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BIRDS OF THE ARUSHA NATIONAL PARK, TANZANIA

By

J. S. Beesley

Arusha National Park, P.O. Box 3134, Arusha

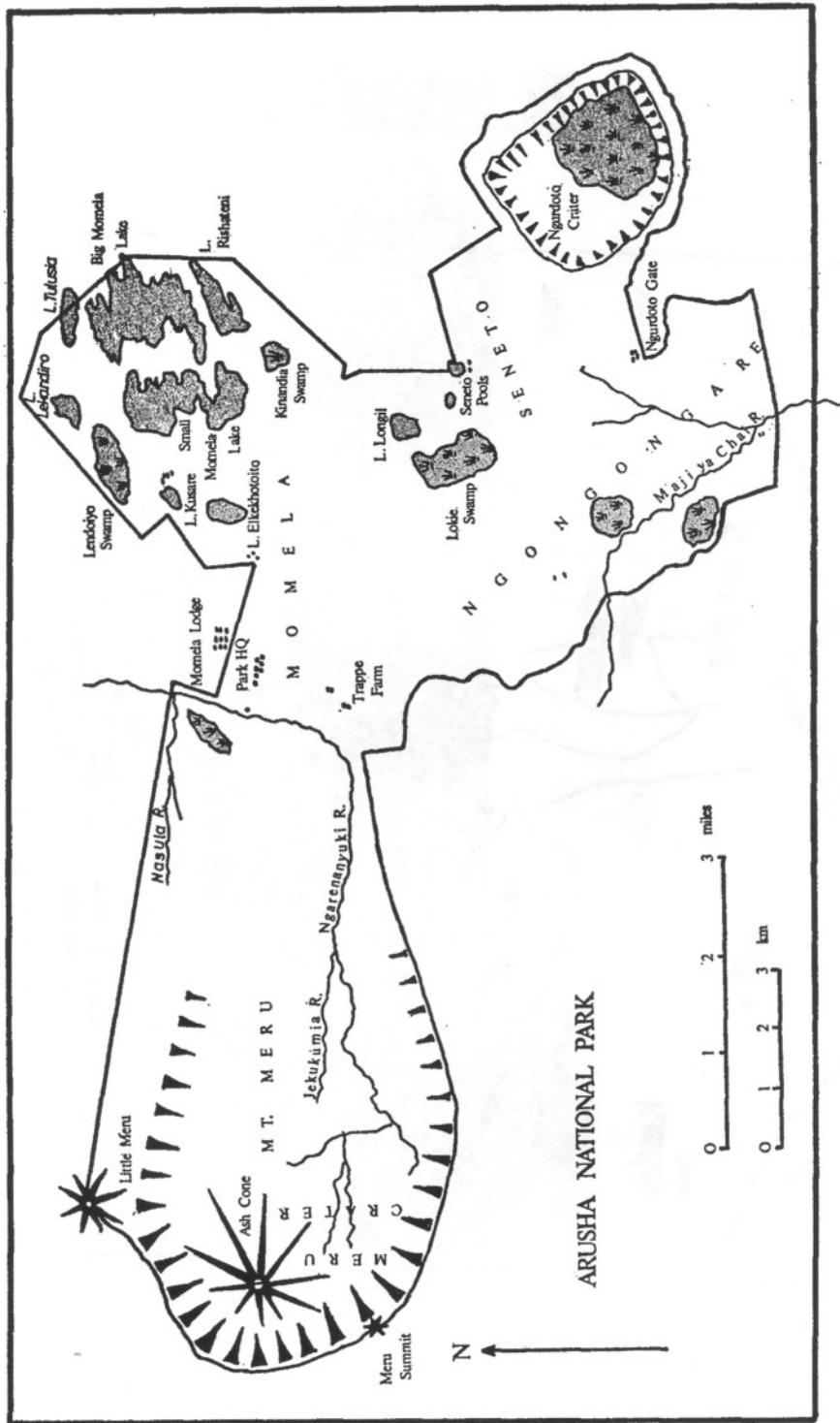
INTRODUCTION

The main reason for this paper is to set down what is now known of the present status of the birds of the Arusha National Park, so that comparisons may be made by other ornithologists in the future. The area being a National Park, it is hoped that the main habitat changes in the future will be those of natural succession, and therefore the only avifaunal changes will be the result of these and not of the rapid destruction or alteration of environment which is occurring over much of Africa. However, some of the cultivation, overgrazing and destruction of woodland going on beyond the borders of the Park may influence the status of birds in the Park, and some mention is made of the birds and environment of these areas. The data in this paper have been accumulated over a period of nine years, but mainly during the past three while I have been working in the Park. I have also been given many notes by L.D.E.F. Vesey-FitzGerald, the Tanzania National Parks' Scientific Officer who has lived in the Park for five years, and some records are based on skins in the Park museum. Identifications of the skins of more difficult species have been made by C. W. Benson, of the Department of Zoology, Cambridge.

TOPOGRAPHY AND CLIMATE

The Arusha National Park is situated on the eastern side of Mt. Meru in north-eastern Tanzania, at 3°15'S, 37°00'E. Mt. Kilimanjaro rises some 40 km to the east. The country is generally rugged resulting from past volcanic activity, and ascends from 1400 m in the Momela Lakes and Ngongongare section (see map) to almost 4565 m at the summit of Mt. Meru. It contains a diversity of habitat, ranging from alkaline and fresh-water lakes, through bush, grassland and swamp, to forest, heath and precipitous bare cliffs.

The climate varies with the altitude and the area is within the regime of two rainy seasons, the "short rains" of November and December, and the "long rains" of mid-March to late May, although rainfall is recorded for every month. Considerable cloud-cover from April to September keeps the area green through much of the dry season. Rainfall varies from year to year and place to place. In lower, drier areas it ranges between 600 mm and 1300 mm and in Meru Crater at 2590 m between 1400 mm and 2400 mm. Temperature records have not been kept, but generally the Park is temperate compared with the rather arid surroundings of Masailand. The hottest season is in January and February with temperatures rarely exceeding 27°C. In the cold season, June to August, temperatures at midday do not drop much below 15°C. Strong winds blow from January to March and July to October. On the higher parts of Mt. Meru of course, temperatures are lower, frost occurring at night in Meru Crater during the cold season.



HABITATS AND VEGETATION

No detailed description of the vegetation of the area has yet been published, but L.D.E.F. Vesey-FitzGerald has allowed me to study his manuscript (in preparation). The habitats are listed below in some detail with notes on possible future trends.

Permanent Water

Strongly alkaline lakes: Big Momela, Rishateni, Tulusia and Lekandiro.

These deep lakes are rich in algae, other plankton and at times Chironomid larvae, but no fish and few frogs. The waters are very clouded, and are rarely visited by Great Crested Grebes *Podiceps cristatus*, Reed Cormorants *Phalacrocorax africanus*, White Pelicans and Herons, Ardeidae, which feed mainly on frogs (*Xenopus spp.*) in clearer waters. Ducks, Anatidae and Little Grebe *Podiceps ruficollis* are numerous in their seasons except in some years when the waters turn yellow and smell strongly of sulphur, probably the result of the death and decay of the blue-green algae.

Less alkaline lakes: Small Momela, Kusare and Elkekhotoito.

All three lakes have no fish, but plenty of frogs at times, and are much frequented by those birds noted as rare in the strongly alkaline lakes. Small Momela is deep, the two others are shallow. Kusare occasionally supports a heavy growth of water-weed, at which time ducks and geese congregate, and Jacanas *Actophilornis africanus* breed.

Fresh lakes: Longil.

Lake Longil supports a floating sudd of Papyrus and a population of introduced fish. Very few aquatic birds are seen there, for which I can find no satisfactory reason except that the water is strongly coloured.

Streams: The Ngarenanyuki, Jekukumia, Nasula, Maji-ya-Chai and numerous smaller ones.

They are swift-running, their waters are variously fresh, alkaline or salt, and contain little aquatic growth and no fish, except in the Maji-ya-Chai.

Temporary Water

Rainwater pools, the larger being Seneto Pools and Kiwanja-ya-Mateo. These are mostly in the forest and what had been forest. During dry years they are edaphic grass glades, but after good rains fill up and acquire a cover of water-lilies and weed, and a fringing growth of sedges. They are then much frequented by water-fowl, especially Little Grebe, White-backed Duck *Thalassornis leuconotus*, Red-bill Duck *Anas erythrorhyncha*, Egyptian Goose *Alopochen aegyptiacus*, Spurwing Goose *Plectropterus gambensis*, Black Crake *Limnecorax flavirostra*, African Moorhen *Gallinula chloropus*, Red-knobbed Coot *Fulica cristata* and Jacana. A limited amount of breeding takes place. As the waters recede, Buffalo *Syncerus caffer* (Sparmann), Bush Pig *Potamochoerus porcus daemonis* Major and Bushbuck *Tragelaphus scriptus* (Pallas) eat the water-lilies and many of the birds depart.

Swamps

Fresh swamps containing tall plants such as papyrus, *Miscanthidium violaceum* (K. Schum) Robyns and *Cyperus immensus* C. B. Cl. Alkaline swamps or lake margins of the shorter *Cyperus laevigatus* L.

Lake Shores

With the fall of water-levels, a margin of mud is exposed, providing the main habitat of Palearctic waders.

Grassland

Derived tussock grass on the laharic monticules of the Momela area of which the main components are *Cymbopogon afronardus* Stapf and *Sporobolus greenwayi* Napper, and the short-grass lawns which have been kept open by buffalo grazing.

Derived grassland on the lower slopes of Mt. Meru, a mosaic of tussocky *Eleusine jaegeri* Pilg. and short-cropped *Exothea abyssinica* (A. Rich.) Anderss. and *Cynodon dactylon* (L.) Pers.

Short alkaline grass swards of *Sporobolus spicatus* (Vahl) Kunth bordering the soda lakes, often with bare patches of alkaline soil.

Secondary Vegetation

“Sage-bush”: This is a term we have given to the mixture of *Leucas grandis* Vatke, *Ocimum suave* Willd., *Lantana viburnoides* (Forsk.) Valh., *Lippia javanica* (Burm.f.) Spreng, *Hoslundia opposita* Vahl, *Vernonia lasiopus* O. Hoffm. and other shrubs which have replaced the destroyed forest, thicket and woodland below 1680 m. It is an important habitat covering a large area. In the drier areas (Momela) it is short, combined with tussock-grass on the hillocks and is scattered with *Acacia sieberiana* D.C., *A. xanthophloea* Benth., *Croton macrostachyus* Hochst. ex Del. and other trees which sometimes form copses on steeper hillsides. In the wetter parts about Seneto and Ngongongare it is taller, thicker, with some regeneration of forest trees, clumps of secondary trees and forest remnants.

Dodonea scrub: This covers an area of boulder beds spread by the Ngarenanyuki river at the base of Mt. Meru, which once supported a woodland of cedar *Juniperus procera* Hochst. ex Endl., but was reduced by fire and felling to a thin woodland/scrub of *Dodonea viscosa* (L) Jacq. and scattered relict cedars.

Woodland

This term applies to the groves of mature Yellow-bark Acacias *Acacia xanthophloea* which grow in moist hollows, on the perimeter of some lakes and along the lower part of the Ngarenanyuki. The most extensive stand is found round the shores of Lake Elkek-hotoito where it is mixed with regenerating forest trees.

Regenerating *A. xanthophloea* scrub.

An important habitat composed of young Yellow-bark Acacia trees up to 5 m tall, growing round lake-shores.

Forest

Dry evergreen forest existing from 1500 m to 1700 m, characterised by *Diospyros abyssinica* (Hiern) F. White *Olea welwitschii* (Knohl.) Gilg & Schellenb., *O. hochstetteri* Baker, (loliondo) and *O. africana*. In places it is fairly open, but there are thickets and tangle of undergrowth and regeneration.

Sub-montane or mountain evergreen mist forest, occurring from 1700-1800 m on Ngurdoto crater rim and up to 2100 m, on Mt. Meru. On Ngurdoto characteristic trees are *Cassipourea malosana* (Baker) Alston, *Tabernaemontanus* and *Casearia* on Meru, *Olea hochstetteri* is dominant. There is heavy undergrowth in much of this type of forest, and the trees are festooned with epiphytes.

Montane Forest: From 2100 m to 2600 m is a forest of tall *Juniperus* and *Podocarpus gracilior* Pilger, generally with an open, grazed floor, but in parts with an understorey of broad-leaved evergreen trees. Above this type of forest, on the steep slopes of the rim, mainly on the northern arm of the caldera wall are relict *Hagenia abyssinica* (Bruce) J. F. Gmel. trees and a growth of tall *Crotalaria agatiflora* Schweinf. shrubs.

Forest edge

A complex of trees, shrubs and bracken bordering the forest from 1680-2260 m.

Heath Zone

Represented mainly in, above, and just below Meru Crater. The co-dominant shrubs are *Erica arborea* L. *Stoebe kilimandscharica* O. Hoffm. which form thickets 3-4 m high, traversed by grassy lanes and glades, with emergent trees including *Agauria salicifolia* (Comm. ex Lam.) Hook.f. and *Juniperus*.

Special Sites

Cliffs, Waterfalls, Buildings, Large Mammals.

HABITAT AND AVIFAUNAL CHANGES IN THE PARK

The main areas of habitat change in the Park will be in the "sage-bush", parts of which will become pasture through the influence of grazing pressure by buffalo thus attracting additions to the presently few grassland species of birds, and the wetter areas will resolve through secondary and forest-tree regeneration back to woodland and forest. It's doubtful however that all the "sage-bush" will disappear. The *Dodonea viscosa* scrub, with fire-protection, will eventually give place to cedar woodland with an understorey of other regenerating forest trees. The increase of buildings at the Park headquarters will provide a niche for more Barn Owls *Tyto alba*, Swifts Apodidae, African Pied Wagtails *Motacilla aguimp*, Swallows Hirundinidae, Redwing Starlings *Onychochognathus morio*, and Scarlet-chested Sunbirds *Chalcomitra senegalensis*. The Grey-headed Sparrow *Passer griseus* which nests beyond the Park border may also be attracted. The continued tranquility in the Park and decrease of it outside, may encourage the more mobile birds such as predators and water-fowl to breed in increasing numbers in the Park, and perhaps additional species will take residence.

Slight changes in the avifauna have been observed in recent years, some of which may not be permanent. The first is the apparent loss of the Palm Swift *Cypsiurus parvus* which used to frequent the mature *Phoenix reclinata* palms, now mostly destroyed by elephants except in the ravines. In 1969, a pair of Crested Francolin *Francolinus sephaena* with young were found; these are birds normally of the thorn-bush beyond our borders. The Rattling Cisticola *Cisticola chiniana* at one time a visitor is now also a resident, and with the increase of grassland the Rufous-naped Lark *Mirafra africana* and Pangani Longclaw *Macronyx aurantigula* have increased in numbers. The older Park buildings became the nesting sites of Wire-tailed Swallows *Hirundo smithii* in 1968 followed by Mosque Swallows *Hirundo senegalensis* which took over some of their nests a few months later. In 1970 a Wire-tailed Swallow's nest which had been taken over by a Mosque Swallow was commandeered by a pair of White-rumped Swifts *Apus caffer*, also a new breeding species to the Park (Beesley 1971a). Squabbles were frequent. The African Pied Wagtail and Scarlet-chested Sunbird also began nesting on buildings in 1968. The Blue-capped Cordon-blue *Uraeginthus cynocephalus* and Purple Grenadier *Granatina ianthinogaster* were not recorded before 1969, but during that year many were seen, some stayed for three months, and the latter species may have bred. Nine months after

clearing an area of bush, some 100 hectares in extent, which became much frequented by herds of buffalo and other game, a pair of Crowned Lapwings *Stephanibyx coronatus* took up residence and nested in September 1970. Previously this bird had been a rare visitor from the short grass grazing land just beyond the Park borders.

BREEDING

Of the 191 resident birds, 12 visitors that sometimes breed and 6 breeding migrants, only 133 species have been seen nesting, and in some species only one nest has been found so far. With these few records it is difficult to give a clear picture of the breeding seasons; some tentative observations may be made however. The smaller birds, which feed either themselves or their young on insects appear to lay their eggs from one to three weeks before the beginning of each of the two rainy seasons, usually in February and October, thus rearing the young during the first part of the rains. Very little breeding takes place in the cold season of June, July and August. However, after the failure of the short rains in 1970 and the drying up of the Park throughout the beginning of 1971 until mid-March when the long rains started, there was a great amount of breeding during the long rains in April and May, and in the cold month of June. Predators, such as have been found breeding, the plovers Charadriidae, game-birds Phasianidae and the nightjars Caprimulgidae nest in the dry seasons, although some of the Helmeted Guinea-fowls *Numida mitrata* and Augur Buzzards *Buteo rufofuscus* lay during the long rains.

It is apparent that many of the species have two breeding seasons, and some breed either several times or throughout the year. This, and the prolonged nesting period of some recorded species is probably the result of predation, disturbance and the variable, temperate climate with its lack of a long dry season. Predation is heavy, and I have seen many robbed nests, the work of genets *Genetta sp.*, snakes and baboons *Papio sp.* The passage and feeding of elephants *Loxodonta* destroys nests in bushes and small trees, but I have never seen a ground nest trampled by game. Without being able to study individual recognisable birds throughout the year, it would be impossible to state the number of broods that are successful.

SURROUNDINGS OF THE ARUSHA NATIONAL PARK

Where the Park borders the forests of Mt. Meru and Ngurdoto Crater, the country beyond is a continuation of this forest, changing only in type with descending altitude. Much of the old forest has been and is still being cleared. Towards Usa River at 1130 m and Lake Duluti at 1300 m the original forest and woodland is confined to small relict patches and gallery forest along the streams. Most of the birds inhabiting these areas are found in the Park, but there are a few exceptions, namely the Bat-eating Buzzard *Machærhamphus alcinus* Westerman, Northern Brownbul *Phyllastrephus strepitans* (Reichenow), Zanzibar Sombre Greenbul *Andropadus importunus* (Vieillot), Ashy Flycatcher *Alseonax cinereus* (Cassin) and Peter's Twinspot *Hypargos niveoguttatus* (Peters), (Beesley 1967). These species probably have altitudinal limits. It should be noted also that the Little Greenbul *Eurillas virens*, Drongo *Dicrurus adsimilis* and Red-headed Weaver *Anaplectes melanotis* which breed commonly in these lower areas are only occasional visitors to the Park.

To the north and east of the Park, the laharic monticules and dells clothed in sage-bush merge into a mixture of even drier sage-bush, tussock-grass, cultivation and grazing land. Just outside the Park, although many of the bush-grassland birds are the same, there is a rather sudden change, the colonisers from the woodland and forest-edge such as the Yellow Fly-catcher Warbler *Chloropeta natalensis*, Stonechat *Saxicola torquata*, Singing Cisticola *Cisticola cantans* and Tropical Boubou *Laniarius aethiopicus* are absent, but the species typical of dry open country and cultivation are more common. The most striking difference in birds is found in an arc beginning only five kilometres to the north

of the boundary, a country composed mainly of *Acacia tortilis* (Forsk.) Hayne wooded grassland, alkaline short-grass plains along the Ngarenanyuki river and *Acacia mellifera* (Vahl) Benth.-*Commiphora africana* (A. Rich.) Engl. bush interspersed with other edaphic short-grass plains which stretches northwards to, and beyond, the Kenya border. Here, between five and fifteen kilometres from our boundary, 58 species not yet recorded in the Park are found breeding, and a further 30 which are but rare visitors to the Park. The former birds are listed below.

Ostrich *Struthio camelus* Linn.
 Lanner Falcon *Falco biarmicus* Temminck
 White-eyed Kestrel *Falco rupicoloides* A. Smith
 Pigmy Falcon *Poliolierax semitorquatus* (A. Smith)
 Pale Chanting Goshawk *Melierax poliopterus* Cabanis
 Yellow-necked Spurfowl *Pternistis leucoscepus* (Gray)
 Kori Bustard *Ardeotis kori* (Burchell)
 White-bellied Bustard *Eupodotis senegalensis canicollis* (Reichw.)
 Crested Bustard *Lophotis ruficrista* (Smith)
 Two-banded Courser *Hemerodromus africanus* (Temm.)
 Pratincole *Glareola pratincola* (Linn.)
 Chestnut-bellied Sandgrouse *Pterocles exustus* Temminck & Langier
 White-bellied Go-away Bird *Corythaixoides leucogaster* (Ruppell)
 Yellow-collared Love-bird *Agapornis personata* Reichenow
 Grey Hornbill *Tockus nasutus* (Linn.)
 Von der Decken's Hornbill *Tockus deckeni* (Cabanis)
 Abyssinian Scimitar-bill *Rhinopomastus minor* (Ruppell)
 Long-tailed Nightjar *Scotornis climacurus* Vieillot
 White-headed Mousebird *Colius leucocephalus* Reichenow
 Black-throated Barbet *Tricholaema melanocephalum* (Cretz.)
 Red-and-Yellow Barbet *Trachyphonus erythrocephalus* Cabanis
 D' Arnaud's Barbet *Trachyphonus darnaudii* (Prevost & Des Mrs)
 Singing Bush-Lark *Mirafra cantillans* Hawker
 Fawn-coloured Lark *Mirafra africanoides* A. Smith
 Pink-breasted Lark *Mirafra poecilosterna* (Reichw.)
 Short-tailed Lark *Pseudalaemon fremantlii* (Phillips)
 Little Tawny Pipit *Anthus caffer* Sundevall
 Banded Tit-Flycatcher *Parisoma boehmi* Reichw.
 Pale Flycatcher *Bradornis pallidus* (Muller)
 Grey Flycatcher *Bradornis microrhynchus* Reichw.
 South African Black Flycatcher *Melaenornis pammelaina* (Stanley)
 Spotted Morning Warbler *Cichladusa guttata* (Heuglin)
 Grey Wren Warbler *Calamonastes simplex* (Cabanis)
 Yellow-bellied Eremomela *Eremomela icteropygialis* (Lafresnaye)
 Tiny Cisticola *Cisticola nana* Fischer & Reichenow
 Asy Cisticola *Cisticola cinereola* Salvadori
 Teita Fiscal Shrike *Lanius dorsalis* Cabanis
 Long-tailed Fiscal Shrike *Lanius cabanisi* Hartert
 Slate-coloured Boubou *Laniarius fumebris* (Hartlaub)
 Rosy-patched Shrike *Rhodophoneus cruentus* (Hemprich & Ehrenberg)
 Fischer's Starling *Spreo fischeri* (Reichenow)
 Superb Starling *Spreo superbus* (Ruppell)
 Violet-backed Sunbird *Anthreptes longuemarei* (Lesson)
 Red-billed Buffalo-Weaver *Bubalornis niger* Smith
 White-headed Buffalo Weaver *Dinemellia dinemelli* (Ruppell)
 Stripe-breasted Sparrow-Weaver *Plocepasser mahali* Smith
 Grey-headed Social Weaver *Pseudonigrity arnaldi* (Bonaparte)
 Yellow-spotted Petronia *Petronia xanthosterna* (Bonaparte)
 Speckle-fronted Weaver *Sporopipes frontalis* (Daudin)
 Vitelline Masked Weaver *Ploceus vitellinus* (Lichtenstein)
 Black-necked Weaver *Hyphanturgus nigricollis* (Vieillot)
 Cut-throat *Amadina fasciata* (Gmelin)
 Green-winged Pytilia *Pytilia melba* (L.)
 Indigo-bird *Nypochera* sp.
 Steel-blue Whydah *Vidua hypocherina* Verreaux
 Fischer's Whydah *Vidua fischeri* (Reichenow)
 White-bellied Canary *Serinus dorostriatus* (Reichenow)
 Kenya Grosbeak Canary *Serinus buchanani* Hart

STATUS OF THE SPECIES

Four hundred and eleven species of birds have so far been recorded. In the systematic list they follow the order and enumeration employed in "Birds of Eastern and North-Eastern Africa" by Mackworth-Praed and Grant, second edition. Their status is classified in the following manner.

Residents: at present 191 species are thus described. They are birds which are present throughout the year, and some of these species have their numbers augmented by visitors. Ducks and Geese are not included in this category, with the exception of the Black Duck and possibly African Pochard, Spurwing-Goose and Egyptian Goose, as it is not known whether the few that do breed are not merely visitors.

Palaeartic migrants: 62 species are recorded, most of which are transients. Waders form the largest biomass of the migrants, and many of these stay throughout the northern winter months.

Breeding Visitors: six species migrate to the Park for breeding purposes only.

Visitors: In this category there are 153 species, all of which are African (Ethiopian) species with the sole exception of the Madagascar Squacco Heron *Ardeola idae*. Those described as regular visitors come every year at more or less defined times, or appear almost every month.

SYSTEMATIC LIST

2. *PODICEPS CRISTATUS* L. Great Crested Grebe.
A regular, but usually transient visitor, occurring on the less alkaline lakes from July to December. Up to 12 birds recorded at once.
3. *PROCTOPUS CASPICUS* (Hablizl). Black-necked Grebe.
Two seen on Great Momela lake in October 1968. This has been found breeding at Eluanata dam, 64 km east of the Park.
4. *PODICEPS RUFICOLLIS* (Pallas). Little Grebe.
A small number of residents are augmented by many visitors, up to 7,000 having been recorded. Numbers of immigrants vary from year to year, and are normally highest during the dry season.
Habitat. Any still water.
Breeding. Probably whenever conditions are suitable. Nests with eggs found on the following dates; 18.12.68, 21.5.69, 9.8.69, 10.4.70, 5.5.70, 4.5.71, 30.5.71.
Small young seen as follows; 19.8.68, 20.9.68, 2.2.69, 31.5.71, Up to five eggs are laid.
25. *PHALACROCORAX CARBO* L. Cormorant.
A rare visitor to less alkaline lakes.
27. *PHALACROCORAX AFRICANUS* (Gmelin). Long-tailed Cormorant.
A regular visitor, numbering up to 70. Found throughout the year, but mainly from November to May.
Habitat. Less alkaline lakes and rainwater pools, where it feeds on frogs. For some reason it is rarely found on Lake Longil, although there are plenty of fish.
28. *ANHINGA RUF A* (Lacepede & Daudin). African Darter.
A couple seen on Small Momela lake in October 1968. The rarity of this species and the Cormorant is strange as food is available. Possibly they resent cloudy water.
31. *PELECANUS ONOCROTALUS* L. White Pelican.
A fairly regular visitor to the less alkaline lakes in any month. Flocks of up to 60 birds recorded.
32. *PELECANUS RUFESCENS* Gmelin. Pink-backed Pelican.
Recorded in October, 1965, December, 1970, and March to the end of April, 1971.
33. *ARDEA CINEREA* L. Grey Heron.
A regular visitor in small numbers during every month to water's edge or swamp.
34. *ARDEA MELANOCEPHALA* Vigors & Children. Black-headed Heron.
As previous species, but more numerous during rains.
36. *PYRRHERODIA PURPUREA*(L.) Purple Heron.
A rare visitor to the water's edge.

37. *CASMERODIUS ALBUS* (L.) Great White Egret.
A regular visitor, less common than the Grey Heron. Seen all months, but rarely June and July. Frequents rainwater pools, less alkaline lake edges and swamps.
38. *MELANOPHOYX INTERMEDIUS* (Wagler). Yellow-billed Egret.
As other Ardeidae but more numerous.
40. *EGRETTA GARZETTA* (L.) Little Egret.
A rare visitor, recorded in June and December to swampy edges of rainwater pools.
42. *BUBULCUS IBIS* (L.) Buff-backed Heron.
A regular visitor to buffalo herds in Ngurdoto Crater, where the buffalo stay in open grassland and swamp during the day. The bird is sporadic elsewhere, as in other areas the buffalo lie up during the day in cover.
43. *ARDEOLA RALLOIDES* (Scopoli). Squacco Heron.
A regular visitor in small numbers from early June to early November, odd birds being seen in February and March. Some of these birds may be the Madagascar Squacco Heron, but without obtaining several specimens, the status of the latter species is uncertain. Prefers rainwater pools with sedges and water-lilies.
44. *ARDEOLA IDAE* (Hartlaub). Madagascar Squacco Heron.
The only definite records are birds seen in breeding plumage, one October 2, 1968 and one October 21, 1969. (Beesley 1971a).
45. *BUTORIDES STRIATUS* (L.) Green-backed Heron.
A rare visitor, recorded in January, April, October and December, to lake shores overhung by bushes. Regular, however, to the Maji-ya-Chai where there are fish.
48. *NYCTICORAX NYCTICORAX* (L.) Night Heron.
Probably both a Palearctic and African migrant, as it occurs in any month. The highest numbers (up to 20) occur from March to June and August to November. Many birds are juveniles.
50. *IXOBRYCHUS MINUTUS* (L.) Little Bittern.
One only seen, on 12.6.67, probably the African race.
51. *ARDEIRALLUS STURMII* (Wagler). Dwarf Bittern.
Rare visitor, singletons recorded in February, March, October and November to rainwater pools.
53. *SCOPUS UMBRETTA* (Gmelin). Hammerkop.
A resident, frequenting forest pools, swamps and streams, and Ngurdoto Crater. Lays eggs in April or May.
55. *CICONIA CICONIA* (L.) White Stork.
A Palearctic migrant, visiting grassland and lake shores rarely; between October and May.
56. *CICONIA NIGRA* (L.) Black Stork.
A Palearctic migrant, a single bird being seen each year since 1965 between October and March, frequenting temporary pools in forest and grassland (Beesley 1971a).
57. *DISSOURA EPISCOPUS* (Boddaert). Woolly-necked Stork.
A rare visitor, either solitary or in pairs from September to February and in June in the grassland and swamp edge of Ngurdoto Crater, and rarely, other swamps.
59. *ANASTOMUS LAMELLIGERUS* Temminck. Open-bill.
Once recorded. Undated.
60. *EPHIPPIORHYNCHUS SENEGALENSIS* (Shaw). Saddle-bill Stork.
A resident, frequenting swamps, rainwater pools and flooded grassland. One nest was found with an egg in early May 1970 and the same nest again contained an egg in April 1971.
61. *LEPTOPTILOS CRUMENIFERUS* (Lesson). Marabou.
A rare visitor, associating with vultures on carcasses.
62. *IBIS IBIS* (L.) Yellow-billed Stork.
A regular visitor in small numbers during all months to the margins of less alkaline lakes and rainwater pools.
63. *THRESKIORNIS AETHIOPICUS* (Latham). Sacred Ibis.
A regular visitor, occasionally up to 500 birds, occurring all months at the edge of any less alkaline lakes and swamps.
65. *HAGEDASHIA HAGEDASH* (Latham). Hadada Ibis.
Resident, also a regular visitor, pairs or parties to any wet place. A nest found on Jamara-Maji-ya-Chai river in the Ngongongare section in November contained one egg.

68. *PLEGADIS FALCINELLUS* (L.). Glossy Ibis.
One record only. Undated.
70. *PLATALEA ALBA* Scopoli. African Spoonbill.
A regular visitor in any month to forest pools and less alkaline lakes in woodland (Kusare, Elkek-hotoito.)
71. *PHOENICOPTERUS RUBER* (L.) Greater Flamingo.
Frequent visitor but irregular, sometimes in several hundreds, occurring any month but less frequently from May to September. They feed in the shallow edges of strongly alkaline lakes.
72. *PHOENICONAIAS MINOR* (Geoffroy) Lesser Flamingo.
As previous species, not quite so frequent, numbers vary from a score to a thousand. Preferred habitat is Lake Tulusia where they feed while swimming in deep water. If conditions are suitable, they may stay for five or six months.
73. *OXYURA MACCOA* (Eyton). Maccoa Duck.
A regular visitor, mainly during the dry season, and sometimes up to a thousand birds are present. Found only on strongly alkaline lakes.
74. *THALASSORNIS LEUCONOTUS* (Eyton). White-backed Duck.
A regular visitor, and possibly a resident, numbering from a few to eighty birds. Most frequent when the rainwater pools are full and water-lilies are abundant. Eggs found from August to January.
Notes. Frequently utters a low crooning note, not mentioned by Mackworth-Praed & Grant.
76. *AYTHYA FERINA* (L.). European Pochard.
One female recorded on forest pond from January 1, 1971 to February 12, 1971 (Beesley 1971b). A very rare visitor to East Africa, not yet recorded from Kenya.
77. *AYTHYA ERYTHROPHALMA* (Weid). African Pochard.
A regular visitor, mainly during the dry seasons when up to 1500 birds present. Recorded breeding once only, very small young being seen in July.
Habitat: prefers strongly alkaline lakes, but in some years uses other waters, including rainwater pools. Spends much time resting on shore.
78. *AYTHYA FULIGULA* (L.). Tufted Duck.
A rare Palaearctic migrant to lakes.
80. *SPATULA CLYPEATA* (L.). European Shoveler.
Palaearctic migrant, 20 to 50 birds visiting less alkaline lakes, October to February.
83. *ANAS UNDULATA* Dubois. Yellow-billed Duck.
A rare visitor, to any water, transient and usually in pairs in July and November.
84. *ANAS SPARSA* (Eyton). Black Duck.
A few pairs are resident on the streams on Mt. Meru up to 2600 m, and descend to rainwater pools at times. Six very small young were found with the parents at 2500 m on 17.7.68.
86. *ANAS PENELOPE* (L.). Wigeon.
Palaearctic migrant, irregular in small numbers, to less alkaline lakes.
88. *ANAS QUERQUEDULA* (L.). Garganey.
Palaearctic migrant, a few occurring from January to May, but usually on return migration. Frequents rainwater pools and the wood-bordered less alkaline lakes.
89. *ANAS CAPENSIS* (Gmelin). Cape Wigeon.
A regular visitor, and possibly resident, up to 500 birds being present during the dry season. A few pairs breed on islands, nests found on 20.3.69 and 13.10.68. Six very small young seen on 1.10.67. Flightless birds seen in July. Habitat: strongly alkaline lakes.
90. *ANAS PUNCTATA* (Burchell). Hottentot Teal.
An irregular but frequent visitor in small numbers to rainwater pools and lake margins.
91. *ANAS ERYTHORHYNCHA* (Gmelin). Red-bill.
A regular visitor, possibly resident in small numbers. It is most numerous during the dry season, up to 300 being recorded, and frequents any still water. Nest found 7.4.69, and very small young seen on 2.2.69 and 7.9.68.
92. *ANAS ACUTA* (L.). Pintail.
A Palaearctic migrant, up to 200 birds, found on any still water.
94. *DENDROCYGNA VIDUATA* L. White-faced Tree-Duck.
Irregular but not infrequent visitor to less alkaline waters with plenty of aquatic weed.

95. *DENDROCYGNA BICOLOR* (Vieillot). Fulvous Tree-Duck.
A vagrant, not seen since 1967.
98. *SARKIDIORNIS MELANOTOS* (Pennant). Knob-billed Goose.
Irregular visitor in pairs or small parties to rainwater pools from October to February and in June/July.
99. *ALOPOCHEN AEGYPTIACUS* (L.). Egyptian Goose.
Possibly resident, but a regular visitor, up to 300 occurring when fruiting grasses and weed are abundant on less alkaline waters. Also frequents strongly alkaline lakes. Breeds probably from April to October, nests recorded as follows:—13.10.68, 7.4.69, and very small goslings seen in 21.9.68, 13.10.68, 10.6.69 and 10.7.69.
100. *PLECTROPTERUS GAMBENSIS* (L.) Spur-winged Goose.
A previous species, but less numerous, and does not frequent strongly alkaline water. Breeds from April to July, found nesting on 26.6.69, 10.4.70 and 17.6.70. Very small goslings seen on 1.5.69, 2.6.69 and 20.7.69, and 10.6.71.
103. *SAGITTARIUS SERPENTARIUS* (Miller). Secretary Bird.
A rare visitor to open grassland.
106. *GYPS RUPPELLII* (Brehm). Rüppell's Griffon Vulture.
One or two occasionally accompany the other Vultures to a carcass.
107. *PSEUDOGYPS AFRICANUS* (Salvadori). White-backed Vulture.
Visitor. Occasionally seen passing over on patrol, but up to 200 will congregate at a carcass.
108. *TORGOS TRACHELIOTUS* (Forster). Lappet-faced Vulture.
A rare visitor to carcasses.
109. *TRIGONOCEPS OCCIPITALIS* (Burchell). White-headed Vulture.
As previous species.
110. *NEOPHRON PERCNOPTERUS* (L.) Egyptian Vulture.
One pair resident, probably nesting on cliffs of Ngurdoto Crater, but feeding mainly outside the Park.
111. *NECROSYRITES MONACHUS* (Temminck) Hooded Vulture.
A rare visitor to carcasses.
112. *FALCO PEREGRINUS* Tunstall. Peregrine.
Two pairs resident. Frequents any open country up to 3000 m. Seen feeding downy young in September.
115. *FALCO SUBBUTEO* L. Hobby.
Palearctic migrant, mainly singletons hunting in open country and over lakes.
116. *FALCO CUVIERI* Smith. African Hobby.
An uncommon visitor to the forest edge and uplands grassland, rarely woodland and lakes.
120. *FALCO AMURENSIS* Radde. Eastern Red-footed Falcon.
One seen feeding on flying ants with Hobbies on 24th November, 1970.
126. *FALCO NAUMANNI* Fleischer. Lesser Kestrel.
Palearctic migrant, infrequent and transient, the main route being through the Sanya plains to the east where large congregations can be seen in April. After a fire in the Park in March 1971, many came in, and stayed on for several days.
130. *AVICEDA CUCULOIDES* Swainson. Cuckoo Falcon.
A few pairs resident in woodland and forest-edge. A juvenile seen in June.
132. *MILVUS MIGRANS* (Boddaert). Black Kite.
Singletons pass through regularly in October and November, rarely December and January. They are yellow-billed birds, outliers of the big flocks that pass through Arusha and Moshi. In March 1971 however, bush fires attracted many, two of which were seen to be black-billed.
133. *ELANUS CAERULEUS* (Desfontaines). Black-shouldered Kite.
A rare visitor in June and November.
138. *AQUILA NIPALENSIS* Hodgson. Steppe Eagle.
A Palearctic migrant seen regularly, often in small parties, in any country except forest.
139. *AQUILA RAPAX* (Temminck). Tawny Eagle.
A regular visitor, sometimes breeding. Eggs laid in early June 1969. Frequents open country.

142. *AQUILA WAHLBERGI* Sundevall. Wahlberg's Eagle.
A couple were seen on passage at the forest edge below 1700 m in early October 1970 and a singleton in woodland in late October 1970.
143. *HIERAAETUS SPILOGASTER* (Bonaparte). African Hawk Eagle.
A rare visitor to woodland and forest edge to 2500 m from April to July.
145. *HIERAAETUS PENNATUS* (Gmelin). Booted Eagle.
Palaeartic migrant, once recorded on 19.3.70.
146. *POLEMAETUS BELLICOSUS* (Daudin). Martial Eagle.
Rare visitor from Acacia steppe.
147. *STEPHANOAETUS CORONATUS* (L.) Crowned Hawk-Eagle.
Resident, three or four pairs, in woodland and forest up to 2400 m.
149. *LOPHOAETUS OCCIPITALIS* (Daudin). Long-crested Hawk-Eagle.
Irregular but frequent visitor to forest edge and woodland, rarely open country, up to 2,000 m.
153. *CIRCAETUS CINEREUS* Vieillot. Brown Harrier-Eagle.
A regular visitor, single birds being seen from September to April. A juvenile seen in February and March. Frequents wooded grassland along the lower stretch of the Ngarenanyuki river and sage-bush around the Momela lakes.
154. *CIRCAETUS PECTORALIS* Smith. Black-chested Harrier-Eagle.
A vagrant from grass plains to the north.
158. *BUTASTUR RUFIPENNIS* (Sundevall). Grasshopper Buzzard.
A rare transient from December to March, not occurring every year.
159. *TERATHOPIUS ECAUDATUS* (Daudin). Bateleur.
One pair resident, seen building a nest in April, 1969, and brooding eggs in another nest in April, 1971.
160. *CUNCUMA VOCIFER* (Daudin). Fish Eagle.
One pair resident. Eggs laid in July 1967, June 1969, May 1970 and April 1971, at the Lake Elkek-hotoito eyrie, but feeds mainly on Lake Silversea, just outside the Park and at Lake Longil.
161. *GYPOHIERAX ANGOLENSIS* (Gmelin). Palm-nut Vulture.
One undated record only. A vagrant probably from the Moshi-Taveta district.
162. *GYPAETUS BARBATUS* (L.) Lammergeyer.
Probably resident, possibly breeds in Meru caldera, but feeds mainly outside the Park. Frequently seen on Mt. Meru over heath-zone and upland grassland.
163. *BUTEO VULPINUS* (Gloger). Steppe Buzzard.
Palaeartic migrant in small numbers, passing at foot of Mt. Meru in October and January.
165. *BUTEO OREOPHILUS* Hartert & Neumann. Mountain Buzzard.
Several pairs are resident, inhabiting the forests. A nest containing two well-feathered young found on 12th December 1968.
167. *BUTEO RUFOFUSCUS* (Forster). Augur Buzzard.
Common resident, and with exception of closed forest ubiquitous to 2,700 m. Nests with eggs found on the following dates; 29.11.67, 10.3.69, 23.3.69, 15.4.69, 2.9.69, 5.4.70, 20.5.70, 6.7.70, 20.4.71, 23.4.71, 15.5.71, 13.6.71 and 14.6.71. Main diet in mole-rats *Tachyorhynchus*.
170. *ACCIPITER MINULLUS* (Daudin). Little Sparrow-Hawk.
An uncommon resident in woodland and forest edge.
173. *ACCIPITER RUFIVENTRIS* Smith. Rufous Sparrow-Hawk.
Scarce resident of forest and woodland, occasionally seen in the open.
177. *ACCIPITER TACHIRO* (Daudin). African Goshawk.
A not uncommon resident of forest and woodland up to forest limit.
178. *MICRONISUS GABAR* (Daudin). Gabar Goshawk.
One record only, undated.
183. *CIRCUS MACROURUS* (Gmelin). Pale Harrier.
Rare Palaeartic migrant seen in December and April in open country around Momela lakes. Quite frequent in the great grass plains beyond the Park borders.

184. *CIRCUS AERUGINOSUS RANIVORUS* (Daud.). African Marsh Harrier.
An irregular but frequent visitor in any month to swamps, grasslands and lake-shores. Breeds at Sanya Juu outside the Park.
185. *POLYBOROIDES TYPUS* Smith. Harrier-Hawk.
Uncommon resident of woodland, and forest edge. A young bird was seen being mobbed by Hammerkops in October.
186. *PANDION HALIAETUS* (L.) Osprey.
A rare transient, seen only in June, October and December 1968, and February-March 1969.
195. *FRANCOLINUS SEPHAENA* (Smith). Crested Francolin.
Status uncertain. Normally a bird of the dry bush beyond the Park, a pair were seen with half-grown poults in the sage-bush in late May.
198. *FRANCOLINUS SHELLYI* O. Grant. Shelley's Francolin.
A visitor to the sage-bush from the drier farmland and tree-scattered grassland to the north of the Park, and probably resident in the lower part of the Ngongongare section.
203. *FRANCOLINUS HILDEBRANDTI* Cabanis. Hildebrandt's Francolin.
A common resident in sage-bush, woodland and lower heath-zone. Nests found on 13.10.68 and 19.8.69.
204. *FRANCOLINUS SQUAMATUS* (Cassin). Scaly Francolin.
Common resident in forest, forest edge, sage-bush, and heath zone, up to 2700 m. Often overlaps with *F. hildebrandti*. Nests found on 26.12.68 and 10.10.69 and very small young seen on 23.11.67, 6.10.68, 30.9.69 and 22.2.69.
212. *COTURNIX DELEGORGUEI* Delegorgue. Harlequin Quail.
Regular transient visitor, singletons being seen in November, December and February, and April to June in grassland. In Masailand it breeds in grassland or fields of crops and weeds from March to July.
215. *NUMIDA MITRATA* Pallas. Helmeted Guinea-Fowl.
A resident of the sage-bush, emerging to feed and drink in the open in the evening. Nests found on 18.3.69, 5.12.69 and 25.2.70. Small young seen in January to May.
222. *RALLUS CAERULESCENS* (Gmelin). Kaffir Rail.
One record only, undated.
225. *LIMNOCORAX FLAVIROSTRA* (Swainson). Black Crake.
Resident and visitor. Prefers less alkaline water with plenty of cover. Is commoner and breeds when water plants are abundant on rainwater pools. Nests found on 13.7.69, and very small young on 2.2.69, 7.4.69.
237. *PORPHYRIO ALBA* (White). Purple Gallinule.
A rare visitor to long-grass swamps, recorded once in September and once in January.
239. *GALLINULA CHLOROPUS* (L.) African Moorhen.
Status as Black Crake, but less common. Very small young found on 17.4.69 and 21.5.69.
240. *GALLINULA ANGULATA* Sundevall. Lesser Moorhen.
A rare visitor to swampy pools, yet breeds only 4 km from the Park. In May-June 1971, three pairs and two juveniles were seen.
242. *FULICA CRISTATA* Gmelin. Red-Knobbed Coot.
Regular visitor and probably resident on Seneto Pools. Habitat similar to other Rallidae, but also frequents alkaline lakes. Two pairs building nests on 25.6.71.
245. *BALEARICA REGULORUM* (Bennet). South African Crowned Crane.
One pair resident, up to 15 visitors. Feeds in open ground and breeds on a floating *Cyperus lavesi-*
gatus swamp. Nests found as follows: Mid-March 68, 3 eggs. 11.4.69, 2 young in nest. 16.4.70, 2 young in nest. 10.4.71, 2 eggs.
258. *LISSOTIS MELANOGASTER* (Rüppell). Black-bellied Bustard.
Probably a resident in grassland of Ngongongare section, and a rare transient to the Momela area in September and December.
262. *BURHINUS CAPENSIS* (Lichtenstein). Spotted Thicknee.
A pair or two resident, occasional visitors. Inhabits and breeds in alkaline grassland. Nests found: 2 eggs on 24.9.68, 2 eggs on 7.4.69 and 2 eggs on 28.2.70.

264. *ACTOPHILORNIS AFRICANUS* (Gmelin). African Jacana.
A resident, augmented by visitors in wet years. Habitat is well-vegetated fresh swamps and rain-water pools, where it has been found breeding as follows. 3 eggs on 13.7.69, 4 eggs on 12.4.70 and 3 eggs on 12.5.71. Very young birds seen on 23.10.68, 16.12.68 and 25.7.69.
265. *MICROPARRA CAPENSIS* (Smith). Lesser Jacana.
One record only, October 1968.
266. *CHARADRIUS HIATICULA* (L). Ringed Plover.
A palaeartic migrant whose numbers as with all non-resident waders, varies with the amount of lake-shore mud exposed.
271. *CHARADRIUS PECUARIUS* Temminck. Kittlitz's Sand-Plover.
Resident, augmented by visitors which probably breed. Inhabits alkaline flats around lakes. Nests found as follows: 18.9.68 (2 nests), 23.10.68 (2 nests), 2.2.69, 12.2.69, 20.3.69, 26.6.69, 1.7.70, 8.9.70, 7.11.70 and 27.2.71, mostly with 2 eggs.
272. *CHARADRIUS TRICOLLARIS* Vieillot. Three-banded Plover.
A resident visitor, frequenting muddy lake shores or stream banks, where nests have been found from July to September and again in February. The display call is a churring rattle uttered while the bird fluffs out its white pectoral feathers.
274. *CHARADRIUS MONGOLUS* Pallas. Mongolian Sand-Plover.
Palaeartic migrant, one record only, in November 1966.
281. *STEPHANIBYX CORONATUS* (Boddaert). Crowned Lapwing.
A rare visitor which is common right up to the Park boundary on overgrazed grassland. However nine months after clearing an area of bush which became much frequented by a herd of buffalo and other game, a pair of these birds laid eggs and brought off young in September 1970.
282. *STEPHANIBYX LUGUBRIS* (Lesson). Senegal Plover.
A regular visitor in parties to the Ngongongare sector from January to April, inhabiting bush scattered grassland.
283. *STEPHANIBYX MELANOPTERUS* (Cretz.). Black-winged Plover.
A rare visitor, but common on well-grazed alkaline grassland two or three kilometres from the Park boundary, near Ngarenanyuki.
287. *HOPLOPTERUS ARMATUS* (Burchell). Blacksmith Plover.
A resident, several pairs inhabiting the alkaline grassland and *Cyperus laevigatus* swamp. Eggs laid from May to July. Two pairs reared young on a rock out in Great Momela Lake. Nests found as follows. Two on 24.6.68 with 3 and 2 eggs. 28.7.68, 2 eggs. 26.6.69, 3 eggs. 13.7.69, 3 eggs. 4.6.70, 2 eggs. 1.7.70, 2 eggs. 12.5.71, 2 eggs.
295. *RECURVIROSTRA AVOSETTA* L. Avocet.
Palaeartic and African migrant, occurring all months, but peak numbers in March-April, August-November. Inhabits alkaline lake shores.
296. *HIMANTOPUS HIMANTOPUS* (L.). Black-winged Stilt.
As previous species but more numerous, peak numbers February-April, October-November. Habitat as Avocet, but also deeper mud and water.
297. *ROSTRATULA BENGHALENSIS* (L.) Painted Snipe.
Irregular visitor, pairs and singletons haunting wet *Cyperus laevigatus* swamp and muddy rain-pools in May, July, August, September and January.
298. *CAPELLA GALLINAGO* (L.) Common Snipe.
A scarce Palaeartic migrant to wet *Cyperus laevigatus* swamp in December and January.
303. *CALIDRIS TESTACEA* (Pallas). Curlew Sandpiper.
Palaeartic migrant, small numbers passing in November and April-May. Habitat: lake shores.
305. *CALIDRIS MINUTA* (Leisler) Little Stint.
Palaeartic migrant, common on lake-shores from September to May.
309. *PHILOMACHUS PUGNAX* (L.). Ruff.
As previous species, but also frequents *Cyperus laevigatus* swamp, rainwater pools and sometimes flooded grassland.
311. *XENUS CINEREUS* (Guldenstadt). Terek Sandpiper.
Palaeartic migrant, only one record in October.
312. *TRINGA HYPOLEUCOS* L. Common Sandpiper.
Common Palaeartic migrant to any water, still or running.

313. *TRINGA OCHROPUS* L. Green Sandpiper.
Palearctic migrant, not uncommon. More frequent in woodland pools and mountain streams than previous species.
314. *TRINGA GLAREOLA* L. Wood Sandpiper.
As previous species, but not on mountain streams.
317. *TRINGA STAGNATILIS* (Bechstein). Marsh Sandpiper.
Palearctic migrant, small numbers occurring on lake-shores.
318. *TRINGA NEBULARIA* (Gunnerus). Greenshank.
As previous species.
319. *LIMOSA LIMOSA* (L.). Black-tailed Godwit.
Palearctic migrant, one record only.
329. *RHINOPTILUS CHALCOPTEUS* (Temminck). Violet-tipped Courser.
Three seen on passage in Ngongongare sector on 8.4.71.
342. *LARUS CIRROCEPHALUS* Vieillot. Grey-headed Gull.
Vagrant to lakes.
361. *CHLIDONIAS LEUCOPTERA* (Temminck). White-winged Black Tern.
Uncommon Palearctic migrant to lakes.
364. *RYNCHOPS FLAVIROSTRIS* Vieillot. Skimmer.
One resting on shore of Big Momela lake 1st May 1971.
365. *TURNIX SYLVATICUS* (Desfontaine). Button Quail.
A rare visitor in April, transient only. Breeds in weedy fallows and grassland near Arusha and Sanya plains in April and May.
370. *EREMIALECTOR DECORATUS* (Cabanis) Black-faced Sandgrouse.
Four flew over Momela section on 2.1.71.
379. *COLUMBA GUINEA* L. Speckled Pigeon.
A rare transient visitor from nearby open country.
380. *COLUMBA ARQUATRIX* Temminck & Knip. Olive Pigeon.
A common resident inhabiting forest to almost 3000 m and descending in flocks to lower woods and secondary trees, especially *Croton macrostachyus* and *Olea* species in February-March and October-November. Breeds in forest and its fringes, a nest with 2 eggs found on 20.10.68 at 2500 m, and other with 1 egg on 8.6.71 at 1700 m.
383. *TURTUROENA DELEGORGUEI* (Delegorgue). Bronze-naped Pigeon.
A not uncommon resident in forest below 2000 m and seldom seen outside closed forest or woodland. Calls mainly in May-June.
385. *STREPTOPELIA LUGENS* (Rüppell). Pink-breasted Dove.
A resident of mountain forest and heathland to 3000 m, flocking to lower levels in June to October. Feeds on ground and in canopy of forest, also in open country. A nest containing two eggs found on 17.6.71.
386. *STREPTOPELIA SEMITORQUATA* (Rüppell). Red-eyed Dove.
Abundant resident of woodland, forest-edge and clearings up to 1800 m. Breeds in low trees and bushes invariably laying 2 eggs. Nests found on the following dates: 28.9.67, 10.1.69, 18.3.69, 10.11.69, 10.10.70, 26.10.70, 11.5.71, 17.5.71, 20.5.71, 21.5.71, 3.6.71 and 4.6.71.
388. *STREPTOPELIA CAPICOLA* (Sundevall). Ring-necked Dove.
At one time a regular visitor, but now also a resident near the northern border, inhabiting the drier tree-scattered sage-bush. Abundant outside the Park in *Acacia tortilis* wooded grassland.
392. *STIGMATOPELIA SENEGALENSIS* (L.). Laughing Dove.
A regular visitor, and possibly a resident on the northern border. Habitat as the previous species.
393. *OENA CAPENSIS* (L.). Namaqua Dove.
A rare transient in December, coming down to roads and grassland.
394. *TYMPANISTRIA TYMPANISTRIA* (Temminck & Knip). Tambourine Dove.
Common resident of forest with heavy undergrowth below 1800 m, breeding in April, (one record).
397. *TURTUR CHALCOSPILOS* (Wagler). Emerald-spotted Wood-Dove.
A few pairs resident in shrubby growth under woodland.

398. *APLOPELIA LARVATA* (Temminck & Knip). Lemon Dove.
A resident occupying the floor and occasionally the canopy of closed woodland and forest below 1800 m.
401. *TRERON AUSTRALIS* (L.). Green Pigeon.
Resident and visitor, numerous at times to fruiting trees in forest and woodland. Found up to 2100 m. A nest with 2 eggs found on 23.2.71.
404. *CUCULUS CANORUS* L. European Cuckoo.
A Palearctic migrant passing in October and November (six were seen in one day at the end of November) and returning throughout April. Frequents adult and regenerating *Acacia xanthophloea* woodland.
406. *CUCULUS SOLITARIUS* Stephens. Red-chested Cuckoo.
Resident in forest up to 2000 m, woodland and bush with scattered trees and thickets. Calls and probably breeds during the rains.
407. *CUCULUS AFER* Lichtenstein. Black Cuckoo.
A breeding visitor in small numbers, occurring in woodland and forest edge of scattered trees up to 1700 m from November to April, and rarely May. Begins calling in February.
414. *CLAMATOR LEVAILLANTII* (Swainson). Levillant's Cuckoo.
Rare visitor in March to bush in Acacia woodland.
415. *CLAMATOR JACOBINUS* (Boddaert). Black and White Cuckoo.
A regular visitor in small numbers in November and end of January to middle of April. Inhabits young *Acacia xanthophloea* groves and bush under mature woodland.
416. *CHRYSOCOCCYX CUPREUS* (Shaw). Emerald Cuckoo.
A resident of woodland and forest up to 2100 m occasionally to 2600 m. Calls during the rains.
417. *CHRYSOCOCCYX CAPRIUS* (Boddaert). Didric Cuckoo.
A visitor to bush and woodland from December to May, not common, calling during the rains.
418. *CHRYSOCOCCYX KLAAS* (Stephens). Klaas's Cuckoo.
A visitor to forest edge and clearings up to 1830 m from October to May. Also overlaps with previous species in woodland and tree-scattered sage-bush. Calls during the rains.
423. *CENTROPUS SUPERCILIOSUS* Hemprich & Ehrenberg. White-browed Coucal.
Not uncommon resident in all types of country except forest up to 1800 m. Nests in bush or grass tussocks, laying eggs in March and November.
424. *CEUTHMOCHARES AEREUS* (Vieillot). Yellow-Bill.
Resident, difficult to see, in tangles of creepers in forest up to 1800 m. Calls in December.
432. *TAURACO HARTLAUBI* (Fischer & Reichenow). Hartlaub's Turaco.
Common resident of forest canopy and mid-storey, found up to 3000 m, rare in more open country. Breeds from August to October, nests found on 17.10.68 and 16.8.69.
444. *POICEPHALUS GULIELMI* (Jardine). Red-headed Parrot.
A resident, also visitor from other parts of Mt. Meru. Flocks inhabit the forest up to 2800 m usually among *Podocarpus* trees, and descend in June, July and August to lower areas to feed on the fruit of *Loliondo* (*Olea* spp.).
454. *AGAPORNIS FISCHERI* Reichenow. Fischer's Lovebird.
A regular visitor to *Acacia xanthophloea* groves, numerous outside the Park in Acacia woodland and cultivations. A nest was found in a hole in a dead tree, lined with green grass, on 29.5.71, and in a similar situation on 16.6.71, both on the border of the Park.
457. *CORACIAS GARRULUS* (L.). Roller.
Uncommon, transient Palearctic migrant, in October-December and March-April to woodland edge.
460. *CORACIAS CAUDATA* (L.). Lilac-breasted Roller.
Uncommon visitor, usually in pairs in March and October. Common outside the Park in *Acacia tortilis* wooded grassland.
463. *EURYSTOMUS GLAUCURUS* (Müller). Broad-billed Roller.
Breeding visitor from August to February. Nests found on 29.9.69, 18.10.69, 9.9.70, 12.11.70 and 22.12.70. Transients are seen from February to April. Habitat: forest edge and woodland, usually at 1500 m, but sometimes up to 2500 m.
465. *CERYLE RUDIS* (Linnaeus). Pied Kingfisher.
A rare visitor to lakes, any month.

466. *MEGACERYLE MAXIMA* (Pallas). Giant Kingfisher.
Vagrant to streams, except on Maji-ya-Chai, where it is regular visitor.
470. *CORYTHORNIS CRISTATA* (Pallas). Malachite Kingfisher.
Uncommon visitor to fresher lakes and swamps.
471. *ISPIDINA PICTA* (Boddaert). Pigmy Kingfisher.
Scarce resident in woodland about Lake Elkekhotoito, occasional to forest edge, but not uncommon along Jamara-Maji-ya-Chai streams.
476. *HALCYON ALBIVENTRIS* (Scopoli). Brown-hooded Kingfisher.
Resident in woodland, forest-edge, often near water, up to 1800 m. Usually breeds in roadside banks, nests found on 25.4.69, 21.3.70, 28.10.70 and seen excavating two nests in May 1971.
477. *HALCYON LEUCOCEPHALA* (Müller). Grey-headed Kingfisher.
Rare transient, once seen in November, and once in June.
479. *HALCYON CHELICUTI* (Stanley). Striped Kingfisher.
A resident in sage-bush and grassland adjacent to woodland, or with plentiful scattered trees. Nest of young found on 24.3.71. Feeding fledgling in November 1967.
481. *MEROPS APIASTER* L. Bee-Eater.
Palaeartic migrant, usually on passage and frequenting sage-bush and acacia woodland.
482. *MEROPS SUPERCILIOSUS PERSICUS* Pallas. Blue-cheeked Bee-Eater.
Infrequent Palaeartic transient, to sage-bush and woodland in late November and early December.
486. *AEROPS ALBICOLLIS* (Vieillot). White-throated Bee-Eater.
A passage of several flocks noted in the Momela section from April 25-30th 1971. All were flying north.
488. *MELITTOPHAGUS PUSILLUS* (Müller). Little Bee-Eater.
A resident with considerable movements. Inhabits sage-bush, grassland, woodland and forest edge below 1700 m. Breeds from June to October, probably other months. Nests found on 20.10.68, 21.6.69, 2.8.69 and 20.10.70.
489. *MELITTOPHAGUS OREOBATES* Sharpe. Cinnamon-chested Bee-Eater.
A resident, also with some movement, inhabiting forest tracks, clearings and edges wherever there are banks for breeding holes, usually above 1500 m. Breeds from October to February.
493. *MELITTOPHAGUS BULLOCKOIDES* (Smith). White-fronted Bee-Eater.
Resident with much post-breeding dispersal. Found anywhere except in forest, but not above 1700 m. Breeds colonially mainly along banks of Ngarenanyuki river in June to July and from October to December.
501. *BYCANISTES BREVIS* Friedmann. Silvery-cheeked Hornbill.
Resident or common visitor in all months. Frequent in parties in forest up to 2600 m. Pairs observed in September and October.
509. *TOCKUS ALBOTERMINATUS* (Buttikorfer). Crowned Hornbill.
Resident in woodland and forest below 1700 m. Seen feeding nestlings on 10.10.70.
518. *UPUPA AFRICANA* Bechstein. South African Hoopoe.
Irregular visitor, uncommon, recorded in February, June, July, September and November. Frequents tree-scattered grassland and sage-bush.
519. *PHOENICULUS PURPUREUS* (Miller). Green Wood-Hoopoe.
Resident, also dry season visitor, found in Acacia woodland and scattered-tree bushland. Nests found on 28.9.70, 5.10.70 and 21.3.71.
526. *RHINOPOMASTUS CYANOMELAS* (Vieillot). Scimitar-Bill.
As previous species but less frequent. Is also occasionally found in Ngurdoto Crater rim forest which is strange as it is a common bird of the dry acacia woodland north of the Park. Nests found on 5.12.69 and 7.3.70.
528. *TYTO ALBA* (Scopoli). Barn Owl.
A few pairs resident. Strictly nocturnal and has only been seen in daylight when disturbed from roosting quarters in an old Hammerkop's nest or thickets on islands in Small Momela lake. In Arusha town breeds in August and September.
529. *TYTO CAPENSIS* (Smith). Grass Owl.
Vagrant to *Cyperus laevigatus* swamp.

532. *ASIO CAPENSIS* (Smith). African Marsh Owl.
Rare visitor to grassland and *Cyperus laevigatus* swamp. Common in Masai plains beyond the Park.
533. *CICCABA WOODFORDII* (Smith). African Wood Owl.
A not uncommon resident of woodland and forest up to 2600 m.
543. *BUBO AFRICANUS* (Temminck). Spotted Eagle Owl.
Scarce resident of woodland, and bush, up to 1680 m.
544. *BUBO LACTEUS* (Temminck). Verreaux's Eagle Owl.
As previous species, but also found in forest edge.
548. *CAPRIMULGUS FRAENATUS* Salvadori. Dusky Nightjar.
Common resident of grassland, thin sage-bush and *Dodonea* scrub below 1680 m. Five nests found, one in each of following months, February, March, September, October, November. All contained two eggs.
556. *CAPRIMULGUS INORNATUS* Heuglin. Plain Nightjar.
Visitor. Recorded in February-March, in grassland and thin sage-bush.
558. *CAPRIMULGUS POLIOCEPHALUS* Rüppell. Abyssinian Nightjar.
Common resident of sage-bush, *Dodonea* scrub, grassland, forest edge and heathzone from 1530 m up to 2700 m. Breeds in October and November, four nests found, all with two eggs.
566. *COLIUS STRIATUS* Gmelin. Speckled Mousebird.
Common resident in sage-bush, woodland and forest edge, occasionally up to 2600 m. Nests found as follows:—16.11.68, 26.2.69, 26.4.70, 12.9.70, 15.9.70 28.9.70, 7.11.70, 23.4.71, 28.4.71, 6.5.71 and 31.5.71.
568. *COLIUS MACROURUS* (L.). Blue-naped Mousebird.
Irregular visitor to the sage-bush, coming from the dry bush north of the Park.
570. *APALODERMA NARINA* (Stephens). Narina's Trogon.
A common resident of forest below 1680 m. Probably breeds in January and February. Sometimes assembles in loose congregations of up to ten birds if prey is locally abundant.
571. *HETEROTROGON VITTATUM* (Shelley). Bar-tailed Trogon.
A resident of forest from 1600 m to 2600 m overlapping with the previous species at lower altitudes.
576. *LYBIUS LEUCOCEPHALUS* (Dephillipi). White-headed Barbet.
A regular visitor or possibly scarce resident, occurring all months to feed on fruit, mainly *Ficus* species. Seen mainly along the lower Ngarenanyuki river where fig-trees are more common.
580. *LYBIUS MELANOPTERUS* (Peters). Brown-breasted Barbet.
A resident and possible visitor frequenting woodland and forest edge to 1680 m. Breeds in January and June. (Beesley 1971a).
584. *TRICHOLAEMA LACRYMOSUM* Cabanis. Spotted-flanked Barbet.
A common resident in woodland and tree-scattered sage-bush. Breeding, nests with eggs or young found as follows: 3.11.68, 10.11.68, 19.2.69, early February 1969, 19.3.69, 5.10.70, 26.5.71 and 8.6.71.
585. *TRICHOLAEMA DIADEMATA* (Heuglin). Red-fronted Barbet.
A vagrant from Masailand.
588. *BUCCANODON LEUCOTIS* (Sundevall). White-eared Barbet.
A common resident of forest and occasionally woodland usually below 1830 m but sometimes up to 2600 m. Nests found on 21.12.68, February 69, 16.10.70 and 9.11.70.
592. *VIRIDIBUCCO LEUCOMYSTAX* (Sharpe). Moustached Green Tinker-bird.
Not uncommon resident of forest canopy, sometimes woodland, usually up to 2000 m rarely to 2500 m. Calls during the rains. Uncharacteristically, it has been noted hawking for flies.
594. *POGONIULUS PUSILLUS* (Dumont). Red-fronted Tinker-bird.
A resident in woodland, especially regenerating *Turrea* and other small-fruited trees in woodland below 1830 m. Calls in October.
605. *INDICATOR INDICATOR* (Sparmann). Black-throated Honey-Guide.
An uncommon visitor to woodland.
606. *INDICATOR MACULATUS* Lesson. Scaly-throated Honey-Guide.
An uncommon resident in forest, woodland and tree scattered bush.

608. *INDICATOR MINOR* Stephens. Lesser Honey-Guide.
As previous species, probably laying in nests of the Spotted-flanked Barbet.
613. *PRODOTISCUS INSIGNIS* (Cassin). Cassin's Honey-Bird.
Possibly only a visitor, to woodland and forest below 1500 m recorded in March and April.
619. *CAMPETHERA NUBICA* (Boddaert). Nubian Woodpecker.
A resident of woodland and forest edge to 1680 m. Nests found on 19.9.68, 28.9.70 and 21.3.71.
622. *CAMPETHERA ABINGONI* (Smith). Golden-tailed Woodpecker.
A scarce resident of woodland and forest up to 2000 m.
623. *DENDROPICOS FUSCESCENS* (Vieillot). Cardinal Woodpecker.
Common resident of woodland and tree-scattered sage-bush, rarely forest edge and clearings below 1680 m.
629. *THRIPIAS NAMAQUUS* (Lichtenstein). Bearded Woodpecker.
Not uncommon resident, habitat as previous species. Found breeding on 10.6.69 and late July 69.
630. *MESOPICOS GOERTAE* (Müller). Grey Woodpecker.
As previous species, but breeding in September and October, nests found on 16.10.68 and 28.9.70
631. *MESOPICOS GRISEOCEPHALUS* (Boddaert). Olive Woodpecker.
A scarce or rarely seen resident of forest above 1800 m.
637. *APUS NIANSAE* (Reichenow). Nyanza or Brown Swift.
A breeding visitor from February to June. Breeds in cliffs from March to May (Beesley 1971a).
639. *APUS MYOPTILUS* (Salvadori). Scarce Swift.
A regular visitor which may breed in Ngurdoto Crater. Noted mainly from February to June, also in November.
640. *APUS MELBA* (L.) Alpine Swift.
Probably a resident, often seen at any time of the year in Meru and Ngurdoto Craters, occasionally over the lakes. Seen feeding at 3660 m on Mt. Meru.
641. *APUS AEQUATORIALIS* (Müller). Mottled Swift.
Probably a resident in Meru Crater, also seen occasionally in Ngurdoto Crater.
643. *APUS AFFINIS* (Gray). Little Swift.
A regular visitor, mainly from November through to July, usually seen in the evening. Nests at lower altitudes beyond the Park.
644. *APUS CAFFER* (Lichtenstein). White-rumped Swift.
A breeding visitor of recent date, occurring from November to June, probably other months too. Bred in May. See section on avifaunal changes, also Beesley 1971a.
645. *APUS HORUS* (Heuglin). Horus Swift.
A breeding visitor or resident. From 1967 to 1969 it was noted breeding in March-June, the birds appearing in January and leaving in August. In 1970 however, they bred at the same time, and then again in November-December. Breeding takes place in the banks of the Ngarenanyuki river. When the Swifts are not occupying the nesting sites, they are used by White-fronted Bee-Eaters. In the latter part of 1970, when the Swifts were using one site, the Bee-Eaters excavated a fresh site.
646. *CYPSIURUS PARVUS* (Lichtenstein). Palm Swift.
A few pairs were resident until 1966 when most of the full-grown *Phoenix* palms along the streams and swamps at the foot of Mt. Meru were destroyed by elephants.
Note. A species of dark Swift inhabits Meru Crater, apparently throughout the year. A specimen for identification has not yet been secured.
650. *SMITHORNIS CAPENSIS* (Smith). African Broad-bill.
A resident of sub-montane forest below 1680 m. Calls in evening from December to February and August to October.
655. *MIRAFRA ALBICAUDA* Reichenow. Northern White-tailed Bush-Lark.
One seen in June 1969 in grassland.
659. *MIRAFRA AFRICANA* A. Smith Rufous-naped Lark.
Common resident of grassland and thin sage-bush. Numbers have increased since some of the sage-bush has been cleared. One nest found, on 31.5.70, containing two eggs.
660. *MIRAFRA RUFOCINNAMOMEA* (Salvadori). Flappet Lark.
One or two pairs are resident in tree-scattered, bushy grassland in the southern end of Ngongongare section at 1370 m, the lowest area of the Park.

666. *PINAROCORYS NIGRICANS* (Sundevall) Dusky Bush-Lark.
One obtained in October 1962.
679. *EREMOPTERIX LEUCOTIS* (Stanley). Chestnut-backed Sparrow-Lark.
One seen in May 1969 in Ngongongare section.
682. *EREMOPTERIX LEUCOPAREIA* (Fischer & Reichenow). Fischer's Sparrow-Lark.
Rare transient in May and November, touching down on roads or grassland. Common in dry areas beyond the Park.
685. *CALANDRELLA RUFESCENS* Vieillot. Rufous Short-toed Lark.
Recorded once in July. Breeds in grass plains just beyond Park boundary.
686. *CALANDRELLA CINEREA* (Gmelin). Red-capped Lark.
Rare visitor to alkaline grassland. A common bird in overgrazed or short-grass country 2 km beyond the Park's northern border.
691. *MOTACILLA AGUIMP* Dumont. African Pied Wagtail.
Resident and visitor. Inhabits the clusters of dwellings and the lakes, found breeding as follows: Early January 1969, 11.4.69 and 8.10.70.
692. *MOTACILLA CLARA* Sharpe. Mountain Wagtail.
A resident on streams, also frequenting wet tracks in the forest during rains.
694. *MOTACILLA CINEREA* Tunstall. Grey Wagtail.
Palearctic migrant, a few occur on mountain streams from late October to January, occasionally consorting with previous species.
695. *BUDYTES FLAVUS* (Linnaeus). Blue-headed Wagtail.
Palearctic migrant, irregular to short grass around lakes mainly on return passage. Common with herds of cattle outside the Park.
697. *BUDYTES LUTEUS* (Gmelin). Yellow Wagtail.
As previous species but scarce.
703. *ANTHUS SIMILIS* Jerdon. Long-billed Pipit.
A common resident and visitor in grassland with bushes and trees, also light *Dodonea* bush. Appear to be associated with rocks, often flying to almost perpendicular faces to clamber about or cling to them. Occurs up to 2580 m. Nests found on 18.4.70 and 14.10.70.
706. *ANTHUS NOVAESEELANDIAE* Gmelin. Richard's Pipit.
Regular visitor to short alkaline grassland and nearby roads in the dry season.
708. *ANTHUS TRIVIALIS* (L.). Tree Pipit.
Palearctic migrant, transient in November-December and February-March. Usually singletons but occasionally flocks of fifty or more on return passage, found in woodland, tree-scattered open country, forest edge up to 2000 m.
713. *ANTHUS CERVINUS* (Pallas). Red-throated Pipit.
Palearctic migrant, uncommon, to muddy alkaline grassland and edge of *Cyperus* swamp in November and December.
715. *TMETOTHYLACUS TENELLUS* (Cabanis). Golden Pipit.
Vagrant, once recorded mid-March. Occurs in dry bush south and east of the Park. Migrants noted around Arusha in December, January and February.
720. *MACRONYX AURANTIIGULA* Reichenow. Pangani Long-claw.
Resident in bush scattered grassland up to 1800 m. Seen feeding young at nest on 16.7.67, 22.3.69, 10.10.69 and 31.5.71.
729. *TURDOIDES HYPOLEUCA* (Cabanis). Northern Pied Babbler.
Vagrant, one record only, undated specimen.
740. *PSEUDOALCIPPE ABYSSINICUS* (Rüppell). Abyssinian Hill-Babbler.
Resident in sub-montane forest with undergrowth up to 1800 m. On the Arusha side of Mt. Meru however, it is found up to 2300 m.
- 741-42. *PYCNONOTUS TRICOLOR*. Yellow-vented Bulbul.
Very common resident in any habitat except closed forest. Found up to 2500 m, but usually below 2200 m. At times forms flocks up to 20 in sage-bush, and can be seen in congregations of over 100 in fruiting forest trees. Breeds from January to June and September to November. Nests found as follows: 13.9.68, 15.10.68, 23.10.68, early January 1969, 7.3.70, 27.9.70, 30.9.70, 16.10.70, 23.2.71 6.5.71 (Five) 8.5.71, 9.5.71 12.5.71, 13.5.71, (Two) 21.5.71 and 7.6.71.

758. *PHYLLASTREPHUS FISCHERI* (Reichenow). Fischer's Greenbul.
Not uncommon resident of forest with undergrowth up to 1800 m, but goes considerably higher on the Arusha side of Mt. Meru.
759. *PHYLLASTREPHUS CERVINIVENTRIS* (Shelley). Grey-olive Greenbul.
Visitor to stream-side thickets at southern and lowest end of the Park in the Ngongongare section at 1370 m. Commoner outside the Park at lower altitudes.
766. *ARIZELOCICHLA NIGRICEPS* (Shelley). Mountain Greenbul.
Common resident of forest from 1520 m to 2800 m. Breeds in August, September and November, nests being found on 18.9.68 and 9.11.69.
767. *ARIZELOCICHLA MILANJENSIS* (Shelley). Stripe-checked Greenbul.
Common resident of sub-montane forest, seldom found above 1850 m. Uses similar habitat to previous species but generally at lower altitudes. Seen carrying nesting material on 3.6.71.
775. *EURILLAS VIRENS* (Cassin). Little Greenbul.
Scarce visitor from July to September from lower areas beyond the Park. Inhabits forest with undergrowth below 1680 m.
778. *MUSCICAPA STRIATA* (Pallas). Spotted Flycatcher.
Common Palaearctic migrant preferring the low, regenerating *Acacia xanthophloea* along lake shores, also inhabits mature woodlands.
781. *ALSEONAX ADUSTUS* (Boie). Dusky Flycatcher.
Common resident of forest to 2700 m. Many descend during the cold season (June-September) to the *Acacia* woodland and scrub around lake shores. Breeds in January to March and October, November and December. Nests found on 30.1.65, 23.11.67, 17.11.68, 15.3.69, 12.12.69 and 17.10.70.
788. *PARISOMA PLUMBEUM* (Hartlaub). Grey Tit-Flycatcher.
A visitor to canopy of *Acacia xanthophloea* trees around lake Elkekhotito.
796. *DIOPTORONIS FISCHERI* Reichenow. White-eyed Slaty Flycatcher.
A common resident of forest edge, glades and woodland, usually up to 2700 m, often descending in cold months to lower altitudes. Breeds from February to May and September to November. Nests found in March 64, March 67, 18.9.68, 17.11.68, 12.10.69, 14.10.70, 10.5.71, fledglings on 14.4.69.
805. *CHLOROPETA NATALENSIS* Smith. Yellow Flycatcher.
A fairly common resident in sage-bush, regenerating acacia scrub and forest edge below 1830 m. Nests found as follows, 4 on 5.5.71 and one on 29.5.71. It also breeds, probably in December and January.
806. *CHLOROPETA SIMILIS* Richmond. Mountain Yellow Flycatcher.
A resident, but seldom seen, in undergrowth of forest and its edges, from 1830 m upwards. Display seen in early December.
815. *BATIS CAPENSIS* (L.) Puff-back Flycatcher.
A resident of lower storeys of sub-montane forest up to 1700 m, occasionally seen up to 2000 m.
817. *BATIS MOLITOR* (Hahn & Küster). Chin-Spot Puff-back Flycatcher.
Common resident of trees and tall bush, but not in forest, up to 1700 m. Nests found on 16.11.68, 26.2.69, 18.10.70 and 22.10.70.
823. *PLATYSTEIRA PELTATA* Sundevall. Black-throated Wattle-eye.
A scarce resident in sub-montane forest, usually riverine, below 1830 m. Common in gallery forest south of the Park. Seen feeding fledglings in August and November.
828. *TROCHOCERCUS CYANOMELAS* (Vieillot). Crested Flycatcher.
An uncommon resident in forest with undergrowth below 1700 m. Frequents lower storeys.
832. *TCHITREA VIRIDIS* (Müller). Paradise Flycatcher.
A common resident of forest and edges, woodland and riverine strips below 2000 m. Breeds from October to April. Nests found in December 1968, and on 26.2.69, 20.4.70, 18.10.70 and 22.10.70.
841. *TURDUS OLIVACEUS* (L.). Olive Thrush.
A common resident of forest and tall heath from 1500 m to limit of tree growth. Sometimes seen in parties up to ten feeding on fruit. Nests found on 7.4.69 and 10.11.70. Fledglings on 2.10.69.
844. *GEOKICHLA GURNEYI* (Hartlaub). Orange Ground Thrush.
A seldom seen resident of forest, so far unrecorded above 2000 m. On the southern side of Mt. Meru it has been seen in bamboos at 2400 m.

850. *MONTICOLA SAXATILIS* (L.) Rock Thrush.
A Palearctic migrant, usually seen in November and March in Acacia woodland.
854. *OENANTHE OENANTHE* (L.) Wheatear.
A scarce transient from the Palearctic, occurring in grassland in October-November and March.
865. *OENANTHE LUGUBRIS* (Rüppell). Abyssinian Black Wheatear.
One seen in April 1969. It is common in eroded grassland and dry torrent courses in drier areas around Mt. Meru.
868. *OENANTHE PILEATA* (Gmelin). Capped Wheatear.
A rare transient in May and September, being common in short grassland plains beyond the Park.
882. *SAXICOLA TORQUATA* (L.) Stonechat.
A common resident, occurring from 1400 m to over 3000 m. Usually inhabits bushy areas, with or without grassland and trees, also long-grass swamp, *Dodonea* woodland and the heath-zone. Breeds from September to March, nest being found on 5.9.69, 8.12.69, 22.10.70, 4.12.70. 10.1.71 and 11.3.71.
883. *SAXICOLA RUBETRA* (L.) Whinchat.
One record only, January 1966.
885. *COSSYPHA SEMIRUFA* (Rüppell). Rüppell's Robin Chat.
A common resident of forest and damp, well-grown sage-bush and thicket up to 1800 m. Nests found in March and April. It is a wonderful mimic, imitating Crowned Hawk-Eagle, Green Sandpiper, Red-chested, Didric, and especially Emerald Cuckoos, Bulbul, Black-headed Oriole, and human whistles.
893. *COSSYPHA CAFFRA* (L.) Robin Chat.
A not uncommon resident of forest-edge shrubbery, glades and heath zone from 1700-3500 m.
910. *ERYTHROPYGIA ZAMBESIANA* Sharpe. Red-backed Scrub-Robin.
A resident of sage-bush and regenerating Acacia scrub in dryer areas.
915. *POGONOCICHLA STELLATA* (Vieillot). White-starred Bush-Robin.
Common resident of forest undergrowth up to 2500 m, breeding from November through to June, Nest found on 8.12.69. and 20.4.70, newly fledged young on 8.11.69 and in mid-June 1970.
920. *IRANIA GUTTURALIS* (Guerin.) White-throated Robin.
24.3.71, one female; 26.3.71; one male, in acacia scrub and sage-bush.
922. *LUSCINIA LUSCINIA* (L.) Sprosser.
Rare Palearctic migrant to secondary vegetation and thickets, in November and December.
924. *SYLVIA COMMUNIS* Latham. Whitethroat.
A Palearctic migrant, mainly transient in November, but occasionally seen from October to December. Inhabits bush.
925. *SYLVIA BORIN* (Boddaert). Garden Warbler.
Rare Palearctic migrant frequenting thick bush.
926. *SYLVIA ATRICAPILLA* (L.) Blackcap.
Palearctic migrant, sometimes abundant. Inhabits thickets and dense shrubbery in woodland and forest edge. Occasionally found in heathland up to 2450 m.
936. *HIPPOLAIS OLIVETORUM* (Strickland.) Olive-tree Warbler.
Rare Palearctic migrant seen in trees on return migration in mid-March.
938. *HIPPOLAIS PALLIDA* (Hemprich & Ehrenberg). Olivaceous Warbler.
Occasional Palearctic migrant, seen in woodland canopy from October to March.
940. *LOCUSTELLA FLUVIATILIS* (Wolf). River Warbler.
Palearctic migrant. One found dead in early April. (Beesley 1971a).
947. *ACROCEPHALUS SCHOENOBÆNUS* (L.). Sedge Warbler.
Rare Palearctic migrant seen in lakeside vegetation on return passage in mid-March.
948. *BRADYPTERUS BABOECALA* (Vieillot). Little Rush Warbler.
Resident in tall-grass swamps. Singing and courtship noted in November and December.
952. *SATHROCERCUS CINNAMOMEUS* (Rüppell). Cinnamon Bracken Warbler.
Common resident of shrubbery and undergrowth of forest, glades and edges, also heath zone, from 1500 to 2900 m.

953. *SATHROCERCUS MARIAE* (Madarasz). Evergreen Forest Warbler.
As previous species, but lives more inside the forest.
955. *CALAMOCICHLA RUFESCENS*. (Sharpe & Bouvier) Rufous Swamp Warbler.
This bird was previously named *C. gracilirostris*, Greater Swamp Warbler. For nomenclature see Mackworth-Praed & Grant (1960 2nd ed.). Birds of Eastern and North Eastern Africa, Vol. II p. 519.
A resident and visitor to long grass swamp. Ngurdoto Crater swamp is a reservoir of this species, which in years of good rainfall spreads to other areas.
959. *PHYLLOSCOPUS TROCHILUS* (L.) Willow Warbler.
A numerous Palaearctic migrant, the main streams of migration passing in late October and late March to mid-April. Sings well in October, March and April. Found in woodland, tall bush and forest edge, sometimes up to 2600 m on passage.
964. *SEICERCUS UMBROVIRENS* (Rüppell). Brown Woodland Warbler.
Common resident of forest at all altitudes. Found breeding once in December.
969. *SCHOENICOLA BREVIROSTRIS* (Sundevall). Fan-tailed Warbler.
Sporadic visitor to tussock grassland and short sage-bush. Not uncommon outside the Park along the northern base of Mt. Meru. Probably resident in the lower Ngongongare sector.
970. *APALIS THORACICA* (Shaw & Nodder). Bar-throated Apalis.
A scarce resident of the lower storeys of forest edge and glades from 1700-2000 m.
975. *APALIS MELANOCEPHALA* (Fischer & Reichenow). Black-headed Apalis.
Uncommon resident of lower storeys of forest with undergrowth below 1800 m.
979. *APALIS FLAVIDA* (Fischer & Reichenow). Black-breasted Apalis.
A common resident of *Acacia* and other woodland, and tall sage bush. Consorts with *Batis molitor*, *Sylvietta whytii* and *Phyllolais pulchella* in roving parties. Nests found as follows:-
23.9.70, 28.9.80, (2 nests) 1.5.71, 4.5.71, 5.5.71 (2 nests), 16.5.71 and 26.5.71. All had 2 eggs.
995. *PHYLLOLAIS PULCHELLA* (Cretzschmar). Buff-bellied Warbler.
A resident of *Acacia xanthophloea* woodland only, but inhabits *Acacia tortilis* outside the Park. Nest-building seen in early November.
997. *SYLVIETTA WHYTII* Shelley. Red-faced Crombec.
A resident of sage-bush with trees and woodland, found breeding on 28.10.69, 13.10.70, 19.10.70, 4.11.70 and 17.12.70.
1011. *CAMAROPTERA BREVICAUDATA* (Cretzschmar). Grey-backed Camaroptera.
A resident of undergrowth and low bush in woodland and forest-edge up to 1800 m. Found breeding on 14.4.69, 8.5.70 and 12.6.71.
1016. *CISTICOLA JUNCIDIS* (Rafinesque). Zitting Cisticola.
A dry season visitor to grassland, occasionally during the rains. Common in grass plains beyond the Park.
1018. *CISTICOLA ARIDULA* Witherby. Desert Cisticola.
As previous species, but also frequents thin sage-bush.
1024. *CISTICOLA CHINIANA* (A. Smith). Rattling Cisticola.
A resident and visitor, frequenting sage-bush and regenerating *Acacia* scrub up to 4 m tall. A recently established resident, it is common in the dry bush beyond the Park, and is a dry season visitor. Found breeding on 25.3.70 and 9.4.70.
1026. *CISTICOLA WOOSNAMI* O. Grant. Trilling Cisticola.
Common resident in woodland, bush with scattered trees, and forest edge up to 1700 m. Nests found on 2.4.70, 4.4.70 and 3.5.71.
1030. *CISTICOLA HUNTERI* Shelley. Hunter's Cisticola.
A resident of shrubby grassland and heath on Mt. Meru from 1830 to 3700 m.
1031. *CISTICOLA CANTANS* (Heuglin). Singing Cisticola.
Common resident mainly of sage-bush also inhabits forest edge and secondary growth up to 1650 m. Does not occupy such dry country as *C. chiniana*. Nests found on 10.3.69, 11.2.70, 3.3.70, 10.7.70, 8.5.71 (two), 22.5.71, 25.5.71 and 26.5.71 (two).
1032. *CISTICOLA ERYTHROPS* Hartlaub. Red-faced Cisticola.
Uncommon resident of bush and long grass around fresher swamps and streams in the Seneto and Ngongongare sections. Breeds in November and December, one nest found on 16.11.68.

1033. *CISTICOLA GALACTOTES* (Temminck). Winding Cisticola.
Common resident of grassland, sage-bush, and well-grown *Cyperus laevigatus* swamps, never far from water. Breeds in May-July and November-January. Nests found on 18.11.68, 26.12.68, May 1969, 8.7.69, and 7.5.70.

1035. *CISTICOLA ROBUSTA* (Rüppell). Stout Cisticola.
A very local resident in the Park, found only in derived grassland (mainly *Eleusine jaegeri*) on the lower slopes of Mt. Meru at 1600-2100 m.

1036. *CISTICOLA NATALENSIS* (Smith). Croaking Cisticola.
A resident and visitor, inhabiting sage-bush. Outside the Park it occurs commonly in the sage-bush to the north and on the northern slopes of Mt. Meru.

1037. *CISTICOLA BRACHYPTERA* Sharpe. Siffling Cisticola.
Common resident in tree-scattered grassland and sage-bush, feeding mainly on the ground. Breeds in February and March. Nests found on 1.2.69 and 21.3.70.

1045. *PRINIA SUBFLAVA* (Gmelin). Tawny-flanked Prinia.
A common resident of the sage-bush and busy woodland, which has been found nesting on 20.11.68, 14.2.70, 14.4.70, 28.4.71, 2.5.71, 4.5.71, 6.5.71, 15.5.71, 17.5.71, 20.5.71 and 26.5.71. Mostly with 3 or 4 eggs.

1051. *MELOCICHLA MENTALIS* (Fraser). Moustache Warbler.
An abundant resident of the sage-bush, found breeding so far on 24.9.68, 28.9.69, 23.4.71 and 17.5.71.

1054. *HIRUNDO RUSTICA* L. European Swallow.
A Palearctic migrant, numerous on passage in October-November, some remaining until April. Found mainly over the lakes and environs, especially feeding on Chironomids as they emerge in great columns during the late afternoon. They are joined by other Hirundines and Swifts.

1061. *HIRUNDO SMITHII* Leach. Wire-tailed Swallow.
Several pairs are resident, having increased in numbers in the last few years with the increase in buildings. Found breeding from February to October, and probably breeds throughout the year. One pair raised four broods in one year. Nests with eggs found on 19.8.68, 10.10.68, 5.2.69, 10.5.69, 3.9.69, 25.5.70, 1.10.70, 10.10.70, 20.5.71, and 28.6.71.

1062. *HIRUNDO DAURICA* L. Red-rumped Swallow.
An occasional visitor, usually seen over the lakes. So far recorded in February and March, and June to September.

1063. *HIRUNDO SENEGALENSIS* L. Mosque Swallow.
An increasing resident, breeding in buildings, often taking over the nest of *H. smithii*. Eggs laid probably any month, but recorded in April, May, June and December. The young roost with the parents in the nest for two months after fledging.

1065. *HIRUNDO ABYSSINICA* Guerin. Striped Swallow.
A resident, nesting under the Maji-ya-Chai bridge in the Ngonongore section. In 1968 a spate swept the nests away and those birds have not yet returned. It is also a visitor, appearing over the lakes in flocks in May to August and November and December. Recently found breeding in January on cliffs along the Maji-ya-Chai.

1068. *RIPARIA RIPARIA* (L.) European Sand Martin.
A rare Palearctic transient in October and March, seen over lakes.

1069. *RIPARIA PALUDICOLA* (Vieillot). African Sand Martin.
A resident and visitor, the latter occurring from July to October and January to March. Residents breed from March to July. The habitat is around lakes and the Ngarenanyuki river.

1070. *RIPARIA CINCTA* (Boddaert). Banded Martin.
An irregular visitor, small parties occurring in grassland and sage-bush from the end of February to early April and from May to June.

1073. *PTYONOPROGNE FULIGULA* (Lichtenstein). African Rock Martin.
A resident, inhabiting the environs of cliffs and buildings, where they breed probably any month but so far recorded during February to May and in October.

1074. *DELICHON URBICA* (L.) House Martin.
An infrequent Palearctic migrant, seen in October to December and March to April, usually over lakes.

1075. *PSALIDOPROGNE HOLOMELAENA* (Sundevall). Black Roughwing Swallow.
A common resident in forest edges, glades and roads up to 2700 m, but feeds a great deal over the lakes at 1460 m especially when clouds are low. Found breeding during every month.

1081. *CAMPEPHAGA SULPHURATA* (Lichtenstein). Black Cuckoo-Shrike.
A not uncommon resident in woodland and forest edge also secondary growth such as *Croton* and *Dodonea*. Courtship observed from September to November and March to April. A nest of young found on 10.5.71.
1084. *CAMPEPHAGA QUISCALINA* Finsch. Purple-throated Cuckoo-Shrike.
A male and female believed to be of this species observed in forest at 1650 m, but the record needs to be substantiated by a specimen.
1085. *CORACINA PECTORALIS* (Jardine & Selby). White-breasted Cuckoo-Shrike.
One record only in November 1969, a female seen in Acacia woodland.
1088. *DICRURUS ADSIMILIS* (Bechstein). Drongo.
An infrequent visitor seen in March, June, September and December in woodland. A common bird in coffee-plantations and *Acacia* woodland outside the Park.
1090. *PRIONOPS PLUMATA* (Shaw). Straight-crested Helmet-Shrike.
A visitor from June to September, frequenting the canopy of submontane forest and *Dodonea* woodland.
1095. *SIGMODUS RETZII* (Wahlberg). Retz's Red-billed Shrike.
A resident in submontane forest to 1680 m. Found in nomadic flocks which are constantly on the move through the canopy.
1098. *NILAUS AFER* (Latham). Northern Brubru Shrike.
A scarce resident of *Acacia* woodland, found breeding once in September. A common bird in *Acacia oritilis* woodland north of the Park.
1103. *LANIUS MINOR* Gmelin. Lesser Grey Shrike.
A rare Palearctic migrant to bushy areas in March and April.
1104. *LANIUS COLLARIS* L. Fiscal Shrike.
A common resident of sage-bush, bush-scattered grassland and regenerating *Acacia xanthophloea* stands. Normally it is found below 1680 m but one was seen in the heath zone on Mt. Meru at 2580 m in July 1969, so the bird is presumably a wanderer. Probably breeds throughout the year. Nests found on 24.9.68, 23.10.68, 8.1.69, 26.2.69, 13.10.70, 1.12.70, 26.3.71, 20.4.71 and 12.6.71.
1112. *LANIUS COLLURIO* L. Red-backed Shrike.
A Palearctic migrant to the regenerating *Acacia xanthophloea* fringing the lakeshores, a few being seen from late October to late April.
1114. *LANIUS CRISTATUS* L. Red-tailed Shrike.
Status and habitat as previous species.
1125. *LANIARIUS AETHIOPICUS* (Gmelin). Tropical Boubou.
A common resident of woodland, forest-edge and secondary growth, also has established itself in the sage-bush and heath-zone. Breeds from December to May. Nests found on 26.2.69, 10.1.70 and 10.5.71.
1128. *DRYOSCOPUS CUBLA* (Shaw). Black-backed Puff-back Shrike.
A common resident in sub-montane forest, woodland, and occasionally bushes, not found above 2000 m.
1133. *TCHAGRA SENEGALA* (L.). Black-headed Bush-Shrike.
A scarce resident, a few pairs being found in a variety of habitats, in which the more numerous *Tchagra australis* is found i.e. *Acacia* and *Dodonea* woodland, sage-bush, both in damp and dry situations. One nest found in dry sage-bush in December, another in *Dodonea* woodland in June, both contained two eggs.
1134. *TCHAGRA AUSTRALIS* (Smith). Brown-headed Bush-Shrike.
As previous species but more abundant. Found breeding on 21.12.68, 14.1.69, 19.5.71 and 13.6.71.
1138. *CHLOROPHONEUS SULFUREOPECTUS* (Lesson). Sulphur-breasted Bush-Shrike.
Resident, mainly in canopy of *Acacia* or other woodland, also in well-grown *Dodonea* woodland. Sings from September to December.
1140. *CHLOROPHONEUS NIGRIFRONS* (Reichenow). Black-fronted Bush-Shrike.
A resident of sub-montane forest up to 1830 m.
1159. *PARUS FRINGILLINUS* Fischer & Reichenow. Red-throated Tit.
A resident augmented by visitors in the dry season. Inhabits canopy of *Acacia xanthophloea* groves. Constantly on the move.

1164. *ORIOLUS ORIOLUS* (L.) Golden Oriole.
A Palearctic migrant, not seen every year. In 1969 parties of mixed sexes with juveniles numbering up to twelve passed through from early October to late November. A few birds were seen on return passage in March. They fed in the canopy of *Croton macrostachyus* trees on berries and caterpillars. A few *O. larvatus* were seen with them.
1165. *ORIOLUS AURATUS* Vieillot. African Golden Oriole.
One male obtained at Ngurdoto Gate in light forest in June 1970.
1167. *ORIOLUS LARVATUS* Lichtenstein. Black-headed Oriole.
Common resident of woodland and forest up to 1700 m. Found breeding on 4.11.68 and 5.6.71.
1172. *CORVUS ALBUS* Müller. Pied Crow.
A rare visitor, which is common in and around Arusha township.
1175. *CORVUS ALBICOLLIS* (Latham). White-necked Raven.
A few pairs are resident, mainly around Ngurdoto Crater and Mt. Meru. Attracted to picnic parties and camp-sites, and becoming tame.
1182. *CREATOPHORA CINEREA* (Menschen). Wattled Starling.
A vagrant in April and May from the dryer country north of Ngarenanyuki village.
1184. *CINNYRICINCLUS LEUCOGASTER* (Boddaert). Violet-backed Starling.
An irregular visitor in varying numbers, sometimes many hundreds. Has been seen in all months, but mainly visits the fruiting Loliondo (*Olea* spp.) trees in July to late September, and the *Croton* trees in October and November.
1185. *PHOLIA SHARPEI* (Jackson). Sharpe's Starling.
A resident and also a visitor in large flocks. Haunts the canopy of fruiting trees, especially Loliondo in June and July, when the birds are accompanied by juveniles.
1186. *PHOLIA FEMORALIS* (Richmond). Abbott's Starling.
Only two records so far, one bird in Meru forest at 2500 m in October, and several with a party of *P. sharpei* in Ngurdoto forest on 30.5.71.
1201. *ONYCHOGNATHUS WALLERI* (Shelley). Waller's Chestnut-wing Starling.
A resident of the canopy of forest trees, especially *Podocarpus* and *Juniperus* on Mt. Meru from 1680 to 2740 m. On Ngurdoto Crater inhabits *Olea* and *Cassipourea* down to 1450 m. A nest found fairly high in a forest tree on Mt. Meru at 2300 m on 15.10.70.
1203. *ONYCHOGNATHUS MORIO* (L.) Redwing Starling.
A resident about buildings, cliffs and waterfalls. Congregates into large flocks from May to July. Recorded nesting in February-March and October-December. Noted hammering snails on stones, or concrete in the manner of the Song Thrush *Turdus philomelos* L.
1210. *STILBOSPAR KENRICKI* (Shelley). Kenrick's Starling.
A resident and visitor. Found in the canopy of fruiting forest trees from 1370-1830 m, occasionally to 2100 m. Found breeding on 18.9.68, 25.10.68, 3.4.69, 17.9.69 and two nests on 21.5.71. When in feeding flocks, often congregates with Violet-backed and Sharpe's Starlings.
1217. *BUPHAGUS AFRICANUS* (L.) Yellow-billed Oxpecker.
A resident, always with large mammals. Found up to 2600 m.
1218. *BUPHAGUS ERYTHORHYNCHUS* (Stanley). Red-billed Oxpecker.
Status as previous species, but more abundant. Have been seen feeding or roosting on a Giraffe three hours after dark. (Beesley 1971a). Breeds mainly from October to December, also February and March. Nests found on 3.11.70, 5.11.70, 6.2.71 and 9.3.71.
1220. *ZOSTEROPS SENEGALENSIS* Bonaparte. Yellow White-eye.
A rare visitor to Acacia woodland in June-September, and has been seen associating with *Z. eurycricotus*. A common bird of dry bush/woodland in Masailand.
1222. *ZOSTEROPS EURYCRICOTUS* Fischer & Reichenow. Broad-ringed White-eye.
An abundant resident, mainly of forest and closed woodland at all levels up to 3000 m. Also occurs in the heath-zone and scattered *Hagemia* trees, and rarely in *Acacia* woodland and scrub around the lakes. Found breeding on 12.12.69 and 30.5.71.
1227. *NECTARINIA FAMOSA* (L.) Malachite Sunbird.
Probably only a visitor. It is a very mobile species, following the flowering of trees and shrubs. From May to mid-September it is found in the sage-bush, but numbers vary greatly. Occasionally found in heath-zone up to 3000 m.

1229. *NECTARINIA TACAZZE* (Stanley). Tacazze Sunbird.
A resident, not uncommon, of forest edge, glades and heath-zone, from 2100 m to the higher limits of shrubby growth. Breeds at 2100 to 3000 m from December to February, which are the warmest months on Mt. Meru. Nests found on 5.2.67, 23.12.69, 27.12.70 and 11.2.71.
1230. *NECTARINIA KILIMENSIS* Shelley. Bronze Sunbird.
A resident and visitor. The visitors, as of the previous species, follow the flowers, but after poor rains when flowering is sparse, few birds appear. Inhabits sage-bush, woodland, scattered trees, and was once seen in heath-zone in December. Prone to attack its reflection in windows, and a male nesting near the writer's house entered the bedroom window every morning to sing at its image in the mirror. Found breeding on 18.11.68, 27.4.69, 10.10.70, 16.3.71 and 12.6.71.
1233. *NECTARINIA PULCHELLA* (L.) Beautiful Sunbird.
A visitor to the Ngongongare section in the late dry season. Comes from the drier acacia steppe.
1235. *DREPANORHYNCHUS REICHENOWI* Fischer. Golden-winged Sunbird.
Status uncertain, another nomadic species of sporadic appearance at all levels, congregating to the flowers of *Crotalaria agatifolia* on Mt. Meru. Rarely seen in the sage-bush at 1460 m. Commoner on the southern side of Mt. Meru, and in October it appears in parties with *N. kilimensis* and *N. famosa* in the flowering Jacaranda trees in Arusha town.
1251. *CINNYRIS VENUSTUS* (Shaw & Nodder). Variable Sunbird.
An abundant resident having local migrations, it inhabits sage-bush and secondary woodland. Breeds from May to August when sage-bush components are in flower. Nests found on 29.6.69, 28.7.68 and 8.5.70
1254. *CINNYRIS MEDIOCRIS* Shelley. Eastern Double-collared Sunbird.
Common resident of forest-edge and heath-zone on Mt. Meru from 1800 m upwards. Found breeding on 26.10.68, 20.9.69 and 3.11.69.
1261. *CHALCOMITRA AMETHYSTINA* (Shaw). Amethyst Sunbird.
A resident, apparently more common in some years than others, inhabiting forest-edge and woodland below 1800 m, also visiting the sage-bush when in flower. Nests found as follows: 12.4.70, 10.10.70, 22.10.70 and 4.11.70.
1263. *CHALCOMITRA SENEGALENSIS* (L.) Scarlet-chested Sunbird.
A resident, but locally migratory, of light woodland, also visiting the sage-bush. Recorded breeding every month except the colder season of July-August. Will hang the nest from the ends of roof spars, electric-light bulbs or tips of branches. Nests found on 13.9.68, 12.10.68, 6.11.68, 8.1.69, 6.2.69, 4.3.70, 27.5.70, 12.10.70, 14.12.70, 12.4.71 and 23.5.71.
1269. *CYANOMITRA OLIVACEA* (Smith). Olive Sunbird.
A resident of forest mainly its edges and clearings and dense woodland, usually below 2100 m. Found breeding on 15.2.69 and 4.3.70.
1271. *ANTHREPTES COLLARIS* (Viellot). Collared Sunbird.
A resident of similar habitat to previous species, found breeding on 15.3.69, 31.3.69, 9.1.70, 30.4.71 and 17.5.71 N.P.
1300. *PASSER GRISEUS* (Vieillot). Grey-headed Sparrow.
An uncommon visitor, straying in from Momela Game Lodge and clusters of dwellings in shambas outside the Park boundary where it breeds.
1306. *SORELLA EMINIBEY* Hartlaub. Chestnut Sparrow.
Recorded once, in breeding plumage, on 1.5.70.
1314. *PLOCEUS SPEKEI* (Heuglin). Speke's Weaver.
A resident and/or visitor that has been recorded in every month, but is often absent. Haunts the trees about the old Park H.Q. near Lake Kusare. Recorded breeding in March - April.
1319. *PLOCEUS INTERMEDIUS* Rüppell. Masked Weaver.
A sporadic visitor, usually in the dry season to the regenerating *Acacia* trees lining the lake-shores, but not every year. In March and April 1969, a few bred in trees on the islands in Great Momela Lake and at the old H.Q., and in May 1971 a colony built on an island in the lake.
1326. *PLOCEUS JACKSONI* Shelley. Golden-backed Weaver.
A visitor to the bush around Momela lakes from August to October.
1327. *PLOCEUS RUBIGINOSUS* Rüppell. Chestnut Weaver.
As previous species. These birds are common in farmlands beyond the Park.

1333. *PLOCEUS CASTANEICEPS* (Sharpe). Taveta Golden Weaver.
A resident and visitor, frequenting swamps and bush in damp situations. Breeds in swamps whenever conditions suitable, especially where reed-mace *Typha* is abundant. Egg-laying noted in November-December and March-May.
1337. *HYPHANTURGUS OCULARIS* (A. Smith). Spectacled Weaver.
A resident, mainly of lakeside trees and bushes, and nearby thicket and woodland, also forest edge, strips and clearings up to 2000 m. Noted breeding in September-November and April-May. Some nests appear to be built for roosting purposes.
1348. *OTHYPHANTES REICHENOWI* (Fischer). Reichenow's Weaver.
A resident of secondary woodland and tree-scattered sage-bush, occasionally forest-edge, rarely seen above 1800 m. Seen building nests in any month. One pair will build up to seven nests, occupying but one. Only one record of eggs so far, one egg on 14.6.71.
1358. *AMBLYOSPIZA ALBIFRONS* (Vigors). Grosbeak Weaver.
A breeding visitor to long-grass swamps, dispersing after breeding to surrounding forest edges. Nests found in April and May.
1359. *ANAPLECTES MELANOTIS* (Lafresnaye). Red-headed Weaver.
An uncommon visitor to most of the Park, but possibly resident in the Ngongongare section. Inhabits forest edge and woodland at low altitudes.
1360. *QUELEA QUELEA* (L.) Red-billed Quelea.
Rare visitor to grassland and sage-bush in May-June and November. Just drops in for a day as there is little suitable feed.
1362. *QUELEA CARDINALIS* (Hartlaub). Cardinal Quelea.
A vagrant, only once recorded.
1367. *EUPLECTES CAPENSIS* (L.). Yellow Bishop.
A resident of sage-bush and tussock grassland, breeding in the rains of April and May. It has been noted that breeding plumage begins to be assumed in October, and in some birds is retained until June or even August. Nests found on 7.4.69 and 10.5.71.
1376. *COLIUSPASSER LATICAUDA* (Lichtenstein). Red-naped Widow-Bird.
A resident of sage-bush and tussock grassland, from 1500-2000 m. Breeds in March-May, breeding plumage being attained in October-December. Nests found on 5.3.69 and 8.5.71.
1379. *SPERMESTES CUCULLATUS* Swainson. Bronze Mannikin. A mobile resident and probably a visitor. Inhabits sage-bush, rough grassland, swamp-edges and scrubby woodland. Probably breeds in any month, but eggs recorded in January, February, June, December.
1381. *SPERMESTES NIGRICEPS* Cassin. Rufous-backed Mannikin.
A resident, constantly on the move, in woodland, tall-grass swamps in forest, forest-edge and clearings up to 2000 m. Found breeding from February to June. Nests as follows: 26.2.69, 14.3.71, 8.5.71 and 7.6.71.
1383. *EODICE MALABARICA* (L.) Silver-bill.
An uncommon visitor to the sage-bush in the Ngongongare section.
1384. *ODONTOSPIZA CANICEPS* (Reichenow). Grey-headed Silver-bill.
A transient through the sage-bush and secondary scrub, mainly along streams, during the dry season.
1386. *NIGRITA CANICAPILLA* (Strickland). Grey-headed Negro-Finch.
A resident of forest, found breeding from September to November.
1398. *CRYPTOSPIZA REICHENOWI* (Hartlaub). Red faced Crimson-wing.
1399. *CRYPTOSPIZA SALVADORII* (Reichenow). Abyssinian Crimson-wing.
These two species are treated together, and although none has yet been obtained, I believe their identification is correct. They inhabit the forest and forest edge on Mt. Meru up to 2500 m, no difference so far noted in their habitat.
1403. *ORTYGOSPIZA ATRICOLLIS* (Vieillot). Quail-Finch.
An uncommon visitor to grassland and open lake-shores, coming from the grass plains north of the Park.
1407. *MANDINGOA NITIDULA* (Hartlaub). Green-backed Twinspot.
A resident of forest with heavy undergrowth at the base of Mt. Meru (1500-1670 m). Difficult to see, but comes to bathing places on streams at mid-day.

1411. *LAGONOSTICTA RUBRICATA* (Lichtenstein). African Fire-Finch.
A resident and visitor, being more evident in November-December and March-June, the short and long rains. Inhabits bush, from sage-bush at 1400 m to heath-zone at 2500 m. A nest with one egg found on 17.6.71.
1413. *LAGONOSTICTA SENEGALA* (L.) Red-billed Fire-Finch.
A scarce resident and visitor, a passage noted in May-June. Frequents sage-bush and secondary woodland with grassland. A common bird in cultivations outside the Park.
1417. *COCCOPYGIA MELANOTIS* (Temminck). Yellow-bellied Waxbill.
A resident of grassland, heath, forest edges and clearings from 1700-2500 m. A nest found on 24.5.71 at 1500 m, a lower altitude than I have ever seen the bird before, and another on 24.6.71.
1418. *ESTRILDA ASTRILD* (L.) Waxbill.
A resident augmented by visitors in March-May and November-December. Found in secondary bush, grassland and swamp, it is a mobile bird, roaming the country for grass-seeds and is especially fond of well-grown *Cyperus laevigatus* seeds. Breeds from February to June. Nests found on 6.2.69, 15.3.69, 9.4.69 (two), 14.6.69, 24.4.71, 27.4.71 (two), 10.5.71, 15.5.71, 10.6.71, 14.6.71, and 24.6.71.
1420. *ESTRILDA RHODOPYGA* (Sundevall). Crimson-rumped Waxbill.
A dry season visitor, to sage-bush and lake side vegetation.
1421. *ESTRILDA SUBFLAVA* (Vieillot). Zebra Waxbill.
A rare visitor to lake side grasslands, noted only in April and May.
1427. *ESTRILDA ERYTHRONOTOS* (Vieillot). Black-cheeked Waxbill.
An infrequent visitor in June-July and November-December to rocky sage-bush. A bird of the drier, rocky thorn-scrub to the north.
1431. *URAEGINTHUS BENGALUS* (L.). Red-cheeked Cordon-Bleu.
A resident of sage-bush in the lower Ngongongare sector.
1432. *URAEGINTHUS CYANOCEPHALUS* (Richmond). Blue-capped Cordon-Bleu.
A visitor noted only in recent times. Recorded first in January 1969, it was then seen frequently in May, July, August and November, then not again in 1970. Usually seen in the sage-bush, a pair were however seen in a glade of *Eleusine jaegeri* grassland at 1980 m on Mt. Meru in May. Normally this is a bird of the dry bush of Masailand.
1433. *GRANATINA IANTHINOASTER* (Reichenow). Purple Grenadier.
As the previous species, only recorded recently in the Park, on May 20th, 1969. Since then it was seen every month until January 1970 after which none was seen again. Like the previous species, it is a bird of dry bush country, but here it inhabited the sage-bush, except for one pair which was seen in the heath-zone in Meru Crater at 2600 m in July.
1441. *VIDUA MACROURA* (Pallas). Pin-tailed Wydah.
A resident of the sage-bush on the borders of the Park in January - June. Courtship noted in March. It is a common bird in cultivations outside the Park.
1448. *SERINUS MOZAMBICUS* (Müller). Yellow-fronted Canary.
A visitor to the sage-bush from cultivated country. Possibly resident in the lower Ngongongare sector.
1454. *SERINUS FLAVIVERTEX* (Blanford). Yellow-crowned Canary.
A resident of the forest canopy and moorland up to the limit of plant growth on Mt. Meru (c. 3700 m), but descending during the colder months of April to August to the sage-bush. In 1971 several pairs occupied about half sq. km of *Dodonea-Juniperus* woodland at 1600 m where they bred, nests being found on 4th, 13th, 14th and 16th June.
1459. *SERINUS ATROGULARIS* (A. Smith). Yellow-rumped Seed-Eater.
A rare visitor to sage-bush from the dry Masai steppe.
1461. *SERINUS STRIOLATUS* (Rüppell). Streaky Seed-Eater.
A common resident in bush, woodland, forest edge and heath-zone to limit of plant growth. Many birds descend to the flowering sage-bush in May-July. Nests have been found on 29.6.68, 18.4.69, 17.5.71 and 29.4.71.
1462. *SERINUS BURTONI* (Gray). Thick-billed Seed-Eater.
A resident of forest, forest-edge and lower heath-zone between 1800 and 2500 m.
1463. *LINURGUS OLIVACEUS* (Fraser). Oriole Finch.
A scarce or easily overlooked resident of forest canopy, usually above 1900 m. It has been noted eating *Sedum* leaves.

1464. *CARDUELIS CITRINELLOIDES* (Rüppell). African Citril.
A common mobile resident of sage-bush and secondary growth, woodland and forest-edge up to 1800 m, breeding in November-January and April-June. Nests found as follows:- 30.4.67, 29.6.68, 14.12.68, 4.1.69, 1.6.70, 8.6.70, 23.11.70, 4.12.70, 29.4.71, 3.5.71, 16.5.71, 26.5.71, and 24.6.71.
1469. *EMBERIZA FLAVIVENTRIS* (Stephen). Golden-breasted Bunting.
A rare visitor, noted in January and May in tree-scattered bush. A male was singing in July 1971.
1476. *FRINGILLARIA TAHAPISI* A. Smith. Cinnamon-breasted Rock Bunting.
An uncommon visitor noted in January, October and December in rocky bushland.

REFERENCES

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