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RESULTS OF THE DOUGLAS BURDEN EXPEDITION TO THE ISLAND OF KOMODO

III.—LIZARDS FROM THE EAST INDIES[1]

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The lizards which form the subject of this paper were taken by the Douglas Burden Expedition to the Island of Komodo in the summer of 1926. They come from the islands of Pulo Weh (north of Sumatra), Java, Bali, Lombok, Komodo, Padar, and Wetar. There are two hundred and forty-nine specimens which comprise twenty-seven species and three subspecies. There are four new species and three new races in the collection. A number are, of course, new to the islands concerned, and these will hereinafter be designated as such.

Gymnodactylus defossei, new species

DIAGNOSIS.—A *Gymnodactylus* with no femoral or preanal pores; lateral fold of conical tubercles; dorsal tubercles very large; ventral scales small, 42 rows, smooth; tail with whorls of tubercles.

TYPE.—A. M. N. H. No. 32108; Komodo, at sea-level; collected June 19, 1926. Paratypes, Komodo, 2000 feet, 11 specimens (Nos. 32033–43).

RANGE.—Komodo, from sea-level to 2000 feet.

DESCRIPTION.—A. M. N. H. No. 32108; adult male; head large, depressed; snout one and one-half times the diameter of the orbit; orbit less than its distance from the ear; forehead concave; ear a vertical oval, three-fourths the diameter of the orbit; head covered with granules, largest on snout; scattered, smooth, conical granules on the occiput; rostral broader than high, bordered above by three scales, and with a median cleft; nostril bordered by rostral, first labial, suprarostral, supranasal, and one or two granules; labials $^{10}/_{10}$; mental triangular; one pair of chin shields meeting behind mental; dorsal surface covered with granules and with 17 rows of large, trihedral, three-keeled tubercles; ventrals small, imbricate, mooth, in 42 rows across belly; no femoral or preanal pores; lateral fold with some enlarged and conical tubercles; (tails of A. M. N. H. Nos. 32035–6 cylindrical; granular above; enlarged scales below; proximal two-thirds with whorls of six enlarged tubercles); arm with small tubercles; leg with granules and large tubercles: grayish brown above; about six darker chevrons across body; the first is occipital and is a continuation of the postocular bar; (the color may be light gray with a few scattered dark spots; tail with equal rings of black and gray); head and body 85 mm.

[1]Contributions from the Department of Zoölogy, Smith College, No. 145.

The type is the largest specimen and the only one taken in the low country. It was taken at night on a tree close to the hut which I shared with M. F. J. Defosse. He was with me when I secured the specimen and I am associating his name with it. The species was extremely common on the great rocks of the forest at 2000 feet altitude. Its relationships are somewhat to seek. The particular features of this species are large tubercles on the dorsal region, and complete lack of femoral or preanal pores. These two characters are not found together in any of the species whose descriptions are accessible to me, and certainly in none from the East Indies. The large tubercles are found in *d'armandvillei* from Flores and in the new species from Wetar, and possibly in the oceanic *pelagicus*. Two, *jellesmæ* and *sermowaiensis*, from Celebes and New Guinea respectively, lack pores, but neither have the enlarged regular tubercles. The Wetar form has pores.

Gymnodactylus wetariensis, new species

DIAGNOSIS.—A *Gymnodactylus* with 12–13 femoral pores on each side; 11 preanal pores in an angular series; lateral fold of flat tubercles; dorsal tubercles very large; ventral scales in 38 rows; tail with whorls of tubercles.

TYPE.—A. M. N. H. No. 32165. Paratypes Nos. 32160–4; collected July, 1926

TYPE LOCALITY.—Near Uhak, on the north coast of Wetar.

RANGE.—Known only from the type locality.

DESCRIPTION.—A. M. N. H. No. 32165; adult male; head medium, depressed; snout one and one-third times the diameter of orbit; orbit equals its distance from the ear opening; latter oblique, one-fifth the diameter of the orbit; forehead concave; head with granules, largest on snout, small tubercles on occiput; nostral broader than high, bordered above by three granules and with a median cleft in the upper part; nostril bordered by the rostral, first labial, postrostral, supranasal and postnasal; labials 10/9; mental triangular; a pair of chin shields meeting behind mental; throat granular; body with granules and with 14–16 series of large trihedral tubercles; lateral fold with enlarged flat or rounded tubercles; ventrals imbricate, smooth, in 38 rows; an angular series of 11 preanal pores, separated by an interspace from the femoral pores which are 12–13 on a side; tail (of No. 32162) terete, uniform granules larger below, whorls of four tubercles on basal part; arms with granules and small tubercles; legs with tubercles the size of those of the back; blackish or gray above with irregular transverse markings of darker; a dark curved mark from one eye back and across occiput to the other eye; a dark line from eye to shoulder; head and body 70 mm.

These lizards, called, as is Gekko, "tekke" by the natives, were taken both at night and in the daytime on trees. Their relationships are, so far as the scalation is concerned, with *d'armandvillei* of Flores and with *defossei* of Komodo. With regard to the femoral and preanal pores, *defossei* with none at all is quite different, while *d'armandvillei* with 18–19

femorals and no preanals is sufficiently distinct. Those having similar pores in the East Indies are *marmoratus*, widely distributed, with 12–13 preanals and 4–5 femorals; *baluensis*, from Borneo, with 9–10 preanals, and 6–9 femorals; and *mimikanus*, from Papua, with 7–14 preanals and 10–12 femorals. Of these, *marmoratus* and *baluensis* have much smaller dorsal tubercles, but much the same coloration; *mimikanus* has a very different set of markings, and the tubercles, while in regular rows, are smaller.

Hemidactylus frenatus Duméril and Bibron

Eight specimens: Komodo at sea-level (Nos. 31205–7); Komodo at 2000 feet (Nos. 31995–6); Padar (Nos. 32018–9); Wetar (No. 32149). It was seen also in Lombok at Sembalun, and in Java at Buitenzorg. New to Komodo and to Padar.

Cosymbotus platyurus (Schneider)

One specimen from Buitenzorg (No. 31998).

Peropus mutilatus (Weigmann)

Two specimens: Komodo at 2000 feet (No. 31997); Wetar (No. 32150). New to both islands.

Gekko gecko (Linnæus)

Ten specimens: Komodo at sea-level (Nos. 31209–10); Komodo at 2000 feet (Nos. 32048–9); and Wetar (No. 32226–31). It was also heard on Sangeang off the northwest point of Sumbawa, and at Buitenzorg. New to all three islands.

Draco volans Linnæus

Three specimens: Buitenzorg (No. 32020), and Bali (Nos. 32118–9).

Draco reticulatus Günther

Two specimens from Komodo at sea-level (Nos. 32094–5). New to the island.

Draco timorensis Kuhl

One specimen from Wetar (No. 32151). Native name "tokkai."

Aphaniotis acutirostris Modigliani

Three specimens from Pulo Weh (Nos. 32029–31).

Gonyocephalus chamæleontinus (Laurenti)

Five specimens from Tjibodas (Nos. 32024–8). *G. kuhli* (Schlegel) is clearly a synonym.

Dendragama fruhstorferi Bœttger

Three specimens from Tjibodas (Nos. 32021–3).

Varanus salvator (Laurenti)

One specimen from Bali. A specimen was seen at Suela, in Lombok.

Varanus komodoensis Ouwens

This lizard was the main object of the expedition and a discussion of its relationships forms the subject of a separate paper (No. 1 of this series, Novit. No. 286). The number of specimens taken was limited by the Colonial Government, which in 1915 declared its range closed to hunting. Despite a certain amount of poaching in the early part of 1926, these lizards are fairly common on Komodo. We saw tracks on Padar, whence they had not been recorded. It is very decidedly an Australian type.

Mabuia multifasciata (Kuhl)

Thirteen specimens as follows: Tjibodas (Nos. 31976, 32044–7); Bali (Nos. 32115–7); Sajong on Lombok (No. 31999); Komodo at sea-level (No. 32096); Komodo at 2000 feet (Nos. 31991–3). Not hitherto known from Bali or Komodo.

Sphenomorphus florensis (M. Weber)

Of this species I have seen the following specimens: Komodo, sea-level, 8 (Nos. 32097–104); Komodo, 2000 feet, 21 (Nos. 32050–70); Padar, 5 (Nos. 32000–4); Flores, 1 (Mus. Comp. Zoöl., No. 9319); Wetar, 18 (Nos. 32187–204); Damma, 1 (Mus. Comp. Zoöl., No. 2099).

These specimens are divisible into four local races on the basis of coloration. The single specimen from Flores is a young one and so like small specimens from Padar that I cannot separate the two. But all from Komodo can easily be told from those from Padar or Wetar. The Damma specimen is quite different. The species has not previously been recorded from Komodo or Padar. I find no differences in scalation. These races may be diagnosed as follows.

Sphenomorphus florensis nitidus, new subspecies

DIAGNOSIS.—Young: brilliantly marked with a light and a dark dorso-lateral streak extending onto tail; a dark streak in front of groin; a very faint mid-dorsal light streak; dorsal spotting very faint and irregular. Medium: dark dorso-lateral stripe distinct only anteriorly; dorsal spots nearly invisible. Adult: almost without markings; top of head darker than sides with a dark line of demarcation; head not red; no black on throat; no post tympanic marking.

TYPE.—A. M. N. H. No. 32068. Paratypes, 28 specimens (Nos. 32097–104, 32050–67, 32069–70).

TYPE LOCALITY.—Komodo, 2000 feet altitude.

RANGE.—Komodo, sea-level to 2000 feet.

Sphenomorphus florensis florensis (Weber)

DIAGNOSIS.—Young: a light dorso-lateral stripe, but dark dorso-lateral stripe indistinct and broken; no dark streak in front of groin; a prominent mid-dorsal light stripe; dorsal spots large and distinct. Medium: dark dorso-lateral stripe broken; mid-dorsal stripe prominent; dorsal spots large. Adult: almost without markings; top and sides of head same color, no line of demarcation on sides of head; head with reddish tinge; throat flecked with black; no post-tympanic mark.

RANGE.—Padar and Flores.

Although amply distinct in both young and adult from the specimens of Komodo on the other side of the narrow but deep and swift Linta Straits, I have been unable to find any characters to separate young from Padar from a young specimen from Flores, the type locality. I am, however, inclined to think that such characters exist, for de Rooij's description, presumably drawn from adults from Flores, does not agree very well with any adults I have seen from anywhere (1915, Rept. Indo-Australian Arch., I, p. 173, Fig. 71). As in many other cases, more material is necessary before this problem can be settled.

Sphenomorphus florensis barbouri, new subspecies

DIAGNOSIS.—Young: no light dorso-lateral line; dark dorso-lateral line only distinct anteriorly; no striping on tail; a marked mid-dorsal light stripe; streak in front of groin very indistinct; small dorsal spots. Medium: much the same as young, but dorsal-lateral stripe fainter. Adult: dorso-lateral stripe not apparent; mid-dorsal stripe persistent; a light and a dark post-tympanic streak; throat black.

TYPE.—A. M. N. H. No. 32203. PARATYPES, 17 specimens, Nos. 32187–202, 32204.

TYPE LOCALITY.—North coast of Wetar, near Uhak.

RANGE.—Island of Wetar.

Named in honor of Dr. Thomas Barbour, who lent me material of this species, and who was the first to recognize insular races of lizards in this region. The native name is "tulupuhu."

Sphenomorphus florensis weberi, new species

DIAGNOSIS.—Differs from all the preceding races in having no head markings, the belly and throat black, and in the dorsal region being dark with irregular light crossbars.

TYPE.—Mus. Comp Zoöl. No. 2099, collected by the Siboga Expedition.

TYPE LOCALITY.—Damma Island.

RANGE.—Known only from the type locality.

Named in honor of Prof. Weber, who described the typical race.

Sphenomorphus striolatum (M. Weber)

Twenty-three specimens from Komodo at 2000 feet elevation. Not seen in the lower country. Not previously known from Komodo.

Sphenomorphus emigrans (van Lidth de Jeude)

Thirteen specimens from Wetar (Nos. 32205, 32207–18) may be referred to this species, already known from Pulo Sukur and Pulo Besar (both north off Flores), Sumba (*everetti* Boulenger), Samao near Timor, and New Guinea. The specimens show great constancy in color, but much variation in scalation, and the generic, and still more, the specific assignment is rather a problem. The color is a light brown shading into white below. Both edges of all dorsal and lateral scales are dark brown. This is most regular dorsally, and gives the effect of longitudinal striping. In four the change in ground color is more abrupt, making the dark edges stand out almost as a lateral dark band. In three of these, the edges of some of the dorsal scale rows are lighter than the others producing the effect of two narrow dorsal lines. In the largest (No. 32218) the animal is uniform brown above.

The scalation is as follows: scale rows, 26 in two, 28 in eight, and 30 in three; the subdigital lamellæ of the fourth toe are 17–21. Of twenty-five toes one had 17, seven had 18, six 19, six 20, five 21. All had four supraoculars. Three had no nuchals; three had one on one side; three had a pair; two, a pair and an extra one on one side; and two had two pairs. The prefrontals are separated in all. The frontal is narrower than the supraoculars in six, the same width in two, and wider in six. The leg is slightly longer than the distance from the eye to arm, and more than half the distance from axilla to groin, but they do not meet when appressed. Anyone who has had experience with these lizards, or who looks at the key characters in de Rooij, will realize what a baffling creature this is. It is certainly one species, but it would fit with equal propriety in *Lygosoma*, *Homolepida*, or the short-legged section of

Sphenomorphus, for these genera or subgenera are divided on the basis of the frontal being broader than the supraoculars or not, and whether the leg is longer than the distance from eye to arm. *Homolepida* and *Lygosoma* have the short limbs, and *Lygosoma* the narrow frontal, but there is a whole section of *Sphenomorphus* which approaches *Homolepida* closely in shortness of legs and the frontal width is of no guidance in this case.

With regard to species, there are in these three groups four *Sphenomorphus*, two *Lygosoma*, and one *Homolepida* which come under the range of variation in scale and subdigital formulæ exhibited by the present series. These species are separated by number of nuchals, number of sub-digital lamellæ, number of scale rows, whether or not the prefrontals are in contact, and color. The present series is as follows:

No.	Nuchals	Lamellæ	Frontal	Scales
32205	1 r	20–1	n	28
32207	1,2 l	21	n	28
32208	0	20	n	30
32209	1, 2 r	17–1	w	30
32210	1	18–19	w	26
32211	1 l	19–20	w	28
32212	2	18–19	=	26
32213	0	18–19	n	28
32214	1	21	n	28
32215	1	18	w	28
32216	1 r	18–19	n	28
32217	2	18–19	w	28
32218	0	20	=	30

Of these, No. 32210 is *Sphenomorphus emigrans*, while Nos. 32208 and 32218 are *Lygosoma nigriventre* (save that the prefrontals are not in contact).

The series differs from *S. emigrans* in most individuals having more nuchals, in most having more than 26 scale rows, in half having a wider frontal, and in the absence or extreme indistinctness of anything that could be called a lateral band. Of the seven species, *S. emigrans* is the only one which really absolutely fits any of the specimens and it is the only species recorded from the region. Under the circumstances, I can only feel that there are too many ill-defined species and genera in the group already, and I am inclined to avoid adding to the number by calling the present series *emigrans*. It is new to Wetar. The native name is "diahna," which they use for the scincid lizards.

Sphenomorphus undulatus (Peters and Doria)

A single specimen taken from the stomach of a *Dendrophis* on Wetar, No. 32206. This is certainly different from the series called *S. emigrans* in the preceding paragraphs, but I am by no means sure that is is *undulatus*. It has 30 scale rows, the mid-dorsal half again as wide as the rest; prefrontals in contact, right fused with frontal; 20 subdigital lamellæ under the fourth toe; 5 supraoculars; 5 nuchals on one side and 6 on the other; the frontal is wider than the supraocular region, and the legs are short. The color is brown; some scales light and some dark; occasionally a light scale has a quite dark anterior border; this gives the effect of very narrow, indefinite, wavy cross-bands. It differs from the description of *undulatus* in having two more scale rows and more nuchals. The next closest species is *aruanus* from the Aru Islands. This differs from *undulatus* and from the Wetar specimens in having fewer subdigital lamellæ, as well as in color. *Undulatus* has previously been recorded from Ceram, the Kei Islands, and Papua.

Dasia smaragdinum elberti (Sternfeld)

Seven specimens from the north coast of Wetar (Nos. 32219–25). Scale rows 26–28. In color there is much variation: one was bright green on the sides as far as the groin, and above as far as the middle of the back, while the hinder part of the body was brown with black dots; another was similar, but the dots on the brown portion were a combination of black and white; two were brown with the black and white dots and a green tinge to the head and neck; two others were brown with spots all over and no trace of green. I saw no evidence that they changed color. This race has, as Sternfeld (1920, Abh. Senckenbergische Nat. Ges., XXXVI, p. 401) pointed out, the color of specimens from the Moluccas, but a higher scale count. He had only one specimen, collected by Elbert at Iliwaki on the south coast. This had 27 scale rows. Two of ours have 26; two, 27; and three, 28. The six I collected were all on tree trunks. The native name is "ular moin."

Homolepida temminckii (Duméril and Bibron)

Twleve specimens from Tjibodas (Nos. 31979–90). No. 31981 has the prefrontals in contact and 30 scale rows.

Homolepida schlegeli, new species

DIAGNOSIS.—A *Homolepida* with 22 smooth scales, fourth toe longer than third and with 10 subdigital lamellæ; preanals enlarged.

TYPE.—A. M. N. H. No. 31994; collected June 26, 1926.

TYPE LOCALITY.—Komodo, 2000 feet altitude.

DESCRIPTION.—Snout short and blunt; lower eyelid scaly; ear opening round, nearly as large as eye opening; nostril in nasal; no supranasal; frontonasal broader than long, in contact with rostral; prefrontals in contact; frontal shorter than frontoparietals and interparietal together, in contact with 2 supraocculars; four supraoculars, third largest; six supraciliaries; frontoparietal and interparietal equal; parietals in contact; no nuchals; fourth labial below eye; body long, distance from snout to arm contained twice in that from axilla to groin; 22 smooth scales round the middle; preanals enlarged; tail not as thick as body, longer than head and body; limbs short; hind limb as long as from eye to fore limb; digits short; fourth toe longer than third, with ten smooth lamellæ below; a golden brown dorsal stripe four scales wide, bordered by a lighter streak and a dark line on one scale row; flanks grayish brown; white below; dark dots on chin and ventrum of tail; length of head and body 32, tail 40.

Only a single specimen of this species was taken. It was on the ground in the heavy forest, interspersed with great rock masses which form the elevated center of Komodo. It is allied to *crassicauda* and *forbesi*, both of Papua. The former has more subdigital lamellæ, and the latter more scale rows. *H. temminckii* has been recorded from Samao in the Lesser Sundas, and I took it at Tjibodas in Java. It has many more scale rows, and the fourth toe is shorter, although it has the same mumber of lamellæ. I thought it appropriate to associate the name of Schlegel with this species, since the name of Temminck is already associated with the Sudanese form..

Leiolopisma fuscum (Duméril and Bibron)

Twenty-one specimens from the north coast of Wetar (Nos. 32166–8), where the natives called them "diahna," a name which also includes the short-legged *Sphenomorphus emigrans* and *undulatus*, and *Cryptoblepharus*. It had not previously been recorded from Wetar.

Emoia similis, new species

DIAGNOSIS.—An *Emoia* with short legs, barely meeting when appressed; interparietal fused; frontal longer than prefrontal; 22 lamellæ under fourth toe; 28 smooth scales around body; allied to *cyanurum* and *kordoanum* but with shorter legs.

TYPE.—A. M. N. H. No. 31977.

TYPE LOCALITY.—Komodo, about 500–1500 feet altitude; collected June, 1926.

DESCRIPTION.—A. M. N. H. No. 31978; snout pointed; lower eyelid with a transparent disk; ear opening oval, about as large as the palpebral disk, with 2–3 very short lobules anteriorly; nostril between nasal, postnasal and supranasal; frontonasal broader than long in contact with rostral and with frontal; latter shorter than frontoparietal, in contact with two supraoculars; four supraoculars; five supraciliaries;

frontoparietal single; no interparietal; parietals in contact; a pair of nuchals and a pair of temporals; fifth labial under eye; 28 smooth, equal scales around middle of body; snout to fore limb and one and one-third in axilla to groin; preanals enlarged; tail broken; limbs weak, barely meeting when appressed, digits short, fourth toe with 22 smooth lamellæ below; black, whitish below; light yellow stripes on edges of two adjacent scale rows, one mid-dorsal, from occiput onto tail; one on each side from rostral over supraciliary onto tail; one on each side from axilla to groin; tail blue; length of head and body 31 mm., tail 20.

A second specimen, No. 31977, had head and body 28, tail 51.

These two lizards were taken on open grassy slopes, such as are found on Komodo from sea-level to over 2000 feet. None were seen in the flat coastal grasslands, nor on the higher reaches of the hills. One was taken June 10, and another June 19. On the second occasion I climbed to about 1500 feet and the *Emoia* was taken "high up." These tiny lizards live in tall grass growing among loose stones, and are quite agile, so that the small number collected is no criterion of their rarity in their particular habitat.

This species fits rather in the genus *Riopa*, because of short limbs and enlarged preanals, but it has no obvious relatives in that group and is equally obviously close to *Emoia lessonii* (*kordoanum*) and to *E. cyanurum*. Its color is exactly that of *cyanurum* (cf. Sternfeld, 1920, Abh. Senckenbergische Nat. Ges., XXXVI, p. 407 and Parker, 1925, Ann. Mag. Nat. Hist., (9) XV, p. 298), while in *lessonii* the mid-dorsal stripe stops at the base of the tail. It has shorter limbs than either with fewer subdigital lamellæ, 22 as against the 33–51 of *lessonii* or the 56–80 of *cyanurum*, and the preanals are enlarged.

It seems at present to be within the range of *lessonii* which extends from the New Hebrides west to Borneo and Java, and is recorded from Samao, Timor, and Gr. Bastaard (Pulo Besar) north off Flores in Lesser Sundas. Some or all of these last localities may refer to the present form, since de Rooij's records do not discriminate between *lessonii* and *cyanurum*, and Sternfeld did not deal with the animals west of the Moluccas. Bornean specimens collected by H. C. Raven and kindly lent me by Dr. Stejneger are abviously *lessonii* (U. S. N. M. No. 51671, Borneo; 51691–7, 52976–83, Pulo Derawan, Borneo).

Riopa bowringi (Günther)

One specimen, No. 32032, from Pulo Weh. The scales are almost smooth. New to the island.

Cryptoblepharus boutonii furcata (M. Weber)

Eight specimens, Nos. 32152–9, from the north coast of Wetar. They have been compared with Mus. Comp. Zoöl. Nos. 2094–5, from Larantaka, E. Flores, kindly lent me by Dr. Barbour, and found to agree. Flores is the type locality for this form. The specimens were taken in the woods, either on the ground or climbing about in the trees. Five had 24, and three 26 scale rows. New to the island.

Cryptoblepharus boutonii burdeni, new subspecies

DIAGNOSIS.—Differs from the other races of *C. boutonii* in the higher number of scale rows (30–34), and in lacking any trace of light striping. The four median rows of dorsal scales are enlarged.

TYPE.—A. M. N. H. No. 32006. Paratypes Nos. 32004–5, 32007–17; collected July 7, 1926.

TYPE LOCALITY.—Padar, east coast.

RANGE.—Known only from the type locality.

DESCRIPTION.—Scale rows 30–34 (fourteen specimens had 30 rows in four, 32 in five, and 34 in five); no postnasal (a groove in the nasal gives a false appearance of a postnasal); postfrontals in contact; first loreal high, second low and long; four superciliaries; four supraoculars; two of the latter in contact with the frontal, upper eyelid consisting of three scales; bronze color, with obscure darker dots; largest specimen (No. 32006), head and body 47 mm.

VARIATION.—Nearly all the specimens conformed to the above description. No. 32009 had the right prefrontal fused with the frontal; No. 32017 had the two prefrontals fused.

HABITS.—These lizards were discovered by Mr. Burden on rocks at the tide line on the east coast of Padar. Later I observed them there in great numbers, playing about on the wet rocks. So numerous were they that when I had but one 22 shot shell left, I waited until three came close enough to each other and got them all with a single shot. On the wave-cut bench of rock, beset with small pools, and alive with *Periopthalmus* and crabs of various kinds, and wet by the waves of the rising tide, these tiny lizards scuttled about unconcerned by their larger neighbors. When I tried to catch some with my hands they ran into the water of the pools and two were caught there, clinging under water to the rocks.

Sternfeld (1920, Abh. Senckenbergische Nat. Ges., XXXVI, p. 420) has an extensive review of the races of *Cryptoblepharus boutonii*. He regards *peroni* from the Aru and Kei islands as a distinct species. In this I am unable to follow him as the combination of a low loreal and a low scale count in *peroni* and a high loreal and a high scale count in *boutonii* breaks down in the present form which has a low loreal and a high scale count. I follow custom in considering the forms of *boutonii* subspecies. Certainly this one from Padar is in color, scale count, and habits, very different from *furcata* from Flores and Wetar, the only othe

form I have had a chance to observe. It seems really closer to the Polynesian *pœcilopleurus*. None of the others from the Lesser Sundas have more than 26 scale rows and all are vividly striped. The type, *boutonii*, which I have not seen, had 26–28 scale rows, an indistinct stripe, and came from Mauritius.

Perhaps there are really two types in this series, a form with many stripes and low scale count, living inland; and a form with no stripe or single lateral stripe, with a high scale count, living on the coastal rocks. I am unable to clear up the matter on account of lack of material.

Dibamus novæ-guineæ Duméril and Bibron

Twelve specimens from Uhak, on the north coast of Wetar, Nos. 32232–43. Not hitherto recorded from Wetar. The native name is "tuhuopun."

General Remarks

Disregarding races there are now known from the Lesser Sundas thirty-four species of lizards. Of this number we met with twenty, a much larger proportion than the eight out of thirty-three snakes, which bears out the general experience of collectors as to the uncertainty of snake catching.

Of the Lesser Sunda lizards twelve are apparently restricted to these islands. Of these the three species of *Gymnodactylus* offer no clue as to their provenance. Of the residuum, one is western, one is likewise western in remote origin, but conveys an impression of Moluccan or Celebesian affinities, while seven are eastern.

Of the non-restricted twenty-two, three are noncommittal, eight western, two Celebesian, and eight eastern.

There is thus practically the same situation in lizards as in snakes with regard to the derivation of the endemics. With regard to the non-endemic lizards there are as many eastern as western forms, while in the snakes there are more than four times as many westerners as Australians.

Two factors seem to take part in producing this phenomenon, which is essentially that entrance into and survival in the Lesser Sundas has been relatively easier for eastern lizards than for eastern snakes. One factor is the greater relative migratory capacity of lizards (cf. the wide insular range of many forms, and the fact that from many islands lizards are known, but no snakes.) The second is the climatic character of the Lesser Sundas, where the long severe dry season produces much open country and scanty forest. This condition is, I believe, more favorable

for eastern than for western lizards. It is also more favorable for eastern than for western snakes, on the same line of reasoning, but eastern snakes, with their less capacity for extending their ranges have not been able to take advantage of it. An example is *Calotes cristatellus* which has gotten as far as Papua, but which is absent from the Lesser Sundas. Obviously, the explanation of its absence is not that it has been unable to reach these islands, but that the conditions are unsuited to it.

At any rate, whatever the explanation, slightly over one-fourth the lizard fauna has come from the west. About one-fifth of these have been modified. Slightly under half have come from the east and nearly half of these have changed. Thus the relative proportion of endemics in the two faunal groups is about the same in the lizards as in the snakes, and indicates a more difficult route from the east in both cases. There is, as in the snakes, a minute and largely modified old western element.

In this group there is the largest element of unchanged eastern types in the herpetological fauna, but it does not exceed one-fourth of the total. Even here where the eastern elment is most highly marked, the Lesser Sundas are faunally nearly as much Asiatic as Australian, while in the snakes and frogs the fauna is overwhelmingly Asiatic. In these groups, then, Wallace's line is in no sense a faunal boundary.

At least three of the eastern types reach Java, although the three next to appear are found in Komodo. Wetar, far to the east and uncommonly isolated, has a fauna of fourteen lizards. Of these five are western, five eastern, one of the middle fauna, and three non-committal. One species and two races seem restricted to it. Remarkable on this isolated island are the number of burrowing forms, four lizards and a snake. Three are from the east and two from the west, and they are the last animals one would expect to find there. The snake is peculiar to the island, but the lizards are widespread forms.