troubled by the proximity of about a dozen natives who stayed the night.

The grove being wet and cluttered with large logs, and besides too small to afford any privacy, I chose a site for a permanent camp on a ridge running parallel to a small stream about 100 yards further down the track.

A perfect sunny day; the first since Sept. 27th.

The Guba returned to Hollandia with specimens and part of the group material. Archbold, having in mind a trip to the Idenburg, took with him to Hollandia a Dyak of mine named U-Sang to act as collector and personal boy. Meyr-Drees departed <sup>from Kobbima</sup> on his return to Java.

October 9th.

Another fine clear day, at least at this altitude. Temperature in the tent at 6 AM 46 degrees F. Sky fairly clear all day and no rain, day or night.

The heavy work of preparing the camp was commenced and good progress made.

Big trees which endangered the camp had to be cut and the whole forest levelled over an area of  $\frac{1}{4}$  acre. The fact that the original big trees of part of the area

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SECRET  
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had already fallen through dry rot and the openings planted with Pandanus, did not lessen our task, for great care had to be taken not to injure the Pandanus. At the very beginning of operations there was much angry excitement among the Papuan onlookers when one of the Dyaks, careless of warnings that they were to be left strictly undamaged, hacked two stilts from a young tree. The owner was appeased with a shell and work continued without further untoward event until some other Pandanus were threatened with destruction by a big tree which was being cut. The Papuans ~~xxxxxx~~ <sup>seeming</sup> divided between the pleasurable anticipation of witnessing the fall of the tree and anxiety for their property, finally gave permission for the cutting to proceed. All but one young fellow of inflammable temper who stood chattering excitedly and jabbing the but of his spear into the ground. Fearing trouble should a Pandan be damaged, I took hold of his spear and after an appreciative examination, offered him a shell for it. At the sight of the shell he forgot all else and parted with his weapon without hesitation. When the tree fell, skillfully directed by the Dyaks, it did no damage. Later in the day we had another demonstration of the uncertain temper of these very friendly, ~~xxxxxx~~ simple people. The incident occurred after work was over and we had all returned to camp. I was sitting in my tent when loud screams came from the stream nearby and I heard a rush of bare feet past my door. Running out I found that one of the Dyaks, who had been playfully scruffing a native lad, was threatened by two men with bows and arrows, supported by half a dozen others, equally threatening but unarmed. The reprimand I gave the Dyak seemed to please the Papuans who returned to the warmth of their house and soon were singing away as if nothing had happened.

There is so much timber on the ground after felling the forest that we are building the tents and flies on floors raised 1 to 4 feet above the ground. Later the rubbish from in between will be cleared away.

Richardson arrived about 10.30 with his collecting boys and 24 carriers under military escort. Carriers returned to Habbema at 11.15.

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WINE BOOK BOND

Natives bringing in quantities of sweet potatoes and a few very good ripe bananas of two varieties. One 5 inches long and rather angular, the other stumpy and round, about 3 inches long; both yellow. The short thick sort is the best native banana I have eaten.

Plane flew to Habbema and back to Hollandia with <sup>J</sup>Gansen (Resident of Ambon), (Controleur of Ambon), Jacobs (Asst. Resident, N. N. Guinea), *Teerink* (Military Commandant at Ambon), (Colonel Doctor at Ambon) and one or two lesser fry. It was so loaded with passengers that none of the museum group material could be taken out. About half this material therefore remains indefinitely at Habbema.

October 10th.

Temperature 52 degrees F. in tent at 6 AM. Cloudy day: a little rain at 2 PM and later and a good heavy downfall at 6.30. Still raining at 7.30.

Rand and Teerink arrived 11 oclock with a further carriers who remain here for the night. Carriers included 13 Papuans.

Further good progress made with camp preparations. Tents of Rand, Richardson and myself, the mess fly, preparations fly, soldiers lean-to and Dyaks fly and mat shelter erected. Still have kitchen tent and fly, the tents of Teerink and Toxopeus, and other odds and ends of shelters to rig.

Toxopeus getting a fine collection of insects attracted by the lamps.

The more I see of the Dutch, the more I am convinced of their absolute helplessness in expedition affairs and their unadaptability. This afternoon Teerink ceased buying food in the hope that if this trade were ceased, he would be able to buy Pandanus leaf for building purposes. The bringing of food by natives is primarily a gesture of friendship and should be appreciated as such. Again, Teerink had all natives put out beyond a newly erected fence around camp at 4.30. A certain amount of pushing occurred during this operation.

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W. B. BOND

**✓ SUPER**  
**✓ RING BOOK BOND**

OK BOND  
W. B. BOND

October 11th.

Dull cloudy day with little sun and no rain.

Commenced collecting and gathered 30 spp. in the tall young forest of Sycopsis immediately below camp. Nothing of particular interest; mostly ferns and orchids

Work progressing rather slowly on camp ~~preparations~~ construction in spite of the increased number of men employed.

Another convoy of 40 carriers from Habbema, including the Papuans. Carriers other than Papuans returned to Habbema. The assistance of the natives, who seem pleased to carry loads for a shell, is an important help to Transport.

Transport from Habbema is ~~xxxx~~ in a mess. Loads scheduled to come today have been replaced by others. There has been a transport every day since the 8th and I have only two drying ovens which I brought with me on that day.

Richardson busy all day putting out traps and Rand out shooting. I commenced collecting.

October 12th.

Another cloudy day: heavy shower at 11 AM and others during the afternoon: 53 degrees F, inside my tent at 7.15 PM.

A convoy of Papuans from Habbema with Dutch party stores. Four Dyaks were sent to Habbema this morning under escort for my drying ovens and returned about mid-afternoon.

Rand's Ambonese collector Cornelius purchased a pig for 7 shells and presented us with some of the pork for supper. Our 2 Ambonese (Cornelius and Marcus) had trade shells sent up from Hollandia to Habbema by last plane.

Collecting progresses well. Rand has 20 spp. of birds, including the mountain nuthatch Daphneopsitta. Richardson 3 mammal spp.--2 Melomys and a white-eared Phascogale. I have 70 plant spp. catalogued and ~~20~~ 10-20 on hand.

This seems a bad time for flowers generally. Rand and Richardson say few birds or mammals are breeding.





Work on camp moves slowly. Toxopeus' tent up late this afternoon. Teerink's still to be erected.

Versteegh accompanied me in the field this morning and assisted in the preparation of material in the afternoon. He will collect forestry material when Dyaks are available.

October 13th.

Dull day with some sun in early morning. Mist closed down over height to SE soon after 10 o'clock and rain commenced at 11 at camp altitude. Some heavy rain and loud thunder down the valley mid afternoon.

Collected to an altitude of 60 m. above camp along the crest of the ridge N-NNW from camp. The ground and lower tree trunks are heavily mossed and the forests have the general appearance of mossy-forest in East New Guinea, but Sycopsis is the overwhelming dominant. Pyllocladus is present and plentiful as a tree of 2nd dimension but Xanthomyrtus (???) has so far only been seen as a plentiful component of a rather conspicuous low substage element on the crests and upper slopes.

A big convoy of Dyaks and convicts with stores from Habbema. Convoy returned. The event of the day was a threat of attack on Rand and also on Richardson's Dyaks as they passed by the native house this morning. Arrows were strung and evidently the attitude of the natives was very threatening. No notice of hostile character was taken of me when I passed towards noon and natives, though fewer in number, are behaving normally about camp. Think it possible that Rand or the Dyaks spattered shot on the house when shooting birds nearby. Or perhaps the enthusiasm of the military party when clearing camp about 6 PM has caused resentment. Radio news that Meyr-Drees left Hollandia for Ambon today on the patrol vessel "Bantam".



October 14th.

Day, or rather morning, fine and sunnier than of late. Heavy rain 12-1 PM and a good deal of rain during afternoon. Raining at 8 PM; temp. 10 degrees C.

Natives continue to bring in food and today one brought in a bundle of rotan: totan good hard quality.

Gathered at least 60 spp. of plants in the creek bottom and on the lower slopes to 60 m. below camp. Gunnera the most striking species: also 2 spp. of <sup>Gyneranthe</sup> ~~Cyolandra~~

Have only 32 catalogued: the rest to be done tomorrow. Rain-forest element very striking in valley bottom.

A convoy from Habbema and back again.

October 15th.

Rigged max. and min. thermometers under a shed of treefern fronds yesterday; this morning's registration 15 degrees and 8 degrees C.

A series of relative humidity readings taken in camp clearing and comparative readings in tall forest nearby. A fine sunny, rather hot day till 4 PM. Afterwards heavy showers and after 5.30 mist.

Huls arrived from Habbema with a big convoy of Dyaks and prisoners.

My day was spent mainly in preparing the remainder of yesterday's 65 plant numbers. A film of early camp activities developed in afternoon.

October 16th.

Fine clear sunny day after a very rainy night: temperature rose to 18.5 C. in the shade: no rain: starry sky at 8 PM after clouds from 4-7 PM: no mist this PM.

Contact with natives continues good: plenty of sweet potatoes ~~and~~ coming in, some taro and bananas and odd bundles of rotan.

Camp, what with timbered walks, night lights and so on is assuming an air of permanency. <sup>U</sup>wing to the limited space available, it is necessarily compact.

Collected up the Habbema tract to an altitude of 120 m. above camp--perhaps 20

FRAG CONTAINER

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minutes brisk walking. Up to that level *Sycopsis* completely dominates the forests and is practically the only large tree. The path follows the valley. I should expect more conifers and other trees on the ridge and crests on either side. *Sycopsis* grows to 35-40 m. high and up to 100-120 inches in diameter above the spurred base. It seems to grow to greater size on slopes. On occasional flat banks where drainage is probably not so good, few big trees occur. The forest there however is still a pure or almost pure stand of *Sycopsis*, heavily mossed on the ground and lower trunks.

Have 209 numbers catalogued from the camp.

October 17th.

Cloudy after 10 AM: completely overcast by 3 PM: at 4.30 intermittent light rain commenced and continued through the night.

Went up the Habbema track 200 m. above camp, where, at an altitude of 3000 m. numerous subalpine plants occur on the wet peaty soil of a wide shelf at the head of the valley in which camp is situated. See notebook #2.

Another convoy of Dyaks and prisoners from and back to Habbema. Teerink and Huls to Habbema.

October 18th.

Still raining at daylight and to 7.30 AM. Dull overcast day with some rain in afternoon.

Spent day in camp cataloguing material. Touch of insomnia.

October 19th.

Clear at 6 AM after a rainy night. Usually we have rain about daylight. Heavy rain at 12.30 PM, clearing later but remaining overcast (8 o'clock)

Collected up the ridge forming the south side of camp valley to an old native shelter (*Sycopsis* bark) at 2920 m. alt. (120 M. above camp) Collecting has not

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been rich on the ridges. Many of the regular mossy-forest species have been ousted by the all-prevailing *Sycopsis*. Shall have to go to the valley bottom for most of the plants I expect to gather in the locality.

October 20th.

Cloudy day with little sun: mist on hill tops by 10 AM: intermittent rain from 10.30 through afternoon and early evening.

Most of today's plants are weeds from about a native house in a *Pandanus* grove 1 mile NNW of camp (2800 m. alt.). *Carex*, *Viola*, *Hyperium*, *Galium*, etc. from the highlands mix with *Fimbristylis*, *Digitalis*, *Juncus*, *Kyllinga*, etc. of lower altitudes in a rich weed flora numbering thirty species.

Teerink returned from Habbema with a convoy of eleven Papuans and several prisoners.

October 21st.

Fine clear day: cloudy after 3.30 PM: No rain and no mist on ridge NW of camp (This ridge often quite clear when mist covers the high spur across the river farther N.-NW: although we are in ridgy country the ridges are lower than the main spurs and valley conditions prevail: This probably accounts for *Cycopsis* ousting the regular mossy-forest trees.) Temperature maximum 16.5 degrees - minimum 6.5.

Collected down the main path to the second native house at 160 meters below camp. *Cycopsis* still the prevailing dominant of the valley forest, but these forests more like rain-forest in appearance. Tree ferns (*Dicksonia* and *Cyathea*) numerous and also a very large *Marattia*. Upper rain-forest types other than *Marattia* are <sup>*Rubus moorei*</sup> ~~*Xanthoxylum*~~, *Spirideus*, *Syrtandra*, *Villania*, *Solanum*, *Ficus*, *Mucuna*(?). A curious thorny tree with large lobed leaves

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in common with old second hrowths (# ). This seen but not collected at Nimode, at Mt. Tafa.

One of my Dyaks scraped a small black leach from his foot at 2750 m.

A goodly number of natives brought food from a distant place down the valley called Imbelen(an). These people eat bananas without bothering to remove the skin.

Huls returned from Habbema.

October 22nd.

Overcast and few drops rain to 8.30 AM: then clear, bright to 3.30: cloudy then on to : no rain.

A big transport of Dyaks, convicts and natives from Habbema, Dyaks carrying loads of 2 tins rice (30 kg.). Made photos of camp and arrival of transport.

Cataloguing a big accumulation of material from yesterday.

October 23rd.

Collected on second ridge NW from camp down to an altitude of 2720 m. Poor day: forests dominated by Sycopsis and no new entrants in the way of trees.

October 24th.

The fourth day without local mist or rain. Temperature to 100 degrees f. in tent 12-2 o'clock.

collected some interesting ferns on an excursion down the creek to 2700 m. These ~~include~~ include the first Adiantum for the mountains. Toxopeus brought in a sterile leaf of Dipteris novo-gueneensis.

Teerink and Rand were to go down into the Grand Valley tomorrow for the purpose of selecting a site for our middle altitude camp. It is however necessary for Rand to remain in camp and I will go in his place.

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October 25th-29th.

On patrol with Teerink to ~~select~~ examine ~~my~~ country and select a locality for middle altitude collecting. Examined the valley of the <sup>Belu</sup> down to its junction with the Grand Valley, thence up the smaller newly-settled valley to the south; back down the same valley and ~~across~~ <sup>ETLANTI</sup> to the <sup>Belu</sup> valley and thence back to the 2800 m. camp by our outward route.

Selected a camp site on the right bank <sup>of Belu</sup> at 2200 m, 5 carrier hours below the 2800 m. camp.

A very pleasant patrol, though the middle altitudes decidedly hot. Natives very friendly throughout and turned out to greet us without arms. Those of the valley refused, however, to act as guides and the men of the upper Ebeli who visit the 2800 m. camp at frequent intervals, over-familiar and inclined to be insolent. Had as guide for the first day a fine old man of the Morip tribe named Gira. Left Versteeg in charge of botanical collections and my Dyaks and found upon my return that he had added 60 numbers to the collection.

Notes on Patrol from small field note book.

Patrol to select site for 2300-2400 m. collecting camp.

Teerink, Brass, Sergeant Timboel, 7 soldiers, 4 Dyaks (including Ait) and 5 convicts.

1st day, October 25th.

7 AM. Left 2800 m. camp. (Aneroid 2840 m.)

7.20. First house 2700 m.

7.30. Stream at 2640 m. past second house.

7.55. Third house 2600 m. Course NE: rest Yim-Bit, high knob SE of 2800 m. camp: Simor brook flows past camp. (Names from natives met on trail)

8.05. Resumed

8.30. 2600 m. Native house; pandans.

8.45. Steep descent to bottom trees from gully 2550 m.

8.53. Glimpse gardens to left in valley (Ebeli) from crest sharp spur 2560 m.

Garden soil red.

On this date, the undersigned...

Witness my hand and seal...

Very truly yours,

John Doe

Notary Public

My commission expires...

Witness my hand and seal...

9.35. First garden and first <sup>oaks</sup> ??? 2300 m. Round grass-thatched house in garden sweet potatoes and pandan.

9.40. Junction Bena and Mon (like Moum) 2280 m. Bena from W x NW, Mon from SW.

Casuarina on Bena though forests drier and abundant broad leaves on ground, forest still a tall almost pure stand of Samai. Very large trees fewer than higher up.

Yellow rhododendron comes in with oak at 2300 m. (Like Tafa sp.).

Water brown at junction, Grey and yellow hard crystalline rock.

Photos to #17, carriers crossing native bridge and rest place.

10.00. Moved on down valley. C. 70 degrees (ENE)

10.20. 2280 m. Village 13 houses. One-eyed scoundrel. Opposition to progress. Perhaps excessive zeal to offer hospitality but suspect mercenary motives on part of O.E.S.

10.40. Teerink's camp right with bouldery river at 2220 m. One-eye now acting as guide: dock apparently cultivated in fenced gardens: cane grass and imperata form grassy second growth.

10.50. Resumed: stream hard to cross; fast water 30 m. wide, big boulders; natives assist.

11.05. Continued down left bank; tall same forest.

11.15. Recrossing to right bank 2200 m. Natives assist, placing timbers on rocks. Some climbing bamboo in second growth. Old hamlet, two or three round houses left bank.

11.55. 2400 m. Stopped for lunch on edge of forest. Native points position of 2800 m. camp as WSW. Yimbit Peak SW. Mun River below us. Course WSW-ESE.

From 11.15 followed grassy bank river a little way then climbed up 200 m. over old grassy ~~land~~ garden land, through a new garden walled with stones (limestone) and fenced split timber still with bark: past a collection of hamlets with about 20 houses. Death wailing in last hamlet: also large (cremation) fire

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Number pandanus ~~xxx~~ at hamlets and in gardens: a few taro plants among Kaima. Pteridium, Cyathea, Dodonaea, Bidens, Saccharum A. regrowth. Small brown quail, also finches.

12.25. Resumed.

12.35. Sinkhole in forest.

12.45. View back up river.

1. PM. Rest at small village on top ridge we have been plodding up since 11.55.

2500 m. Sama mixed other trees. Fine view east down Mun, over Grand Valley. Valley of Mun joins into G.V. 3 miles down (more).

1.10. Resumed, passing along upper end gardens: tracks much of way along new clearings: great same felled by fire.

1.40. Out on old and new garden land (at least old ground dug up and planted) Fine views. Garden ground, shallow grey loam over yellow clay: good level path through gardens.

1.45. Met solitary man with big stone axe and stopped to rest at 2400 m. Guide wished us to camp here: no wood or water. View down valley.

2.50. Continued through grass, gardens and hamlets on good path.

2.30. Sandstone and the first good water since leaving Mun. No water in limestone country.

2.35. Bracken slopes; round areas fern on very poor grey sandy soil of a formerly cultivated slope.

2.40. Camp at 2100 m. beside a tabu clump of oaks in cultivated country. We were strictly forbidden to cut or interfere with this oak grove. However it gives us good shelter from cold up-valley wind. For an hour we travelled over cultivated slopes and secondary grass (secondary lalang). Similar great cultivated slopes of grey and yellowish soil on the opposite bank of the Mun, and before us always the immense, heavily-populated Grand Valley itself.

Kaima the great food crop: some taro amongst the kaima: bananas and short leaf tobacco grown in the village enclosures. Pigs also kept in

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yards backing onto the fence enclosing the village.

Entrance to village through an arched gate-way, closed with a slab of wood. Houses usually round and thatched with lalang. Crops will soon need rain. Country evidently dries rapidly.

Teerink's second camp of his first patrol about a mile down valley on opposite ~~sides of valley~~ bank of river.

Natives display excellent friendship; cutting poles and firewood and drawing water for camp. Our old guide Gira evidently a man of influence and a decided asset.

Carriers seem a little tired after their seven-hour stage.

Continuous forest above 2400 m. Below that on slopes mostly remnant patches (mostly oaks) down to river bed.

Second day, October 26th.

6.40 Local guide Morip, people Pesigam.

Casuarinas planted for firewood and fencing?.

Trema chief tree, if scanty second growth. Thick population. Taro increases somewhat in A and first yams planted like taro amongst kaima. Tall bananas in village. (note--sweet potato vines trained on sticks were mistaken for yams)

8.00 Stopped to rest 2200 m. Tall broad-leaved Dracamine and large climbing bean in villages. People turn out to meet us without arms.

8.10 On.

8.30 Stopped crest of ~~via~~ a lateral spur 2280 m. Grey sandy soil over yellow clay. Bracken slopes and Didiscus. Mist just covering this position--rising from morning fog Grand Valley. We are close to primary forest of spur. Trees beaded--Usnea, Gleichenia nove-guineensis in ferns.

8.40 Resumed.

9.00 Stopped little hamlet--3 houses and 2 rectangular pig-pens, 2140 m.

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Near forest: weeds Eschaimum, Pteris, Scaevola, Aylosia, Trema, Sausavia, Gleichenia.

9.15 Second growth Cyathea as Urunu. Gullies full small oaks. One oak Myrmecodia.

9.40 Turned 2200 m. Sandy fallow slopes, grown bushes, Didiscus also.  
6. SSW.

10.00 2300 m. enter forest, same ??? and stiff climb ???

10.20 Stopped sandy clearing  $\frac{1}{2}$  acre covered bracken and white rhododendron. Poor low forest sama. Red bell rhododendron and others; Humata and one Phyllocladus. ????????

Lower down much Freycinetiá, Vaccinium, Drimys.

Poor sandy soil; very thin layer of brown peat.

Course SSW.

About 12 natives with us.

Trees 15 m. and draped in moss.

Yellow-green lianea on forest in a saddle ahead and about 100 m. below spread over trees like ~~???~~ 3340 m.

11.00 Continued SSW dropping down long crest of the narrow ridge. ~~To right~~ To right the cultivated valley of Mun and to left another smaller populated valley. ~~Mists, practically below us.~~ <sup>all</sup> Mists covered practically all below us.

11.50 Swung down a spur to NW and stopped for lunch on a grassy point commanding a fine view N-ENE over G. V. Very extreme green (swamp areas) down in valley in far side rivers also up Mun.

This point our 8.30 stopping place. Mast replace our steps a little to regain crest of ridge. Alt. now 2300 M.

1.15 Back up ridge

1.18 Junction tracks (WSW) then path drops down to slopes valley parallel

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to Mun and path West.

- 1.50 Hut in east valley near head population 2300 meters: newly settled: trees and logs in most gardens.
- 2.00 Cross big new garden. View of Grand Valley. Through polewood and dry oak forest and reach.
- 2.10 Edge more newly settled (1-27) area 2300 m.
- 2.15 Surprise! An elderly lady in little house in new garden.
- 2.20 Hamlet, six round and two oblong houses. 2260 m.
- 2.45 Camp in forest by side of limestone creek one quarter mile east of road. No water in big limestone creek which road runs on to after coming down out of gardens.

Before turning off to camp our C.W.

Camp 2250 m. Forest 30 m. high and largely of oaks but rain forest in character: open underneath: some slender Calamus: small climbing bamboo ferns tangles along creeks: also clay creeks: Begonia, Asplenium, Vidua.

Not more than 1/4 mile below us a hamlet: six men came to see us from there.

Upperparts of this valley has been settled only a few years. Plenty of primary forest but topography would make collecting difficult. No old grassland.

Picked up some scrub itch about camp and a few hard biting black mosquitoes invade our tent about dusk.

Third day, October 27, 1938.

- 6.50 Left camp and followed faint track which soon turned south but track WSW to track going W along top spur: Left there and down first path to bed of stream going west 2300 m.



- 8.05 We continue SW-WSW climbing to top another spur, SSW-NNE 2440 m.
- 8.35 Sama and another very big tree with ~~pale~~ pale scaly bark (Eugenia)  
Chief spp. to 30-40 m. Character R-8 well spread: Pandanus common  
and Agapetes, Reidelta, etc. in thick woody undergrowth. Calamus  
present. Mammal signs poor between base and camp.
- 8.53 On SSW up spur.
- 9.00 Swing west down side spur to disappear in stream. 2420 meter.  
Native fire places.
- 9.08 Down spur NW-W.
- 9.25 Rectangular pandan-covered house 30x10 ft in grassy pandan grove  
2410 meters.
- 9.45 House in pandan grove 2400 m. C. N.
- 10.00 On C. N.
- 10.10 Dropping into a small valley. C. E. See valley of Mun ahead (blue  
heights other side Grand Valley).
- 10.25 Bottom valley at junction to stony streams flowing NE. 2270 meters.  
Lunch here (photo). Three butterflies (small blue fast flying dark  
Polemia and white with black edging and some yellow) on sunny spring.
- 11.05 On down stream NE.
- 11.30 2250 meters. Cassowary tracks in bed of stream.
- 11.50 Much climbing bamboo in forest edging stream.
- 12.00 Track comes in from SW as we leave stream at 2200 meters.
- 12.05 Up through gardens NE. Village eight houses five minutes from  
stream at 2260 meters. Here at 2.20 yesterday.
- 12.50 On: retracing our steps of yesterday through village of 2.20.
- 2.00 Camped at lunch place of yesterday. Mun close to ESE to edge of  
Grand Valley half to three quarter mile below camp then turns NE to joining  
the Balim.

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From camp: low place on range N. side of Grand Valley, route to new lake NNE: "4000 meter peak" NE: high limestone massed 80-100 degrees east: Teerink's No. 3 camp 340 degrees: tip of spur dropping to Mun on N. side of its opening at Grand Valley 45 degrees (NE): road we are camped beside goes E. to tip spur on S. side Mun opening to Grand Valley: just visible in Grand Valley past end of spur to E. a bare pyramid on bottom on far side of Balim 80 degrees: Teerink's first parachute ground on long grass ridge on G. V. 20-40 degrees: Teerink's #4 camp 40 degrees.

Of Grand Valley and view (sweep of 90 degrees) about 20% of bottom timbered and that from its brown hue, in great part planted (?)

Casuarina: Casuarina largely killed for gardens: 80% valley grass land of which  $\frac{1}{2}$  is probably swamp: large treeless areas, bright green grass probably indicate swamp condition.

Fourth day, October 28th, 1938.

6.50 Left camp on return up Mun valley. Camp alt. 2300 meters. Photos show fog in Grand Valley.

8.00 Rest in a stony garden 2100 meters. Photo man with axe and party resting.

8.15 On.

8.35 Village of Morip and our No. 1 camp south up valley. Met Wanya of Pesigam-Egyptian appearance.

9.45 Rest at point of first day 1.45, 2370 meters. Balima apparently name of river referred to as Mun and Ebeli.

Women came close to our resting place <sup>wear</sup> ~~there~~ string bags over back and head and young ones a skirt of string.

10.00 On.

10.20 Enter forest L. D. tree deciduous and ~~xylocarp~~ in young leaf (Castanopsis): same also C. D.

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11.00 Village on crest 2460 m.

11.30 Edge forest 2320 meters.

12.30 Camped on left bank river.

Found a good site for a camp on right bank. A well drained somewhat rocky place on secondary grassland  $\frac{1}{4}$  mile below our present camp and fairly well removed from native habitation. It is, however, on the garden lands of a small community occupying a group of hamlets comprising twenty houses. Altitude 2200 m.

Name of river seems to be Bele. (~~Be~~ Be-le).

Fifth day, October 29, 1939.

6.45 Left camp, 2280 meters.

7.00 Opposite Teerink's camp.

7.05 Crossed to right bank. Good crossing on logs.

Up through second growth Saccharum, bracken, lalang.

7.20 Photo head of population.

7.40 Junction Mun and Bena. 2260 meters. Good campsite on ferny shelf 20 meters above river banks 2280 meters.

8.10 On.

9.30 House 2560 meters.

9.50 House in rhododendron shrubbery. 2560 meters.

10.40 House (first from main camp 2660 meters).

11.15 Arrived main camp. Alt. 2800 meters).

October 30th.

Spent cataloguing plants collected on the patrol and developing photographs. Richardson took to Habbema the small broken down radio set and returned in the afternoon with the A.W.A. set stored at Habbema. A.W.A. set equals 5 full carrier loads.

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October 31st.

Spent the morning in the regenerative growths on a mudstone landslip at 2780 m, 1 km. SE of camp. Got a number of interesting spp. and also many bryophytes in the forest.

Teerink and Huls with a large military party and 39 carriers left to establish the 2200 m. camp. In addition to the 39 regular carriers, 10 Papuans carried loads consisting of a tin of rice (15 kg.) each.

Natives bringing in many common birds, especially small ~~lorries~~ lorries, and also some good spp. Today a fine specimen of *Dactylonax* brought in by a native.

REPRODUCTION

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November 1, 1938.

Most of day overcast: short spells sunshine 11 - 12.30: light rain both morning and afternoon. Maximum and minimum this morning 9.5 and 10 degrees C. No mist on nearby hills. Thunderstorms round about every PM since my return on October 29, 1938.

Went a little way down the main track and collected amongst other things a Cyathea and a Dicksonia, making five tree ferns from the locality, or six if one includes a very large Marattia.

Teerink sent carriers back for another load, and reported all well with the establishment of the 220 meter camp. Had no trouble in securing use of the land. Says he has formed a local "Papuan Government": appointing two headmen as "koranos" to two young fellows as policemen. Only these four men allowed within the camp enclosure.

AWA radio developed a short circuit and went out of action on the receiving side during the schedule at five o'clock this afternoon.

November 2, 1938.

Overcast all day: steady intermittent rain from 11.15 though afternoon: thunder to SE: dull raw evening.

A big party of carriers, including 49 Papuans of all ages, left for the 2200 m. camp at 7:00 AM.

Collections made down the creek to about 2600 m. convince me that few plants remain ungathered in the camp locality between 3000 and 2600 m.

Thursday, November 3, 1938.

Made some photographs of the forest which I developed at night, and commenced labelling specimens.

Carriers returned from the 2200 m. camp for another load.

November 1, 1938.

Most of my overcast... about... both morning and afternoon... George G. He also on nearby hills... since my return on October 29, 1938.

There is a little way down... a Spring and a stream, making five trees from the locality... six of one includes a very large tree.

Looking back... the establishment of the 200 meter camp... of the land... two had been as "strangers" to the young fellows...

Four men allowed... A radio developed a snow circuit and went out of action on the 29th... during the conduct of the afternoon.

November 2, 1938.

Overcast all day... thunder to 200... all sorts of carnivores, including 19 species of all ages...

200 m. camp at 7:00 AM.

Collection made down the creek to about 200 m. convinced me that few plants remain unharmed in the camp locality between 200 and 300 m.

Thursday, November 3, 1938.

Had some photographs of the forest which I developed... second labelling specimens.

Returned from the 200 m. camp on another road.



Mist to 7 AM followed by a dull overcast turning rainy at noon: intermittent light steady rain to midnight, then much heavy rain to 5 AM (of ~~with~~ fourth).

Friday, November 4, 1938.

Stream running high after the night rains: early mist on ridges: overcast day with spots of weak sun in morning: a little light rain in afternoon: clear sky at 7 PM.

Labelling specimens.

Carriers returned to 2200 m. camp and about 50 Papuans carried loads.

Saturday, November 5, 1938.

Clear crisp morning - the first for five days: clouds and odd showers 11 AM - 6 PM: steady rain from 6 to 8.45 PM - bed time.

Made a trip up the leading spur across the creek from camp and attained 3060 m. in a direction about SW from camp. Purpose primarily to make 8x10 pictures, of which I took five.

Carriers up from 2200 m. camp: also a <sup>transport</sup> ~~transfer~~ of three Dyaks and three convicts from Habbema.

Sunday, November 6, 1938.

Dull day: light rain 10 AM to noon: almost continuous steady rain noon to 6 PM: night overcast.

Another big transport of regulars and Papuans to the 220 m. camp.

Toxopeus and Richardson went down to the new camp.

Papuans continue to bring in quantities of sweet potatoes, and a goodly number of birds and mammals.

... followed by a full overcast turning rainy at noon. Inter-  
mittent light steady rain to midnight, then much heavy rain to 3 AM (at  
least four).

Friday, November 5, 1938.

Stream running high after the night rains; early mist on ridges, over-  
cast day with spots of weak sun in morning; a little light rain in  
afternoon; clear sky at 7 PM.  
Labeling specimens.

Carriers returned to 2300 m. camp and about 50 specimens carried down.

Saturday, November 6, 1938.

Clear early morning - the first for five days; fog and rain  
in AM - 6 PM; steady rain from 6:45 PM - 10:30 PM.  
Made a trip up the leading spur across the creek from camp and obtained  
2000 m. in a direction about W. from camp. Purpose primarily to make  
this stream, of which I took five  
transport  
Carriers up from 2300 m. camp; also a truckload of three lyons and  
three convicts from H. base.

Sunday, November 6, 1938.

Dull day; light rain to 10 AM; almost continuous steady rain  
noon to 6 PM; night overcast.  
In their big transport of supplies and equipment to the 2300 m. camp.  
Toxopneumonia and histoplasmosis sent down to the new camp.  
Specimens continue to bring in quantities of sweet potatoes, and a goodly  
number of birds and mammals.

Monday, November 7, 1938.

Morning overcast: light intermittent rain noon to 4 PM: much heavy rain 5 PM - midnight.

Carriers back from 2200 m. camp.

Busy preparing specimens to be sent to Lake Habbema in the morning.

Tuesday, November 8, 1938.

Dull day, though weather improving: a NW disturbance has been operating since the beginning of the month: heavy rain 4 PM to 7 PM.

Collections from this camp, 11 carrier loads, were sent up to Habbema today for transport to Hollandia by air on the 16th.

My collection ~~seems to~~ runs to a little over 600 numbers and Versteegh has contributed between 40-50 trees.

Intercepted a radio message to the Idenburg to the effect that the plane has left for Makassar and is due back at Hollandia on the 10th.

Wednesday, November 9, 1938.

Further improvement in weather conditions: a day of shade and sun: Only slight drizzles of rain.

Day spent in preparation to abandon camp.

Unable to hear Hollandia on the radio this afternoon.

Thursday, November 10, 1938.

2800 m. Camp abandoned. Rand, Brass, Versteegh, personal Dyaks and remaining soldiers moving down to the 2200 m. Camp on the Bele. The journey took  $4\frac{1}{2}$  hours: the transport about an hour longer.

Found construction almost completed: preparation flys, dining fly and

Monday, November 7, 1938.

Morning overcast. Light intermittent rain from 4 PM. Wind heavy rain. PM - midnight. Carries back from 2000 ft camp. Busy preparing specimens to be sent to Lake Umbagog in the morning.

Tuesday, November 8, 1938.

Clear day, though weather improved. A NW disturbance has been operating since the beginning of the week. Heavy rain 4 PM to 7 PM. Collections from this camp. All carrier loads, were sent up to camp today for transport to Holliston. All on the 10th. My collection specimens sent to a file over 500 numbers and Vatsberg has continued between 40-50 ft. Intercepted a radio message to the laboratory to the effect that the plane has left for Wakesett and is due back at Holliston on the 10th.

Wednesday, November 9, 1938.

Further improvement in weather conditions. A few clouds and sun. Only slight traces of rain. Day spent in preparation to transport. Unable to hear Holliston on the radio this afternoon.

Thursday, November 10, 1938.

2500 ft. Camp abandoned. Rand, Press, Vatsberg, personal gear and remaining collectors moving down to the 2000 ft. camp on the 10th. Journey took 4 hours. The transport about an hour longer. Some collection almost completed. Preparation for, dining, etc.

and our (American) tents erected under grass sun-roofs: a grass summerhouse on bank of river: stone pathways, etc.

When Teerink and I were here twelve days ago the country was dry and crops in need of rain. The recent rains have saturated the ground completely and the river is no longer fordable. A creek <sup>(the Suavi)</sup> which joins the river at the camp, dry twelve days back, is also running strongly. Dancing and a ceremonial killing of pigs, to welcome the arrival of the party, began shortly after we reached camp. The Pesigan and Morip clans each provided separate parts of the entertainment. It seems that we are camped on Pesigan territory and that their part of today's proceedings was our initiation into the tribe.

See notes on dance elsewhere.

Friday, November 11, 1938

Teerink, Huls and Toxopeus, with an escort of eight soldiers departed for the Balim to meet the plane due in with stores on the sixteenth. Although it means the loss of most of the collecting time available at the 2200 m. camp, for he cannot return here before the 25th, Toxopeus is having his assistant bring in to the Balim the insects he has collected during the last three months on the Idenburg, and he (Tox.) is going down to prepare them for shipment to Java.

Spent the morning collecting in second growths and up to the primary forests at 2300 m. on the ridge NW of camp.

Though rather abated since the departure of the Dutch party this morning, the natives much of a nuisance, hissing around the fence with things to sell, and insisting on helping our people bring in firewood and building material and demanding nothing less than a shell for their trouble.

and out (American) tents erected under glass awnings.

ammunition on bank of river: some packages, etc.

When Pezaris and I were here twelve days ago the country was dry.

and crops in need of rain. The recent rains have saturated the ground

completely and the river is no longer fordable. A track which joins

the river at the camp, my twelve days ago, is also running strongly.

Leading and a seasonal outlet of fish, to witness the arrival of

the party, began shortly after we reached camp. The Pezaris and Ward

claim each showed separate parts of the arrangement, it seems

that we are camped on Pezaris territory and that their part of today's

proceedings was an initiation into the tribe.

See notes on dance elsewhere.

Friday, November 11, 1938

Pezaris, Hain and Tokopeta, with an escort of eight soldiers departed

for the plain to meet the plane on an air strip at the sixteenth.

Although it means the loss of most of the collecting time available at

the 2300 ft. camp, for we cannot return here before the 27th, Tokopeta is

having the assistant bring in to the plain two insects he has collected

during the last three months on the plain, and he (Tok.) in order to

to prepare them for shipment to L.A.

Spent the morning collecting a second specimen of the same

locus at 2800 ft. on the ridge N of camp.

Fourth return started since the departure of the party early this morning.

The natives much of a nuisance, rising among the snow with things so

self, and insisting on helping our people bring in firewood and building

material and demanding nothing less than a shell for their children.

Saturday, November 12, 1938.

Day spent in preparing plants gathered yesterday and developing photographs.

Sometimes we are on the verge of serious trouble through a few undesirable natives persisting in attempting to enter camp, and soldiers drawing swords and using rough treatment to prevent them ~~from~~ doing so. It is a relief when the afternoon rains come on and the natives disappear homewards.

Sunday, November 13, 1938.

Clouds most of day and some rain: river high and washing over the bridge: heavy thunder rain last evening.

Collected in young and old secondary forest on slopes down river from camp.

Monday, November 14, 1938.

First day without rain since my arrival at this camp: river falling: mist on ridges 8-10 AM

Rand left for Lake Habbema to meet the plane on the last series of flights beginning tomorrow. Took escort of five soldiers, a cook and seven Dyaks.

Collected in ridge to 2300 m. NW of camp across river. Nothing very striking.

Natives quieter than previously. No disturbances that I know of today. Bringing in many mammals - mostly rats of the gardens and grass slopes, but some good things from the forests.

Shells seem to be decreasing in value: twenty ~~refused~~ refused for a pig this afternoon. Certainly the pig was a good one, but price asked -about 40 shells, was exorbitant.

Monday, November 14, 1938

Day spent in the party's vicinity gathered yesterday and developing

photographs.

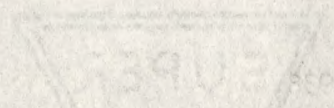
Sometimes we are on the verge of serious trouble through a fat ma-

degradable native persisting in attempting to enter camp, and soldiers

drawing swords and using rough tactics to prevent this. It

is a relief when the afternoon rains come on and the natives disperse

however.



Tuesday, November 15, 1938

Spends most of day and night in the river basin and valley below

ridge; heavy thunder rain last evening.

Collected in young and old secondary forest on slopes down river from

camp.

Wednesday, November 16, 1938

First day without rain since my arrival at this camp; river falling

fast on stages 8-10.

Hand left for lake habitat to meet the plane on the last part of

flight beginning tomorrow. Took escort of five soldiers, a cook and

seven oxen.

Collected in traps to 2000 m. NW of camp across river. Nothing very

striking.

Native hunter seen previously. No observations that I know of today.

Drinking in early morning - mostly rain of the garden and grass sites.

but some good things from the forest.

Shells seen to be decreasing in value; twenty returned refused for a

big this afternoon. Certainly the bird was a good one, but price asked

- about 10 shells, was exorbitant.



Tuesday, November 15, 1938.

Fine and clear to 2 PM: at 2.15 a heavy thunder shower followed by overcast condition and some light rain (to 8 PM).

Plane landed at the Balim at 8 AM, and leaving Archbold there with a radio set, proceeded to Habbema, passing close to the east of camp. Landed Habbema about 10 o'clock and left for Hollandia two hours later with specimen and personal belongings of the field party estimated at 600 kg., but according to conversation overheard on the radio, actually weighing about 800 kg.

We still have no call from P062A at Hollandia.

Rogers spoke of a case of dysentery at Habbema; the sick man to be flown to Hollandia tomorrow. Tomorrow the plane goes to the Idenburg with a radio receiver and mails, thence to the Balim on to Habbema and from there direct to Hollandia.

Archbold spoke of trees being cut up the river from the Balim Camp, but native permission could not be had to cut down others in a dangerous place on a bend of the river.

Wednesday, November 16, 1938.

Fine and clear to 12.30, when dark clouds drifted over from up valley: light rain 7 PM-

Plane in air again today. Landed first at Bernhard Camp, then Balim and Habbema, returning direct to Hollandia.

No radio news except concerning flight.

Collected up the gorge of the creek <sup>(GUGUI)</sup> which joins the river at camp. When unable to go any further, climbed up a landslip the crest of the south ridge, coming out on to fairly recently felled forest springing up with a good secondary growth dominated by a small leaved Rapania and containing

Thursday, November 14, 1938.

Line and clear to 5 PM: at 4:15 a heavy rain shower followed

by overcast conditions and some light rain (to 5 PM).

Flies landed at the helm at 8 AM, and leaving Hobbs' tent at

a radio set, proceeded to Hobbs', where I also took a

handed Hobbs' about 10 AM, and took the 10:15 AM train for

with specimens and personal baggage. The train departed at

10:00 AM, but according to conventional estimates, actually

weighing about 350 lb.

We still have no call from Hobbs at Hollands.

papers some of a case of hysteria at Hobbs', the sick man to be flown

to Hollands tomorrow. Tomorrow the plane goes to the Henry with

radio receiver and mail, lands at the Falls on to Hobbs and from there

direct to Hollands.

Richard spoke of flies being cut up the river from the Falls camp, but

active permission could not be had to cut down others in a dangerous

place on a bend of the river.

Thursday, November 14, 1938.

Time and clear to 12:30, when dark clouds billowed over from up valley.

light rain at 4 PM.

Plane in air again today. Landed first at Bernhard Camp, then Ball's and

Hobbs, returning direct to Hollands.

No radio news except concerning lights.

Collected up the gorge of the creek which joins the river at camp. When

unable to go any further, climbed up a landslide the crest of the south

ridge, coming out on to fairly recently cleared forest arising up with

good secondary growth dominated by a small leaved species, and containing

RING BOOK BOND

Rhododendrons and Vaccinium. The ridge crest forest on edge of the cleared area typically mid-mountain, consisting of tall Sama with open low substage and woody undergrowth and dry leaf-strewn ground.

Several interesting plants include a scrambling fig # with fruits ovoid in shape and measuring 11 x 9 cm.

Richardson overwhelmed with specimens brought in by natives, including Anisomys, Uromys, Mallomys, Pseudocheirus and Peroryctes amongst the larger forms. Also numerous birds: a few of them good.

Thursday, November 17, 1938.

Mist from down valley covered upper slopes at intervals after 10 AM: thunder and heavy rain 4 PM: light rain continuing to 9 o'clock (bed time).

Weather at Hollandia prevented plane from making another (third) flight to Habbema today. Still no radio call from headquarters, although the operator there knows that we can receive. By spending much time eavesdropping on the traffic of other stations we learn that Rand is still at Habbema, and he will wait there <sup>three</sup> ~~through~~ days (to 19th) for the arrival of the plane and then return to this camp.

A native rumour circulating to the effect that the Balim party <sup>has</sup> ~~have~~ been attacked. Radio talk would seem to indicate that the report is unfounded. Have overheard no mention of trouble or attack on the radio.

After completing the present series of flights, and bringing another one half month food to the Balim on the 19th, and one month's food to the Idenburg on the 20th, the plane will be flown to Sydney for further attention to the Sperry automatic pilot.

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Thursday, November 14, 1935

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Friday, November 18, 1938.

Morning fine and clear: afternoon cloudy: heavy rain from thunderstorm 4 PM: evening overcast and sprinkling rain.

Plane made another delivery of December food at the Balim, and went on to land at Habbema shortly after 10 o'clock. The take-off with a second load, on what will probably be the last flight to the lake, was made in 25 seconds. The supposed dysentery case was taken out to Hollandia for medical attention. Our specimens, museum group material, and all other material worth taking, are now safely housed at Hollandia.

My day was occupied in preparing an accumulation of material from the last couple of days' collecting.

Saturday, November 19, 1938.

Morning clear and sunny: afternoon cloudy: rain from thunderstorm late in afternoon continuing into night.

Rand returned from Habbema, having camped at the 2800 m. camp last night. Habbema camp now abandoned, the <sup>Gunnis</sup> ~~former~~ and five soldiers being added to our party at the 2200 m. camp.

Guba delivered further food supplies at the Balim and returned with Archbold and three reject convicts to Hollandia. Food for five weeks now at the Balim.

Sunday, November 20, 1938.

Dull day: mist on ridges at intervals to 10 AM drizzling rain early afternoon: evening clear and starry.

Guba delivered a load of food at Bernhard Camp and returned to Hollandia. Camp disturbed by a report brought in by a native lade who stated by signs etc. that he had seen one of the soldiers having intercourse with a woman

Friday, November 18, 1938.

Morning fine and clear, afternoon cloudy, heavy rain from thunder-

storm A PM: evening overcast and squally with rain.

... made another delivery of December food at the bank and went on

to land at Habbers and left for 10 o'clock. The last of the second

load, or what will probably be the last, will be the last. Was made in

52 seconds. The elapsed quantity was taken out by Hollander for radio

attention. On operators, mission group material, and all other material

with taking, the new safety houses at Hollander.

It was decided on preparing an accumulation of material for the

last couple of days' collection.

Saturday, November 19, 1938.

Morning clear and sunny, afternoon cloudy, rain from thunderstorm late

in afternoon continuing into night.

Land returned from Habbers, having covered at the 2800 m. camp last night.

Habbers camp now abandoned, the camp and five soldiers being moved to

our camp at the 2500 m. camp.

Gift delivered further food supplies at the bank and returned with

trucks and three reject crates to Hollander. Food for two weeks now

at the bank.

Sunday, November 20, 1938.

Delivery: also on stages of material to be an existing trip early

afternoon evening clear and sunny.

Gift delivered a load of food at Bernard camp and returned to Hollander.

Gift distributed by a report brought in by a native and later by signs

etc. that he had seen one of the soldiers have intercourse with a woman

RECORDS  
SECTION  
V

at the semi-abandoned hamlet a hundred yards or so down the river. The husband of the woman, according to the youth, waiting for an opportunity for revenge. No sign of excitement in the few natives about camp at that late hour, and everything quiet and normal in the villages above us on the slopes. The informer probably indulging in a mischievous joke.

Monday, November 21, 1938.

Fine, somewhat cloudy day: but no rain: river lowest we have seen it.

Guba was to have left for Port Moresby on the first stage of the flight to Sydney, but rain at Hollandia early in the morning probably caused postponement.

It would appear that, fortunately, the disturbing rumour of one of the soldiers having interfered with a native woman is without foundation. No further reference to the matter by the natives and the countryside quiet. The incident will, however, serve to impress upon our people the seriousness in which such an offence would be regarded. Guard increased to four men since last evening, two of them with rifles. Radio schedule altered from 5 PM to 6 AM.

Tuesday, November 22, 1938.

Generally cloudy day: Most seen in afternoon: no rain for two days: moss becoming very dry on trees in forest, though ground moss still damp.

Guba flew to Port Moresby yesterday and departed for Sydney at 5.30 this morning.

Things very quiet in camp and no radio news of importance, except that

at the semi-enclosed basin a hundred yards or so from the river.  
The head of the town, according to the natives, waiting for an  
opportunity for revenge. In fact of excitement in the few natives

at the camp at that time and everywhere else in the  
vicinity above us on the slopes. The natives were mostly

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Monday, November 21, 1933

There, somewhat cloudy days, but no rain; river lowest we have seen

There was no rain for Fort Koresko on the first night of the 21st  
to 22nd, but rain at Lohianla early in the morning, probably caused

postponement.  
It would appear that, for the day, the distribution of one of the  
soldiers having been with a native woman in the morning, probably

the further reference to the matter by the natives and the commander  
during the incident still, however, seems to suggest that our people

the arrangements in which such an offense would be regarded. Guards  
increased to four men since last evening, two of them with rifles.

Radio schedule altered from 8:30 to 9:00 AM.

Thursday, November 22, 1933.

Generally cloudy day. More rain in afternoon; no rain for two days  
now, becoming very dry on trees in forest, though ground more still

hand.  
Guys left for Fort Koresko yesterday and departed for Sadow at 2:30

this morning.

The very quiet in camp and no rain here or elsewhere, except that

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the Balim radio transmitter is out of action.

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November 23, 1938.

Generally cloudy: spells of bright sun in forenoon: slight sprinkle in afternoon.

Teerink was to have started on his return from the Balim this morning, but in the absence of radio communication with that camp, we can only assume that he did.

Guba arrived in Sydney yesterday: ten hours flight *from Par Morsy*  
Spent a pleasant morning in the forests about the upper gardens on camp side of the valley, and made a number of photographs which I developed in the evening.

The topmost garden seen was at an altitude of 2480 m. - a sizeable clearing completely enclosed by tall primary forest.

Thursday, November 24, 1938.

Day generally cloudy: thunderstorm down river in afternoon and light rain in camp.

Spent the day in camp, labelling specimens, etc.

Friday, November 25, 1938.

Return to fairly clear weather in morning and heavy rains, accompanied by thunder in afternoon.

Teerink and Toxopeus arrived about 10.30 from the Balim and report all well. Journey three days, or about 18 hours travel. Huls, Althoff, five soldiers, two convicts and a Dyak comprise the party left at the Balim.

The Basin Radio transmitter is out of action.

November 23, 1938.

Generally cloudy; breeze of wind in forenoon; slight rain

in afternoon.

Weather was so heavy started on his return from the Basin this morning.

but in the absence of radio communication with this camp, we can only

assume that he did.

Ona arrived in camp yesterday; ten hours flight.

Spent a pleasant morning in the forest about the lower garden on camp

edge of the valley, and made a number of photographs which I developed in

the evening.

The topmost garden was not at all suitable for all this year.

The completely enclosed hill country forest.

Thursday, November 24, 1938.

Day generally cloudy; thunderstorm down river in afternoon and night

rain in camp.

Spent the day in camp, labeling specimens, etc.

Friday, November 25, 1938.

Return to Basin; clear weather in morning and heavy rain, accompanied

by thunder in afternoon.

Facilities and taxidermy arrived about 10.30 from the Basin and report all

well. Journey three days, or about 15 hours travel. Hills, Alibon, five

colliers, two convicts and a hawk comprise the party left at the Basin.

Saturday, November 26, 1938.

First really misty dark morning: forenoon overcast: afternoon wet: river in evening at highest level seen (Morning mist almost down to valley bottom).

Day spent <sup>packing</sup> ~~preposing~~ and parking specimens to go to the Balim tomorrow.

Sunday, November 27, 1938.

Beautiful sunny day after misty morning: mist on ridges at about 2450 m. after mid-afternoon and sprinkles of rain.

Teerink departed at 7 AM with all the carriers for the Balim. Only one convict remains and the camp is but the skeleton of its former imposing self.

All specimens in condition to go out to the Balim.

Versteegh has gone to the Balim and will commence work immediately upon arrival, provided escort and Dyaks are available. This, however, is doubtful.

The Guba, we learnt this morning, is in Melbourne.

Monday, November 28, 1938.

Beautiful clear, rather hot morning: thunderstorm all around in afternoon, but only sprinkles of rain at camp: steady light rain 6.30 PM -

Spent the morning collecting - mostly substage trees, in the pale barked Sama forest to about 2450 m. alt. E. of camp.

Have by radio the rather disturbing news that the Guba has burnt out a piston at Melbourne. A Guinea Airways plane is coming to Hollandia for spare parts, which will be flown to Melbourne. The incident, according to Archbold, is not likely to interfere with expedition flight

Saturday, November 20, 1938.

First really misty night tonight; tomorrow overcast. Afternoon  
clear; never in evening at highest level seen (morning mist cleared  
down to valley bottom).

Very good observing and packing specimens today to the Helm collection.

Sunday, November 21, 1938.

Beautiful sunny day after misty morning; mist on ridges at about  
10:30 a.m. after mid-afternoon and showers of rain.

Train departed at 7:30 a.m. with all the baggage for the Helm. Only  
one covered train and the camp is not the location of its former

location site.

All specimens in condition to go out to the Helm.  
Vandenberg has come to the Helm and will continue work tomorrow.  
Upon arrival, provided account and field notes available. This, however,  
is doubtful.

The Helm, we learn this morning, is in Lebanon.

Monday, November 22, 1938.

Beautiful clear, rather hot morning; thunderstorms all around in  
afternoon, but only showers of rain at camp; steady light rain

6:30 PM -

Spent the morning collecting - mostly subter. trees, in the pine  
parked here for at least 2000 ft. alt. of camp.  
Have to radio the other collecting party that the Helm has been found  
a station at Lebanon. A census always made is made to Lebanon  
for some parts, which will be taken to Lebanon. The transport  
coming to Lebanon, it is not likely to interfere with expedition.

schedules. Had this engine trouble developed at Habbema, or at Makassar, we should probably be walking out to the Idenburg now.

Tuesday, November 29, 1938.

Fine clear sharp morning (10 degrees C.), clouded by 11.30; intermittent drizzling rain on into evening; mist down to 2250 m. at nightfall.

Collected about 20 plants on the opposite bank of the river upstream to opposite "One-Eye's" village. Between 30-50 men and women passed me en route to the scene of a death, perhaps at One-Eye's village. Men smeared themselves with clay beside the river close to where I was working.

Wednesday, November 30, 1938.

Broken clouds to 11 AM, then overcast and intermittent light rain: mist most of day on 2600 m. tops.

Collected up to village on commanding point at about 2350 m. NW across river. Met there two very friendly middle-aged men who became even more friendly and shook my hand more frequently when, in course of a conversation carried on in signs, I told them that I would be leaving for the Balim in five days. They <sup>demonstrated</sup> explained how they had taken cover when the plane flew over on early flight. Despite their obvious pleasure to learn of our early departure, they were insistent that when the pigs we earmarked during the ceremonial welcome had grown big tusks, we should return to eat them. *Pointing to my grey hair, I said I was getting old, so would probably stay in my village & send my son.*

005000  
1000

...and this engine trouble developed at ...  
...we should probably be waiting out to the ...

Tuesday, November 20, 1938.

The clear start coming (10 degrees C.), ...  
...at least ...

Collected about 30 plants on the opposite bank of the river ...  
...to opposite "mangrove" village, between 30-35 ...  
...as a route to the scene of a death, ...  
...then ...  
...was working.

Wednesday, November 30, 1938.

...broken down to ...  
...first most of day on ...  
...Collected up to village on commanding point at about 2500 ...  
...river. ...  
...more friendly and ...  
...conversation ...  
...for the ...  
...when the plane ...  
...to learn of our ...  
...we ...  
...return to ...

005000  
1000

Thursday, December 1, 1938.

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Fine bright morning: afternoon overcast and a little rain.

A Guinea Airways Stinson seaplane at Hollandia to take spare parts to Lae to be flown down to the Guba at Melbourne by the regular weekly service.

Teerink was to have left the Balim this morning on his return with the carriers. Balim radio transmitter still out of action.

Friday, December 2, 1938.

Another fine bright morning: afternoon overcast but no rain.

Guinea Airways Stinson left Hollandia with spare parts for the Guba at 7.30 AM.

Completed my collections from this locality by gathering a few things about camp this morning. Yield for the camp about 450 spp.: 50 spp. under my estimate.

Saturday, December 3, 1938.

Fine morning: rain most of afternoon (light rain).

Teerink arrived from the Balim with the carriers at 10.30 in the morning.

Sunday, December 4, 1938.

Rather cloudy morning: heavy rain from a thunderstorm commencing at 12.30 PM: afternoon dull and drizzling: river high.

Labelling specimens and packing loads ready for departure for the Balim tomorrow.

Natives have brought in several finely worked pieces of body armour made of rattan during last two days. Stone axes are impossible to procure.

Thursday, December 2, 1938

This bright morning, after noon overcast and a little rain.  
A bus always arrives at Hottel to take spare parts to  
me to be taken over to the bank of shipping by the regular weekly  
service.

Teoric was to have left the bank this morning on his return with the  
carriers. Bailis was to transmit a bill out of action.

Friday, December 3, 1938

Another fine bright morning; afternoon overcast but no rain.  
Giles always arrives at Hottel with spare parts for the bank  
at 7:30 am.  
Completed my collection from this locality by collecting a few things  
about camp, this morning. Yield for the camp about 250 lbs. of  
under my estimate.

Saturday, December 4, 1938

This morning; rain most of afternoon (light rain).  
Teoric arrived from the bank with the carriers at 10:30 on the morning.

Sunday, December 5, 1938

A clear cloudy morning; heavy rain from a shower; one commencing at  
12:30 pm; afternoon dull and drizzle; river high.  
Labeling specimens and packing loads ready for departure for the bank  
tomorrow.  
Harris has caught in several traps several pieces of body armor and  
at 1:30 pm Harris and two Gaws. There is as the responsible to procure.



Monday, December 5, 1938.

Left Bele Camp at 6.55 AM, the party consisting of 87 men, comprised as follows and travelling in two groups through this friendly country:

Teerink, Toxopeus, Rand, Richardson, Brass.

Sergeant Ho

20 soldiers

35 Dyak Carriers

13 Convict carriers

2 Ambonese collectors

7 Dyak collectors

2 Javanese collectors

3 cooks

Old men stood by the path and wept and wrung our hands as we left, while the younger ones looted the camp. Before our departure those privileged to enter had been busy handing out things for friends to hold - blankets, old clothes, buckets, bottles and kerosene tins. An hour or two on our journey we were overtaken by men laden with spoils carried in copra sacks on their heads. Our old friend Gira, who met us as we approached his village, had evidently sent representatives to attend the sack, for, as this genial old man conversed with us, we saw loads of our former property pass into his village.

Following the familiar route down the east side of the valley taken by Teerink and myself in October, we camped near its lower end, about 2 PM.

After six hours travel and much climbing and descending, we were at exactly the same level as our starting point - 2200 m.

The people of villages around camp brought quantities of food. Quite a few of the younger men had visited Bele Camp. Here I bought for three shells a fine example of the beautifully made pieces of rattan body armour peculiar to these people. Two youths <sup>had</sup> ~~carried~~ great festering wounds, perhaps 3 months old.

London, December 2, 1932.

Left Baltimore at 6:30 AM, the party consisting of 12 men, comprising

follows and traveling in two groups through the inland country:

1. Larkin, Loxley, Ford, Kinsler, Baker.

Sergeant Ho

30 soldiers

35 pack carriers

13 donkey carriers

2 Japanese collectors

7 Tyak collectors

2 Japanese collectors

3 cooks

Old manhood by the path and west and young our hands as the first while  
the younger ones looked the same. Before our departure these children  
to enter had been busy selling our things for firewood to hold - however,  
old clothes, tobacco, bottles and kerosene tins, as soon as we on our  
journey to rest overtaken by men laden with goods carried in their  
of their heads. Our old friend said, this set as a we approached the vil-  
lage, had evidently sent representatives to demand the sack for, as this  
general old man conversed with us, we saw heads of our former property come  
into the village.

Following the earlier route down the east side of the valley, taken by  
Larkin and myself in 1928, we camped in a low-lying area about 10  
After a six hour travel and much climbing and descending, we reached a small  
the same level as the starting point - 2000 ft.  
The people of villages around camp brought quantities of food, while a few  
of the younger men had visited Belle Camp, where I bought for three months  
a fine example of the particularly hard pieces of kerosene lamp, peculiar  
to these people.

Tuesday, August 6, 1938.

Leaving camp at 6.30, and still following the middle slopes of the Bele, high above the river, we came out on to the edge of the great valley of the Balim about an hour later. A white stratum of cloud lay over most of the valley at the early hour, the high enclosing mountains rising clear and dark blue above it, and the bottom of the valley gradually losing distinctness in the hazy gloom below.

Beginning the descent along a sandy ridge carrying scrubby growth of Vaccinium and yellow and white Rhododendrons, with a greant abundance of a red orchid flowering on the ground, we were again soon on limestone and walking sticky tracks of blackish soil wet from the night rains. On these grassy slopes, practically treeless but for picturesque <sup>relic</sup> ~~sexic~~ clumps of brownish Castanopsis and the pink flowering low tree Vaccinium of sparse secondary growths, appear numbers of grasses and grass associates familiar from the south coast savannahs. Descending gradually these smooth grassy ridges we swing east away from the lower Bele through a thinning population, and at the same time entered the cloud bank which we had looked down upon from the heights above. At 1900 m. the first Araucaria (like A. cunninghamii) loomed up in the mist. Soon there were many of these fine trees, the older ones shaggy with lichens, and we passed through considerable patches of primary Castanopsis <sup>forest</sup> on the ridges, and looked down on flat-topped secondary forests of Albizzia filling the hollows and valleys between. Though scattered now, a heavy population formerly occupied this part of the valley. From 1860 m. down to 1680 m. in the bottom of a small Casuarina-lined river which we forded three times in the space of one quarter of a mile, the country is a cemented red river wash containing much quartz. Travelling long disused broad pebbly roads and narrow tracks through the grass, the ground often corrugated with old garden beds, we stopped for lunch on a

Thursday, August 19, 1938.

... and at 6.30 and still following the middle slope of the hills  
high above the river, we came out on the edge of the grass valley of  
the Basin about an hour later. A white stream or stream bed over  
the valley at the early hour, the high enclosing mountains rising clear  
dark blue above it, and the bottom of the valley gradually losing its flat-

ness in the heavy gloom below.

Beginning the descent along a sandy ridge, the secondary growth of  
Vaccinium and yellow and white Andropogon, with a few Andropogon and  
a few Andropogon flowering on the ground, we were again down on limestone and  
winding rocky masses of black and white from the right bank. On the  
grassy slopes, Andropogon flowers, but the Andropogon were scarce.

From the south coast savanna, ascending gradually these smooth grassy  
secondary growths, great masses of grasses and grasses Andropogon families  
from the south coast savanna, ascending gradually these smooth grassy  
slopes we were east away from the lower Basin through a thinning plantation,  
and at the same time entered the Basin now with the road looking down from

the hills above. At 1000 ft. the first Andropogon Andropogon  
flowers in the Basin. Andropogon Andropogon Andropogon Andropogon  
one stage with Andropogon and Andropogon Andropogon Andropogon  
primary Andropogon on the ridge, and looked down on flat-topped secondary  
growth of Andropogon filling the hollows and valleys between. Though abun-

dered not, a heavy population family occupied the part of the valley.  
From 1000 ft. down to 1500 ft. in the bottom of a small Andropogon-  
river which we formed three times in the space of one quarter of a mile,  
the country is a cemented red river sand containing much quartz. The valley  
is divided into narrow terraces and narrow tracks through the grass, the

ground often covered with the grass beds, we stopped for lunch on a

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sunny grass crest near a village a 11.15. Here, after a cautious approach, both men and women gathered round us, squatting and standing in the grass while we ate. Continuing through picturesque park-like country, we passed during the afternoon two more isolated villages—communities of people who have abandoned the ridges and now cultivate the rich black loam of the flats. Though <sup>not actually hostile</sup> friendly enough, the people of the last community were obviously excited by our appearance. They turned out fully armed with bows and arrows and long black spears, and we saw no women. For some distance they gathered on our flanks and ran up and down the line from front to rear, but we left them behind at a small creek which <sup>seemed to</sup> obviously formed their territorial boundary. The night camp, situated in the fringing Casuarinas of another small creek, in a country grown over with tall grass and brushy <sup>growth of</sup> small trees, was reached at two o'clock. Mosquitoes were troublesome here, and for the first time in over four months we rigged our nets.

Probably attracted by a shot fired by Rand, about twenty men and women came from beyond the creek to gaze upon us and offer odds and ends in trade. Some of them spears 12-14 feet long, and dangerous looking weapons.

Wednesday, December 7, 1938.

Got away to a good start at 6.20 and were soon in the fertile, heavily populated plains of the Wamena. Here the people were extremely friendly, and while some gathered to watch us pass, others continued digging in the deep black earth of the gardens. These are no fences here, the garden being surrounded by beautifully dug trenches which no doubt serve the double purpose of draining the land and keeping out pigs. The picturesque Wamena, a rapid stony stream of cold gray water with low grassy (alang) banks fringed with lines of Casuarina and gay with mauve orchids (Spithoglithi) was reached in about an hour, and another hour was spent in getting the party across. A

many of the best of a village 11.15. Here, after a cautious approach,  
both men and women gathered round us, awaiting the order in the grass  
while we ate. (Doubtless, though the land is dark, the country was passed  
during the afternoon two more times with a view to the 11.15. The  
landed in the grass and now cultivate the rich black loam of the 11.15.  
Though friendly enough, the people of the last country were obviously ex-  
cited by our appearance. They turned out fully armed with bows and arrows  
and long pipes, and we saw no sign of any other people. For some distance they gathered  
on our flank and round and then the line of the 11.15. The 11.15.  
them being at a small creek which occupies the 11.15. Their territorial boundary  
The night camp, situated in the 11.15. (Doubtless, of another small creek,  
in a country grown over with tall grass and many small trees, was reached  
at two of local. The 11.15. were 11.15. some here, and for the first time  
the 11.15. months we have seen our best.

Wednesday, 11.15.  
A good start at 0.30 and we went down in the 11.15. early  
populated plains of the 11.15. have the people here 11.15. friendly,  
and while some gathered to watch us pass, they 11.15. playing in the  
back part of the 11.15. There are no fences here, the 11.15. being  
enclosed by 11.15. and 11.15. which do not serve the 11.15. purpose  
of draining the land and keeping out 11.15. The 11.15. system, a 11.15.  
about 11.15. of 11.15. water with low grass (11.15.) 11.15. 11.15. with  
lines of 11.15. and 11.15. (11.15.) was 11.15. in  
about 11.15. and another 11.15. was 11.15. to 11.15. the 11.15. 11.15.

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A broad expanse of cultivated, ditched land was traversed beyond the Wamena, where the people were equally peaceful. Passing out of the tranquil area into a region of more scattered but equally friendly people, we rested on the bank of a shady, clear running stream about an hour from the Wamena, where we had an opportunity of seeing how easily and quickly trouble might start in this country. Following a few hot words among a small group of natives who followed us, we heard, as we sat by the stream, the twang of a bowstring. A man rushed away through the tall grass, and the young fellow he had shot staggered into the stream and in a few moments collapsed in the water, still grasping the arrow he had removed from his leg. Our native followers made light of the incident, assuring us with repeated cries of Nap and Nakea, that they entertained nothing but the most friendly feelings towards <sup>our party</sup> ourselves. This rest place on the stream evidently marked the tribal boundary of these people and the next; for we travelled an hour or more through uninhabited, but once cultivated lands, before reaching the heavily peopled area above Balim base camp. We found all well with Huls and his small party upon our arrival in camp about 1230. Camp is pleasantly situated in a grove of sighing Casuarina on the bank of the river, on rich dark silty loam no doubt flooded at times.

Thursday, December 8, 1938.

Enjoyed a pleasant day of rest in the drowsy warmth of this comparatively low altitude. A few natives hang around the fence watching us and trying to sell odds and ends of food, etc. They are very noticeably quieter than the rather aggressive people of the Bele. The folk here are more closely tied to the soil, for, having no new forest land to bring under crop, they must labour to produce from the old. There being no forest to hunt in within easy reach, they probably seldom go far from their gardens. The

A broad expanse of cultivated, irrigated land was traversed beyond the  
moment, where the people were equally peaceful. Passing out of the  
territory into a region of more scattered but equally friendly people,  
we rested on the bank of a sharp, clear running stream about an hour  
from the Kanons, where we had an opportunity of seeing how easily and  
quickly friends might start in this country. Following a few hot words  
about a small group of natives who followed us we heard, as we sat by the  
stream, the firing of a pistol. A man crawled away through the tall grass  
and the young fellow he had shot staggered into the stream and in a few  
moments collapsed in the water, still grasping the arrow he had removed from  
his leg. Our native followers made light of the incident, assuming as with  
repeated cases of Mad and Nikes, that they understood nothing, but the word  
friendly feelings toward ourselves. This last scene on the stream evidently  
marked the final boundary of some peculiar and the point for us traveled  
an hour or more through an unpopulated but once cultivated land before reaching  
the heavily populated area above which we came. We found all well with both  
and his small party soon our arrival in camp about 1:30. Camp is pleasantly  
situated in a grove of alders on the bank of the river, on a rich  
dark silty loam no doubt flooded at times.

Thursday, December 8, 1932

enjoyed a pleasant stay of rest in the grove with a few campfires,  
low alders, a few natives hanging around the fence watching us and trying  
to sell odds and ends of food, etc. They are very noticeably quieter than  
the rather aggressive people of the Bar. The folk here are not closely  
tied to the soil, for, having no new forest land to clear under crop, they  
must labour to produce from the old. Their being a forest so built in  
rich soil, they probably seldom go far from their gardens. The



placidity of temperament peculiar to hard working farming communities elsewhere, is evident in the lower part of the valley. Scarcely a relic of the original forest remains, and the stone walls, earth walls, and drainage systems of beautifully dug deep ditches distinguish it from any country I have seen in New Guinea.

*Small stream divided into*

*then ditches*

Friday, December 9, 1938.

Crossed the river by a suspension bridge about  $\frac{1}{2}$  hour downstream, at the beginning of the rapids, and collected about thirty species from the grasslands and sparse brushes on the slopes.

The bridge, made of large forest vines (not Calamus) and carrying a three foot decking of split timber, is the finest I have seen. Its lines are perfect, and remarkable engineering skill has been displayed in building the supporting piers.

A guard of about ten men was posted on the cliff above the bridge on the far side when I crossed in the early morning, and when I returned in the heat of the day a smaller group was on watch beneath the trees shading the approach on the other side.

The people of our camp locality are at war with the people lower down. In the early morning, when sounds carry far, they sit comfortably on sunny rocks and how defiance down the valley.

Saturday, December 10, 1938.

Had some good collecting on the vegetated edges of a great stone wash which extends from the foot of the hills to near the river upstream a little from camp. The material of the wash comes from a vast erosion gully which heads 1000 feet above the plain and practically cuts through a soft sandstone mountain. The wash has been deposited at different times and is probably carried down by bursting dams formed by landslips from the sides

...of the original forest remains, and the stone walls, with their  
drainage system of beautifully dug ditches distinguished it from any  
country I have seen in New Guinea.

Friday, December 9, 1938.

crossed the river by a sandstone bridge about 300m long, at the  
beginning of the bridge, and collected about thirty species from the grass-  
lands and scrub bushes on the river.  
The bridge, made of large forest vines (not Calamus) and carrying a three-  
foot deck of split timber, is the finest I have seen. The timber was  
perfect, and remarkable engineering skill had been displayed in building  
the supporting piers.  
A guard of about ten men was posted on the cliff above the bridge on the  
left side when I started in the early morning, and they returned to the  
post of the day's smaller group was on which the trees ahead in the  
approach on the other side.  
The people of our camp locality, who with the people lower down, in  
the early morning, when animals were scarce, they sit comfortably on many  
rocks and but decline down the valley.

Saturday, December 10, 1938.

Had some good collecting on the vegetated slopes of a great ridge which  
which extends from the foot of the hills to near the river up to a  
little from camp. The material of the vegetation from a very early rain  
which heads 1000 feet above the plain and probably cuts through a soil  
and some contact. The soil has been deposited in a very thin layer and  
is probably carried down by gushing rains formed by lightning from the clouds.

of the great fissure. The wash is in the form of a convex fan, many acres of the central part being simply bare sandstone debris. On the sides of this is open scrub of low Casuarina and some Ficus, containing numbers of grasses and herbs. The lower edges, where the lighter and finer materials have been deposited, are being colonized by reeds, which spread in rapids from the sides by means of long runners sprawling over the base seepage-wet surface. A species of Hypolytrum found in small patches out on the open wash, is similarly furnished with runners.

Sunday, December 11, 1938.

Visited an interesting strip of gallery forest, one of the few relics of original forest in the neighbourhood on a stream flowing along the foot of the hills at the rear of camp. Castanopsis is the sole dominant as in the considerable forest remnants passed through on the route down from the Bele. Humata, likewise, is the characteristic ground cover. Close to the stream is an old stone wall, and the low spreading oaks and lichen-covered wall are not at all like New Guinea or the New Guinea most people know.

Developed 8 x 10 pictures at night, in a very good darkroom made of grass.

Monday, December 12, 1938.

F eling tired after an almost sleepless night - photographic chemicals always effect me -- I went but a little way up the river and gathered mostly plants of fairly recently established grassland on a patch of sandy country.

Teerink had about fifty Casuarinas cut down lower down the river to facilitate the landing. Price one shell per tree.





Tuesday, December 12, 1938.

made a number of photographs and collected rather few plants on the  
with great ridge below camp. Returning along the left tributary  
met some delightful people who insisted that I visit their village  
while they brought some sweet potatoes for myself and my horse.

Wednesday, December 14, 1938.

The time left, Nelson's for the morning, after the completion of  
repairs.

Following at times a trail track, I descended to the head of the great

erosion canyon which cut the mountains to the north of 1000 feet a little

up the river from camp. I must admit that the quality of the erosion which

probably started in a stream which carried erosion down on a small scale

is common on the slopes on both sides of the valley where the rock is

granite.

On top of the ridge, behind the canyon, are areas of poor sandy soil

covered with Vaccinium scrub broken by stumps of Pinus and

oak in the gullies, and broken. Much of the canyon is about 100 m. above

the valley floor.

Thursday, December 13, 1938.

A cool overcast, but rainless day, with the first of the W. River 2-3 feet

higher than at any time since the W. but beginning to fall slowly about

1 P.M. A further rise of three feet would flood much of our camp, situated

as it is on the alluvial bank of the river.

Stocking of stores by the military party shows that they have been rationed

to the 23rd, and have enough food to carry on party to the landing, if

we started by road tomorrow.

XX

Gathered a number of interesting plants, including several marsh spp., on the alluvial falts and in the drains in the vicinity of camp. Backwaters from the river make the drains difficult to cross.

Friday, December 16, 1938.

Made further collections on the grasslands about 1/2 mile down river from camp. Rand's birthday.

Saturday, December 17, 1938.

Guba returned to Hollandia from Australia, having overnighted at Townsville to Port Moresby enroute from Melbourne.

Toxopeus made a long excursion to the bridge crossing of the Wamena, where it emerges from the mountains. Sent one of my Dyaks, with him, chiefly to collect a shrub which Toxopeus described, a Tamarask-like, growing on poor sandy heaths passed over by Teerink, Huls and Toxopeus on their route to the Balim in October. This plant turns out to be Myrtaceus, probably Leptospermum, and a very interesting find indeed. (*Baeckea frutescens*)

Sunday, December 18, 1938.

Started to evacuate Balim Camp. Guba took a load of food from Hollandia to the Idenburg, came in to the Balim for a load of specimens and ten repatriated men and returned to Hollandia.

All collecting terminated today. Spent several hours making 8 x 10 pictures. The Balim camp has yielded me about 240 numbers, mostly grassland plants familiar from the south coast savannahs. Although time has been very fully occupied during our short stay, and ~~nine should~~ I should like to have two or three more ~~days~~ in the field, the additional species which could be expected

RING BOOK BOND

October 1938

... a number of interesting plants, including several species of  
on the alvarial fields and in the vicinity of the river, specimens  
from the river make the drainage system to cross.

Friday, December 12, 1938

... further collections on the mountains about 7 miles downriver from  
camp, Santa Barbara.

Saturday, December 17, 1938

... returned to Hollister from Santa Barbara, having overnighted at Joplin  
to Porterville enroute from Hollister.  
Joplin made a long excursion to the bridge crossing of the Warner, where  
it angles from the mountains, sent one of my boys, with his knife  
collected a large amount of *Toxopneustes*, a *Thalassia*-like, growing on rocks  
everywhere passed over by the trail, hills and Joplin on their route to the  
Lima in October. This plant turns out to be *Thalassia*, probably *Thalassia*  
and a very interesting find indeed.

Sunday, December 18, 1938

... started to evacuate Santa Barbara. The first load of food from Hollister  
to the clearing, came in to the train for a load of supplies and for the  
parties men and returned to Hollister.  
All collected specimens today, from 8:00 AM to 10:00 AM.  
The train party has 7 loads of about 100 specimens, mostly grassland plants  
familiar from the Santa Barbara coast. Although the sea has been very high  
occurred during our short stay, and *Thalassia* - should like to have two or  
three more eyes in the field, the additional species which could be directed



in all fields would not warrant our staying longer. 148

Monday, December 19, 1938.

Guba made three flights from Balim to the Idenburg, after delivering another (second) load of food from Hollandia to Idenburg. Toxopeus and nine other men went on the first flight. On the second and third trips the load was twenty men and 300 kg. of equipment, etc.: a total of about 1600 kg. On the last flight, while manouvering to tie up to the anchor buoy, the plane touched the bank of the river and bent a stay of the star-board retractible wing float.

Natives, realizing that we will all most likely leave their country tomorrow, are bringing numbers of pigs and all sorts of odds and ends to sell for shells.

Some kind of ceremony was held within the camp enclosure early in the evening. A pig and sweet potatoes eaten by a group of some dozen or so men, and water sprinkled through the camp by the headman.

Tuesday, December 20, 1938.

Remainder of party removed to the Balim in three flights during the morning. Rand and Huls went out on first flight, myself on the second, Teerink and Richardson on the last. Leaving everything except a few personal belongings at the Idenburg, Rand, Toxopeus, Huls, Van Arcken, Richardson and self then left for Hollandia, arriving in time for a late lunch.

The removal of the party from the Balim was a fine piece of work performed under difficult take-off conditions.

Wednesday, December 21, 1938, - January 2, 1939.

At Hollandia, Practically the whole time spent in getting collections ready

REPORT OF THE  
COMMISSIONER OF THE  
BUREAU OF LAND MANAGEMENT  
WASHINGTON, D. C.

Thursday, December 19, 1938.

...made three flights from Berlin to the ...  
... (second) from Berlin to ... To ...  
... on the first flight. On the second and third flights  
... of equipment ... about  
... while maneuvering to ... to the anchor  
... the camp of the river and ... of the ...  
... with ...

... that we will all ...  
... and all sorts of ... and ... to ...

... in the  
... early in the  
... group of ... on ...  
... by the ...

Thursday, December 30, 1938.

... of party removed to the ... during the ...  
... on the second, ...  
... leaving everything except a few ...  
... and ...  
... in the ...

REPORT OF THE  
COMMISSIONER OF THE  
BUREAU OF LAND MANAGEMENT  
WASHINGTON, D. C.

Thursday, December 1, 1938 - January 1, 1939.

... especially the work ... in ...

for shipment to the U. S. A. and preparing for further field work. 149

Plane made one trip to Idenburg with stores on the 31st, bringing Versteegh, repatriated soldiers and convicts to Hollandia on the return flight.

Another flight made on January 2, on which van Arcken returned to the Idenburg and Teerink came to Hollandia.

Archbold, Richardson and myself were guests at a large dinner on board the mail steamer "van Imhoff" on New Year's Eve. Dutch members of the expedition and the elite of Hollandia there as well.

Tuesday, January 3rd, 1939.

Plane made two flights to the Idenburg, Rand, Richardson and self on first flight, and Toxopeus, Huls and Versteegh on the second.

Beautiful flying weather experienced until we reached the edge of the Idenburg Plain (Meervlakte), which was completely under low clouds to the foot of the mountains. Clouds so low over the trees that we were unable to land for nearly an hour, but finally got under them on the third attempt.

River very high--the river 6-8 m. above July level, and most of the camp and vegetable garden under flood. A rise of another 12-15 inches would submerge the little remaining dry ground.

Wednesday, January 4th, 1939.

A busy day organizing stores and collecting supplies. We expect to be away from the Idenburg Base for a term of  $3\frac{1}{2}$  - 4 months, working mountain camps, most of them still to be chosen, in the adjoining mountains.

River continues to rise slowly. Several thunderstorms in the vicinity and generally a dull threatening day: a distinct earth tremor felt shortly after 5 PM

of alignment to the ... and ... work  
Plans made one trip to ... with ... bringing

Versteegh, ... considered ... to ... of the  
return flight.

another flight was on January ... in which ... returned to the  
January and ... also to Holland.

Richard, ... and ... a large dinner on board  
the mail steamer "van IJssel" on New Year's Eve. Dutch members of the  
expedition and the elite of Holland were also well.

(Tuesday, January 30, 1933)

Plans made two trips to the ... Richard and ... on  
last flight, and ... on the second.

Richard ... until ... the edge of the  
identifying ... which was completely ... low clouds to  
the foot of the mountain. ... over the ... that we were  
unable to land for nearly an hour, but finally got under the ... on the  
third attempt.

river very high--the river ... above ... level, and most of the camp  
and vegetable garden were flooded. A rise of another 12-15 inches would  
submerge the little remaining dry ground.

(Wednesday, January 31, 1933)

A busy day organizing stores and collecting supplies. We expect to be  
very close to ... base for a ... of ... mountains, ... mountains  
around, most of them still to be ... in the ... mountains.

river continues to rise ... Several ... in the ...  
and generally a dull ... day. ... with ... left shortly  
after 3 PM

Thursday, January 5, 1939.

Rather clearer weather: no rain: river fell about 1 inch.  
Final preparations made for tomorrow's departure: and most of day spent in rest.

Friday, January 6, 1939.

Plane flew in to Idenburg, completing a series of five freighting flights (beginning December 31, 1938) with food to supply the party until April. Teerink returned from Hollandia. Teerink was to have flown to Makassar in the Guba on a flight to pick up radio parts (about 7000 lbs. in the consignment): but that trip is now postponed indefinitely.

Starting most of the carriers off at 6 AM, we left Bernhard Camp an hour later on the first stage of the inland trip. Part: Van Arcken, Rand, Toxopeus, Richardson, Brass, Versteegh, Max, Cornelius, Marcus, 7 Dyak collectors, 10 soldiers under one European and one native sergeant, Dyak and convict carriers and cooks totalling over 70 men in all.

Travelled by canoe to the foot of the hills--the plains being under water. A steep, hot climb brought us to the crest of the first ridge at 840 m. from which we dropped down to "Araucaria Creek" (790 m.) and lunched at an old camp of van Arcken's at 11.10 AM.

Left the lunch camp at 12.10 and reached a previously established camp at 1170 m. at 2 PM. Forest from 800 to 900 m. dominated by Agathis, the first I have seen in New Guinea.

Did not see the sun until after 4 PM: much of the march in mist: a hard day for the carriers.

Thursday, January 5, 1933

rather greater weight than the latter, which is about 1 lb.

Final investigation for the purpose of determining the exact nature of the

about in year.

REPT. BUREAU OF GEOLOGY

WASHINGTON, D. C.

Friday, January 6, 1933

Plans for the morning, consisting of a series of five separate hills

(beginning December 31, 1932) with food to supply the party until early

Teatime returned from the hills. Teatime was to have been to discuss the

the case on a flight to pick up radio parts (about 7000 lbs. in the con-

signment) but had to be postponed indefinitely.

Starting west of the entrance off at 6 AM, we left the camp at 8 AM

later on the first stage of the island to the left. Van Arman, J. H. Jones,

Richardson, James, Westcott, Max, Corning, and Max, 7 pack collectors.

10 soldiers under one program, and one native sergeant, two and several

carriers and dogs totaling over 70 man in all.

Travelled by canoe to the foot of the hills--the main being under water. A

steep, but climb brought us to the crest of the first ridge of the island

which we dropped down to "Arctic Circle" (700 ft.) and launched an old

camp of van Arman's at 11:10 AM.

Left the lunch camp at 12:10 and reached a previously established camp at

1:10 AM at 2 PM. Forest from 600 to 700 ft. contacted by Alaska. The first

I have seen in New Guinea.

Did not see the sun until after 2 PM. Most of the night in mist. A thin day

for the country.

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WASHINGTON, D. C.

REPT. BUREAU OF GEOLOGY

Saturday, January 7, 1939.

Left camp at 6.40 AM - behind the main body of carriers - and reached the 1800 m. camp at 3.45 PM. A long hard day with much climbing and descending in mist and intermittent light rain. Followed ridge crests: the mossy forests dripping moisture and the track slushy and in places very steep. My legs showed signs of giving out in the last 1/2 hour.

Van Arcken has made a good job of track-cutting and has established good camps in localities suitable for collecting, i. e. 1170 and 1800 m. A third collecting camp will be established on dry ground somewhere near van Arcken's old camp on the flood plain of Araucaria Creek.

For details of Bernhard Camp -- 1800 m. camp trip, see field notebook #3.

Sunday, January 8, 1939.

Mist and rain all day.

Part of day spent in preparations about camp and the remainder in rest.

Camp is situated in tall mossy forest on the crest of a spur rising direct from the plains of the Idenburg. According to van Arcken it is about 15 km.

SW of Bernhard Camp.

Monday, January 9, 1939.

Day broke clear after a sharp shower preceding the dawn: fine to 11.20, when mist <sup>cleared</sup> cleared down--or rather, was driven up from the Idenburg: a shower at 12.30: afternoon fine, with intermittent mist: clear starry evening. Good views of Idenburg winding through plains.

A good morning in the field, on the crest of the ridge beyond camp. 45 spp. catalogued and have perhaps 20 more on hand.

Radio news to the effect that at Bernhard Camp on the Idenburg, the flood continues to rise - the only building not flooded being the dining room.

SEARCHED  
RING BOOK BOND

January 1, 1932

Left camp at 6:10 AM - behind the main body of caribou - and reached  
the 1800 m. camp at 7:30 AM. The low land was with much climbing and de-  
scending in dirt and intermittent light rain. Followed ridge crest, the  
heavy forest's dripping moisture and the temperature was in places very  
warm. My legs showed signs of giving out in the last 2 hours.  
Van Arden made a good job of first-aid and had a good  
camp in localized suitable for collecting. I saw 1000 and saw the  
first collecting camp will be established on the ground some distance  
from the old camp on the flood plain of the river. The  
the details of the camp -- 1800 m. camp and see field notebook 33.

January 2, 1932

Left camp at 7:00 AM. The day was clear and the weather in  
part of day spent in negotiations about camp and the weather in  
camp is situated in a high rocky ridge on the crest of a small ridge  
from the plain of the tundra. According to Van Arden it is about 1700  
m. of the camp.

January 3, 1932

Left camp at 7:00 AM. The day was clear after a heavy shower because the birds  
when that cleared away - at 7:30 AM we drove to the 1800 m. camp  
shown at 12:30 AM. The first view with intermittent mist: clear  
evening, good views of Ischurka valley through plains.  
A good portion of the field, on the crest of the ridge above camp. A  
caribou and have caribou 30 more on hand.  
Also back to the effect that of Ischurka land on the Ischurka, the 1800  
concluded to leave - the only building not finished being the dining room.

PLING BOOL BOND



Tuesday, January 10, 1939.

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Thunderstorm from E. at midnight--much thunder and lightning, fairly strong wind booming my soldier-rigged tent, but little rain. Another good day: fine slightly overcast dawn: sunny to 12.30, then mist off and on to dusk: no rain: starry night.

Collected in newly fallen forest on the outskirts--the work of Toxopeus, to attract butterflies--and on the slopes just below. A big change in vegetation on the slopes only a few meters from the crest of the ridge. The forest of the ~~slopes~~<sup>crest</sup> is perhaps true mossy-forest, in which Myrtaceae and Phyllocladus are abundant trees. The forest of the slopes is perhaps a mossy rain-forest. The more I see of New Guinea vegetation the less I know of it.

Richardson had two Melomys from over 200 traps out last night, and a gray, SLENDER Pseudocheirus which a guard last night killed with the flat of his sword as it scrambled over van Arcken's fly. Rand had today 16 spp., including 5 parrots. Tox. has three specimens of one sp. of butterfly--about all that counts with him--captured by a crew of one European assistant, two Javanese collectors and 6 Dyaks. My gains are 43 plants catalogued--mostly ferns and small plants.

I find that with the assistance of my half-caste boy Max, I am able to prepare 30% more plants per day than previously.

Learn that the Guba left for Port Moresby this morning--the excuse being repairs to the photographic cooling plant and repairs to the ramp windlass. Ramm goes to Sami on the "Bantam" in the morning.

Wednesday, January 11, 1939.

Occasional patches of sunshine in a generally misty day: wind has changed to S.E.: evening clear: no rain.

Collected down crest of ridge about 15 m. on Idenburg road and developed 8 x 10 pictures (mostly of Balim) at night.

Monday, January 10, 1933.

The vegetation from 11 at midnight--much thicker and lighter, fairly  
 strong with becoming by isolated-ridged trees, but little rain. Another  
 good day: the slightly overcast dawn; sunny to 11.30; then mist off and  
 on to dusk; no rain; heavy night.  
 Collected in heavy fumes for about the outskirts--the work of the forest, to  
 effect butterflies--and on the slopes just below. A big change in vegetation  
 on the slopes: only a few meters from the crest of the ridge. The forest of  
 the slopes I describe here mostly forest, in which various and various  
 are abundant trees. The forest of the slopes is perhaps a nearly rain-forest.  
 The more I see of new Guinean vegetation the less I know of it.  
 The forest has two species from over 100 feet up to 100 feet, and a tree,  
SHRUB Parsonsia which I found but which I did not collect with the first of the  
 woods as it occurred over an area of the forest. The forest today is very, including  
 I collect. The forest has a section of one of the species--about all the  
 counts with him--collected by a crew of one hundred or more, two species,  
 collectors and a species. The forest is a species--mostly species and  
 small plants.

I find that with the assistance of the hill-creepers I am able to traverse  
 30 more plants per day than previously.  
 Learn that the Cape York for Port Moresby this morning--the excuse being  
 results to the photographic camera light and repairs to the rain-forest.  
 Plan goes to Hain on the "Hain" in the morning.

Wednesday, January 11, 1933.

Occasional patches of sunshine in a generally misty day. Wind has changed  
 to S.W. evening clear; no rain.  
 Collected down crest of ridge about 12 m. on inland road and developed  
 8 x 10 pictures (mostly of hills) at night.

Thursday, January 12, 1939.

Wind SE to noon, then N.: spells of sun through but generally misty: evening clear to 8 PM, then a dense warm fog from Idenburg ~~River~~ side. Toxopeus having a glorious time at his lamps, the fog bringing out great numbers of moths, many of them of great beauty and quite a few of large size (over 500 specimens including 47 spp. of Nocturids).

Feeling unwell from the effects of chemicals, as I always do after a night of developing photographs, I spent the day in camp, labelling material on hand and sending the boys after trees spotted from the camp clearing. Another transport from the Idenburg arrived at 2.45 PM - good time for the long heavy journey.

Rand has discovered that a very small parrot (Micrositta) which excavates nest cavities in rotten trees and has been reported as living on termites, probably eats fungus <sup>t</sup> Mycetium growing in the wood.

Richardson's traps yielded Lorentimys and a woodcock. Having trouble with ants eating the bait and trapped diurnal mammals.

January 13, 1939.

Very heavy rain about midnight last night: high overcast at dawn and good early morning views of mountains to a great distance SSE; Idenburg under cloud: almost constant mist after 8.30 AM: light rain at 8.15 PM: every evening since our arrival, thunderstorms have passed down the Idenburg Valley (SE to NE from camp).

Transport left for Idenburg shortly after 6 AM.

Collected W. along the ridge about  $\frac{1}{2}$  hour's walk. Most interesting plants are a Sciaphila and an attractive tall palm of the heads of gullies. Rand and Richardson had a poor day.

Thursday, January 12, 1939

...to most, then N.I. ... of ... but generally ...  
... then a ... from ...  
... of ... many of ...  
... also (over ...)

... from the effect of ...  
... of developing ...  
... and ...  
... from the ...  
... long heavy ...

... (which ...)  
... in ...  
...  
...  
... and eating the ...

January 12, 1939

Very heavy rain ...  
...  
... almost constant ...  
...  
... (SE to ...)

...  
...  
...  
...  
... had a poor day

Saturday, January 14, 1939.

High broken overcast in early morning after much rain in night:

(prolonged mild earth tremor 4.30 AM) mist after 9 AM: torrential rain 3.30 to 6.15 from N. clear in late evening.

Teerink and Huls arrived with the transport from Bernhard Camp just before the 3.30 rain.

Sunday, January 15, 1939.

High broken overcast in early hours: mist from 8.30 AM and from 11 o'clock into evening much rain from N.

Collected along the track on the crest of the lateral spur SW of camp and followed it down to the gully not far below the water-place. Gully rich in herbaceous plants and ferns. Have 210 plants to date and not many remain to be collected on the ridge crest within easy reach of camp. The gullies should yield many spp.

Toxopeus made an all day excursion down the gully to the S. and got one butterfly of a species already collected for his reward.

Radio news--Guba today took Sir Hubert Murray from Port Moresby to Samarai.

Monday, January 16, 1939.

High broken overcast early: mist after 8 AM; cold light driving from N. from mid-afternoon until night.

Teerink, van Arcken, Rand, Richardson and self made an excursion to the 2100 m. camp site cleared by van Arcken. A walk of two hours, the last 100 m. from van Arcken's camp up the point of the bluff, a very steep climb. Country runs up to 2200 m. beyond the camp site and then drops away towards the west. The point of the bluff covered with a stunted, very heavily mossed scrub which carries many plants of higher altitudes. Took my boys

Saturday, January 14, 1939.

High broken overnight in early morning. After noon rain in night.  
(switched with earth tremor 4.30 AM) rain after 9 AM. Continental  
rain 3.30 to 6.15 from N. clear in late evening.  
Trent and Ben arrived with the transport from Haines camp just  
before the 3.30 rain.

Sunday, January 15, 1939.

High broken overnight in early hours. Mist from 8.30 AM and from 11  
o'clock into evening. Rain from 11  
Collected along the track on the crest of the lateral spur 3/4 of way  
and followed it down to the gully for below the water-classes. Gully  
rich in herbaceous plants and ferns. Have the plants to date and note  
many plants to be collected on the track and in the easy reach of camp.  
The gullies should yield many spp.  
Troxena made an all day excursion down the gully to the S. and got  
one butterfly of a species already collected but different.  
Radio news—Japs took 5th Robert Murray from New Zealand to Hawaii.

Monday, January 16, 1939.

High broken overnight early; mist after 8 AM. Fog light driving from N.  
from mid-afternoon until night.  
Feeling was broken, Fred, Richardson and I made an excursion to the  
MUGOAL camp also cleared by van Arden. A rain of two hours. The last  
110 a. Fred van Arden's camp up the point of the cliff, a very steep climb.  
Country true to 2.00 a. beyond the camp site and then cross away towards  
the west. The point of the cliff is eroded with a scoured, very heavily  
massed soil which carries many plants of high altitude. Too dry here

and collected everything found flowering about the camp site and track. 185  
Huls down with malaria -- his first attack.

Tuesday, January 17, 1939.

Clear morning after a wet stormy night: mist rose and covered the ridge at 6.30 AM - unusually early - and stayed with us most of the time until late afternoon: some light rain about 1-2 PM - clear starry night. Spent the morning preparing plants gathered yesterday and in afternoon collected a few spp. in the gully below the watering place. This gully - barely touched as yet - holds a great many strange ferns. Have 5 spp. of Cyathea to date.

Another transport up from the Idenburg.

Wednesday, January 18, 1939.

Mist rose and covered camp ridge at 7 AM, after a dull dawn: intermittent light rain with the mist after 10 AM: very little sun (perhaps one-half hour in the day): thunder to W., SW and S. between 3 and 7 PM: still misty 8 PM: Here the mists (some times, though rarely, a warm fog) rise from the plains of the Idenburg. In the high mountains they first cover the summits, and gradually creep down the slopes.

Van Arcken left at 6.40 AM to establish camp at the 2100 m. site, taking with him the carriers who came up from the Idenburg yesterday. Carriers returned about 5 PM.

Gathered about 25 spp. of ferns and a few other plants down the gully beyond the watering place South of camp. Collected today a Balanophora, the first sp. I have taken in New Guinea. It is fairly common on the lower slopes near the creek, in open places well shaded from direct light, such as the inclosures between prop-roots of Pandanus.





Huls has recovered from his fever sufficiently to appear from his tent for an hour or so in the afternoon. Rand unwell - probably slight fever.

Thursday, January 19, 1939.

One of the most miserably wet and misty days since our arrival: mist almost continuous after 7 AM: a wet afternoon and at night very heavy rain from 8 to 10 o'clock: Wind N.

Collected along a trapping track of Richardson's on the Idenburg slope. Slopes very steep, conditions very wet, few new plants.

Very little activity in the vegetable world in weather such as this.

Plants, as if hard put to exist, let alone reproduce themselves, are producing few flowers, and the old ones are rotting in the rain.

Friday, January 20, 1939.

Best weather since 12th: good deal of weak misty sunlight to 11 o'clock when thick mist finally obliterated everything: gusty driving rain from 2 PM on: very heavy downpour 6.30-7.45 PM: night continuing wet.

Huls departed for the Idenburg. Toxopeus for the 2100 m. camp. Versteegh sent to Idenburg wood specimens of about 50 spp.

Had a good morning's collecting down a gully heading on the southern slope of the ridge about one-quarter hour east of camp. Descended to about 1700 m. and gathered chiefly ferns.

Saturday, January 21, 1939.

Very high broken overcast early morning and good views all round: good deal sun to 11 AM: steady cold driving rain began 2 PM and continued far into night. A promising dawn preceded one of the worst spells of weather so

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hair has recovered from his fever sufficiently to speak from his bed  
for an hour or so in the afternoon. And finally - probably slight fever.

Thursday, January 19, 1938

One of the most miserable wet and gray days since our arrival. Wind  
almost continuous after 4 AM. A wet afternoon and at night very heavy  
rain from 10 o'clock. Wind W.  
Collected along a logging track of Richardson's on the lower slope.  
Slopes very steep, condition very wet, few new plants.  
Very little activity in the vegetation in weather such as this.  
Plants, as far as I can see, do not seem to be along reproductive  
and a few flowers, and the old ones are rotting in the rain.

Friday, January 20, 1938

Best weather since last night. Good deal of sun, mostly sunlight to 11 o'clock  
when thick mist finally collected everything. Heavy driving rain from  
2 PM on. Very heavy shower 6:30-7:45 PM. Night continuing wet.  
Hills occurred for the morning. To go on for the 1500 m. camp. Yesterday  
went to identify wood specimens of about 20 spp.  
Had a good morning, a collecting day. A full day on the southern slope  
of the ridge about one-quarter hour east of camp. Harvested about 200 spp.  
and gathered chiefly ferns.

Saturday, January 21, 1938

Very nice broken overcast early morning and good view all round. Good  
deal sun to 11 AM. Steady cold driving rain began 1 PM and continued for  
into night. A promising dawn preceded one of the worst spells of weather so

far experienced at this camp. Very strong squalls from N. between 8 and 10 PM.

Sergeant Krutzen down with fever. Rand also unwell.

Van Arcken arrived from the 2100 m. camp at 3 PM and returned in the rain shortly after five.

Collected about three-quarters of an hour east along the Idenburg road. A poor morning, though several new forms obtained. Have now about 80 spp. of ferns from this locality.

Sunday, January 22, 1939.

Very high more or less broken overcast and weak sun to 3 PM: wind SW: lightermist than usual with change of wind to N. later in day: no rain: a few stars at 9 PM.

The heavy rain squalls last night shook our tents violently and a Hydno-phytum, blown from a tree, went through the dining fly. Idenburg high and a rise of another meter will flood Bernhard Camp.

A gold mines plane, scheduled to fly from the prospecting base on the Digoel to Hollandia, turned back owing to bad weather. Flying conditions better here than for many days. Van Arcken, from his camp at 2100 m. signalled good visibility in the mountains until mid morning. A tin-can code has been arranged for signals between the two camps. One kerosene tin hoisted on a pole signifies Upper Idenburg clear, two tins that Mt. Wilhelmina is visible, and three tins open weather in both directions.

Rand ill, much vomiting and some fever: perhaps gastric malaria.

Sent the boys into the field and myself labelled specimens and cleared up some other outstanding work in camp.

far experienced at this camp. Very fine weather. Jan 21, 1951

Jan 21, 1951

Settlers returned from the valley. Had a good night.

Van Horn arrived from the 2100 ft. camp at 9 PM and reported in the

camp shortly after five.

Collected about three-quarters of an hour early in the morning.

Good morning, but a severe fog had set in. Saw no good birds.

of birds from this locality.

Monday, January 22, 1951

Very high snow or less broken overhead and very little sun.

In the morning this would be the kind of what to expect in the morning.

A forecast of 2 PM.

The heavy rain again last night. Snow on the valley and a heavy

covering from the trees, but through the night. Heavy rain and

a rise of another meter. All food returned camp.

A gold silver plane, scheduled to fly from the prospecting base on the Ditch

to Hollister, ended back owing to bad weather. Flying conditions better

here than for many days. Van Horn's plane has only 2,100 ft. altitude.

Good visibility in the morning until mid-morning. A light snow cover

arranged for signals between the two camps. The weather in the morning

is slightly better than yesterday. The time that Mr. Hollister is visiting

and this has been noted in the log.

Have all, with visibility and some fog. Perhaps a light snow

that the way into the camp and over the labeled prospecting area is

some other outstanding work in camp.

RING BOOK BOND

Monday, January 23, 1939.

Miserably dull, misty, wet day: first mist 6 AM: mist somewhat discontinuous to mid morning: rain commenced 11 AM, some heavy downpours and strong squalls in afternoon - the rain continuous on into night: wind N.: Idenburg 6" higher than last evening, and rising.

Goldmine plane (Grumman amphibian) flew from its base at Tanah-merah, over Lake Habbema and the Balim, and then to Hollandia, where it will be based for a fortnight. This flight proved that the Balim and the Reiger rivers are identical, as we suspected from the first.

Rand somewhat improved, though still confined to his tent. Rogers in Port Moresby hospital with dingué fever.

Tuesday, January 24, 1939.

Intermittent mist from daylight to noon: afterwards continuous mist and light steady rain with some heavy squalls into night: Idenburg continues to rise: wind N.

Rand shows little improvement, though during the afternoon a new treatment consisting of their oatmeal gruel with sugar has stopped his vomiting.

Teerink left for 2100 m. camp at 9.30.

Collected down the gully S. of camp to about 1600 m.

Wednesday, January 25, 1939.

Improved weather: misty dawn with N. wind: early change wind to SE and day clear to noon: mist and light rain from N. throughout afternoon and evening.

Teerink returned from 2100 m. camp and reported Toxopeus down with fever the past two days.

Visited a subsidiary camp prepared for Toxopeus at 1530 m. altitude/the down



stream SE from here. Down to that altitude the main ridges are still mossy and Sama (common at 1800 m.) the dominant tree. Oaks (2 spp.) and Castanopsis are plentiful on the slopes and smaller ridges, but not dominant and the character of the forest differs little from that of the rain-forested ravines at 1800 m. Many plants of lower altitudes of course appear, and I had a good day. A very interesting find was Orania disticha hitherto only known from Kubuna in the east, where it was discovered by me in 1933.

The chief attraction for Toxopeus at the 1500 m. camp is a series of three waterfalls in the stream, where the open sunny conditions are attractive to butterflies and dragon flies. The ravine is, however, so deep that the sun does not reach his camp until eight o'clock, and on the stream, some little distance below, there is probably no sun until an hour or so later.

Gold mines plane flew over the Kerom and returned to Hollandia. Crew quartered with Archbold.

A transport up from Idenburg.

Thursday, January 26, 1939.

Another good day: chilly dawn, more or less overcast, with wind from SE: more or less sunny to 1 PM, when the wind changed and clouds which ~~glotted~~ glotted out the Idenburg all morning, rose over the ridge and the usual mist and light rain followed to 6 PM: evening fairly clear but heavy lightning to N and NE.

Spent the day in camp, preparing specimens and labelling dry material. Toxopeus returned from 2100 m. camp, and with his assistant and six Dyak collectors, went down to his 1500 m. camp.

Gold mine's plane flew to Tana-merah from Hollandia intending to return, but cloudy conditions S. of the range prevented it doing so.





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Van Arcken down with fever at 2100 m. camp, and our two cook boys more or less ill with fever accompanied by disordered stomach - probably same complaint as Rands'. Rand's fourth day of illness: still sick, but considerably improved and trying to eat a little.

Friday, January 27, 1939.

Thunderstorm at 4.30 AM followed by steady light rain and raw breeze from SE to 12.15, when wind shifted to N. and mist without rain covered camp to 6 PM: evening more or less starry.

Teerink left for Tusschen Camp (1200 m.) at 6.30 AM to make preparations for our accommodation, taking with him Sergt. Gottschalk and the Dyak carriers who came up on the 25th. Gottschalk has abscess on both feet and is walking in rubber-soled canvas boots. Think that, at the cost of a few sacks of rice, the transport might have been delayed until tomorrow in the hope of better weather.

Spent the day labelling specimens. One of my Dyaks sick.

Rand much improved, eating a little, smoking, and had a shot of whisky this evening. His seventh day of illness.

Rogers still in Port Moresby hospital. The doctor there diagnosis his ~~dengue~~ <sup>dengue</sup> fever as a deep ~~strangle~~ <sup>Staphylococcus</sup> infection of a leg!! Otherwise a tropical ulcer.

Saturday, January 28, 1939.

High broken overcast at dawn and Idenburg under cloud: mist began 11 AM and light rain 12.15: very heavy rain from thunderstorm 5-7 PM: wind N. Finished field work for this camp.

Richardson visited subsidiary camp at 1500 m. and found Toxopeus away on a visit to the lower slopes. Later in the day - during the thunderstorm -



a Dyak arrived with some plants and a very aged Cassowary egg from Tox.

Plants included a native Musa.

Rand's health much improved.

Sunday, January 29, 1939.

Dull morning: intermittent mist from 7.30 AM accompanied by light rain after 11 AM: wind N.

Busy all day on the tiring job of labelling specimens.

Each day we have communication with Toxopeus at his 1500 m. camp. Birds shot by a boy of Rand's are sent up to be skinned and there is always some article of supplies which Tox has forgotten to take with him. Today he is ill with his old complaint - stomach catarrh.

Monday, January 30, 1939.

Almost continuous mist after 8.30 AM and usual drifting rain, but good views Idenburg both morning and afternoon.

Teerink arrived with carriers from Tusschen Camp (1200 m.).

Tuesday, January <sup>31</sup>~~30~~, 1939.

Mist practically all day from dawn: rain both morning and afternoon, continuing into night: wind N.: no view of Idenburg ~~R~~lain.

Rand and Richardson moved up to the 2100 m. camp.



February 1st.

Moved up to the 2150 m. camp with 10 carriers. Myself and boys did the journey in  $1\frac{1}{2}$  hours, the carriers  $2\frac{1}{2}$  hours. We are calling the distance 3 kms. and the direction from the 1800 m. camp is SW.

The morning being fairly clear, the view over the ranges of the Upper Idenburg was good. Camp is situated on the point of a very narrow wind-swept bluff rising almost sheer for 100 m. on the main line of the ridge on which both camps are situated. That 100 m. is a very hard scramble for a carrier, though in most places there are trees and roots which offer holds for feet and hands. In one place one drags oneself up a lawyer vine tied to a tree. The track in most places is a pure tunnel cut in the mossy-forest, which becomes more stunted, open and mossy as one ascends. On the point of the bluff the forest degenerates to an impenetrable tough scrub of Xanthomyrtus, Vaccinium, Ropanca and sama, the latter, under more favorable conditions a big forest dominant, but here flowering as a scrub no more than 2 m. high. A little below the camp the path skirts the end of a steep rock-slide, covered with Lycopodium, Gleichenia and Dipteris, and over quite half of its area a dark green moss and a white "reindeer" moss. A whipstick rhododendron tree with small red bell flowers and a Eurya of similar habit are scattered over the slip, and at the lower end Trema is reestablishing forest conditions.

Left Teerink at the 1800 m. camp. Toxopeus still at his waterfall camp at 1530 m. on the slope below. A transport of 13 Dyaks left 1800 m. camp for Tusschen Camp and the Idenburg, carrying specimens and surplus supplies. Find Rand much improved in health and the European section of camp being shifted from its original position on the point of the bluff down to a more sheltered place occupied by the preparation and drying of flies and native quarters.

1900  
KING

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February 2nd.

Alternating mist and sun up to 1 PM with wind from the west. Thermometer rose to 36.5 degrees in my tent. Wind changed to NE in the evening and light rain commenced.

Had a good morning, collecting 50 spp. on the rockslide, ~~and the mammal and bird boys~~ and in the scrub below.

Toxopeus returned to the 1800 m. camp, and the mammal and bird boys who were sent down to collect at his 1530 m. camp came up to the 2100 m. camp.

February 3rd.

A miserable misty day without any sun. Mist closed down about 9 o'clock, prior to which some fair views were to be had to east and south: light rain all day from 11 AM: slight breeze from NE.

Gathered about 30 numbers, few of them of much importance, along the crest of the ridge along the path leading N to the summit, about 1/2 mile beyond camp from which, at 2250 m., the main ridge sends down spurs to the Idenburg on one side and to the Sauweri on the other.

February 4th.

Mist most of day though a good view over mountains in early morning and Idenburg fairly clear in afternoon. Wind westerly.

Collected in the low scrubs on the sides of the bluff below camp. Some very steep slopes covered with ferns--Gleichenia spp. and Dipteris conjugate.

February 5th.

Idenburg under cloud all day and no good views of mountains: mist in forest after 9 AM, though sun shining through mist of morning: light drizzling rain 2-6.30 PM. when wind changed from W to NE: heavy short wind squalls threatening to wreck exposed tents and flies in early evening.

Had a good morning in the field. Collected along the new-cut path to the 2220 m

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summit,  $\frac{1}{2}$  hour to the N., and some little distance down the spur leading to the Sauweri. A climbing bamboo with narrow leaves, common at camp altitude and extending below the 1800 m. camp, fills the forest above about 2150 m. and practically excludes undergrowth and substage trees. The forest there is on that account fairly open overhead. The bamboo not so thick as on the Wharton Range and easy to cut through.

Whole camp turned out at 8 PM to take down the dining, preparation and drying flies which violent squalls threatened to tear to pieces. Only mist with these squalls. Wind blew in strong gusts till daylight, booming my badly rigged tent and keeping me awake much of the night.

February 6th.

A wild-looking though fairly clear dawn after the storm, but the Idenburg under clouds after 6.30 and the mountains soon after obscured. Almost continuous mist after 9 AM with driving misty rain in afternoon. Wind changed from S-SW to NE late in afternoon. A squally evening with driving mist. To investigate a report brought from the 1800 m. camp by a lone convict, Van Arcken made the journey down and returned for lunch. The wind last night had uprooted a big tree which fell across the soldiers quarters, partly wrecked our dining fly in which some supplies and specimens were stored, and smashed the poles which had held my tent. The convict, the only one in the camp, had his bed over the roots of the tree and finding himself being lifted in the air, gave the alarm in time for the soldiers to escape. Some of their Panjies were flattened by the fall of the tree.

Teerink and Toxopeus arrived at Bernhard Camp yesterday. The river, which has been rising steadily for some days, is now flooding the radio shack. There is therefore little dry ground in the camp.

Collected down the water-supply creek to 2000 m. The gully flora unexpectedly poor. Few ferns, only one Begonia (a sp. common at 1800 m.) and the Pilea or

Faint, illegible text, likely bleed-through from the reverse side of the page. The text is mirrored and difficult to decipher.

Elatostema which forms the bulk of the herbaceous growth along the stream was sterile. This sp. apparently identical with a small-leaved one common in the valley below our 2800 m. camp on the Snow Mountains slope.

February 7th.

Best weather since our arrival at this camp. Morning clear with fair views all around to 9 AM; mist thereafter to dusk; no rain. Evening clear and starry, the Idenburg under fog.

The Guba returned to ~~Port Moresby~~ Hollandia from Port Moresby at 2.30 PM, having been away since January 10th. Nicholson, who was engineer on our chartered vessel Maira on the Fly and has now been added to the Hollandia staff, arrived on the Guba.

My last day in the field at this camp, as we move down on the 10th and undried specimens cannot be carried safely for more than a day. Have 180 numbers of my own collecting, for the six field days. Versteeg has 25 trees. Probably 130-140 spp. have been taken which do not occur at the 1800 m. camp.

Four spare Dyaks from this camp left for the 1200 m. camp with loads of specimens etc., in charge of 2 soldiers.

February 8th.

High, overcast and extensive low cloud-fields at dawn but Wilhelmina visible for 2 hours; mist over camp 8-3 oclock; Idenburg clear at 6 PM; no rain; Wind W. Idenburg flood has submerged the dining room floor; highest flood on record; 10 m. over the water level when the camp was established in July.

Day spent working on dried specimens. This has been a good camp for Rand, who has 6 spp. which do not occur at 1800 m., including a probably new species of Pachycephala, in all 45 spp. Richardson has spp. of mammals, including Uromys and , which were not found at the 1800 m. camp.

The four Dyak carriers and 2 soldiers who left for 1200 m. camp yesterday morning returned this afternoon. They reported many trees fown over the road from the

Stationer which runs the bulk of the north-south road from the station  
to the north. This is a roughly straight line which leaves one corner in the  
middle of the road on the west side of the station.

The first place our driver arrived at this station. Morning clear, high fair views all  
around. The weather was so good that we were able to see the mountains clearly and clearly, the  
mountains under fog.

The bus returned to Kumbungu station from four o'clock at 2:30 PM. It  
has been away since January 19th. Richardson says we might not see any more of the road  
before on the 17th and has not been able to see the mountains clearly, arrived on the  
17th.

My last day in the field at this camp, as we have downed the 10th and reached  
specimens cannot be carried safely for more than a day. Have 150 numbers of my  
own collecting for the six field days. Packages are 25 boxes, roughly 130-140  
and have been taken with me to the 10th. I have 100 boxes of specimens  
from the 10th. Richardson says we will have to leave the 10th and go to the  
11th, in charge of a soldier.

February 10th.  
High, overcast and miserable for the 10th. Richardson says we will have to leave the 10th and go to the  
11th. Richardson says we will have to leave the 10th and go to the 11th. Richardson says we will have to leave the 10th and go to the 11th.

Richardson says we will have to leave the 10th and go to the 11th. Richardson says we will have to leave the 10th and go to the 11th. Richardson says we will have to leave the 10th and go to the 11th.

heavy wind of a few days ago.

February 9th.

Our last day in this camp and the only day of good weather. No mist and no rain at camp. Rain in mountains south most of day and they were under mist clouds in the afternoon. Unaccustomed heat rather trying; maximum temperature . Guba flew stores to Bernhard Camp and returned to Hollandia. Crew failed to notice smoke signal made in the hope they would be able to fix our direction from Bernhard Camp.

Bernhard Camp would seem from radio reports to be completely flooded. Buzzoni says the water has to rise only another 30 cm. to cover his radio table. Trees toppling over in the camp. Toxopeus unable to sleep for noise of frogs. Schroeder came to Bernhard Camp to stay some weeks and visit us in the mountains.

February 10th.

Raining steadily at daylight and until 7 o'clock. Loads were ready and tent-flies, all but a few required for shelter, struck by 7.30. At 8.20, 35 Dyaks and 5 soldiers arrived from the 1800 m. camp and by 10.30 the last of the party reached the 1800 m. camp.

A fine day after the early rain; no mist and only a little sprinkle of rain in afternoon; clear starry night.

Van Arcken's method of giving each of his soldiers special duty when moving camp works well. Today soldiers were detailed to look after the loads of Richardson, Rand and myself. Others saw to the tents, flies and kitchen and some supervised the packing of military shelters, etc. The confusion and excitement with which most of our previous shifts were accompanied, were noticeably absent.

The tree which chashed down on the 1800 m. camp during a recent stormy night was a big sama. The tree, which was about 70 cm. diameter, had well-developed fat spur buttresses. It was very shallowly rooted. The yellow clay subsoil and superficial layer of peaty matter adhering to the roots in the form of a flat

heavy rain of a few days ago.

January 31st.

Our first day in this camp and the only day of good weather. The wind and rain  
at camp. Rain in mountainous south part of day and they were when first clouds  
in the afternoon. Unaccustomed noise of their voices; strange conversations  
gone from above to Bernard's camp and returned to Hollandia. They failed to  
notice traps which were in the hole they dug about 10 feet to the east of the  
Bernard Camp.

Bernard Camp would seem from their reports to be completely flooded. It seems  
that the water has to rise only another 20 cm. to cover the radio table. These  
toppling over in the camp. Telephone wires at night for noise of frogs.  
Somebody came to Bernard Camp to buy some traps and visit us in the morning.

January 10th.

Nothing special at night and until 7 o'clock. Beds were ready and tent-liner  
all but a few required for another, started by 8.30. At 8.30, 8.35, 8.40 and 8  
soldiers arrived from the 1800 m. camp. In by 10.30 the last of the party reached  
the 1800 m. camp.

A line was set in the early rain; no rain and only a little drizzle of rain in  
afternoon; clear sunny night.  
An Arden's method of giving food to his soldiers special and when moving camp  
works well. Today soldiers were detailed to look after the food of Richardson,  
and this system. Orchestral and kitchen and some under-  
the packing of military supplies, etc. The confusion and excitement with which  
most of our previous soldiers were accustomed, were possibly because.

The first group started down on the 1800 m. camp during a recent stormy night and  
a big storm. The trees, which were about 50 cm. diameter, had well-developed  
spun branches. It was very difficult to find the path and  
uncertain that of best water adhering to the roots in the form of a line

cake not more than 30 cm. thick. Much weathered rock (gabro) showed in places in the bared clay in which the tree had grown.

February 11th.

Struck camp at 1800m. and left at 6.50 AM. The main party of carriers went through to the 1200 m. camp (Bivak Rotan). Rand, Van Arcken and myself stayed at Van Arcken's old 1500-1600 m. road camp. Sergt. Kreutzer, with five soldiers and two convicts, left the main track at the 1700m. summit and cut a track down to the Sigi, where Toxopeus plans to establish a collecting camp at 1400 m. We reached the 1500-1600 m. camp at 1.45, having lunched en route. Versteeg here also, to collect trees. Fine day.

February 12th.

Rand and his boys left for Rotan Bivak after lunch, the carriers returning during the afternoon to take other loads down in the morning. Had news by the return carriers that owing to the floods teerink is shifting the base camp from the Idenburg up to Aracaria Creek and wants all available Dyaks and convicts sent down at once. Versteegh's field boys are demanded as well.

Versteegh and self collected both morning and afternoon. Although oaks and Castanopsis are present, the forest of the ridge top (dominated by sama #11963 and #12733) is still mossy-forest in character and contains few spp. which do not occur at 1800 m. A fine palm, Gulubia #12742, with stem 25-30 m. long and swollen towards the top, occurs singly or in small groups on the crest. A fan palm with very large leaves, abundant at the 1200 m. camp, also occurs sparingly at the heads of gullies. The small rotan #12739 abounds throughout the crest forests and at least one other Calamus, a species with large leaves also occurs.

*Palm* #12119, smaller here than at 1800 m., also occurs.

February 13th.

Van Arcken left with the escort and carriers shortly after 6 AM for 1200 m. and

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Araucaria Creek camps. The carriers were to continue on to the Idenburg today, to assist in transport thence to Araucaria Creek.

Left camp at 6.30 and, collecting on the way, reached Rotan Bivak (1200 m. camp) about 10.30. Altimeter read 1240 m. Teerink, Huls and Schroeder from Bernhard Camp and Van Arcken from Araucaria Creek arrived together about 2 PM.

It transpires that only staff headquarters and such supplies as will be needed for the two months period the collecting party is scheduled to remain at Rotan and Araucaria Ck. camps, will be moved to the latter camp. Buzzoni with the radio, and the ??? remain at Bernhard Camp with an escort to guard the remaining stores and the canoes. The flood at its highest submerged the dining room at Bernhard Camp--the highest place in camp--to a depth of 10-20 cm.

Mossy-forest conditions extend down the spur to 1400-1500 m. But only a little way below 1600m. camp the composition and character of the forest undergoes a change. Oak and Castanopsis are plentiful, although small-leaved sama #11963, the mossy-forest dominant, is in control down to 1400-1500 m.

February 14th.

Holiday for all hands.

February 15th.

Unable to go into the field on account of an injury to my spine. A few plants collected by my boys are mostly conspicuous things which show the great changes in flora which occurs at this altitude. Among today's spp. is a large canopy climbing Agapates #12763, with a profusion of white flowers.

Toxopeus, with Van Arcken, Sergt. Tasarip and escort and 28 carriers, left to establish camp at 1200 m. on the Sigi, 4 hours from here. Toxopeus' assistant, Althoff, accompanies the party and Richardson sent his Ambonese Collector, Marcus, and a Dyak to trap mammals. Party expected to be away two weeks.

~~February 16th.~~

Aluminum Creek camp. The carriers were to continue on to the landing today.

to assist in transport of the carriers' gear.

Left camp at 8:30 and, collecting on the way, reached Point Barrow (1200 ft. camp)

about 10:30. Altitude rose 1240 ft. at Point Barrow. This and Sarsualet from Barrow

and the glacier from Arnesen. Green arrived here about 2 PM.

It may prove that only a few specimens and such supplies as will be needed for

the two months period of collecting party is scheduled to remain at Point Barrow

and the rest will be moved to the inland camp. Reason for this is that

and the rest remain at Point Barrow with an escort to guard the remaining stores

and the coast. The sled at the highest altitude the dining room at Point Barrow

camp--the highest place in camp--to a depth of 10-20 ft.

Heavy forest conditions extend to a spur to 1400-1500 ft. and only a little

is left below 1000 ft. camp. The composition and character of the forest undergoes a

change. Oak and chestnut are plentiful, along with several other trees, the

heavy forest equipment, as in contact from 1400-1500 ft.

Primary forest

Holiday for all hands.

Primary forest

Unable to go into the field on account of an injury to my spine. A few plants

collected by my boys and nearly conspicuous things which show the forest change in

places which occur at this altitude. Among these are a large number of plants

and ferns (2.70) with specimens of white flowers.

Forests, with ferns, mosses, lichens and other plants, and 28 carriers, left to

ascend camp at 1200 ft. on the 11th. A number of ferns, mosses, lichens,

lichen, and other plants were collected. The altitude of the collection, however,

was about 1000 ft. The party expected to be away two weeks.

Primary forest

February 16th.

Still confined to camp.

Toxopeus advises by returning transport that they have established camp at 1520 m. on the Sigi. Met very friendly natives, unarmed but for stone adzes, and of similar appearance but smaller stature than people of Balim, <sup>whom</sup> from they bought a pig for a knife.

Last night in Brenhard Camp a tree crashed down over the quarters of three brigades of soldiers, Dyaks house, godown and staff kitchen. Nobody injured. Panic in the camp; a corporal disappeared for some time in the bush, and others of the party sat up all the remainder of the night.

February 17th.

Able to do some field work. Walking on uneven ground still rather painful.

Teerink, Huls and Schroeder moved down to Araucaria--to continue the new craze game of naval battles. Two soldiers left for the butterfly camp on the Sigi with medicine (atebrin) for tox's assistant, Althoff, who has fever.

Very heavy rain off and on after 2 PM through afternoon and steady rain tonight.

A long mild earth tremor between 1 and 2 AM last night.

Richardson down with his first attack of fever, fortunately mild.

February 18th.

Dull, almost sunless day: frequent short spells of mist but no rain.

A rather profitless, because inactive, day in the field ~~yielded some~~ yielded some interesting plants. These included a substage Paadanus with very large syncarpus ~~invers~~ glaucous fruitheads ("nd sp. for this camp), 2 small Cyathea spp. and a scandent Schizostchyum whichx abounds in these rather open tall forests and forms, with several rotans, a characteristic feature of the lower and middle pspaces.

February 19th.

Fine and clear after early fogs had cleared from valley below (Araucaria Crete)

February 1934

Continued to work

There are several of the same type of specimens that I have seen before.

On the 11th, the very first day, I was out for a walk, and I saw

specimens but smaller than those of the 10th, from the same place.

Notes

Just after the first day, I was out for a walk, and I saw

of a large, dark, round, and very smooth, and very hard.

They are very hard, and very smooth, and very hard.

and no in the collection of the right.

February 1934

This is the first day, I was out for a walk, and I saw

specimens, and I saw several of the same type of specimens.

On the 11th, the very first day, I was out for a walk, and I saw

specimens (see the notes) and very hard.

very hard, and very smooth, and very hard.

long thin, and very hard, and very hard.

specimens, and I saw several of the same type of specimens.

February 1934

Just after the first day, I was out for a walk, and I saw

specimens, and I saw several of the same type of specimens.

On the 11th, the very first day, I was out for a walk, and I saw

specimens (see the notes) and very hard.

very hard, and very smooth, and very hard.

with several, and very hard, and very hard.

February 1934

Just after the first day, I was out for a walk, and I saw

No rain.

February 20th.

Some fog or mist up to 9 AM.; thereafter fine; no rain.

Rand left for Bernhard Camp for conference with Archbold tomorrow. Teerink, on Rand's invitation, went down also, from the camp at Araucaria Creek.

Two soldiers and a Dyak in from the Sigi. Toxopeus reports good collecting--38 spp. of butterflies to date--and no further contact with the natives.

February 21st.

Early morning overcast; a few hours of bright sun followed; heavy showers commenced at 11 AM and continued at considerable intervals into the night.

Archbold flew in to the Idenburg, arriving about 9 o'clock and departing at 10. Heard the take-off very clearly. Telegrams this evening from both Archbold and Rand inform us that collecting at Lake Roembelai is off for the present expedition. Archbold is booking passages for Rand and Richardson by the May boat and offers me my choice of returning home by way of Java or flying with him to Australia.

Great disturbance in camp late last night. Much gunfire and rushing back and forth and 2 big grey Phalangers added to the collection.

February 22nd.

Dull day, no sun at all, some mist to 10 AM (none in gullies where I was collecting) no rain.

Rand, who was expected to return from the Idenburg today, is staying overnight at Araucaria Creek. In a note sent from there, he says his stomach is troubling him again. He also says that the water at Bernhard Camp has gone down enough for Toxopeus' garden to be seen in outline below the surface, that mosquitoes there are bad both day and night and that seven canoe-loads of people passed the camp returning to the village from the west.



A radio from Archbold giving flight schedule to the termination of the expedition. First flight, 15th of March, another on 28th of March, a series beginning on April 15th to take out Teerink, Toxopeus and repatriated soldiers, convicts and Dyaks and the final evacuation series beginning on 11th of May.

February 23rd.

Very heavy rain last night. Dull day, few short spells sunshine in afternoon; rain 7-8.3 AM and again very heavily 8 PM-midnight.

Rand returned from the Idenburg.

Radioed Archbold "Appreciate offer passage home on Guba but would rather return via Java and Buitenzorg"

February 24th.

Dull, somewhat misty morning, clearing 11 o'clock. No rain.

No news from the camps above and below us, and none from Hollandia.

February 25th.

Overcast day with only brief spells of sun: some mist from below 9-12 o'clock: no rain.

Teerink, Huls and Schroeder came up from Araucaria Creek and returned after lunch.

Two soldiers and a Dyak from the Sigi camp, where Toxopeus still enjoys good hunting and has 53 specimens <sup>skins of birds</sup> to date.

February 26th.

Dull day with little sun: no rain.

Spent the day in camp preparing an accumulation of bulky specimens.

February 27th.

Another dull day: mist drifted up into camp at 7.30 AM: heavy rain 3.30-4 PM and distant thunder to north.

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February 21st

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February 22nd

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February 26th



Teerink and Schroeder here tonight. Tomorrow they are going up to Toxopeus' Sigi River camp. Carriers also going to Sigi in the morning to bring back Tox and Van Arcken.

News of the victory and the end of the Spanish Civil War. The Loyalists in this particular case are Communists; the rebels are right-wingers of royalist tendencies, supported by the papacy and led by Franco.

February 28th.

Dull weather: mist most of morning: little sun in afternoon: no rain.

Teerink, Schroeder, their personal convicts and escort and 13 carriers for Toxopeus and Van Arcken left for the Sigi after breakfast.

Collected up the main track to 1450 m., where the forest begins to diminish in height and there is a certain amount of moss on the ground and, the first indication of one's approach to the mossy-forest, great beds of matted roots lying above the soil. Getting fewer species now in a morning, but have more material than can be accommodated in seven ovens. Versteegh getting a good collection of trees.

Y-yrinh and some other late tonight. Tomorrow they are going to be  
Sigi river camp. Gauriers also going to be in the morning to bring back for  
and an action.  
Means of the victory in the end of the Spanish Civil War. The hospital in this  
personnel to be the Communist; the rebels are right-wing of socialist tenden-  
cies, supported by the army and led by Franco.

February 28th.  
Fall weather, also most of morning. Little sun in afternoon.  
Teaching, Gauriers, their personal contacts and escort and is carrying in boxes  
and Van Hooch left for the city after breakfast.  
Collected up the main creek to 1450 m. where the forest begins to diminish in  
height and there is a certain amount of rock on the ground and the forest  
action of one's speech to the world. Last part of morning forest lying  
above the soil. Getting fewer and fewer in a morning; but have not reached  
them can be accompanied in seven days. V. Ortega getting a good collection of  
trees.

4500 M. N. 1000  
KING OF THE MOUNTAIN  
MOUNTAIN

Wednesday, March 1, 1939.

Dull day: practically no sunshine<sup>d</sup> mist most of morning: intermittent light rain in afternoon: night clear and moonlit.

Teerink, van Arcken, Toxopeus and Schroeder and the whole Sigi party arrived between 10 and 11 o'clock. Van Arcken remained here and rest of party left for Araucaria Creek after lunch. Toxopeus caught 53 spp. of butterflies on the Sigi. Several spp. which occurred rarely at 1800 and 2150 m. camps were more common on the Sigi. Richardson's boy Marcus returned with about 40 mammal specimens belonging to spp., the genera including Dactylopsila, Dorcopsis, Stenomys, Lorentzimys, Hydromys. The only contact with natives was on the day of arrival at the Sigi and the day following. These natives friendly and unarmed but for stones and a few steel axes or adzes and eager to trade for steel.

Althoff remaining here to collect.

Spent day labelling specimens. Have decided to move down to Araucaria Creek on the fourth.

Toxopeus has news of the birth of his third son and sixth child.

Thursday, March 2, 1939.

The sixth successive dully day: mid morning mists (from 9 AM) very heavy downpour 12.30 - 1 PM and showers later: evening bright, with high overcast. Rainy~~y~~ weather at Hollandia.

Spent day labelling and sorting specimens.

Event of the day was Richardson's discovery of the display ground of the ~~very~~ magnificent bird of paradise.

Friday, March 3, 1939.

Rather better weather: clear, colorful dawn: misty mid morning and mist

Wednesday, March 2, 1933.

Both days: practically no sunshine, wind most of morning. Interference

light rain in afternoon, night clear and moonlit.

Termin, van Hoken, Tokopha and ... and the whole day very active

between 10 and 11 o'clock. The ... remained ... and rest of ...

for ... after ... Tokopha ... on ...

the ... several ... which occurred ... at ...

are ... on the ... Richardson's ... returned ... about ...

normal specimens belonging to ... the ... in ...

... the only contact with natives

was on the day of arrival at the ... the day following. These natives

friendly and ... out for ... and a few ... and ...

to trade for steel.

Almost remaining here to collect.

Spent day labeling specimens, have decided to move down to ...

on the ...

Tokopha has news of the birth of his third son and sixth child.

Thursday, March 2, 1933.

The sixth success's call day, mid morning state (from 9 AM) very heavy

downpour 11.30 - 1 PM and showers later evening ... with high overcast.

... of Hollandia.

Spent day labeling and sorting specimens.

Event of the day was Richardson's recovery of the display ground of the

... of ...

Friday, March 3, 1933.

rather rather ... early morning and ...

CONTENTS

RING BOOK BOND

54588

again in evening: little rain 7 - 7.30 PM.

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Preparing to move down to Araucaria Creek. Sent down eight carriers loads of specimens, etc. this morning and have twenty-five for tomorrow.

Saturday, March 4, 1939.

Left Rotan Camp at 8 AM with 25 carriers and arrived at Araucaria Creek 11 o'clock. Carriers an hour or more ahead of me, as I collected on the way and made photographs of the Agattis forests.

Teerink, Toxopeus, Huls and Schroeder at Araucaria Creek. Tox doing well with butterflies. Though high land is available close by, the camp is built on the low flood plain of the creek. A vast affair and too scattered to be convenient. Estimate that the morning routine, before going into the field, will require 700-800 yards walking.

Weather down here as dull as at Rotan Camp, but of course warmer. Average of readings made when I passed through in January and again today gives an altitude of about 850 m. for the camp.

Sunday, March 5, 1939.

Huls and Schroeder left for Rotan Camp, where van Arcken will join them for a trip to the Sauweri. They plan to return here on the ninth.

Having all seven ovens full of specimens from Rotan Camp, I had the Dyaks fire them in relays today and took a rest.

Dull day, drizzling much of time and some heavy showers.

Monday, March 6, 1939.

Two hours sunshine: high mist and fog to 8 AM: much drizzling rain, but nothing heavier.

Richardson arrived from Rotan Camp and installed his radio. His boys put out 400 traps.

Friday, March 2, 1939

Preparing to move down to ...

# RING BOOK BOND

Friday, March 2, 1939

Left Foster Camp at 8 AM with ...

... an ...

... and ...

... with ...

... built on the ...

... to be convenient ...

... will require ...

... rather down here ...

... readings were ...

... altitude of about 850 ...

Sunday, March 5, 1939

Hill and ...

... a trip to the ...

Having all seven ...

... the team in ...

Bill ...

Monday, March 6, 1939

... 24 hours ...

... nothing ...

Richardson ...

... and ...

Collected down the river to about one-half mile below camp, thinking it advisable to work the flood banks and flooded plains before the creek overflows its banks.

March 7 - 12, 1939.

In rather poor health, and too tired at night to write.

Rand arrived from Rotan Camp on the seventh.

Van Arcken, Huls and Schreoder, returned on the ninth from their short trip to the Sauweri, bringing nine of the filthiest natives I have seen.

On tenth, Teerink, Huls and Schreuder left for Bernhard Camp.

Myself and Richardson both apparently poisoned by palm cabbage (Orania?) on 11th. My illness was most violent and on the 12th I was too weak and shaken to get about.

March 13, 1939.

Short spells of sunshine morning and afternoon: rain began 11 AM and continued intermittently into night.

van Arcken and Toxopeus went down to Bernhard Camp to meet the plane. With the transport went our specimens for shipment. Plane supposed to return tomorrow from Port Moresby, where it has been since February 27, 1939. It is scheduled to fly to the Idenburg on the 15th.

Yancey has gone to Sydney to make arrangements of some kind for the "Guba's" homeward flight across the Indian Ocean.

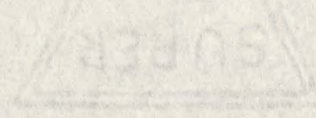
Feeling much better today, but did not go out into the field.

March 14, 1939.

Dull day with much rain after 9.45 AM: heavy NNW wind on opposite mossy ridge and strong gusts in camp mid-afternoon: weather clearing and numerous

Collected down the river to about one-half mile below camp, including

It was possible to work the flood plain and located about 100 yds from the creek  
overflows its banks.



March 5 - 1939

In rather poor health, and too tired at night to write.

Have arrived from Rosen Camp on the seventh.

Van Arken, Hilt and Sawyer, returned on the night from their short  
trip to the Gallet, bringing news of the different natives I have seen.

On fourth, Terman, Hilt and Sawyer left for Behrman camp.

Yell and Richardson both apparently poisoned by palm oysters (Perna).

on fifth. My illness was most violent and on the sixth I was too weak and

unable to get about.

March 12, 1939

Short spells of sunshine during the afternoon: rain began 11 AM and con-

tinued intermittently into night.

Van Arken and Sawyer went down to Behrman Camp to meet the plane. With

the transport went our specimens for shipment. Plans supposed to return

tomorrow from Port Moresby, where it has been since February 27, 1939. It

is scheduled to fly to the Gallet on the fifth.

Terman has come to camp to make arrangements of some kind for the "Japs".

Robert left camp on the fifth.

Feeling much better today, but did not go out into the field.

VS COMMENT

MARCH 14, 1939

Will not visit Rosen in AM. Hilt left with Hilt and Sawyer on opposite shore

ridge and strong gale in camp and - transport - return to camp and a strong



stars showing at 8 PM.

Idenburg high and rising: 15 cm. of water in the radio shack.

Guba returned from Port Moresby and loaded cargo for the Idenburg.

My first day in the field since the 11th. Visited the Agathis forests and found there a number of spp. apparently restricted to the habitat.

Was surprised to find Hanguas growing here and there throughout the forest, the ill drained soggy ground evidently well suited to the swamp plant (perhaps differing specifically from the sp. of the coast swamps.)

Richardson having very poor results from his 400 odd traps and 200 snares.

Today only one rat from the lot - a Melomys. Rand has about 60 spp. of birds. Dyaks, under instructions, caught about 20 small fishes of one kind and a like number of crabs - all very small.

March 15, 1939.

Fine morning, discontinuous mist on ridges: strong gusts wind from NNW and heavy rain 4.30 - 5.15 PM.

Idenburg rising.

Guba flew stores to Bernhard Camp, arriving at 8 PM and leaving 9.15. Our mail, fresh food, etc. in camp here by mid-afternoon.

Collected along the path through the mossy-forest to the edges of the Idenburg divide and made some photographs. Collecting very disappointing. The mossy-forest poor in spp. and most things sterile. Sama, identical with one found rarely at 1200 m. Camp, occurs plentifully, but is sterile here as well as at the upper camp. Phyllocladus, common, a very small leaved Podocarpus which occurs also in Agathis forest and quite a few Agathis in this mossy-forest.

Received today through Archbold at Hollandia and Mrs. Ann Archbold in U.S.A. and invitation to join Dr. David Fairchild on a three to five months trip

RING-BOND

stars showing at 8 PM.

Incubating high incubation; in case of water in the lake.

They returned from Fort Verde, the location being the following.

By first day in the field since the fifth. Visited the W. L. L.

and found there a number of sp. agnathus, restricted to the habitat.

Was surprised to find Hemaphysalis growing here and there throughout the

forest, the H. d. d. d. group eventually well adapted to the swamp.

plant (perhaps differing specifically from the sp. of the coastal swamp).

Hemaphysalis having very poor results from the 100 and 200 swamps.

Today only one rat from the 100 - a Melomys. Had the usual 50 sp. of

birds. D. d. d. under Hemaphysalis, caught about 10 small fishes of one kind

and a like number of crabs - all very small.

MARCH 15, 1933.

Fine morning, inclement weather on ridge; strong gusts and from NW

and heavy rain 8:30 - 5:15 PM.

Incubating birds.

Left Fort Verde to Barro Colorado, arriving at 8 PM and leaving 9:15 for

camp, fresh food, etc. in camp here by mid-afternoon.

Collected along the path through the moss-forest to the edge of the lake.

Very divide and made some sp. agnathus. Collected very sp. agnathus. The

moss-forest poor in sp. and most things sterile. sp. agnathus identical with

the form found at 1000 ft. sp. agnathus occurs here but sterile here

as well as at the upper end. sp. agnathus common, a very small sp. agnathus

sp. agnathus which occurs also in a sp. agnathus and sp. agnathus in

this moss-forest.

Received today through sp. agnathus at sp. agnathus and sp. agnathus in 9:30.

and invitation to join Dr. Davis' sp. agnathus on a three to five months trip

in the Moluccas. Fairchild will collect live plants and botanical specimens and wishes me to join the party to take care of this work. He will arrive at Ambon in November on a yacht fitted with a laboratory.

March 16, 1939.

First rainless day since my arrival here on the 4th: sunny morning with some mist on ridges after 9 AM; PM overcast.

Teerink and Toxopeus returned from Bernhard Camp.

Spent a very unprofitable morning in the Agathis forest about 50-100 m. above camp. My half-caste German, Max <sup>Degner</sup>~~Dreiner~~, gave me some instruction in tapping for dammar.

As Archbold plans another New Guinea Expedition, to begin about April 1940, I cannot see my way clear to accompany Fairchild to the Moluccas in November. It would mean giving up my trip to the United States and there would be little time between expeditions for either work or rest.

March 17, 1939.

Day of rain and mist culminating in a series of thunderstorms in late afternoon and evening. River up about 1 m. and flowing very rapidly (about 10-12 m. p. h.).

Gathered some few plants, left for such a day, close about camp. Tonight the river rises and falls, the racing water thinly muddy, and rocks in the bed grind and crack together under the force of the current. This is so far only a mild spate, but it turns one's thoughts to what must surely happen in the event of a high flood. Camp is built on ground slightly higher than the surrounding terrain. A high flood would surround us before flowing through camp and the only place of safety would be in the trees. ~~Woods~~ Floods certainly cover the whole camp site at times. A flood channel separates the native quarters from the European. The ground is everywhere

in the museum. Fairchild will collect live plants and botanical specimens and wishes to join the party to take care of this work. He will arrive at Lapon in November on a vessel fitted with a laboratory.

March 10, 1939.

First business was to check my arrival here on the 10th. Early morning with some light on ridge after 9:30 P.M. overcast. Fairchild and Thompson returned from their trip on the 10th. I spent a very unproductive morning in the field. Found about 30-40 ft. above camp. My half-cousin German, Max Brodner, gave me some instruction in Lapland for history.

Fairchild plans another new game expedition to begin about early 1940. I cannot see it very clear to accompany Fairchild to the mountains in November. It would mean giving up my trip to the United States and there would be little time between expedition for either work or rest.

March 17, 1939.

Day of rain and mist commencing in a series of thunderstorms in late afternoon and evening. River up about 1 m. and flowing very rapidly (about 10-12 m. p. h.). Gathered some fox plants, left for school day, close about 5 a.m. Tonight the river rises and falls, the water very thick, muddy, and looks like the bed grain and duck feathers under the force of the current. This is so far only a mild spate, but it shows one's thoughts to what must surely happen in the event of a high flood. Camp is built on ground slightly higher than the surrounding terrain. A high flood would surround us before flowing through camp and the only place of safety would be in the trees. Many birds certainly cover the whole camp site at times. A flood channel separates the native houses from the museum. The ground is everywhere

scoured out in small holes, and river sand and waterworn pebbles show plentifully under the leaf mould. There is abundant evidence of occasional high and violent flooding.

Saturday, March 18, 1939.

Dull day: little sun: heavy rain from thunderstorm commencing 5 PM and continuing into night: thunderstorms approach from up the valley, the strong wind accompanying them usually NNW.

Rand left to do a few days collecting while the river is high at Bernhard Camp. Terrestrial birds must move to the high ground at the edge of the hills when the plains are under water as at present. *Toxopeus* also reported a new arrival, a small finch feeding on the seeds of a floating grass (*Leersia?*) on the river banks.

Collected upstream about half an hour from camp. There the old flood-plains appear much broader than nearer camp, and are covered with a rather low forest of trees seldom more than body-thick and growing in loose formation. Palms abundant in a more or less open sapling undergrowth. Trees mossy and considerable moss on the ground. Rain-forest. Poor in species. Is this valley too wet to support good forest? The ~~partly~~ peaty *Agathis* forest, on ridges with a fair slope, might perhaps owe their distinctive characters to climatic rather than edaphic conditions. There is probably more rain in the valley, and certainly more mist and fog, than at our 1200 m. camp.

Sunday, March 19, 1939.

A dull showery day, not more than half hour sunshine: torrential rain 4-5.30 PM from thunderstorm rainy night.

scattered out in small holes, and river banks and waterways besides those  
scattered under the leaf mould. There is abundant evidence of  
occasional high and violent flooding.

2000 ft. level  
LIVE BOOK BOUND

On 11 days: Little and heavy rain from 11:30 AM to 1:30 PM  
and continuing into night. Thunderstorms approach from up the valley, the  
strong wind accompanying them usually NW.

Hand left to do a few days collecting while the river is high at Barstow  
level. Terrestrial birds must move to the high ground at the edge of the  
hills and the plain river water as at present. Foxgloves also re-  
ceived a new arrival, a small flycatcher on the heads of a flowering grass  
(Lactuca) on the river bank.

Collected upstream about half an hour from camp. There are old flood-  
plain spots much broader than higher ones, and are covered with a rather  
low forest of trees seldom more than 100 ft. tall and growing in loose forest  
form. Plant growth in a row or less often seems undisturbed. Trees  
mossy and considerable moss on the ground. Rain-forest. Took an evening  
in this valley and wet to support good forest. The vegetation is mostly  
for it, on ridges with a fair slope, might perhaps own their distinctive  
characters to climatic rather than genetic conditions. There is probably  
more rain in the valley, and certainly more mist and fog, than at our  
camp.

Barstow, March 19, 1933

A cold snowy day, not more than half hour sunburst; horizontal rain  
4-5:30 PM from 5:00 AM rain night.

LIVE BOOK BOUND  
R.S. COLEMAN

On dull days like this, the flood plains in the neighborhood yield abundant material to keep my eight ovens full. Versteegh, finding few trees in this valley, is now working the Idenburg slope down to 800 m. Today he returned at 5 PM with specimens of nine trees: the day of course very bad for spotting trees.

Monday, March 20, 1939.

Weather somewhat improved: some brief spells of sunshine, but showers throughout day and clouds travelling rapidly overhead indicate a strong NW to NNW wind at higher altitudes: rain all last night.

The long continued wet weather making conditions unpleasant for work in the forest, I gathered a few things from around camp, and in the sunny intervals made a number of 8x10 pictures which I will develop tonight.

7.60  
Idenburg ~~7.60~~ m. above datum mark (presumably lowest level during dry season -- SE).

Tuesday, March 21, 1939.

Strong NW wind continues at a high altitude, but local weather further improved to sun - overcast 50-50.

No rain till evening and then only light showers.

Idenburg must be at a record high flood level. Rather scrappy radio news.

No dry ground in the camp. All hands up on the tables.

Rand having good hunting at Bernhard camp. High flood conditions favorable for shooting marsh birds. Has, according to a note by carriers today, two finches, a rail, a bittern, an unfamiliar giant brown heron.

Wednesday, March 22, 1939.

Wind remains about NW: morning about 50-50 sunshine and driving light showers: afternoon finer.

On dull days like this, the flood plains in the neighborhood yield abundant material to such my great eyes. Very early, looking for trees in this valley, is now working the forestry slope down to 3000 ft. Today he returned at 5 PM with specimens of nine trees. The day of course very bad for shooting trees.

Monday, March 20, 1933.

Weather somewhat improved: some brief spells of sunshine, but showers throughout day and clouds traveling rapidly overhead throughout afternoon. No NW wind at higher altitudes: rain all last night. The fog continued but weather making conditions unpleasant for work in the forest. I gathered a few things from around camp, and in the early intervals made a number of extra pictures which I will develop tonight. Idenburg took a above-datum mark (occasionally lowest level during dry season -- BR).

Tuesday, March 21, 1933.

Strong NW wind continues at a high altitude, but local weather further improved to sun - overcast 30-50. No rain till evening and then only light showers. Idenburg made a record high flood level. Rather strong radio news. No dry ground in the camp. All hands up on the tables. Hand having good hunting at Idenburg camp. His flood conditions favorable for shooting marsh/dikes. Has, according to a note by outsiders today, two tinies, a rail, a puffer, an unfamiliar great brown heron.

Wednesday, March 22, 1933.

Wind veering about W: morning about 50-55 ammonia and driving light showers: afternoon lighter.



Idenburg rising higher and higher and is at a record high level every day: another 20 cm. and it will be up to the top of the radio table. Teerink and Toxopeus made an excursion down stream and reached the point, about 2 hours distant, where van Arcken crossed and camped on one of his early patrols from Bernhard Camp. The river valley narrows and the stream becomes a succession of rocky rapids and small waterfalls. One of the Timorese soldiers shot a young cassowary in the ridges SW of camp. First bird of the kind killed at this camp. Sent my boys into the field and spent the morning labelling dried material to send out on the 24th.

Thursday, March 23, 1939.

Will have to think of some new terms to describe the weather, which has not varied from generally rotten for as far back as I can conveniently remember. Short spells of bright, dazzling sunshine this morning, between showers: the afternoon and evening generally rainy. Every night lately, at some late hour, I have been aroused by strong wind flapping my tent, and kept wakeful by thoughts of crashing trees.

Idenburg higher than ever--up to the bottom of the seats in the dining room, which is on the highest ground in Bernhard Camp. Teerink has decided to move camp holus-bolus to the foot of the hills, and is taking down all spare Dyaks tomorrow to assist in the shift.

Spent the day in camp, labelling specimens.

Friday, March 24, 1939.

Dull and showery: little sun: strong gusty wind with thunderstorm early evening.

Teerink took all spare Dyaks and convicts to the Idenburg to assist in the evacuation of Bernhard Camp.

level rising higher and higher and is at a steady high level every

day, about 10 cm, and it will be at the top of the valley floor.

Terrill and Torosens made an excavation down stream and reached the

joint, about 2 hours distance, where the rocks crossed and camped on one

of his early parties from Bernard Pass. The river valley narrow and

the stream bed is a succession of rocky rapids and small waterfalls.

One of the Tiamese soldiers shot a young caribou in the ridge of

camp. First kind of the kind killed at this camp.

Some days into the field and spent the evening labeling dried material

to send out on the 14th.

Thursday, March 11, 1933.

Will have to think of some new terms to describe the weather, which has

not varied from generally clear for an hour or so in a conventional way

than ex. short spells of bright, sparkling and fine morning, between

showers: the afternoon and evening, generally rainy. Every night lately

at some late hour, I have been aroused by strong wind flapping my tent, and

kept awake by thoughts of starting fires.

Leaving higher than ever - up to the bottom of the seats in the living room.

which is on the highest ground in Bernard Pass. Terrill has decided to

move east half-way to the foot of the hills, and is taking down all

the Dyak's tomorrow to assist in the shift.

Spent the day in camp, labeling specimens.

Friday, March 12, 1933.

Half an hour's little rain; strongly gusty with intermittent early

evening.

Terrill took all spare Dyak's and convicts to the head of the valley in the

evacuation of Bernard Pass.

570 5011  
570 5012  
570 5013

Saturday, March 25, 1939.

Big improvement in weather: more or less misty day, but morning largely sunny: no rain: clear starry evening.

Rand radioed that a new camp site has been chosen under the hills near an old military <sup>trick</sup> ~~break~~.

Monday, March 27, 1939.

Hot fine day - temp. 26.5 degrees, the highest recorded here.

Richardson and self sent specimens down to the Idenburg to catch the plane due in on 28th, or whenever the KPM boat arrives.

Rand returned from Bernhard Camp after an absence of nine days.

Tuesday, March 28, 1939.

Rain much of last night and the morning rainy to 8 AM: rest of day fine and hot.

Wednesday, March 29, 1939.

Thin fog early morning: fine, hot day followed by thunderstorm 6.45 PM and steady rain.

Took lunch with me and made a trip over to the slopes of the Idenburg, which I followed down to 700 m. Results poor. The forest a poor rain-forest of trees of rather small diameter (some oaks) carrying little in the way of undergrowth species. Substage open and of thin saplings: the woody undergrowth moss open still, but on flat place on the crest of the spur a fairly abundant ground layer of coarse ferns (Diplazium -3 spp.) (Dryopteris) and very numerous tree seedlings. Agathis appears not to go below 750 m. The slopes of the ridge steep and in places unstable. The forest of the lower slopes and ravines mostly secondary.

Monday, March 27, 1950

At 10:00 AM we left camp and went to the hillside.

At 11:00 AM we reached the top of the hill.

At 12:00 PM we had lunch and then went back to camp.

At 1:00 PM we left camp and went to the hillside.

Tuesday, March 28, 1950

At 10:00 AM we left camp and went to the hillside.

At 11:00 AM we reached the top of the hill.

At 12:00 PM we had lunch and then went back to camp.

At 1:00 PM we left camp and went to the hillside.

Wednesday, March 29, 1950

At 10:00 AM we left camp and went to the hillside.

At 11:00 AM we reached the top of the hill.

Thursday, March 30, 1950

At 10:00 AM we left camp and went to the hillside.

At 11:00 AM we reached the top of the hill.

At 12:00 PM we had lunch and then went back to camp.

At 1:00 PM we left camp and went to the hillside.

At 2:00 PM we reached the top of the hill.

At 3:00 PM we had lunch and then went back to camp.

At 4:00 PM we left camp and went to the hillside.

At 5:00 PM we reached the top of the hill.

At 6:00 PM we had lunch and then went back to camp.

At 7:00 PM we left camp and went to the hillside.

At 8:00 PM we reached the top of the hill.

Thursday, March 30, 1939.

Fine hot rainless day followed by a beautifully clear cool night. Max.

Temp. 28 degrees C.: a record for the camp.

Teerink and Huls up from Bernhard Camp.

Guba left Hollandia for Port Moresby.

Friday, March 31, 1939.

More or less howery, hot at times: driving rain and ground mist—distinctly chilly - 8 PM.

Spent a long morning down the river to about 1 hour below camp. Stream narrows between encroaching mountains and becomes a series of rapids. Some large rocks, tall old casuarinas near the river and big Agathis showing smooth stems in forests of the slopes. The flat branched fir common on gravel bars and along the firm banks masses of slender clump palms leaning over the water. A gregarious araliad abundant with the palms, its narrowly palmate leaves making it very attractive.

Thursday, March 30, 1939.

Five hot rainfalls followed by a beautifully clear cool night.

Temp. 85 between 6:45 a.m. and 10:00 a.m.

Terrell and I left on train for Port Moresby.

and left Moresby for Port Moresby.

Friday, March 31, 1939.

None of less however, but at least: driving rain and ground mist-fog.

8:15 - 8:30.

Spent a long morning down the river to about 1 hour below camp. Stream

narrow between steep banks, rocky and covered a series of rapids.

Large rocks, tall old casuarinas near the river and high up the river

mouth area in forests of the slopes. The first rapids in common on

gravel bars and along the first bank masses of slender cypripediums

over the water. A few salmon abundant with the salmon. Its color

remains leaves making it very attractive.

LIBRARY  
ONE BOOK BOND  
SERIES

LIBRARY  
ONE BOOK BOND

April 1st.

Van Arcken and Bazzoni arrived from Idenburg. Report river lower and falling, the camp clear of water and very muddy with silt deposited by the flood.

April 2nd.

Foggy morning, clearing @ 9 AM: rest of day fine: broken clouds: no rain. Commenced labelling specimens in preparation for moving to the Idenburg.

April 3rd.

Foggy to 7.30 AM and some showers later in the morning: afternoon and evening high, broken, overcast: wind NW.

Labelling plants and preparing a few loads of supplies etc. to go down to the Idenburg tomorrow.

April 4th.

Fog to 7.30 AM: bright day: no rain.

Teerink, Huls and Toxopeus departed for Bernhard. This marks the beginning of the abandonment of the camp.

Labelling plants—a most tiresome job.

April 5th.

More disturbed weather: broken, heavy clouds, bright sun, no rain.

Idenburg beginning to rise again. Wind from NW all this month and last.

Packed up in readiness to move to the Idenburg tomorrow.

Am 10 numbers short of my estimate of 500 for this camp. Versteegh has 130 trees, many of them from 700-800 m. on the Idenburg slope.

April 6th.

After distribution of loads to my 21 Dyak carriers and seeing that all were safely tied up, I left Araucaria Creek at 7 AM at the head of the transport.

April 1st

Van Arman and Johnson arrived from Klamath. The river lower and falling. The camp clear of water and very muddy with silt deposited by the flood.

April 2nd

Forest morning, clearing 9 AM. Part of the team broken down; no rain. Commenced labeling specimens in preparation for leaving to the interior.

April 3rd

Woke at 4:30 AM. One shower later in the morning. Between and evening high, broken, overcast and rain. Labeling plants and preparing a few loads of supplies and to go down to the interior tomorrow.

April 4th

For so 7:30 AM night day no rain. Training, hair and fungus collected for Klamath. This marks the beginning of the commencement of the camp. Labeling plants--a good afternoon.

April 5th

More damaged washers, broken, heavy clouds, pressure, no rain. Identifying specimens to this again. This from the all the plants and last. Packed up in readiness to move to the interior tomorrow. The 10 numbers short of my estimate of 500 for this camp. Specimens had 100 trees. Any of these from 500-550 on the Klamath slope.

April 6th

After classification of loads to try to get earlier and seeing that all were safely tied up, I left Klamath Creek at 7 AM at the head of the transport.



The first part of the track along the crest of the mossy divide, of the Idenburg, in a bad state with much heavy traffic and rain. Roots of trees once buried in the thick moss cover, protrude brown and bare and often broken, sometimes shin-high from the ground, and in every little depression is a puddle of soupy brown peat or a mixture of peat and pale yellow clay. The edge of the Idenburg slope, a rim of the great flat valley of the <sup>Mennolaktó</sup> Menolaktó, was reached in 35 minutes, the leading carriers on the heels of my collecting boys all the way.

On the steep descent one enters open rain-forest about 30 m. down from the crest and about here was seen the last Sama tree (at 810 m.). Down to 750 m. numerous slender surface roots cover parts of the ridge crest and a little ground moss occurs. Agathis goes down to just that level. From 750 m., or say 700 m., there is little change in the general character of the vegetation to between 200-300m., when the oaks drop out or at least were no longer noted and some minor plants (ie. a Licuala sp.) make their first appearance. Oaks are ~~nowhere~~ <sup>nowhere</sup> in sufficient abundance to characterize the forest or cause changes in the undergrowth.

At 700 m., an open spot on the spur from which the serpentine bends of the river below Bernhard Camp can be seen, I lingered behind the transport to collect and did not reach camp until 11.30. <sup>Flood refuge camp.</sup> Here, at the new camp established for collecting, and a flood refuge in case of need, I found Teerink, Huls and Toxopeus sitting among my baggage under the dining shed, busily swatting mosquitoes. Small black stingless bees were crawling stickily over sweaty painted bags in which my specimens and papers were packed. Toxopeus is staying here for a few days to collect. Teerink and Huls soon departed for Bernhard Camp and after a bath (temp. 73 f.) lunch and a rest, I took all my collecting staff on a visit to Bernhard Camp. A good track leads down to the canoe landing on a small creek, and the distance between camps could be covered in 25 minutes if one liked to hurry. New camp ~~is~~ km. a little west of south from Bernhard Camp and 25 m. higher (ie. 75 m. alt.). Found Bernhard Camp greatly altered in appearance since we left it early in January. The floods which had covered the highest ground to the depth of 1 foot had left a deposit of grey silt, beginning to take a powdery form upon drying. There was a



sour unhealthy smell about the camp although all the fine big trees which once shaded it from the sun had been cut down during the floods, when the fall of one or two and the threatened fall of others constituted a grave danger to the party. Teerink and Huls at 3 oclock were still sleeping off the effects of their midday rice. Got a few stores and collecting supplies and started back at 4.30.

The water is probably as low now as it has been since 1st January. In fact, except for a short spell about the third week in February, it has been on the average perhaps a meter higher. A silt-fouled ~~bank~~ band 2 m. deep, left by the receding waters, marks the height of the flood. Most of the few spp. of swamp-inhabiting low seral trees lining the banks of river and side channels have shed their leaves to the height of this silt band, but thin flattish crowns are green and flourishing. Under these bared low trees an amphibious fern covers much of the ground.

April 7th.

Put my Dyaks to work erecting ovens, etc., and myself with Max examined the forests near at hand and gathered a few plants.

Forests, at least those ~~fm~~ of the lower slopes, are poor in species, contain few ground or undergrowth plants. Probably there is a strong SE monsoon and long dry season. Some dry SE wind today.

April 8th.

Temp. Max. 33 degrees, min. 22.5. A big increase on our last camp but a high variation for lowland. Cloudy day: heavy rain from thunderstorm in evening: wind NW.

Rand and Richardson with Van Arcken and all people from Araucaria Creek moved down today. Richardson stayed here, the others going on to Bernhard Camp. Had a fair morning's collecting down the little stony creek which runs past camp. The best thing--and one of the botanical prizes of the expedition--being a tall fan palm, common here, which is either Borassus or a new genus. According



to Willis' key to the palms, it must constitute a new section in the family. It has big black fruit, on a single spadix, containing three seeds <sup>6/16/60</sup> ~~bibbed~~ as in Lodiciera.

April 9th.

Cloudy day: not much sun: fog and misty rain on plains to 9 AM: no further rain. Took a short hunting canoe and 4 boys and examined down to the main river the old cut-off bend on which Bernhard Camp is situated. River a brisk hours paddling from B. Camp: For first 1/3 of the distance the banks, at the present stage of the water, are from nil to 2 feet above the water and carry a subclimax flood plain forest in which a large-leaved Dillenia is conspicuous and occasional very large banyans occur. Mucuna and Gretum are abundant as screening lianes, the former bearing few flowers, though presenting a fine showing of flaming blossoms in December; swamp forests of tall D'Albertis Poplay constitute an earlier stage of forest development and along the lowest banks capable of supporting woody vegetation is a dense low scrub community of a large-leaved ficus, now standing 3 m. out of the water and supporting an abundance of Cissus, a purple Ipomoea, prickly Acacia with fluff bells of white flowers and some other small climbers which spread over thin leafy tops. A small Vauchia growing in open formation, of stunted appearance and for all the world like a Sonneratis of the coast, sometimes fringes the "poplar" stands (on new mud banks?). Farther down towards a tree-like Timonius rumphii in appearance, grows in pure stands 20 meters high on apparently inundated ground. Here and there large masses of floating green Leersia fill quiet bays too deep for trees, and treeless marshes filled with this grass, and containing a good deal of open water lie beyond the banks. A blue flowering crisp-leaved Aristema in some places grows abundantly among the floating grass. Down near the rivers are extensive grassy marshes, after passing which one reaches the silt levees of the river itself; covered with magnificent pure



stems of Saccharum displaying long purplish plumed inflorescences, and the nodes frilled with adventitious roots formed during high water. At the present state of flood-the river is eight meters above dry season level- there is a monotonous sameness in the vegetation which might be somewhat relieved when the newer silt banks are dry, and the marshes not so overfull. Some indication of the marsh flora of amphibious plants is probably found in small communities of sedges, Polanasia and Hibiscus crowded on floating logs entangled in the grass. Quite a variety of species is found in these queer floating gardens and sometimes young forest trees.

April 11th.

Toxopeus moved to Bernhard Camp, leaving Althoff and his Javanese and several Dyaks to carry on the work of insect collecting. Tox has done very little work of any kind himself since coming down to the Idenburg, and almost as little at Araucaria Creek. At this camp, where he stayed 7 days, he did not rig a screen for night insects until last evening, when he had a good catch.

Seems that the Dept. of Economic Affairs in Java has not given authority for him to return before the termination of the expedition. On the 6th he had a telegram from Buitenzorg enquiring as to his health and proposed date of departure for Java.

Tox is apparently between the devil and the deep sea. If he stays until the May boat, when we will all be leaving, he will lose face with the expedition personnel, especially the natives and other inferiors. His return in April will probably mean trouble with the Govt. and the Govt. will lose face for leaving the American scientific party to complete the expedition alone.

*who have long been aware of his intended departure. His month.*

April 13th.

Richardson and myself continue collecting at the New Camp at 75 m. on the edge of the hills. Traps yield practically nil. Three mammal specimens--2 melomys and a bandicoot--taken from 360 traps in 6 nights. Over 200 snares set since the 8th have produced only a few megapodes.





Forests poor in plants probably owing to a long dry season. Entsia (Agzalia) sp. one of the commonest trees of the lower slopes, and another (?) sp. frequent in developmental forest of the river flood plains.

Forests generally are poor in undergrowth species, and only on flat crests of ridges where a few fern spp. sometimes form a good thick ground cover, and on a narrow belt of moist but well drained lower slope and small creek flats separating the dry hillsides from the flood plain where Elatostemma (?) and Phiorrhiza abound, does one see any great massing of individuals.

April 14th.

Day occupied in preparing specimens for shipment to Hollandia.

A gathering of the expedition at Bernhard Camp in the evening to celebrate the departure of Teerink and Toxopeus who are to go out to Hollandia tomorrow and thence to Java by K.P.M. boat due about the 22nd.

Guba returned from Port Moresby having been away since 3/30/39.

Patrol boat Bantam blown on the rocks at Hollandia in a storm last night.

April 15th.

Guba made two trips this morning and removed Teerink, Toxopeus and the bug crew, 15 soldiers (including Sgt. Gottschalt) and Dyaks and convicts to a total of 38 to Hollandia.

A good supply of fresh food, the best since the early days at Lake Habbema, brought in by the plane.

April 18th.

Leaving Versteegh at the new camp for a few days longer to collect trees on the mpuntain slopes, I moved down, and out, to Bernhard Camp, where conditions for working are far superior. In December when, fresh from the Balim, I first saw Bernhard Camp, it seemed a most unpleasantly hot and altogether unattractive

forests poor in plants growing on a level or gentle slope. One of the commonest trees of the lower slopes, the chocolate (8) or Tremula in development. Forest of the river flood plains. Forests generally are poor in undergrowth species, and only on that side of ridges where a few ferns etc. sometimes form a good thick ground cover, and some narrow belt of moist but well-drained lower slope and small grassy forest. One very common tree from the flood plain is the Albizia (9) and Albizia (10). About, less one see any great masses of individuals.

April 1934.

By accident in preparing specimens for shipment to Hollandia, a gathering of the expedition at Bernard Camp in the evening a detailed report of Tamarin and Terepeta the one to go out to Hollandia tomorrow and chance to leave by 1 P.M. boat and about the 12th. This returned from Fort Hoseney having been early arrived 3/20/34. Patrol boat returned down on the river at Hollandia in a storm last night.

THE BIRD BOOK

April 1934.

Given made two trips this morning and removed Tamarin, Terepeta and the big ones, 12 soldiers (including Capt. Gortchakoff) and by the way and converts to a total of 34 to Hollandia. A good supply of fresh food, the best since the early days at Lake Hobbes, brought in by the plane.

April 1934.

Leaving Versteeg's the new camp for a few days longer to collect birds on the mountain slopes, I moved down, and out to Bernard Camp, where conditions for working are far superior. In December when I was from the hill, I had seen many birds, it seems a most unpleasant, hot and sticky atmosphere.

place. Now, after having spent ~~twelve~~ twelve days at the shut-in, fright-fully sultry and anopheles infested "new camp" under the hills, this seems not such a bad place after all.

A few days ago the Gold Mines people landed an exploration party 80km. up the river, probably at the junction of the A River. A Gramman amphibian and an old navy Fokker plane carried the party. The former succeeded in landing its complement on a sandbank but the current was too strong for the old Fokker and she had to return without landing her men. A day or so later, more men were landed by the Gramman. Today supplies were dropped by parachute and the company is considering the establishment of a base at Bernhard Camp, from which supplies could be sent up river by launch.

April 19th.

Collected from canoe along the edges of the lagoon (not a good word for the old river cut-off) to about a mile above camp. Though preferable to the mosquito-infested forests of the foot of the mountain, for comfort, and a quick and east way to collect, the heat of the open river is trying in a small prow and all manner of crawling biting things find their way into the canoe from the vegetation along the banks. Ants, spiders, insects, everything that gets shaken down into the water, is able to swim, and immediately makes for the canoe as the nearest object onto which it can crawl.

Van Arcken has given me a record of water levels taken daily since the camp was established last July and with these to show depth and period of inundation, I hope to perhaps arrive at some understanding of forest succession on the flood plains.

April 20th.

Rather a poor day, spent on the small creeks to S--SE of camp, and in the forests of the edge of the hills below New Camp where I made a forest-interior picture

place. Now, after having spent twelve days at the same place, I have only a few things left. I have a few things left, but I have not much more to say. I have not much more to say.

A few days ago the old man and his people landed on the island. They were probably at the junction of the river. A woman was seen and in the morning the man carried the party. The woman was seen in the morning and the old man and his people were seen in the morning. The old man and his people were seen in the morning. The old man and his people were seen in the morning.

April 11th. Collected from the edge of the lagoon (by a good boat for the river) to about 1000 feet above camp. The vegetation is very dense and the forest is very dense. The forest is very dense and the forest is very dense. The forest is very dense and the forest is very dense.

Van Arden has given me a record of water levels which shows that the water level is very high and the water level is very high. The water level is very high and the water level is very high.

I hope to perhaps make a few more collections of forest specimens in the forest. I hope to perhaps make a few more collections of forest specimens in the forest.

April 10th. Rather a poor day, spent on the small creek to the west of the forest. At the end of the hill below the forest I made a forest specimen.

and collected ♀ material of the very interesting large fan palm which I take to be a sp. of Borassus.

An uneasy stomach and unusual discomfort from the heat makes me think I have picked up fever.

April 21st.

Gathered a few spp. along a small creek near camp to the W; mostly creek bank spp. protruding above the water. In poor rain forest containing rarely large trees, I found flowering very freely a tree which I take to be a Xanthophyllum (#13957) with white, partly orange and red flowers 8 cm. long in the bud.

For the first time in New Guinea, I saw today a big Caryota (of sp. from 850 m. camp) which had been cut by the natives for sago. In the mountains of San Cristobal (Solomon Islands) I have seen Caryota pith fed to pigs.

Have seen no natives since the 19th and apparently they have moved away from the ~~high~~ neighbourhood. Evidently a people of strictly nomadic habits.

Radio report that the gold exploration at the junction of the A River spent last night without food or water. The Gramman landed food by parachute today. New engines have been installed on the Guba (and today a test flight was made at Hollandia-later another of Bazzoni's ???)

April 22nd.

Eventful day. First a navy Dornier seaplane (T 15) about 11 o'clock and then a Gramman amphibian, pilot Van Dyck, landed on the lagoon and unloaded upon us Horne (Australian on ~~Bulolo~~ Bulolo staff) in charge of gold explorations of the , Dutch labor overseer Hageman, two Dyaks and 700-800 kg. of stores. When complete this party will comprise 3 Europeans, 20 Dyaks, 2 cooks, 10 Javanese and Madoerese for sinking test holes and boring, and 18 field police in charge of a white inspector.

Using our canoes, after we leave, this party will be relayed to the rapids this side of the A River, with 2000 kg. of stores. The canoes will be abandoned if it



is found impossible to get them through the rapids, and other canoes made in which to continue the journey. The chief objective of the party seems to be exploration of the B or Sobge River, a large tributary (said to be the main Idenburg) heading at Mt. Juliana, and along which are likely-looking flats for gold.

April 23rd

Weather rainy, has been unsettled for several days, and the river up to 8 m. and rising fast.

The Dornier T-15, flying to Bernhard Camp from Tanek Merah with stores, was unable to cross the range. The Grumman made two trips from Hollandia bringing radio-operator of the gold-mining party.

A second prospecting party, under the leadership of Bartels and escorted by 32 soldiers, is making its way up the branch of the Digoel from Tanek Merah. Party of 26 Dyaks, 20 coolies, convicts, 32 soldiers, Europeans. Failing to make friendly contacts with the natives they have been meeting with many difficulties. Once they were besieged in camp for a month and had 2 Dyaks killed. Last night a tree fell at their #48 camp and killed two natives. According to Horne, there is not one experienced man on the party. Grumman stayed here overnight.

April 24th.

Richardson moved out to Bernhard Camp and the 75 m. ~~mine~~ camp under the mountain abandoned.

Work completed on a raft to carry my drying ovens and the steadily rising water putting out my fires, I moved this important part of my equipment. Water has been rising steadily since the 20th or thereabouts.

The naval Dornier T-15 delivered cargo and some boys from Tanek Merah and returned thence in the morning. The Grumman flew to Tanek Merah before the Dornier arrived.





K.P.M. steamer Van Imhoff arrived and departed from Hollandia with Teerink, Toxopeus, etc.

April 25th.

Water rising steadily and several buildings on lower ground are flooded. Thunderstorms and heavy rain squalls about 5 in the afternoon have been a regular thing for several days.

Went down the lagoon to beyond the narrows to collect Timonius 14043, which ~~is~~ forms tall pure stands, on ground now 1 m. under water, near the river.

April 26th.

River rising steadily; floors of the European kitchen and all the houses quartering natives under water.

The Grumman made a flight from Taneh Merah to this camp, thence to Lake Sentani land-drome, on to Hollandia and back to Taneh Merah. Some damage was sustained while landing at Hollandia, due to heavy rain. Pilot Van Dyck brought a request for the capella of the gold-mines Dyaks to return to Taneh Merah as all the Dyaks of Bartels exploration party at camp #48 have gone on strike and insist upon returning to Borneo. Perhaps the deaths of two of the on the 22nd (falling tree in camp) has something to do with it but I have also heard something about their contract having expired.

April 27th.

River rising slowly; unsettled weather continues. Most afternoons and every night we have rain and last night it was fairly continuous.

The airplane crew being in a hurry to get to Sydney by the 15th May, we are obliged to return to Hollandia two days earlier than was planned, viz. 9th and 10th of May. Guba left yesterday for Port Moresby.

April 28th-30th.

Steady rise in river has continued since at least 17th, the daily gain becoming

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progressively slower as the water spreads out over new levels.

On the 30th, I went down to the entrance of the lagoon and crossed the Idenburg to the opposite bank. Found there, rather to my surprise, the ground along the riverbanks generally not yet inundated. But the river rising and breaking over the banks to the lower ground behind.

From a point opposite the ~~lagoon~~ entrance to the lagoon, our 2150 m camp site and the 1700 m. peak are in plain view. Clouds, formed by river moisture, obscured the whole of the range from 600 m. up before I could erect the big camera for a picture (9 AM). By 4 PM the range behind Bernhard Camp was again quite clear.

This morning (30th) Archbold made his long-arranged broadcast to U.S.A.

highest level, lower on the water surface and over the level.

In the 30th I went down to the entrance of the canyon and crossed the canyon  
to the opposite bank. From there, water to the east, the canyon bank  
riverbank generally not yet reached. But the river bank was on the  
the bank of the lower canyon bank.

From a point opposite the canyon entrance to the west, the 30th  
the 1000 m. distance to the river bank. From there, water to the  
enclosed the foot of the range from 200 m. up before I could cross the  
bank for a picture (1000). At 1000 m. the range bank (1000) was  
also high.

At 1000 m. the bank was high and long-extended (1000).

RECORDING INSTRUMENT FROM

May 1, 1939.

Went up to the "New Camp" in the evening to develop photographs. Was nearly eaten by mosquitoes and got thoroughly drenched in a storm as I returned to Bernhard Camp about nine o'clock.

May 4, 1939.

Finished collecting. From the first of the month, in fact, I have concentrated on 8 x 10 photographs and picked up what few new plants found while ~~making~~ searching for subject for pictures. There is no shortage of subjects, the difficulty lies in finding places on which to erect the big awkward camera. There being no dry ground, I carry rotan in the canoe and build stagings or climb trees and last the camera to them.

The Gold Company today had the misfortune to lose their Grumman amphibian while landing on Lake Sentani, having flown today from Tanah Merah to Bernhard Camp. The machine, it seems, turned over on its nose while landing, smashed the nose off and sank in five meters of water. Pilot and radio operator escaped, the pilot through the nose of the ship, the radio man through the door aft. The wings broke off and the plane a complete loss.

May 5, 1939.

Guba returned from Port Moresby.

Gold Miner faced with the option of having another naval plane or evacuating the Home party from Bernhard Camp on the Guba, before 9th instant, when we will begin to move out to Hollandia. The insurance alone on the L.15 (Damier seaplane) recently chartered by the company for 120 hours flying including journey from and back to Ambon, was 30,000 guilders.

May 1, 1939.

Went up to the "New Camp" in the evening to develop photographs. The  
night, eaten by mosquitoes and got thoroughly drenched in a storm as I  
returned to Bernard Camp about nine o'clock.

May 2, 1939.

Further collecting. From the list of the month, I have examined  
about 20 x 14 photographs and picked up what few new plants I could while  
looking for subjects for pictures. There is no chance of sub-  
jects, the difficulty lies in finding places to erect the air-  
vent cables. There is no dry ground, a heavy forest in the camp and hills  
steeply on either side and the camera to trees.  
The Gold Company today had the machine to lose their burner apparatus  
while landing on Lake Central, having flown today from Teah to Bern-  
ard Camp. The machine, it seems, turned over on its nose while landing,  
damaged the nose off and sent in five meters of water. Pilot and radio  
operator escaped, the pilot through the nose of the ship, the radio man through  
the door aft. The wings broke off and the plane a complete loss.

May 3, 1939.

Returned from Port Moresby.  
Gold mine faced with the option of having another level plane of excavation  
the hole party from Bernard Camp on the Guse, before the machine, then we  
will begin to move out to Hollandia. The distance along on the 1.12 (leaves  
equipment) recently shipped by the company for two boats (including  
journey from the back to London, see 30,000 guineas).

May 9, 1939.

Evacuation of Bernhard Camp commenced. Guba made two flights, taking out first Rand and Richardson, and then Huls. In all nineteen men on each load.

On these two flights police were brought in to act as escort for the Gold Exploration party.

On May 10, 1939 two more flights were made. On the first I went out with Versteegh and all the botanical boys and the last of the American equipment. Van Arcken completed the evacuation of the camp on the second flight of the day and fourth of the series.

Today the <sup>goldmine's</sup> police escort was made up to a total of twelve men, in charge of a native sergeant. The officer commanding, Klassen who opened up the Wissel Meer Station, is on the other side of the range, at Tanah Merah.

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As this is being written aboard the KPM steamer van Imhoff, on the voyage from Hollandia to Makassar, it is possible to give more of the history of the ill fated Gold Exploration Expedition, to reestablish communication with the Bernhard Camp party and enable them to proceed up river, attempts were made to charter another Grumman amphibian from Borneo. When this failed they tried to get another naval plane to operate on charter from Ambon, such as the old Dornier T.15, which flew most of the party across to Bernhard Camp from Tana Merah. Negotiations dragged on until the 18th, when Resident Jansen of Ambon and Assistant Resident Jacobs of Manokwari arrived at Hollandia on a three months<sup>ly</sup> tour of inspection on the 460 ton "white ship" Reiger. Having a poor opinion of the organization of the Gold Corp. and disliking the situation as regards food (about two months supply) and escort (police without an officer, and under orders to remain in camp), Jacobs ordered the retirement of the party if a plane was not forthcoming to continue





contacts within three weeks. Two days later (21st) two big new Dornier flying boats, which were operating with their mother ship "Arend" somewhere on the coast, flew in to Bernhard Camp and removed the whole party to Hollandia.

Meanwhile, about eleven days previous to the withdrawal of Horne's party from Bernhard Camp, thing began to go against Bartels' party operating high up on the Digoel. For six days the old Fokker land plane which provisioned them by parachutes failed to get in owing to bad weather. On the seventh day the weather improved and the Fokker made another attempt, but had not gone very far when an engine failed and she just managed to limp home. With the Fokker grounded for an indefinite period, and the food of the inland party by this time quite exhausted, there was nothing to do but retreat. With empty tucker bags, Bartels and his party began a rapid march down to the canoes left on the river and thence to Tanah Merah, a journey of four days. The party was expected at Tanah Merah on the evening of the 21st, but we had no news of them when we went aboard the "Van Imhoff", which sailed from Hollandia that night.

Things moved quickly for our own expedition after the return of the scientific party to Hollandia on the 9th and 10th. After making very hurried and incomplete arrangements for winding up the expedition, the "Guba", with crew of Archbold, Rogers, Brown, Barrinka and Booth, and Rand, Ramm and a Guinea Airways mechanic named O'Brien (who had been a month or more helping at Hollandia) as passengers, left for Port Moresby at 6.30 AM on the 12th. At Port Moresby they picked up Yancey and flew to Townsville on the thirteenth. On the fourteenth the Guba continued on to Sydney, and Archbold and Rand took a Qantas flying boat to Java.

contacts within three weeks. The only other (what) two days and nights  
typical boats, which were operating with their engines, had been  
down on the coast, and in the morning the boat party  
to Hollandia.  
Meanwhile, about eleven days previous to the withdrawal of the boat party  
from Hollandia Bay, things began to go wrong. The engine, which operated  
high up on the rigging, for six days the one fender and plate which pro-  
vided them by a mechanical device to get in owing to bad weather. On the  
seventh day the weather improved and the fender made another attempt, but  
had not gone very far when an engine failure and the boat began to list  
down. With the fender trapped on an inside fender, and the boat  
the inland party by this time quite exhausted, there was nothing to do but  
retreat. With every fender back, both sides the party began a rapid march down  
to the canoe left on the river and landed to their relief, a journey of four  
days. The party was expected at Dutch Harbor on the evening of the last,  
but we had no news of them then so went aboard the "Van Latorp", which  
called from Hollandia that night.

This moved quickly for our own expedition after the return of the  
scientific party to Hollandia on the 9th and 10th. After making very hurried  
and incomplete arrangements for winding up the expedition, the "Gull", with  
crew of Archbold, Rogers, Brown, Jackson and Hobbs, and hand, left and  
a Dutch always mechanic named O'Brien (who had been a month or more  
missing at Hollandia) - a passenger, left for Port Moresby at 6.30 on  
the 11th. At Port Moresby they picked up Yancey and then to Townsville  
on the 13th. On the 14th the boat came back on the 15th.  
and Archbold and I took a number of days to the 16th.

1941

At Hollandia, Richardson and I were kept busy packing specimens and equipment until the eighteenth. An inventory was made of equipment left at Hollandia, and I marked out two areas of land which the Government has very kindly granted for research purposes. One of these areas, about 200 m. square, surrounds the expedition house on three sides, and extending up to crest of the ridge behind the house, takes in a very good range of forest second growth and a little inferior primary rain-forest left on rough ground. The second area, 100 m. square, is in ~~the~~ old forest farther up the same ridge.

Expedition headquarters at Hollandia has developed into an elaborately equipped permanent base - elaborate so far as mechanical and radio equipment is concerned. In addition to the two godowns, etc. erected in the beginning, there is now spacious radio shack (6 aerials) and a large and costly house of 12 bedrooms, etc. on a high point overlooking the harbour. This house, while one approached from the godowns on the beach by a stairway of 138 steps, is raised high in front and is let into the hillside behind. The ground plan is more or less like this.

#### SKETCH.

Roof of galvanized iron, floors of sawn 8 x 1 hardwood in main house and concrete in bathroom and photo. lab., walls of the main house a kind of stucco on bamboo lathes (cement 300 bags borrowed from Government and not yet returned).

It is planned to use Hollandia as base for another expedition beginning in the first half of 1940. J. G. Nicholson of Port Moresby, who had charge

at Holmbury, Richardson and I were kept busy packing specimens and  
equipment until the afternoon. An inventory was made of equipment left  
of Holmbury, and I marked out two areas of land which the government  
has very kindly granted for research purposes. One of these areas is  
300 ft. square, surrounds the expedition house on three sides, and extend-  
ing up to crest of the ridge behind the house, takes in a very good amount  
of forest second growth and a little inferior primary rain-forest land  
on rough ground. The second area, 100 ft. square, is in the forest but  
near up the same slope.

Expedition headquarters at Holmbury has developed into an elaborately  
equipped permanent base - also intended for as botanical and zoological  
work is concerned. In addition to the two bedrooms, etc. erected in the  
beginning, there is now spacious room (a veranda) with a large and  
comfortable of a bedroom, etc. on a hill-point overlooking the bay.  
This house, while one approaches from the ground on the beach by a stair-  
way of 15 steps, in rain, high in front and as it is the hillside be-  
hind. The ground plan is more or less like this.

EXHIBIT

Foot of Holmbury from floor of same 7 x 1 bedroom in main house and  
concrete in veranda and photo. etc. etc. of the main house a kind of  
space on veranda (about 300 feet) covered with pavement and not  
(yet returned).

It is planned to the Holmbury as base for another expedition returning  
in the first half of 1931. A. G. Nicholson of Fort St. George, who had charge

of the "Maira" in which we went up to the Fly-Palmer Junction in 1936, is being left in charge, and to complete the house, ~~insists~~ install further mechanical equipment. Nicholson's son, Bill, is also at Hollandia, and will be returned to Sydney, via Java, at Archbold's expense, after about two months. Mielke, the original construction boss, will also return, to Java, about July.

Voyage Hollandia to Makassar by KPM mail steamer "van Imhoff". Captain Grootenhuis.

May 21, 1939.

Left Hollandia about 10 PM: the afternoon and evening rainy, but not so wet as when we landed in April of 1938. Richardson, Schroeder, van Dyck and myself, some expedition cooks and base hands, and all the Dyaks ( ) are passengers from Hollandia through to Makassar.

Other passengers are \_\_\_\_\_, Macassar agent of the KPM looking into shipping matters and some rearrangement on this run (#31); Dr. Tammis, economic botanist attached to the Coconut ~~Experimental~~ Experimental ~~Stat~~ Station at Manado; and a commercial traveller! There is also a Dutch missionary and her small son.

In second class are Miss Estelle Cheeseman, entomologist, returning from a trip into the Mandated Territory, our bush radio operator Bazzoni, and the radio operator of the wrecked Grumman plane.

May 22, 1939.

Called at Wakde Island in the morning to load copra. This is quite a small low island lying close to the coast and entirely covered with a very well kept plantation of coconuts, the property of a German who moved west from the

of the "Lanka" in which we went to the 15-Paisa station in 1930.

I became chief in charge, and to complete the house, I took install-

ment of mechanical equipment. Nicholson's son, Bill, is also at Hollandia.

and will be returned to Sydney, via Java, at Nicholson's expense, about

about two months. Mielke, the original construction boss, will also return

to Java, about July.

Voyage Hollandia to Makassar by B.M. East African "Van Laboer". Captain

Grootenhuys.

May 11, 1937.

Left Hollandia about 10 P.M. The afternoon and evening rainy, but not so

wet as when we landed in April of 1936. Richardson, Robinson, van Dyk and my

self, some expedition cooks and base hands, and all the boys ( ) are

passengers from Hollandia through to Makassar.

Other passengers are , assistant agent of the F.M. looking into

shipping matters and some arrangements on this run (W.S.I.); Dr. Tamara,

economic botanist attached to the Council of Agricultural Experimentation and

Station at Manado; and a commercial traveller. There is also a Dutch

missionary and her small son.

In second class are Mrs. Estelle Giesman, entomologist, returning from a

trip into the Mandaya Territory, our Dutch radio operator, and the

radio operator of the wrecked Gribnan plane.

May 12, 1937.

Called at Lake Lela in the morning for load control. This is quite a small

low island lying close to the coast and entirely covered with a very tall

kept plantation of coconuts, the property of a German and owned by the

former German territory during or after the war of 1914-1918. Richardson, who went ashore, says the plantation is intersected by roads in every direction, and a light tractor (rubber tires) and a trailer are used for gathering the crop. Later in the day we called at Sarimi and hove to in the open roads while more copra, and damma were loaded. There is a government station here in charge of a controller<sup>u</sup> responsible to Hollandia. After Sarimi we rounded Cape d'Urville, and drawing away from the still hilly coast of the mainland, set course for the island of Japen.

May 23, 1939.

Anchored in the poorly protected bay of Seroei on the south side of Japen about 11 AM and remained there till midnight.

The administrative centre for the island, Seroei, is spread over low-lying and swampy land at the head of the bay, with behind it a narrow valley disappearing <sup>obliquely</sup> ~~obliquely~~ into the hills. The whole place is intersected by stoned drains carried in straight lines to form the sides of squares and serving both to drain the ground and carry creek water through the town. Outpost settlements of the Dutch seem always to be built on low ground and canalized in this manner. Besides serving as washing places and sewers for refuse, the drains appear to provide the drinking water as well. We took <sup>or</sup> a little cargo at Seroei. Most of the time was occupied in unloading drums of oil, and 3000 tins of rice for the government. This is a calling place for naval patrol planes, three new anchor buoys for which have recently been put down. It was until recently an exploration and air photographic base for the BPM (Oil Company). A concrete ramp newly built when we called here in April 1938, for the Sikorsky amphibian operated by BPM, has now almost disappeared, apparently broken through undermining by water, the little hangar is beginning to fall over, and the spacious living quarters of the company, farther up

...territory during or after the war of 1914-1915. ...  
...the west side, says the plantation is irrigated by ...  
...direction, and a light water (rather than) ...  
...the crop. Later in the day we called at ...  
...the open roads with more crops, and some were loaded. There is a  
...government station here in charge of a controller responsible to ...  
...After going to ...  
...with most of the ...

May 23, 1938

...in the ...  
...Japan about 11 ...  
...The administrative center ...  
...and away from the head of the bay, which ...  
...is ...  
...by stone drains carried in straight lines to ...  
...and serving both to drain the ground and carry water ...  
...the town. ...  
...low ground and ...  
...places and ...  
...water as well. ...  
...occurred in ...  
...ment. ...  
...ways for which have recently been ...  
...excavation and air ...  
...concrete ...  
...operation operated ...  
...broken through ...  
...fill over, and the ...

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3000



town look deserted and neglected.

The place contains about half dozen Chinese situated at the boat landing, there is a Dutch Protestant mission and an ugly church. Altogether it is an unattractive place. Most Government buildings are quite new and built of brightly painted concrete with shingle roofs, but the town is generally untidy and half overgrown with grass and a fern (Dryopteris sp.). Was impressed with the large force of native police stationed here.

May 24, 1939.

Entered at daylight the little landlocked harbour of Woi Bay on the south coast of the far western end of Japen. Here we stayed most of the day loading hardwood logs for Manokwari. Each log is supported in a rough float of small buoyant logs and sticks of all sizes, each in charge of several shouting Papuans, and hoisted on board and down into the holds by ships winches. Most of the logs/to be of a species of <sup>seem</sup> Entsia.<sup>I</sup> Quality good and some of it up to 2'6" diameter and weighing 6-7000 kg. In this little harbour are a number of perhaps-Chinese houses built half over the water along the beach on the eastern side and, at the head of the bay an orderly-looking marine village of about 20 large houses.

All truly native villages on Japen are of the marine type. The people are of Papuan type, small, of rather good features, rather dark in colour and reasonably clean. The men remind one of the Negrite people seen on the Wassi Kussa on the south coast. They wear their hair short, and often a big fibrous plug of chewing material held in front of the teeth makes their lips protrude enormously. The women wear their hair long. When arranged in the Papuan mop it gives them a Melanesian appearance, and when drawn back tightly over the head and formed with a ball behind, a Malayan fashion often effected, they might be mistaken for Malay women. (Breadfruit trees



form forests on the slopes behind the marine villages of Japan.)

About midnight we arrived at Wasior, in Wandamen Bay, where 350 Papuan coolies were taken on board for the Japanese plantation at Momi. Included in the coolie consignment were about 30-40 women and as many children of various ages. Much like the people of Japan in appearance, and like them, living largely on sago, these are inferior physically. In fact a miserable lot, ill nourished and some of the<sup>m</sup> suffering from yaws. They brought, besides their families, all their personal belongings in trade boxes and trunks, their sleeping mats and quantities of sago in native bags and baskets of bark <sup>more</sup> ~~less~~ or less square in shape and provided with bark straps to fit over the forehead. With them were two men dressed in the khaki uniform of Corano or village headman.

May 25, 1939.

Seeing little of the mountainous coast for showers and low clouds, we anchored about 10.30 in the morning at Momi to discharge the coolies in the ship's boats. Six Japanese men and one woman came off to the ship. Also three Chinese, who apparently are able to do business even in a Japanese settlement, came on board.

When Miss Gibbs visited the Angi Lakes back in 1911, a Japanese was already settled at Momi. Five or six years ago big capital came in and a considerable concession of land was obtained for growing cotton. Though not well visible from the ship, there is now quite an imposing group of buildings of native materials and thatched roofs behind the beach line of tall old coconuts. Strung along the beach are a considerable number of smaller houses occupied by the Papuans employed on the place. Cattle of Asiatic type were seen grazing among gardens planted with taro, etc. Little ground could be seen under cultivation for plantation purposes. Some land has been

... on the slopes behind the main village of ...  
... at ... in ...  
... taken on board for the Japanese ...  
... were about 20-30 ...  
... like the people of Japan ...  
... there are ...  
... and some of the ...  
... their families, all ...  
... their sleeping ...  
... of ...  
... to ...  
... of ...

... 1937

... of the ...  
... about 10:30 in the morning ...  
... the ship's ...  
... also ...  
... came on board ...  
... in 1911, a Japanese ...  
... of ...  
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recently ploughed and much of the cleared area is overgrown with grass and forest regrowths are coming in vigorously at least on the northern end. According to Mr. Jacobs, assistant resident at Manokwari, 600 hectares have been cleared of forest, and last year 400 hectares planted to cotton. Rain in the picking season interferes with the harvest, and in spite of the presence of pink boll worm, which does much damage, ratooning is practiced. Only "middling" types of cotton are grown. According to all reports, Mowi is mismanaged, and climatically unsuited for cotton culture. From the fact that 1100 Papuans and 12 Japanese are employed, the venture might be judged unprofitable financially. In Dutch quarters the enterprise is regarded as political rather than commercial.

A path to Augi Lakes, the best and shortest (two days) from the Manokwari coast, leads up the range behind ~~the~~ Momi. Behind a narrow coastal plain the mountains rise quickly in smooth rounded grassy slopes cut by deep and narrow valleys. There old secondary grasslands extend to about 400 m., their upper limits being today just cut off by the level base of a cloud bank which formed about 10 o'clock and hid from view the forested upper slopes of the whole length of the range. The population responsible for this deforestation is moving south along the face of the range, wherefor some miles the forest is largely secondary up to the cloud belt.

Late in the afternoon we anchored in the well sheltered harbour of Manokwari and went ashore to call at the house of Mr. Jacobs. A well kept little town consisting of one street with a double row of Chinese shops and one Jap business house along the shore, and above it a grassy slope planted with some fine African tulip trees, etc., a row of houses occupied by the higher officials, the minor officials having their smaller dwellings between these two sections. A captain's command of soldiers garrison the place. ~~The~~ Town lit by electricity. Here is a fair sized, though anti-



quated sawmill owned by the Government and operated by a German. Late into the night the ships winches worked unloading logs on to the great floats drawn up fore and aft on both sides of the ship.

Spurred into activity, perhaps, by the establishment of a Japanese plantation for, while there are German plantations, none is Dutch owned on the north coast, the Government has during the last year started planting close by the Japanese cotton concession to the north, where an area of 500 hectares of good land is available. Here rubber and African oil palms will be grown, and seed beds have already been established, while 2000 Papuan coolies are engaged in clearing the land.

May 26, 1939. Manokwari to Sorong

At dawn we had rounded the point from Manokwari and were passing along the mountainous north coast of the Vogelkop, with the bold rounded slopes of the Arfak, standing out clear in the early morning air, already somewhat astern. There is no port of call on all this unsheltered coast, though patches of second growths and pale cultivated spots indicate the presence of population along most of its length. This population is seemingly confined to a line of low mountains or rather a discontinuous ridge, possibly of coral limestone, which runs along the coast close under the main mountain complex. Late in the afternoon, as we were running SW towards Sorong, I had though the clouds which had obscured the upper levels of the mountains most of the day, a glimpse of a bold high peak, rather distant from the coast, which was probably

Arrived at Sorong about 8.30 in the evening, and Richardson went ashore with a Dyak to procure food for his tree-climbing kangaroos. Here we took on board eight men of the BPM (Oil Company) going on leave, who had been flown from Babo to catch the ship. Babo, the exploration headquarters of the oil people is said to have a population of 600 Europeans.





May 27, 1939. Sorong to Waigeu

Leaving Sorong, sometime late at night we anchored at the uninviting  
wayside part of situated on a tiny island off the south coast of  
Waigeu. Here, what little trade there is is apparently in the hands  
of shifty looking Malays and Arabs, and we took on board a few boatloads  
of copra.

The long roughly mountainous island of Waigeu rises nowhere higher than  
m. Hills of coral limestone, completely forested except for some  
bare faces of yellow and in one place dazzling white rock, rise from the  
sea and are only very occasionally broken by little coves in which coco-  
nuts are planted. The mountains of the interior seem to lie in parallel  
ridges running to roughly east and west. These summits show a curious  
irregularly sinuate outline, like "haycock" limestone. Miss Cheeseman,  
who spent some months collecting in the interior last year, says these  
curious ridges are of an older crystalline limestone, while the highest  
peak (Nog) is of almost vertically bedded slate. Thousands of tall feather  
palms, with small crowns and apparently rather large fruits (Phytococcus?)  
protruding above the forest like maps presented to the sky, are a notable  
feature of the nearer ridges.

Later in the morning we anchored at the small island of Yef off the  
western end of Waigeu to load steelwood logs for Ambon. In the broad  
bay are numerous low coral islands, some of them completely covered with  
coconut palms. Yef is one of these latter, situated at least 3-4 miles  
from the mainland. Here lives a German named Stuber and his wife --  
hearty, bluff, but no doubt very business like people if one may judge  
from the appearance of their shore establishment, neat motor boat, and  
good crew of natives. Natives of Papuan blood, similar to those of Japen  
and Wandamen Bay. The logs loaded here were smaller than those from Woi  
Bay, and squared.

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Handwritten notes on the right margin, including a large 'A' and some illegible text.

May 28, 1939.

Sometime during the night we touched on the east coast of Halmahera, but rain prevented any loading of copra. About 9 AM we anchored at Tobelo where for several hours copra was loaded. A big village here, and all the coast and the lower slopes behind are planted to coconuts. An active volcano, today hidden in clouds, rises close behind the little town. Small quantities of very fine ash were falling. Two years ago a great eruption of this ash did great damage to the coconuts, and the decks of the "van Imhoff" which was in port at the time were covered 3-4 inches deep.

Here Dr. Tammars left the ship to investigate a leaf mining insect which is giving trouble in the coconut groves.

May 29, 1939.

Yesterday's showery weather and thick low clouds over the land continued today and made our call at the old and historic town of Ternate rather unpleasant. Being two days behind schedule we left directly after loading the usual copra and taking on fresh water.

Here the military commandant of the Moluccas, ~~Overste~~ <sup>Overste</sup> Siereveldt, joined the ship to return to his headquarters at Ambon.

The cloud masses which as in New Guinea descend to regular levels on the mountains of the Moluccas seem lower and are dark and gloomy in appearance. Here the average is probably about 400 m. to the base of the clouds: in New Guinea perhaps 500 m. Van Dyck, an air pilot on board, says that whereas the New Guinea clouds are cumulus, those of the Moluccas and lesser Sundas are strato cumulus.

On Ternate a large flat-topped Albizzia is very abundant on the slopes of the volcano which is the island, descending to about 250 m. alt.

13065

May 28, 1938

sometime during the night we touched on the east coast of Hainan  
 but rain prevented any landing or coasting. About 9 AM we anchored at  
 Foshan where we covered a narrow cove. A big village  
 and all the coast and the lower slopes behind are planted to rice  
 in native fashion, rocky and in places, trees close behind the fields  
 town. Small quantities of very fine and were falling. Two days ago  
 a great eruption of ash and gas fell down to the coast, and the  
 back of the valley. Much was in part of the time were covered

3-4 miles away.

Here we found that the plan to investigate a few mining areas which  
 is given details in the account above.

May 28, 1938

Yesterday's shower was over and back for about over the land continued  
 today and made our call at the old and new river of Foshan. Foshan  
 across and about the day being somewhat we left directly after noon  
 for the great river and being on fresh water.

Over the

Here the misty command of the mountains, Foshan, Foshan, Foshan  
 ship to return to his headquarters at Foshan.

The cloud masses which as in few places descend to the plain levels on the  
 mountain of the valley seen lower and dark and cloudy in appearance.  
 here the average is probably about 1000 ft. to the base of the clouds. In  
 the valley between Foshan and Van Dyke, an air pilot on board, says that

above the few thin clouds and cumulus, those of the clouds and lower  
 clouds are first cumulus.

in Foshan a large 11-footed volcano is very prominent on the slope of  
 the volcano which is the island, descending to about 250 ft.

May 30, 1939.

Anchored at Labhua on the west coast of Batjan about 6 PM. Could see little of the island for clouds. Except for many coconuts all along the coast the island seems undeveloped and unoccupied. The Moluccas throughout show no evidence of inland population such as one sees along most of the elevated coasts of New Guinea.

May 31, 1939.

Called at the little port of Namlea on the dry north coast of Buru. Although I should say at some time in the remote past a forested country this slope of the island is now for the most part grassed. Some of the hills carry nothing but grass dry enough to burn and some few scattered small trees. Others ~~again~~ are covered with an open savannah of low gray trees (Melaleuca). On some are remnant strips of forest in the gullies, but otherwise nothing but grass. Others again are more or less covered with low closed forest tailing off into dark patches of trees and rather dense stands of Melaleuca. The grassy hills gradually diminish in height towards the coast and for many miles to the N- to NE of Namba end abruptly in a gently, evidently moister and partly forested, slope of 1-300 yards ending on a narrow white beach. Habitations, gardens and patches of coconuts are scattered all along the beach line. The forest there is tall and dark and of uniform growth and appearance (possibly a closed high stand of Melaleuca?). Buru is a poor island, noted for its exports of cajepoeti oil. We shipped here 240 bags of copra and also oil. Cases of beer, bottles of cheap wine tied up in bundles, and large earthenware jars probably containing spirits, were conspicuous articles going ashore. Siereveldt went ashore here to inspect a new land drome.

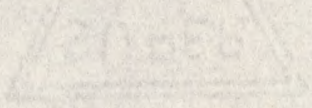
Arrived at Ambon about 9 PM and took on more passengers. Resident Jansen



was on board to say goodbye, and Huls joined the ship. Van Arcken and the soldiers stay in Ambon two more days, when they will leave for Soerabaya by white ship arriving there on the ninth.

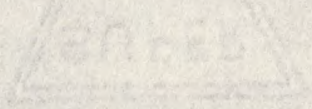
and on board to say goodbye, and then joined the ship. Van Arden  
and the soldiers stay in London two more days, when they will leave for  
Boston by ship arriving there on the 15th.

WINE BOOK BOND



WINE BOOK BOND

WINE BOOK BOND





June 1, 1939.

Left Ambon 6 AM - raining, and passing the island of Buru - also hidden in clouds for the most part - headed across open water for Cobbes and Macassar.

June 3, 1939.

Arrived in Macassar 8 AM - one day behind schedule and on a Saturday. Worked all morning on business affairs with Mr. Bashuizen, agent of Internatio, and then repaired to the Harmonie. Had no time to present my letter of introduction to Mr. de Haas Winkelman, Governor of the Groot-Ost, who has but recently returned from leave in Holland. Left at 4 PM for Sourabaya on the "Melchior Treub".

June 4, 1939.

Called at Bali in the afternoon and went ashore for three hours; Huls, Schreuder, Richardson and self hiring a car. Visited a tea-house about 1000 feet up the mountain side close behind the town, inspected a temple east a few miles along the coast, and purchased some cloth and silverware from an Arab or Indian dealer.

June 5, 1939.

Arrived at Soerabaia 7 AM, put up at the Oranje Hotel and by 8.30 had called on Mr. Pick, Agent of Internatio and was in conference with Mr. Borgh, accountant, trying to determine the sum recoverable from Buitenzorg in connection with recruiting Dyaks for the expedition. Found that no settlement can be made until all accounts are in and assembled for analysis. Annual manouvers of the defence forces are in progress. Town full of army, air-force and naval officers and men. Saw a fine display of 39 Glén

June 1, 1933

Left at 10:30 AM for the post office - headed out on water for  
hidden in reports for the post office - headed out on water for

Called and arranged

June 2, 1933

Arrived in afternoon 5 PM - one day ahead schedule and on a certain

Worked all morning on business affairs with Mr. Baskin, agent of

interests, and then reported to the bar office - had no time to present

no report of introduction to Mr. de Witt - Minister, Governor of the

district, who has just received information from the Holland

left at 10:30 AM on Saturday for the "Lafayette" (train)

June 3, 1933

Called at 10:30 AM for the afternoon and went out on a 15-hour trip

to the coast, including the night of June 3-4, 1933. Arrived at 10:30 AM

at the coast in the morning and then went to the coast for a few days

and a few days along the coast, and purchased some gifts and souvenirs

from an shop on the coast.

June 4, 1933

Arrived at 10:30 AM for the afternoon and went out on a 15-hour trip

to the coast, including the night of June 3-4, 1933. Arrived at 10:30 AM

at the coast in the morning and then went to the coast for a few days

and a few days along the coast, and purchased some gifts and souvenirs

from an shop on the coast.

Arrived at 10:30 AM for the afternoon and went out on a 15-hour trip

to the coast, including the night of June 3-4, 1933. Arrived at 10:30 AM

at the coast in the morning and then went to the coast for a few days

and a few days along the coast, and purchased some gifts and souvenirs

from an shop on the coast.

Martin bombers flying in formation.

219

June 6, 1939 - June 8, 1939.

Occupied with expedition business, and waiting for clothing to be made. On the eighth Richardson and self made a trip to Trites, about 3000 feet in the mountains behind Soerbaya.

June 9, 1939.

Took the day express to Batavia..... See small notebook #.

At the time of the investigation...

June 2, 1939 - June 7, 1939.

Company with captioned business, and waiting for clothing to be

made. On the fifth Richardson and Bell made a trip to Tulsa, about

300 feet in the room and behind doorway.

June 7, 1939.

Look the day experts to be found... see small notebook.

THE BOND  
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