



No. 2.—New Guinean Reptiles and Amphibians in the Museum of Comparative Zoölogy and United States National Museum

BY ARTHUR LOVERIDGE

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INTRODUCTION

The original intention in writing this report was to make available to herpetologists the data derived from an examination of the many specimens sent in from New Guinea by men in the Services. However, the most assiduous of these collectors, Mr. W. H. Stickel, desired that the whole of his material be included, the greater and most representative selection of which had been presented to the National Museum.

Dr. Doris M. Cochran, curator of the herpetological collections in the Smithsonian Institute, when packing the extensive Stickel material decided to include the rest of their New Guinean specimens. This led to the project being broadened to embrace all material from New Guinea in both museums. In addition reference is made to a few specimens from the adjacent islands of the Aru, Kei, and New Britain Archipelagoes.

Altogether this report deals with the 1,809 specimens in the two museums at the end of 1947. Of these 1,378 were in the Museum of Comparative Zoölogy. It was suggested that keys be compiled for all genera, but though 166 species or races are represented they only form about 44% of the total number listed as occurring in New Guinea.

To compile keys on so slender a representation would inevitably lead to the perpetuation of many errors, for some of the names included in the list will certainly prove to be synonyms.

The largest single collection was that made by W. H. Stickel (631 specimens). Not only did it comprise a great many species, each individual of which was carefully preserved, but with them were the most detailed notes on habits, habitat, and color, ever accompanying a collection submitted to me. It has been possible to print only a portion of these notes in this report, where they appear either in quotes or followed by the collector's initials (W.H.S.). Mr. Stickel has urged me to furnish the names of all regimental colleagues and others who contributed specimens or accompanied him when hunting. Unfortunately this would add too much to the already heavy cost of printing; moreover I am confident that without Stickel's enthusiasm few would have accomplished much in the trying conditions of climate and camp life under which he laboured. One cannot praise too highly Stickel's contribution to New Guinean herpetology, which will undoubtedly be drawn upon by all future writers who attempt to deal exhaustively with the reptiles and amphibians of that fascinating island.

The Museum of Comparative Zoölogy is also much indebted to W. M. Beck who gathered 305 specimens for us at Aitape, a port that under the spelling Etapé has figured as a type locality of some importance. While Stickel, Beck, and others, had to confine their activities to the coast, my colleague Captain P. J. Darlington flew in to Mount Wilhelm in the Bismarck Range from which he returned after a couple of weeks with 224 specimens, among them nine new species or races, including the first *Tropidophorus* ever to be recorded from New Guinea. Dr. Darlington's effort showed that much still remains to be discovered in the interior of New Guinea, whose coastal belt appears to have been relatively well worked from the herpetological point of view.

Prior to World War II the only substantial New Guinean collection in the Museum of Comparative Zoölogy was that made by the late Dr. Thomas Barbour in 1906-1907 (284 specimens) and briefly dealt with in his (1912, pp. 1-203) "Contribution to the Zoögeography of the East Indian Islands." Other sources of specimens referred to in the present paper are: G. H. Bick (1); E. A. Briggs (9); J. F. Cassell (21); L. E. Cheesman (11); D. Crocker (3); S. F. Denton (2); D. Fairchild (1); E. Gerrard (3); W. M. Gordon (1); A. Guilianetti (1); J. E. Hadley (3); E. S. Harald (1); J. Hurter (4); W. G. Iltis (1); L. W. Jarcho (15); P. N. van Kampen (3); — Karcher (1); A. M. Keefe (12); J. Kern (5); G. M. Kohls (4); F. Kopstein (6); R. Mertens (1); C. W. Moren (11);

J. F. G. Nulauf (1); G. H. Penn (35); A. E. Pratt (15); P. T. L. Putnam (43); K. P. Schmidt (2); — Schoede (1); M. A. Smith (1); H. Stevens (38); T. R. Tovell (8); W. M. Welch (3); F. Werner (2); P. Wirz (3).

Material collected by some of the preceding, such as P. Wirz and Miss L. E. Cheesman, were actually received in exchange from other museums, so that the following list of specimens obtained by the Museum of Comparative Zoölogy through exchanges with other institutions does not completely reflect all our additions from these sources. Amsterdam Museum (13); Australian Museum (5); Basel Museum (3); Berlin Museum (20); British Museum (20); Hamburg Museum (1); Leiden Museum (6); Museum Godeffroy (16); Museum Senckenberg (4); Queensland Museum (2); Vienna Museum (2).

SUMMARY OF TAXONOMIC ALTERATIONS

In addition to certain other changes, the following forms are accorded subspecific rank:

Scincus gigas becomes *Tiliqua scincoides gigas* (Schneider)
Lygosoma (Hinulia) jobiensis, L. (*Sphenomorphus*) *variegatum jobiense* Meyer
Hinulia papuensis, *Lygosoma (S.) megaspila papuense* (Macleay)
Lygosoma kuhnei, *Lygosoma (S.) striolatum kuhnei* Roux
Lygosoma (Hinulia) maindroni, L. (*S.*) *consobrinum maindroni* Dauvage
Lygosoma moszkowskii, L. (*S.*) *pardale moszkowskii* Vogt
Lygosoma wollastoni, L. (*Lygosoma*) *pratti wollastoni* Boulenger
Lygosoma neuhaussi, L. (*Lygosoma*) *pratti neuhaussi* Vogt
Lygosoma jeudi, L. (*Lygosoma*) *pratti jeudi* Boulenger
Leiolopisma morokanum, L. (*Leiolopisma*) *stanleyanum morokanum* (Parker)
Heteropus beccarii, L. (*Leiolopisma*) *fuscum beccarii* (Peters & Doria)
Heteropus luctuosus, L. (*Le.*) *fuscum luctuosum* (Peters & Doria)
Emoa pallidiceps, *Emoia baudinii pallidiceps* de Vis
Mabouia irrorata, *Emoia atrocostata irrorata* (Macleay)
Homalopsis australis, *Cerberus rynchops australis* (Gray)
Pelodryas militarius, *Hyla infrafronata militaria* (Ramsay)
Rana novae-britanniae, *Rana papua novaebritanniae* Werner
Asterophys minima, *Asterophrys pansa minima* Parker

While the undermentioned are considered to be synonyms, in a few instances additional material may reveal some are recognizable geographic races:

Lygosoma (Riopa) albofasciolatus boettgeri Sternfeld = *Riopa albofasciolata* (Günther)
Lygosoma misolense Vogt = L. (*S.*) *variegatum jobiensis* Meyer

- Lygosoma jobiense elegans* Sternfeld = *L. (S.) m. megapila* (Günther)
Lygosoma amblyplacodes Vogt = *L. (S.) megapila papuense* (Macleay)
Lygosoma rufum Boulenger = *L. (S.) aruensis* (Doria)
Lygosoma (Leiolopisma) papuae Kinghorn = *L. (S.) aruensis* (Doria)
Lygosoma (Hinulia) elegantulum Peters & Doria = *L. (S.) p. pardale* (Macleay)
Lygosoma nigrolineatum Boulenger = ? *L. (S.) p. pardale* (Macleay)
Lygosoma minuta var. *obtusirostrum* de Jong = *L. (S.) minutum* Meyer
Lygosoma minuta var. *rotundirostrum* de Jong = *L. (S.) minutum* Meyer
Lygosoma longicaudatum de Rooij = *L. (Ly.) solomonis schodei* Vogt
Lygosoma atrigulare Ogilby = *L. (Le.) fuscum luctuosum* (Peters & Doria)
Lygosoma nigrigulare Boulenger = *L. (Le.) fuscum luctuosum* (Peters & Doria)
Leiolopisma pullum Barbour = *L. (Le.) fuscum luctuosum* (Peters & Doria)
Leiolopisma fuscum diguliense Kopstein = *L. (Le.) fuscum luctuosum* (Peters & Doria)
Lygosoma iridescens Boulenger = *Emoia cyanogaster* (Lesson)
Lygosoma cyanura werneri Vogt = *Emoia caeruleocauda* (de Vis)
Lygosoma werneri triviale Sehüz = *Emoia caeruleocauda* (de Vis)
Lygosoma niivarti Boulenger = ? part *Emoia b. baudinii* (Duméril & Bibron)
Lygosoma mehelyi Werner = *Emoia baudinii pallidiceps* de Vis
Lygosoma jakati Kopstein = *Emoia baudinii pallidiceps* de Vis
Lygosoma niivarti var. *obscurum* de Jong = *Emoia baudinii pallidiceps* de Vis
Hyla bernsteini Horst = *Hyla nigropunctata* (Meyer)
Hyla ouwensii Barbour = *Hyla nigropunctata* (Meyer)
Hyla (Hylclla) nigromaculata Barbour = *Hyla nigropunctata* (Meyer)
Hyla atropunctata van Kampen = *Hyla nigropunctata* (Meyer)
Hyla pulchra Wandolleek = ? *Hyla m. montana* Peters & Doria
Hyla mehelyi Nieden = *Hyla pygmaea* (Meyer)
Hyla impura Peters & Doria = *Hyla thesaurensis* Peters
Hyla macros Boulenger = *Hyla thesaurensis* Peters
Hyla mcgregori Ogilby = *Hyla thesaurensis* Peters
Hyla solomonis Vogt = *Hyla thesaurensis* Peters
Hyla spengleri Boulenger = *Hyla i. infrafrenata* Günther
Cornufer moszkowskii Vogt = *Platymantis corrugatus papuensis* Meyer

In addition to three skinks and five frogs already described from these collections, the following forms are believed to be new:

- Lygosoma (Sphenomorphus) variegatum stickeli* subsp. nov.
Lygosoma (Leiolopisma) fuscum jamnanum subsp. nov.
Cerberus rynchops novaequinae subsp. nov.
Acanthophis antarcticus rugosus subsp. nov.
Rana grisca milncana subsp. nov.
Asterophrys pansa wilhelmana subsp. nov.
Cophixalus biroi darlingtoni subsp. nov.
Cophixalus variegatus parkeri subsp. nov.

Attention is directed to certain startling or puzzling changes such as the application of *Dasia smaragdina perviridis* Barbour to the New Guinean form. The elucidation of the confusion resulting from Boulenger's application of the name *Lygosoma jobiense* Meyer to the much larger *L. m. megaspila* described by Günther, whose *Hinulia megaspila* Boulenger relegated to the synonymy from which it is now rescued.

In the matter of treating *Sphenomorphus* and *Leiolopisma* as something less than full genera, I have followed Malcolm Smith (1937) as last reviser—though with some misgivings—and I should prefer to regard the groups as subgenera rather than as “sections.” However, I have not followed Smith in separating from *Lygosoma* (in its subgeneric sense) the natural group of skinks for which he (1937, p. 222) proposes the name *Ictiseincus*. The fang-like character of the teeth noticeable in some members of the group is so poorly developed in others that I failed to note any appreciable difference between their teeth and those of species he refers to the section *Lygosoma*.

Among the more interesting points that cropped up during these studies, mention might be made of the fact that the overlapping, or failure to overlap, of the adpressed limbs of *Lygosoma* (*Sphenomorphus*) *aruensis* is clearly an age-sex character and of no specific importance. The presence or absence of an interparietal in various species of *Emoia*, regarded as a key character of some importance for over half a century, appears to be without even racial significance.

I should like to stress the need for a re-examination of the types of Macleay and other early Australian workers before the nomenclature of reptiles in this region, including northern Australia, can be satisfactorily stabilized. Many of these early descriptions were much too brief to be properly diagnostic and satisfy the requirements of modern taxonomy.

GAZETEER OF ALL NEW GUINEAN LOCALITIES MENTIONED IN TEXT

When I began work on these collections place names proved a constant source of frustration, for few indeed were to be found in any of the standard atlases. Nor were indices to maps available until my attention was drawn to the United States War Department's loose leaf publication entitled “Gazetteer to Maps of New Guinea.” This compilation by the United States Board on Geographical Names proved an inestimable boon on which I have drawn heavily in preparing the fol-

lowing list of herpetological localities. It is hoped that the list will supply a much-felt need for those colleagues to whom the Army Map Service's publication is inaccessible.

In an effort to standardize the many diverse renderings, I have adopted the spelling employed in the Army publication except in the case of Jappen Island, for which the name Jobi has so long been in use in herpetological literature. Another of Meyer's 1874 type localities is that of Mysore (Misore or Misory) Island. This I have changed to Biak (alias Wiak) Island on the authority of Dr. Robert Mertens who investigated the matter in connection with one of the monitor lizards described from there by Meyer. Unlike Jobi, Mysore no longer appears on modern maps and, moreover, is likely to be confused with the not so distant Mysol (or Misool) Island lying between northwest New Guinea and the Moluccas.

In the present paper a number of type localities have been restricted where their vagueness seems likely to lead to taxonomic confusion, otherwise such action has been left to first revisers.

Latitude & Longitude ¹	New Guinean Localities mentioned these pages
10°20' S., 150°40' E.	B. Ahiona
3°10' S., 142°25' E.	A. Aitape (Etape) D. Albatrosbivak, Mamberamo River; which see
7°25' S., 145°50' E.	B. Albert Edward Mountains
0°20' S., 132°10' E.	D. Amsterdam Island off Cape Sansapor
0°55' S., 134°00' E.	D. Andai
1°20' S., 133°55' E.	D. Angi (Anzi or Anggi Gigi) Lakes
1°45' S., 135°50' E.	D. Ansoes (Ansus; not Ansoes Id.), Jobi Island
1°05' S., 136°15' E.	D. Arfak Mountains D. Assike, Upper Digoel River; which see
5°25' S., 145°50' E.	A. Astrolabe Bay D. Bajon, Waigeo Island; which see
1°00' S., 136°00' E.	D. Biak (Misory) Island, Schouten Islands
9°00' S., 143°00' E.	D. Binaturi River
5°25' S., 144°40' E.	A. Bismarek Range D. Bivak Island, Lorentz River; which see
5°25' S., 145°45' E.	A. Bogadjim, Astrolabe Bay
5°30' S., 145°50' E.	A. Bongu, Astrolabe Bay A. Bulowat, Morobe District; which see
8°40' S., 148°25' E.	A. Buna
2°30' S., 140°30' E.	D. Cijeloop (Cyclops) Mountains D. Cyclops, i.e. Cijeloop Mountains; which see

¹A = Australian New Guinea, B = British, D = Dutch.

- 5°35' S., 140°15' E. D. Digoel (Digul) River
 D. Digul, i.e. Digoel River; which see
 B. Dinawa, Owen Stanley Mountains; which see
 D. Djamna, i.e. Jamna Island; which see
- 8°50' S., 148°20' E. A. Dobodura
- 1°40' S., 136°10' E. D. Dore (Dorerey; Dore Harbor) Jobi Island
 Mertens places it on Beron Islet.
 A. Draeger Harbor, 5 miles east of Finschhafen
 B. Epa, i.e. Mount Epa; which see
- 5°25' S., 145°45' E. A. Erima, Astrolabe Bay
- 3°55' S., 134°50' E. D. Etna Bay
- 2°55' S., 132°15' E. D. Fakfak
- 9°35' S., 150°45' E. B. Ferguson (Fergusson or Moratau) Island
- 6°30' S., 147°50' E. A. Finschhafen (Finsch-Hafen), Huon Gulf
- 8°30' S., 143°30' E. B. Fly River; also runs through Dutch New Guinea
 D. Fort Merkusoord, west coast Dutch New Guinea
 A. Friederich-Wilhelmshafen = Madang; which see
 B. Gamadodo, Milne Bay; which see
- 2°30' S., 135°25' E. D. Geelvink Bay
 D. Geitenkamp, near Lorentz River; which see
 ? Germania Bay ? Humboldt Bay; which see
- 6°25' S., 147°50' E. A. Gusiko, Huon Peninsula
 D. Haas
- 8°50' S., 146°35' E. B. Hall Sound
 D. Hatam, Arfak Mountains; which see
 B. Haveri in Moroka, Bartholomew Range
- 4°30' S., 138°40' E. D. Hellwig Mountains
- 2°30' S., 140°45' E. D. Hollandia, Humboldt Bay
- 2°35' S., 140°45' E. D. Humboldt Bay
 A. Ibundo, Sepik River; which see
- 8°35' S., 146°35' E. B. Inawi, Mekeo District
- 2°15' S., 134°00' E. D. Jakati
- 2°00' S., 133°55' E. D. Jakati River, Bintuni (Bentoni) Bay
- 2°00' S., 139°15' E. D. Jamna (Djamna) Island, Geelvink Bay
- 2°20' S., 134°30' E. D. Jende (Jendee), Roon Island, Geelvink Bay
- 1°45' S., 136°25' E. D. Jobi (or Japen; Jappen) Island, Geelvink Bay
 A. Kaiserin Augusta River = Sepik River; which see
 A. Kaiserwilhemsland = Australian New Guinea
 A. Kalueng River; see Gusiko, Huon Peninsula
 D. Kapaor = Kapar; which see
- 0°55' S., 132°40' E. D. Kapar
 D. Kasawari, Kohari Mountains; which see
 D. Katau, i.e. Binaturi River; which see
 D. Katow, i.e. Binaturi River; which see
- 8°35' S., 151°10' E. B. Kiriwina Island

- 8°55' S., 147°25' E. B. Kito River
 2°50' S., 141°05' E. D. Kohari Mountains, south of Humboldt Bay
 8°55' S., 147°50' E. B. Kokoda
 A. Koragu, Sepik River; which see
 D. Kordo, Mysore = Biak Island; which see
 A. Kundiawa, Chimbu Valley
 B. Kwatto Branch Mission, Milne Bay; which see
 A. Lababia, Huon Gulf
 2°35' S., 140°30' E. D. Lake Sentani
 6°35' S., 147°50' E. A. Langemak Bay
 D. Launch Camp, Setekwa River; which see
 1°35' S., 138°45' E. D. Liki Island, north of Sarmi Island
 5°05' S., 138°40' E. D. Lorentz (or North) River
 5°15' S., 145°50' E. A. Madang
 D. Mafoor Island (an Adolf B. Meyer loc. 1874)
 8°33' S., 147°00' E. B. Mafulu, 4,000 feet
 0°15' S., 130°50' E. D. Majalibit Bay, Waigeo Island
 1°35' S., 137°55' E. D. Mamberamo River
 D. Manikion District
 D. Manisam Island
 0°50' S., 134°05' E. D. Manokwari
 3°20' S., 143°00' E. A. Matapan, Wakip River
 8°32' S., 140°20' E. D. Merauke
 10°20' S., 150°30' E. B. Milne Bay (Tauwarra Bay), Eastern Division
 4°20' S., 136°40' E. D. Mimika River
 1°15' S., 136°20' E. D. Mios Woendi (Meosboendi) off Biak Island
 10°40' S., 152°45' E. B. Misima (St. Aignan) Island
 Modderlust (Modder-lust)
 B. Mondo, 9 miles southeast of Mafulu; which see
 B. Moresby, see Port Moresby
 A. Morobe District
 B. Moroka, 2,300 feet, Bartholomew Mountains
 D. Moso = Mosso River; which see
 2°40' S., 140°55' E. D. Mosso River empties into Humboldt Bay
 8°45' S., 146°45' E. B. Mount Epa
 D. Mount Lamantsiri, Lobo, Triton Bay; which see
 9°00' S., 148°05' E. B. Mount Lamington
 7°10' S., 146°40' E. A. Mount Misim, Morobe District
 8°40' S., 147°30' E. B. Mount Scratchley, Owen Stanley Mountains
 B. Mount Tafa, 5 miles southeast of Mondo
 8°50' S., 147°35' E. B. Mount Victoria, Owen Stanley Range
 5°45' S., 145°00' E. A. Mount Wilhelm, Bismarek Range
 1°50' S., 130°10' E. Mysol = Misool Island, Molucca Islands
 D. Mysore = Biak (Misory) Island; which see
 B. Nicura = Nikora; which see

- 8°50' S., 146°35' E. B. Nikora, opposite Yule Island
D. North River = Lorentz River; which see
- 9°10' S., 147°50' E. B. Owen Stanley Mountains
- 1°15' S., 136°15' E. D. Owi Island, Padaido Islands
- 1°15' S., 136°30' E. D. Padaido (Padaidori; Padeaido) Islands
D. Parana Valley (a P. Wirz loc. 1922)
- 1°15' S., 136°35' E. D. "Passim" ? Pasi Island, Geelvink Bay
D. Pionierbivak, Mamberamo River; which see
- 1°40' S., 135°45' E. D. Pom, Jobi Island, Geelvink Bay
- 9°25' S., 147°15' E. B. Port Moresby
D. Rawack Island, north of Waigeo Id., which see
- 4°35' S., 138°45' E. D. Resi Mountains
A. Rienjamur, Torricelli Mountains; which see
- 2°25' S., 134°35' E. D. Roon (Ron; Run) Island, Geelvink Bay
- 4°45' S., 138°50' E. D. Sabang, Lorentz River
A. Sacksackhütte, Torricelli Mtns.; which see
- 5°40' S., 146°30' E. A. Saidor
B. Saint Aignan Island = Misima Id.; which see
B. Saint John's River
- 8°55' S., 147°25' E. B. Saint Joseph's River (if Creek = Kito)
- 1°05' S., 130°55' E. D. Salawati (Salwatti) Island
D. Sansapor
D. Saonek, Waigeo Island; which see
- 6°30' S., 147°45' E. A. Satelberg (Sattelberg), Huon Peninsula
- 3°10' S., 142°30' E. A. Seleo Island, near Aitape (Berlinhafen)
- 4°00' S., 144°25' E. A. Sepik River (mouth near Cape Girgir)
- 2°00' S., 140°00' E. D. Sermowai River (mouth west of Hollandia)
- 4°40' S., 137°20' E. D. Setekwa River
- 7°50' S., 143°45' E. B. Sogeri (Sogere) Camp at 1,750 feet
- 0°55' S., 131°15' E. D. Sorong
B. Sudest Island = Tagula Island; which see
- 5°50' S., 141°40' E. A. Surprise Creek
- 11°30' S., 153°25' E. B. Tagula Island
- 2°40' S., 140°55' E. D. Tami River (mouth in Humboldt Bay)
A. Tonomanbanau, Bismarek Mountains; which see
- 2°22' S., 139°48' E. D. Tawarin River (somewhat below position given)
D. Timena River, south shore of Lake Sentani; see
- 2°00' S., 139°00' E. D. Toem, Maffin Bay
- 3°20' S., 142°30' E. A. Torricelli Mountains
- 2°00' S., 139°00' E. D. Tor River near Toem, Maffin Bay (Not B. N. G.)
- 3°50' S., 134°00' E. D. Triton Bay
- 8°30' S., 151°05' E. B. Trobriand — Kiriwina Islands
B. Upuli
D. Utakwa River = Setekwa River; which see
A. Valise Island = Walif Island; which see

0°10 S., 130°35 E.	D.	Waigeo (Waigeu; Waigiu) Island
4°25 S., 135°55 E.	D.	Wakia River
3°15 S., 143°20 E.	A.	Walif (Valise) Island, east of Aitape
8°00 S., 141°00 E.	D.	Wanggar River, Weyland Mountains
1°20 S., 131°05 E.	D.	Wasemsan (Wa Samson) River, near Salwati
7°20 S., 146°45 E.	A.	Wau
	D.	Wendessi
	D.	Went Mountains
	D.	Wiak Island = Biak Island; which see
4°25' S., 138°40' E.	D.	Wichman Mountains
1°40' S., 135°30' E.	D.	Wooi Bay, Jobi (Japen) Island
8°50' S., 146°30' E.	B.	Yule Island

ACKNOWLEDGEMENTS

I wish to express my thanks to Dr. Doris M. Cochran for submitting all the New Guinean material received by the United States National Museum up to December 31, 1947. I am also indebted to Mr. H. W. Parker and Dr. Malcolm A. Smith for answering numerous questions involving examination of type material in the British Museum, to J. Roy Kinghorn Esq., of the Australian Museum for studying and submitting paratypes of the former microhylid genus *Aphantophryne*. Thanks are also due Mr. W. C. Brown of Stanford University for helpful suggestions regarding the status of *Emoia kordoana* and other species. I am also under obligation to Dr. G. H. Tate of the American Museum of Natural History for identifying mammalian remains found in some of the snakes, and Mr. J. T. Lucker of the Bureau of Animal Industry for determining the parasitic worms recovered.

A LIST OF THE REPTILES AND AMPHIBIANS OF NEW GUINEA

Note. Including some from New Britain, Aru and Kei Islands. Families and genera are systematically arranged, species and subspecies alphabetically. Those mentioned in this paper are marked with an asterisk (*); the listing of others does not necessarily imply their occurrence in New Guinea is certain, or recognition of their validity. Some recently proposed names do not appear as they are considered synonyms. A few extraterritorial names are included in parentheses.

CLASS REPTILIA

TESTUDINATA¹

DERMOCHELIDAE

PAGE

Dermochelys coriacea (Linné)

CHELONIIDAE

- **Lepidochelys olivacea* (Eschscholtz) 325
Caretta caretta (Linné)
Chelonia mydas (Linné)
 **Eretmochelys imbricata* (Linné) 325

CHELYDIDAE

- Emydura albertisi* Boulenger
Emydura branderhorsti Ouwens
Emydura krefftii (Gray)
Emydura macquarri (Gray)
 **Emydura novaeguineae* Meyer 326
Emydura schultzei Vogt
Emydura subglobosa (Krefft)
Chelodina novaeguineae Boulenger
Chelodina oblonga Gray
Chelodina siebenrocki Werner

CARETTOCHELYIDAE

- **Carettochelys insculpta* Ramsay 326

TRIONYCHIDAE

Pelochelys bibroni Owen

LORICATA

CROCODYLIDAE

- **Crocodylus novaeguineae* Schmidt 326
Crocodylus porosus Schneider

¹The allegedly New Guinean snapping turtle (*Devisia mythodes*) has been shown by Shreve and Loveridge (1947, Copeia, p. 120) to be only a North American *Chelydra serpentina* (Linné) with wrong locality data.

SAURIA¹

GEKKONIDAE	PAGE
* <i>Gymnodactylus loriae</i> Boulenger	329
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¹ Omitted from this list are *Calotes cristatellus* (Kuhl), *Draco lineatus* Daudin and *Varanus timorensis* (Gray), whose inclusion by De Jong (1915, pp. 296, 299) appears inadmissible.

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TESTUDINATA

CHELONIIDAE

LEPIDOCHELYS OLIVACEA (Eschscholtz)

Chelonia olivacea Eschscholtz, 1829, Zool. Atlas, Part 1, p. 3, pl. iii: Manila Bay, Philippine Islands.

1 (M. C. Z. 4716) New Britain Archipelago (Mus. Godeffroy) 1882.

ERETMOCHELYS IMBRICATA (Linné)

Testudo imbricata Linné, 1766, Syst. Nat. (ed. 12), 1, p. 350: American and Asiatic Seas.

Eretmochelys squamata Agassiz, 1857, Contr. Nat. Hist. U. S., 1, p. 382: Indian and Pacific Oceans.

- 1 alc. (M. C. Z. 4715) New Britain Arch. (Mus. Godeffroy) 1882.
 2 shells (M. C. Z. 46547-8) Mios Woendi, D. N. G. (T. Barbour) 1907.
 3 crania (M. C. Z. 49450) Liki Id., D. N. G. (W. H. Stickel) 1944.

CHELYDIDAE

EMYDURA NOVAEGUINEAE Meyer

Platemys Novae Guineae Meyer, 1874, Monatsb. Akad. Wiss. Berlin, p. 128: (Dutch) New Guinea.

- 1 (M. C. Z. 28640) Wanggar River, D. N. G. (British Mus.) 1929.

The closely related *schultzei* Vogt (1911, p. 410) is differentiated in Rooij's key (1915, p. 318) by the tail being longer than the head, possibly a sexual difference. In our specimen the head is 41 mm. long, the carapace 185 mm., and the tail 21 mm.

CARETTOCHELYIDAE

CARETTOCHELYS INSCULPTA Ramsay

Carettochelys insculpta Ramsay, 1886, Proc. Linn. Soc. N. S. W. (2), 1, p. 158, pls. iii-iv: Fly River, British New Guinea.

- 1 (M. C. Z. 20964) Lorentz River, D. N. G. (Amsterdam Mus.) 1925.

One of H. A. Lorentz's specimens with a carapace length of just over 400 mm. (16 inches).

LORICATA

CROCODYLIDAE

CROCODYLUS NOVAEGUINEAE Schmidt

Crocodylus novae-guineae Schmidt, 1928, Field Mus. Nat. Hist. Zool. Series, 12, p. 177, pls. xiii-xiv: Ibundo, lower Sepik River, Australian New Guinea.

- 2 skulls (M. C. Z. 32099-100) Near Sepik River, A. N. G. (K. P. Schmidt) 1931.

These specimens, obtained above Koragu, have been discussed by Schmidt (1932, pp. 167-172) in a paper dealing with the validity of a species whose interesting habits have been reported on at length by W. T. Neill, Jr. (1946, p. 17).

SAURIA

GEKKONIDAE

GYMNODACTYLUS VANKAMPENI Brongersma

Gymnodactylus vankampeni Brongersma, 1933, Ann. Mag. Nat. Hist. (10), 11, p. 252: near Modderlust, Dutch New Guinea.

♀ (M. C. Z. 48567) Aitape, A. N. G. (W. M. Beck) 1944.

Internasals in contact; supra- and postnasals 2; upper labials 6; postmentals 0; dorsal tubercles in 10 rows; lamellae under fourth toe 17; preanal pores 46; no preanal groove; no lateral fold. Total length of ♂, 59 (29 + 30) mm., but tail regenerated.

This distinctive dwarf species, which superficially resembles *G. pelagicus* very closely, was taken with fifteen *pelagicus* at Aitape on the north coast about a hundred miles east of Modderlust.

GYMNODACTYLUS PELAGICUS (Girard)

Heteronota pelagica Girard, 1857, Proc. Acad. Nat. Sci. Philadelphia, p. 197: Fiji and Navigator Islands.

Heteronota fasciata Macleay, 1877, Proc. Linn. Soc. N. S. W., 2, p. 100: Hall Sound, British New Guinea.

Gymnodactylus heteronotus Boulenger, 1885, Cat. Lizards Brit. Mus., 1, p. 41: *nom. nov.* for *fasciata* Macleay, preoccupied.

(For Australian synonymy see Loveridge (1934, p. 300)).

- 1 (M. C. Z. 4731) New Britain Archipelago (Mus. Godeffroy) 1882.
- 15 (M. C. Z. 49251-9) Aitape, A. N. G. (W. M. Beck) 1944.
- 2 (M. C. Z. 49260-1) Finschhafen, A. N. G. (L. W. Jarcho) 1944.
- 1 (M. C. Z. 49262) Gusiko, A. N. G. (W. H. Stickel) 1944.
- 5 (M. C. Z. 49264-9) Toem, D. N. G. (W. H. Stickel) 1944.
- 7 (U. S. N. M. 119176, 119233-8) Gusiko, A. N. G. (W. H. Stickel) 1944.
- 1 (U. S. N. M. 119177) Milne Bay, B. N. G. (J. F. Cassell) 1944.
- 3 (U. S. N. M. 119239-41) Toem, D. N. G. (W. H. Stickel) 1944.

Internasals usually (29 ex.) in contact, or separated by a single granule (5 ex.); supra- and postnasals 3-4; upper labials 7-10 (right side only counted), average 8.5; postmentals 2; dorsal tubercles in 12-20 rows, average 16.5; lamellae under fourth toe 18-23, average 20.5; preanal pores 10-12, no preanal groove; no lateral fold. Length of ♂ (M. C. Z. 49266), 101 (52 + 49) mm., but tail regenerated; largest ♀ (U. S. N. M. 119238), 113 (53 + 60) mm.; youngest (U. S. N. M. 119239), 44 (20 + 24) mm.

Color in life of a ♀ (U. S. N. M. 119236) as recorded by Stickel: Above, rich brown mottled with blackish brown and dull grayish yellow. Below, throat and belly dull, medium dark gray mauve. This gecko, as well as two others taken the same day (May 16), was gravid. All three were found resting on the ground beneath boxes and poles in a tent. Other *G. pelagicus* were taken from deserted foxholes in brushy jungle, beneath piles of vegetational debris mixed with humus, in a shallow burrow beside buttress of stump, while another, detected resting on a tree trunk by day, retreated into a fissure of the bark. It is interesting to note that at both Aitape and Toem *pelagicus* occurs alongside related forms with which it might easily be confused.

Trinomials are not used as *G. p. undulatus* Kopstein, from the Kei Islands does not seem too well established. It was based on a gecko lacking postmentals, a condition apparently permanent in *vankampeni*, but throughout the range of *pelagicus* as far east as Fiji individuals with greatly reduced postmentals are to be found.

GYMNODACTYLUS PAPUENSIS Brongersma

Gymnodactylus novae-guineae Brongersma (not of Schlegel), 1928, Zool. Anz., **75**, p. 251, figs. 1a-b: Southern New Guinea.

Gymnodactylus papuensis Brongersma, 1934, Zool. Meded., **17**, p. 173: *nom. nov.* for *novae-guineae* Brongersma, preoccupied.

3 ♂ ♂ (M. C. Z. 49263, 49269-70) Toem, D. N. G. (W. H. Stickel) 1944.

hgr. (U. S. N. M. 119232) Toem, D. N. G. (W. H. Stickel) 1944.

Internasals separated by a single large internasal; supra- and postnasals 3; upper labials 11-12; postmentals 2; dorsal tubercles in 22-24 rows; lamellae under fourth toe 20-22; preanal pores about 8, concealed in a longitudinal preanal groove; a lateral fold. Largest (M. C. Z. 49263), 118 (62 + 56) mm., but tail regenerated as with all.

Stickel took the halfgrown gecko among trash at base of a bushy palm plant on May 26; the three adult males, together with some

G. pelagicus, to which they bear considerable resemblance, were found hiding beneath boxes and poles in a tent on September 2 and 22. This species is an interesting link between *pelagicus* and species like *sermowaiensis* which have a lateral fold.

GYMNODACTYLUS LOUISADENSIS Vis

Gymnodactylus louisadensis de Vis, 1892, Ann. Queensland Mus., No. 2, p. 11:
"Sudest" = Tagula Island, British New Guinea.

- ♀ (M. C. Z. 49611) Gusiko, A. N. G. (W. H. Stickel) 1944.
2 ♀ ♀ (U. S. N. M. 119230-31) Gusiko, A. N. G. (W. H. Stickel) 1944.
hgr. (U. S. N. M. 120083) Munda, New Georgia (W. G. Iltis) 1944.

Snout once and three-quarters as long as the eye; supranasals separated by 1 granule; nostril bordered by rostral, first labial, supranasal, and 3-4 postnasals; enlarged dorsal tubercles in 32 rows; ventral scales in 38-42 rows; median series of subcaudals transversely enlarged. Largest perfect ♀ (U. S. N. M. 119230), 237 (115 + 122) mm., surpassed in head-and-body length by one of 122 mm.

In the adults the paired dorsal blotches fuse to form crossbands except for the third pair in the largest female where they remain separate; in the halfgrown gecko from the Solomons the blotches are very irregularly shaped.

GYMNODACTYLUS LORIAE Boulenger

Gymnodactylus loriae Boulenger, 1897, Ann. Mus. Civ. Stor. Nat. Genova (2), 18, p. 695, pl. vi: "Haveri and Moroka," Bartholomew Range, 2,300 feet, British New Guinea.

- ♂ (M. C. Z. 21912) Australian New Guinea (Berlin Mus.) 1925.
juv. (U. S. N. M. 119178) Gusiko, A. N. G. (J. F. Cassel) 1944.

Snout once and a half (juv.) to twice as long as the eye; supranasals separated by 2 granules (larger example injured); nostril bordered by rostral, first labial, supranasal and 3-4 nasals; dorsal tubercles in about 22-26 rows; ventral scales in about 46-56 rows; subcaudals quadrangular, the median series not transversely enlarged. Length of ♂, 274 (156 + 118) mm., of juvenile, 98 (48 + 50) mm.

In the juvenile the lateral fold is scarcely developed and the dorsal tubercles so indistinct as to be uncountable. Its coloring, except for

the black and white annulate tail, differs from that of the adult, being grayish above speckled with brown, chiefly on the tubercles and forming about eight, fine, wavy, transverse lines that are apparently destined to become the outer, darker edges of the four crossbands seen in adults. Below, white, each scale minutely flecked with black.

I am, therefore, by no means certain that these two geckos are conspecific, the very old male displays an uninterrupted *angular* series of 30 + 30 preano-femoral pores, there are a very few enlarged tubercles scattered among the gular granules but not so many as figured by Brongersma (1934, p. 171) for *G. novaeguineae* Schlegel. However it has numerous enlarged tubercles below the lateral fold which Brongersma says distinguishes *novaeguineae* from all other species. On the other hand the subcaudal scaling on the base of the tail agrees best with *loriae* and the dorsal aspect is longitudinally striped as in the type.

Werner (1901, p. 604), followed by Barbour (1921, p. 100), synonymized *loriae* with *lousiadensis*, but in this I think he was mistaken for both his geckos were apparently referable to *loriae*.

HEMIDACTYLUS FRENATUS Duméril & Bibron

Hemidactylus frenatus Duméril & Bibron, 1836, Erpét. Gén., **3**, p. 366: Java (restricted).

Hemidactylus tristis Sauvage, 1878, Bull. Soc. Philom. Paris (7), **3**, p. 49: New Guinea.

- 3 (M. C. Z. 7602) Saonek, Waigeo Id., D. N. G. (T. Barbour) 1907.
- 17 (M. C. Z. 7603) Manokwari, D. N. G. (T. Barbour) 1907.
- 15 (M. C. Z. 7604) Sorong, D. N. G. (T. Barbour) 1907.
- 6 (M. C. Z. 7617) Humboldt Bay, D. N. G. (T. Barbour) 1907.
- 4 (M. C. Z. 49271) Toem, D. N. G. (W. H. Stickel) 1944.
- 1 (U. S. N. M. 119245) Toem, D. N. G. (W. H. Stickel) 1944.
- 1 (U. S. N. M. 119531) Gamadado, B. N. G. (G. H. Penn) 1944.
- 2 (U. S. N. M. 120099-100) Amsterdam Id., D. N. G. (G. H. Penn) 1944.

Internasals in contact (7) or separated by a granule (15); nostril surrounded by 3 nasals, rostral, and first labial (except in U.S.N.M. 119531); upper labials 9-13, average 11.5; lower labials 7-10, average 8; dorsal tubercles in 2-6 rows; scansors under fourth toe 7-9 (or 11, if unpaired basal ones are counted); no lateral fold; preanal pores in males 24-39. Largest ♂ (M. C. Z. 7603), 119 (61 + 58) mm., ♀ (M. C. Z. 7604), 98+ (53 + 45+) mm.

The above data applies to 22 specimens only, labial and scansor counts to those on right side only. Comparison with similar data derived from African material reveals no apparent differences. Brongersma (1934, p. 173) synonymized *tristis* after comparing the types with those of *frenatus*.

HEMIDACTYLUS GARNOTII Duméril & Bibron

Hemidactylus garnotii Duméril & Bibron, 1836, *Erpét. Gén.*, **3**, p. 368: Tahiti, Society Islands.

juv.; ♀ (M. C. Z. 49207-8) Manokwari, D. N. G. (T. Barbour) 1907.

♀ (M. C. Z. 49209) Saidor, D. N. G. (C. W. Moren) 1946.

Internasals in contact or separated by a granule; nostril surrounded by 3 nasals, rostral, and first labial; upper labials 8-10; lower labials 7-9; no dorsal tubercles; scansors under fourth toe 8; a lateral fold. Larger ♀ (M. C. Z. 49207), 85+ (50 + 35+) mm., tail regenerating.

Apparently these Manokwari specimens were the first *garnotii* to be taken in New Guinea. They were found among the long series (M. C. Z. 7603) of *Hemidactylus frenatus*, a species with which *garnotii* may be easily confused. On the other hand the claw of the fifth toe is so minute as to be readily overlooked and the gecko assigned to *Gehyra*.

COSYMBOTUS PLATYURUS (Schneider)

Stellio platyurus Schneider, 1792, *Amphib. Physiol.*, **2**, p. 30: No type locality.

♀ (M. C. Z. 7615) Sorong, D. N. G. (T. Barbour) 1907.

Internasals separated by a granule; nostril surrounded by 3 nasals, rostral, and first labial; upper labials 11; lower labials 8; no dorsal tubercles; scansors under fourth toe 7; a broad lateral cutaneous expansion. Length 87 (47 + 40) mm.

Myers (1943, *Copeia*, p. 192) points out that *Platyurus* Oken, 1836, being preoccupied by *Platyurus* Ritgen, 1828, *Cosymbotus* Fitzinger, 1843, must now be used.

GEHYRA spp.

This genus has long been separated from *Hemidactylus* by the alleged absence of a claw on the fifth toe. However, a minute claw is present in all four species listed below and so far as I know *Gehyra* differs from

Hemidactylus only in the fifth digit lacking a free terminal phalange as pointed out by M. A. Smith (1935, pp. 29, 104).

GEHYRA INTERSTITIALIS Oudemans

Gehyra interstitialis Oudemans, 1894, in Semon, Zool. Forsch. Austr., 5, p. 134, figs. —: New Guinea.

♂ (M. C. Z. 7314) Fakfak, D. N. G. (A. E. Pratt) 1907.

♂ (M. C. Z. 22905) Merauke, D. N. G. (P. T. L. Putnam) 1927.

Internasals separated by 2 granules; postnasals 3; upper labials 12–16; lower labials 11–13; lamellae and divided scansors under fourth toe 16–18; a lateral fold; a posterior fold on hind limb; preanal pores in males 33–36. Larger ♂ (M. C. Z. 7314), 186 (93 + 93) mm.

GEHYRA MUTILATA (Wiegmann)

Hemidactylus (Peropus) mutilatus Wiegmann, 1835, Nova Acta Acad. Caesar. Leop.-Carol., 17, p. 238: Manila, Philippine Islands.

juv. (M. C. Z. 49272) Finschhafen, A. N. G. (W. H. Stickel) 1944.

6 (U. S. N. M. 119247–51, 120352) Gusiko, A. N. G. (W. H. S.) 1944.

Internasals in contact or separated by a single granule; postnasals 2; upper labials 8–10; lower labials 7–8; lamellae and divided scansors beneath fourth toe 10–12; no lateral fold; a posterior fold on hind limb; preanal pores in males 40–41. Larger ♂ (U.S.N.M. 119251), 94 (46 + 48) mm., ♀ (U.S.N.M. 119247), 90 (45 + 45) mm., hatchling (M. C. Z. 49272), 37 (20 + 17) mm.

Stickel records the juvenile as having hatched in early August. Of the adults one female was taken on the trunk of a coconut palm at night, three others hiding beneath bark during daylight.

GEHYRA BALIOLA (A. Duméril)

Hemidactylus Baliolus A. Duméril, 1851, Cat. Meth. Rept., p. 38: New Guinea

♀ (M. C. Z. 21934) Pelew Islands (Berlin Mus.) 1925.

♂ (M. C. Z. 120098) Amsterdam Id., D. N. G. (G. H. Penn) 1944.

Internasals separated by 2 or more granules; postnasals 2–3; upper labials 11–12; lower labials 11–12; lamellae and divided scansors be-

neath fourth toe 19–20; no lateral fold; a posterior fold on hind limb; preanal pores in male 21. Head and body of ♂, 76 mm., of ♀, 72 mm., regenerating tails 51–55 mm.

GEHYRA OCEANICA (Lesson)

Gecko oceanicus Lesson, 1830, Zool., in Duperry, Voyage autour du Monde . . . sur . . . La Coquille, 2, pt. 1, p. 42, pl. ii, fig. 3: Tahiti and Borabora, Oceania.

♂ (M. C. Z. 4166) New Guinea (E. Gerrard) 1877.

♂ (M. C. Z. 7456) New Britain (Mus. Godeffroy) 1882.

Internasals separated by 1–2 granules; postnasals 3; upper labials 11–13; lower labials 8–11; lamellae and undivided scansors beneath fourth toe 16–18; a lateral fold; a posterior fold on hind limb; preanal pores in males 41–42. Larger ♂ (M. C. Z. 4166), 236 (123 + 113) mm.

Though *oceanica* is genotype of *Gehyra* Gray (1842), minute claws are clearly visible on the fifth toes of both examples. Burt and Burt (1932, p. 498) doubt whether *vorax* Girard is really separable from *oceanica*.

HEMIPHYLLODACTYLUS TYPUS TYPUS Bleeker

Hemiphyllodactylus typus Bleeker, 1860, Nat. Tijdschr. Ned. Indies, 20, p. 327: Gunong Paring, Java.

♀ (M. C. Z. 49273) Aitape, A. N. G. (W. M. Beck) 1944.

♂ (U. S. N. M. 119246) Gusiko, A. N. G. (W. H. Stickel) 1944.

Internasals separated by 1–2 granules; postnasals 2; upper labials 11; lower labials 10–11; lamellae and scansors under fourth toe 9–10; preanal pores in male 12. Length of ♂, 70 (40 + 30) mm.

These specimens apparently constitute the first records of the occurrence of *Hemiphyllodactylus* in New Guinea. The ♂ was taken on ground in partly cleared jungle on April 4 by Captain E. S. Ross.

LEPIDODACTYLUS LUGUBRIS (Duméril & Bibron)

Platydictylus Lugubris Duméril & Bibron, 1836, Erpét. Gén., 3, p. 304: Tahiti, Society Islands.

3 (M. C. Z. 48568) Aitape, A. N. G. (W. M. Beck) 1944.

3 (M. C. Z. 49274) Finschhafen, A. N. G. (L. W. Jarcho) 1944.

4 (U. S. N. M. 119252–5) Gusiko, A. N. G. (W. H. Stickel) 1944.

Internasals separated by 2-3 granules; postnasals 2; upper labials 11-12; lower labials 9-12; lamellae and scensors under fourth toe 12-19; no males; sides of tail depressed with serrated edge. Largest ♀ (M. C. Z. 49274), 70+ (36 + 34+) mm., tail regenerating; a hatchling is 27+ (13 + 14+) mm.

Shape of tail and color pattern appear to be the best means of separating this gecko from *pulcher* which also occurs at Gusiko. As the three Aitape geckos are tailless, their identification is somewhat questionable. Two Gusiko females, one spent, the other gravid with large eggs, were taken April 5 on the trunk of a coconut palm.

LEPIDODACTYLUS PULCHER Boulenger

Lepidodactylus pulcher Boulenger, 1885, Cat. Lizards Brit. Mus., 1, p. 166, pl. xiii, fig. 5: Wild Island, Admiralty Islands.

♀ (M. C. Z. 49612) Gusiko, A. N. G. (W. H. Stickel) 1944.

♂ ♀ (U. S. N. M. 118824-5) Finschhafen, A. N. G. (A. M. Keefe) 1944.

♀ (U. S. N. M. 119248) Gusiko, A. N. G. (W. H. Stickel) 1944.

Internasals separated by 1-2 granules; postnasals 1-2; upper labials 11-12; lower labials 9-10; lamellae and scensors under fourth toe 13-15; preanal pores in male 12; sides of tail rounded. Length of ♂ (U.S.N.M. 118825), 70 (38 + 32) mm., largest ♀ (U.S.N.M. 118824), 76 (39 + 37) mm.

These geckos lack the spotting shown on the head of the figured type; the backs of three are crossed by dark brown, sometimes light-edged, wavy lines, while one (U.S.N.M. 119248) has a pair of dark brown lateral and a pair of dorsolateral lines, the latter enclosing what almost amounts to a pale vertebral band; two only have the four dark spots in the shoulder region which are typical of *lugubris* and present in our big *guppyi* from Stirling Island in the Solomons.

Burt and Burt (1932, p. 505) were mistaken in synonymizing *pulcher* with *guppyi*, but two of the series they called *guppyi* (now in the Museum of Comparative Zoölogy) are in reality *woodfordi* Boulenger. Our *guppyi* is quite distinct.

One Gusiko ♀ was taken on a coconut palm trunk at the same time as *lugubris*; the other beneath bark of a dead tree was, according to Stickel, "brown, marked with dull yellowish gray; belly dull yellow, speckled with mauve brown."

GEKKO VITTATUS Houttuyn

Gekko vittatus Houttuyn, 1782, Verh. Zeeuwsch. Genootsch. Wet. Vlissingen, 9, p. 325: Indies.

Platydactylus bivittatus Duméril & Bibron, 1836, Erpét. Gén., 3, p. 334: Waigeo Island, Dutch New Guinea.

- 10 (M. C. Z. 7597) Jamna Id., D. N. G. (T. Barbour) 1907.
- 1 (M. C. Z. 7599) Ansoes, Jobi Id., D. N. G. (T. Barbour) 1907.
- 3 (M. C. Z. 48569-70) Aitape, A. N. G. (W. M. Beck) 1944.
- 1 (M. C. Z. 49275) Finschhafen, A. N. G. (L. W. Jarcho) 1944.
- 2 (M. C. Z. 49276-7) Toem, D. N. G. (W. H. Stickel) 1944.
- 1 (M. C. Z. 49278) Liki Id., D. N. G. (W. H. Stickel) 1944.
- 1 (U. S. N. M. 38961) Jamna Id., D. N. G. (T. Barbour) 1907.
- 3 (U. S. N. M. 119242-4) Gusiko, A. N. G. (W. H. Stickel) 1944.
- 2 (U. S. N. M. 120097, 120349) Amsterdam Id., D. N. G. (G. H. Penn) 1944.
- 1 (U. S. N. M. 120350) Mios Woendi, D. N. G. (G. H. Penn) 1944.

Internasals in contact (4 ex.) or separated by 1 granule; postnasals 2; upper labials 12-15; lower labials 11-14; lamellae and scansors under fourth toe 18-23; preanal pores in males 21-57, average 42.6 for 13 males. Largest ♂ (M. C. Z. 49278), 203 (93 + 110) mm.; the largest ♀ (U.S.N.M. 119243) measures 95 mm. from snout to anus, tail regenerating; youngest (M. C. Z. 49277), 72 (37 + 35) mm.

De Rooij's (1915, p. 51) key character of "granules on the throat intermixed with larger ones" (*vittatus*), or subequal (*pulcher*), is unreliable to judge by the wide variation displayed by the Jamna series and occasional specimens where the gular granules are more or less uniform. Nor does the diameter of the ear opening into that of the orbit furnish any better indication, for in our series the ear diameter is usually about one-third (*not* half as stated by de Rooij) the eye diameter, and obviously depends on the degree of contraction of the ear opening.

Color in life of two subadults as recorded by Stickel: (M. C. Z. 49276) Above, light olive with faint brown-edged, olive-yellow, vertebral stripe; tail banded brown and dull white. Below, throat and belly white faintly tinged with lavender; limbs pale olive; digital lamellae light lavender. Eye yellowish brown. (U.S.N.M. 119242) Above, olive green with brown-edged, greenish white, vertebral stripe becoming yellow on anterior fork; limbs olive; tail banded brown and brownish white. Below, throat dull white; belly dull greenish white.

The three Gusiko geckos were captured by following bulldozers as they worked through dense secondary jungle composed of bananas,

breadfruit, cocos and spiny palms, etc., from twenty to sixty feet high and about 450 yards from the shore. The Toem juvenile was found beneath a box in a tent.

AGAMIDAE

GONIOCEPHALUS DILOPHUS (Duméril & Bibron)

Lophyrus dilophus Duméril & Bibron, 1837, *Erpét. Gén.*, 4, p. 419, pl. xlvi: New Guinea.

Tiaris megapogon Gray, 1845, *Cat. Lizards Brit. Mus.*, p. 239: *nom. nov.* for *Tiaris dilophus* Duméril & Bibron.

2 skins (M. C. Z. 5265-6) Port Moresby, B. N. G. (S. F. Denton) 1883.
1 (M. C. Z. 7487) Aru Islands (A. E. Pratt) *ca.* 1910.

Supraciliary border moderately raised; some enlarged scales below the ear; nuchal and dorsal crests discontinuous; dorsals heterogenous; ventrals strongly keeled. Length (M. C. Z. 7487), 545 (200 + 345) mm.

GONIOCEPHALUS GODEFFROYI (Peters)

Lophura (Hypsiliurus) Godeffroyi Peters, 1867, *Monatsb. Akad. Wiss. Berlin.* p. 707, pl. -: Pelew Islands.

1 (M. C. Z. 4706) New Britain Archipelago (Mus. Godeffroy) 1882.

Supraciliary border moderately raised; some enlarged scales below the ear; nuchal and dorsal crests subcontinuous; dorsals homogenous; ventrals strongly keeled. Length 680 (160 + 520) mm.

GONIOCEPHALUS PAPUENSIS (Macleay)

Tiaris papuensis Macleay, 1877, *Proc. Linn. Soc. N. S. W.*, 2, p. 101: Hall Sound, British New Guinea.

Gonyocephalus (Lophosteus) Albertisii Peters & Doria, 1878, *Ann. Mus. Civ. Stor. Nat. Genova*, 13, p. 377: "Nicura," i.e. Nikora, opposite Yule Island, British New Guinea.

1 (M. C. Z. 28660) Ferguson Id., B. N. G. (Brit. Mus.) 1929.

3 (M. C. Z. 44181-3) Bulowat, A. N. G. (H. Stevens) 1933.

2 (M. C. Z. 44184-5) Wau, A. N. G. (H. Stevens) 1933.

Supraciliary border moderately raised; some enlarged scales below the ear; nuchal and dorsal crests discontinuous; dorsals homogenous; ventrals strongly keeled. Largest (M. C. Z. 44182) measures 830 (205 + 625) mm., far surpassing previous records.

GONIOCEPHALUS MODESTUS Meyer

Gonyocephalus (Hypsilurus) modestus Meyer, 1874, Monatsb. Akad. Wiss. Berlin, p. 130: Jobi Island, Dutch New Guinea.

Gonyocephalus (Arua) inornatus Doria, 1874, Ann. Mus. Civ. Stor. Nat. Genova, 6, p. 345, pl. xi, fig. e: Aru Island.

- 1 (M. C. Z. 4709) New Britain Archipelago (Mus. Godeffroy) 1882.
- 1 (M. C. Z. 7306) Astrolabe Bay, A. N. G. (T. Barbour) 1907.
- 1 (M. C. Z. 7644) Pom, Jobi Id., D. N. G. (T. Barbour) 1907.
- 3 (M. C. Z. 49279-80) Aitape, A. N. G. (W. M. Beck) 1944.
- 1 (M. C. Z. 49281) Toem, D. N. G. (W. H. Stickel) 1944.
- 22 (M. C. Z. 49290-9) Liki Id., D. N. G. (W. H. Stickel) 1944.
- 1 (U. S. N. M. 119257) Toem, D. N. G. (W. H. Stickel) 1944.

Supraciliary border moderately raised; no enlarged scales below ear; nuchal crest formed of 4-6 widely separated scales; dorsal crest indistinct; dorsals homogenous, small, keeled; ventrals keeled. About the largest ♂ (M. C. Z. 49296), 342 (87 + 255) mm., ♀ (M. C. Z. 49292), 344 (83 + 261) mm., the latter holding eggs ready for laying on August 17-22, 1944.

A slow, passive, sometimes green lizard, often seen on coconut palm trunks, capable of speed when pursued but immobile when being handled. (W. H. Stickel).

PHYSIGNATHUS TEMPORALIS (Günther)

Grammatophora temporalis Günther (part), 1867, Ann. Mag. Nat. Hist. (3), 20, p. 52: Port Essington, Northern Territory, Australia.

- 1 (M. C. Z. 4141) British New Guinea (E. Gerrard) 1877.
- 1 (M. C. Z. 20989) Merauke, D. N. G. (Amsterdam Mus.) 1925.
- 1 (M. C. Z. 22906) Merauke, D. N. G. (P. T. L. Putnam) 1927.

Nostril slightly nearer tip of snout than orbit; gular scales obtusely keeled; keels of dorsals adjacent to the vertebral line directed obliquely towards it; tail slightly compressed, without crest. Largest, a ♂ (M. C. Z. 4141), 388 (97 + 291) mm.

SCINCIDAE

TRIBOLONOTUS NOVAEGUINEAE (Schlegel)

Zonurus novae guineae Schlegel, 1834, Tijdsch. Nat. Gesch. Phys., **1**, p. 218:
Fort Merkusoord, west coast of Dutch New Guinea.

- 2 (M. C. Z. 21062-3) Manokwari, D. N. G. (Amsterdam Mus.) 1925.
1 (U. S. N. M. 119486) Toem, D. N. G. (W. H. Stickel) 1944.

Postmental slightly shorter than anterior pair of chin shields each of which is much larger than the shield following it; caudal spines more or less directed upwards. Largest (M. C. Z. 21063), 154+ (84 + 70+) mm., but surpassed in head and body length by one of 90 mm.

TRIBOLONOTUS GRACILIS Rooij

Tribolonotus gracilis de Rooij, 1909, Nova Guinea, Zool., **5**, p. 381: near Mosso River, Dutch New Guinea.

- 2 (M. C. Z. 49243-4) Aitape, A. N. G. (W. M. Beck) 1944.

Postmental much shorter than anterior pair of chin shields each of which is very much larger than the shield following it; caudal spines directed backwards. Larger ♂ (M. C. Z. 49244), 173 (97 + 76) mm.

One might feel inclined to regard *gracilis* as an eastern race of *novae guineae* had not de Rooij recorded both species from Humboldt Bay and Mosso River, Germania Bay, and de Jong (1927, p. 318) reported both from Pionierbivak, Mamberamo River, and (1930, p. 406) both from Albatrosbivak. However, there are records of *novae guineae* from points east that should be reexamined.

TROPIDOPHORUS DARLINGTONI Loveridge

Tropidophorus darlingtoni Loveridge, 1945, Proc. Biol. Soc. Washington, **58**, p. 47: Mount Wilhelm at 5,000-6,000 feet, Bismarek Range, Australian New Guinea.

- ♀ & yng. (M. C. Z. 47051-3) Mount Wilhelm, A. N. G. (P. J. Darlington) 1944.

These are the type and paratypes of the first member of the genus to be recorded from New Guinea. A detailed description has been

published; midbody scale rows 34-36; lamellae under fourth toe 12-15. Length of gravid ♀ (M. C. Z. 47051), 116 (63 + 53) mm.

TILIQUA SCINCOIDES GIGAS (Schneider)

Scincus gigas Schneider, 1801, Hist. Amphib., 2, p. 202: Amboina Island, Ceram Islands.

♂ (M. C. Z. 38994) Astrolabe Bay, A. N. G. (Leiden Mus.) 1935.

♀ (M. C. Z. 49242) Finschhafen, A. N. G. (L. W. Jarcho) 1944.

♂ (U. S. N. M. 119487) Gusiko, A. N. G. (W. H. Stickel) 1944.

Supraoculars 3-4; supraciliaries 3-6; anterior temporals $1-1\frac{1}{4}$ times as long as the interparietals; forelimb longer than the head, and from $2\frac{3}{4}-3\frac{1}{4}$ times in the distance from axilla to groin; midbody scale rows 30-32; dark crossbands on body 8-10. Larger ♂ (M. C. Z. 38994), 465 (260 + 205) mm., of gravid ♀, 464 (265 + 199) mm.

Trinomials appear necessary owing to the presence on the Kei Islands of *Tiliqua scincoides keiensis* Oudemans, which combines both the characters that serve to separate *gigas* from the Australian *scincoides*. The smaller male was taken beneath a pile of lumber on grassy flats adjacent to a coral cliff.

MABUYA MULTIFASCIATA MULTIFASCIATA (Kuhl)

Scincus multifasciatus Kuhl, 1820, Beitr. Zool. Vergl. Anat., p. 126: No locality.

1 (M. C. Z. 7722) Mios Woendi, D. N. G. (T. Barbour) 1907.

Postnasal present; parietals separated; midbody scale rows 30; adpressed hind limb falls short of axilla. Length 189 (75 + 114) mm. The locality appeared as Meosbundi, Wiak Island, Schouten Islands in Barbour (1912, p. 89); Biak now appears to be the preferred spelling for Wiak.

DASIA

The name *Dasia*, recently proposed by Lebour (1938, Proc. Zool. Soc. London, 108, p. 650) for a genus of decapod Crustacea, was re-named *Dasella* by the same author (1945, Proc. Zool. Soc. London, 115, p. 279) on account of the prior use of *Dasia* for a genus of skinks.

DASIA SMARAGDINA PERVIRIDIS Barbour

Dasia smaragdina perviridis Barbour, 1921, Proc. New England Zool. Club, 7, p. 106: Fulakora, Ysabel Island, Solomon Islands.

- 1 (M. C. Z. 4714) New Britain (Mus. Godeffroy) 1862.
- 1 (M. C. Z. 7310) Fakfak, D. N. G. (A. E. Pratt) 1903.
- 24 (M. C. Z. 7707-8, 7482) Sorong, D. N. G. (T. Barbour) 1907.
- 6 (M. C. Z. 7712) Woor Bay, D. N. G. (T. Barbour) 1907.
- 3 (M. C. Z. 7713) Manokwari, D. N. G. (T. Barbour) 1907.
- 2 (M. C. Z. 7714) Humboldt Bay, D. N. G. (T. Barbour) 1907.
- 3 (M. C. Z. 7715) Saonek, D. N. G. (T. Barbour) 1907.
- 3 (M. C. Z. 48598) Aitape, A. N. G. (W. M. Beek) 1944.
- 1 (M. C. Z. 49284) Owi Id., D. N. G. (E. S. Harald) 1944.
- 10 (M. C. Z. 49285-9) Liki Id., D. N. G. (W. H. Stichel) 1944.
- 9 (M. C. Z. 49312-6) Toem, D. N. G. (W. H. Stichel) 1944.
- 3 (U. S. N. M. 40037-9) Sorong, D. N. G. (T. Barbour) 1907.
- 1 (U. S. N. M. 119428) Finschhafen, A. N. G. (W. H. Stichel) 1944.
- 2 (U. S. N. M. 119429-30) Gusiko, A. N. G. (W. H. Stichel) 1944.
- 1 (U. S. N. M. 119431) Hollandia, D. N. G. (W. H. Stichel) 1944.
- 2 (U. S. N. M. 119432-3) Toem, D. N. G. (W. H. Stichel) 1944.
- 1 (U. S. N. M. 119544) Mios Woendi, D. N. G. (G. H. Penn) 1944.
- 1 (U. S. N. M. 120101) Amsterdam Id., D. N. G. (G. H. Penn) 1944.
- 1 (U. S. N. M. 122105) Finschhafen, A. N. G. (J. E. Hadley) 1944.

No supranasals; nuchals and dorsals smooth or faintly striated; midbody scale rows 22-26, average 23.4 for seventy-two skinks; enlarged scale on heel. Largest (M. C. Z. 49312), 267 (103 + 164) mm.

Color in life of a Finschhafen skink as recorded by Stichel. Above, green, the posterior half of body and forward portion of tail heavily suffused with grayish brown; legs brownish. Below, lighter. A Gusiko skink of almost the same size is described as having: Head and back green becoming olive-yellowish on tail; forelegs green anteriorly, the rest brown spotted with black and tan, this coloring extending also around the base of each hind limb. Below, pale yellow tinged with green turning to olive-yellow beneath the tail. Of M. C. Z. 49312 Stichel remarks: "Heel scale orange, which is unusual."

Some of these arboreal skinks were seen on trunks of trees and palms, one was taken on the ground.

The subspecific name I am applying to these New Guinea skinks may come as a surprise, for in describing *perviridis* Barbour (1921, p. 106) stated the Solomons' form was "similar to *D. s. smaragdinum*¹ of Papua, but wholly brilliant green throughout; not with a green

¹ Not of Lesson, see succeeding paragraphs.

head, and a body fading to bronze, or in alcohol to brownish, inferiorly." Unfortunately not even a majority of our New Guinea *Dasia* are bronzy posteriorly (25 ex.), wholly green-backed specimens (38 ex.) apparently occurring alongside the others throughout the range or in some localities like Liki Island seemingly to the exclusion of the green and bronze form. Therefore one cannot say that even the green and bronze form so beautifully depicted by Barbour (1912, pl. i, fig. 1) predominates, much depending on the population from which the material happens to be drawn.

The green and bronze lizards represent a stage where *moluccarum* of the Philippines and Moluccas is giving way to the wholly green type. If herpetologists cannot tell whether half the above material came from the Solomons or New Guinea it scarcely seems worthy of separation and a name. *Dasia* from both New Guinea and the Solomons are fairly well distinguished from the other races by the hind limbs being spotted with black and white on a tan ground.

It will be noted that Barbour writes of *s. smaragdina* (Lesson) as having a green head and body fading to bronze posteriorly. But this is in contradiction to Lesson's (1830, p. 43, pl. iii, fig. 1) description and figure which are of a green-backed lizard. If further proof were needed that Lesson's *smaragdina* never came from Papua one has only to look at the hind limbs of his figured type. I consider, therefore, that Barbour's (1912, p. 91) suggestion that Lesson's skink never came from Oualan, Caroline Islands, was not justified. Lesson himself suggested that it might be the opposite sex to *viridipunctata* Lesson (1830, p. 44, pl. iv, fig. 1) also from "Oualan" (= Kusaie Id.). Both types of coloration may be found in our material from the Carolines.

Mertens (1929, p. 218), following Barbour, went even further and restricted the name "*smaragdinum*" to the New Guinea form, an action with which I cannot concur as it came from the Carolines. *Scincus viridipunctus* Lesson becomes a synonym of *Dasia s. smaragdina* (Lesson) and how far one is justified in recognizing *D. s. philippinicum* Mertens as distinct from it, remains to be seen. Both *philippinicum* and *moluccarum* with endless intermediates occur among a series of 32 skinks collected by Dr. E. H. Taylor between Tatayan and Saub on the Cotobato Coast, Mindanao Island, Philippine Islands.

RIOPA RUFESCENS (Shaw)

Lacerta rufescens Shaw (part), 1802, Gen. Zool., 3, p. 285: "Arabia and Egypt"

(other part refers to *Eumeces s. schneideri*)

Eumeces oppellii Duméril & Bibron, 1839, Erpét. Gén., 5, p. 656: New Guinea.

Eumeces uniformis Meyer, 1874, Monatsb. Akad. Wiss. Berlin, p. 133: Mafoor Island, Dutch New Guinea.

Euprepes (Tiliqua) cingulatus Peters & Doria, 1878, Ann. Mus. Civ. Stor. Nat. Genova, 13, p. 350: Mansinam Island, Dutch New Guinea.

2 (M. C. Z. 7692) Jamna Id., D. N. G. (T. Barbour) 1907.

2 (M. C. Z. 48605-6) Aitape, A. N. G. (W. M. Beck) 1944.

1 (M. C. Z. 49341) Finchhafen, A. N. G. (J. W. Jarcho) 1944.

1 (U. S. N. M. 119434) Toem, D. N. G. (W. H. Stickel) 1944.

2 (U. S. N. M. 119545-6) Mios Woendi, D. N. G. (G. H. Penn) 1944.

Supranasals present or fused with the postnasal; frontal slightly narrower than, as broad as, or slightly broader than the supraocular region; lower eyelid with a scaly, opaque, or semitransparent disk; auricular lobules 5-6; midbody scale rows 26-30; lamellae under fourth toe 16-20. Largest ♂ (M. C. Z. 48605), 314+ (117 + 197+) mm.; ♀ (U. S. N. M. 119546), 330 (127 + 203) mm., smallest (M. C. Z. 48606) has a head and body length of 45 mm.

The head and body of this smallest skink show about eighteen white cross lines in striking contrast to the uniformly iridescent brown of the largest. The chin and throat of the young skink show the characteristic series of black chevrons that fade out in half-grown lizards and are quite lacking in the Mios Woendi adults. Both of these are gravid, one holding four eggs approximately 16 x 10 mm.

RIOPA ALBOFASCIOLATA (Günther)

Eumeces albofasciolatus Günther, 1872, Ann. Mag. Nat. Hist. (4), 10, p. 370: North Australia.

1 (M. C. Z. 4762) New Britain (Mus. Godeffroy) 1882.

1 (M. C. Z. 38992) Morotai Id., Molucca Ids. (Leiden Mus.) 1935.

Supranasals present; frontal narrower or broader than the supraocular region; lower eyelid scaly; auricular lobules 5-7; midbody scale rows 34, smooth; lamellae under fourth toe 16-20; larger (M. C. Z. 38992), 238+ (132 + 106+) mm., tail regenerating.

The Museum of Comparative Zoölogy has a score of specimens of *albofasciata* all of which I examined to see if there were grounds for recognizing insular forms. I concluded that *Lygosoma (Riopa) albofasciolatus boettgeri* Sternfeld (1921, p. 418) of which we have topotypes from Ponapé, Caroline Islands, is invalid. Quite apart from *boettgeri* being preoccupied in *Lygosoma* by Sternfeld's *Emoia boettgeri* in the same paper (1921, p. 406).

Our material showed a range of from 32-38 (extremes rechecked) midbody scale rows, 15-22 lamellae beneath the fourth toe, and obsolescent chevrons or dusky lines on the throat. M. C. Z. 38992, collected by Bernstein in 1863, was received as *rufescens* (Shaw) but despite the close relationship between the species no overlap in mid-body scale rows occurs so I hesitate to treat *albofasciolata* as a race of the much smaller *rufescens*. Bernstein's specimen was labelled "Morotai" which Dr. Brongersma informs me is Morotai Island in the Molucca Islands, from where *mentovarium* Boettger was described. As suggested by Sternfeld (1919, p. 418) the name would be available subspecifically should the Molucca skinks prove separable, which is doubtful.

[LYGOSOMA (SPHENOMORPHUS) VARIEGATUM VARIEGATUM Peters]

Lygosoma (Hinulia) variegatum Peters, 1867, Monatsb. Akad. Wiss. Berlin, p. 20: Mindanao Island, Philippine Islands.

L. variegatum has often been recorded from New Guinea, but our New Guinea material differs constantly, as indicated below, from our Philippine specimens of which there are 71 from 9 localities including Mindanao.

Our three skinks (♂, ♀, young) from Sarawak and Dutch Borneo agree fairly closely with the description of *anomalopus* Boulenger, described from Penang but are actually intermediates, to judge by our *anomalopus* from Sumatra which apparently represents yet another race.

The Celebes skinks referred to *variegatum* by Malcolm Smith (1927, p. 216) have a very distinctive dorsal pattern. Smith remarks that their midbody scale rows range from 38-44, a figure higher than any recorded for *variegatum* by Boulenger or de Rooij. The nine specimens from Smith's series now in the Museum of Comparative Zoölogy (M. C. Z. 25395-25403) range from 38-42, but it may be noted that *sarasinorum*, described from "Central Celebes" by Boulenger (1897, p. 210), was said to have 44-46.

The following key may serve to separate the forms hitherto lumped under "*variegatum*" in the Museum of Comparative Zoölogy collections

Key to some of the races of L. (S.) VARIEGATUM

- 1. A conspicuous black patch on nape between tympanum and shoulder; range: Philippine Islands *v. variegatum*
- No conspicuous black patch on nape 2

2. Midbody scales 36-38; lamellae under fourth toe 17-23; range: Borneo (see remarks above) *v. subsp.*
Midbody scales 38-44 (? 46); lamellae under fourth toe 20-27 3
3. Back bordered by a conspicuous, cream-colored, dorso-lateral line or series of dashes, between which are two longitudinal series of black blotches (that tend to coalesce and form wavy cross lines in the young); size larger 61 + 100 mm. (76 + 160 if type of *sarasinorum* is included); range: Celebes *v. ?sarasinorum*
Back rarely bordered by a conspicuous, cream-colored, dorso-lateral line; size smaller, under 50 + 80 mm. 4
4. Midbody scale rows 37-42; lamellae under fourth toe 20-27; range: Misool Island and Dutch New Guinea *v. jobiense*
Midbody scale rows 42-46; lamellae under fourth toe 23-29; range: Australian New Guinea *v. stickeli* subsp. nov.

LYGOSOMA (SPHENOMORPHUS) VARIEGATUM JOBIENSE Meyer

Lygosoma (Hinulia) jobiensis Meyer, 1874, Monatsb. Akad. Wiss. Berlin, p. 131: Jobi Island, Dutch New Guinea.

Lygosoma misolense Vogt, 1932, Zool. Anz., 76, p. 324: Misool Island, Molucca Islands.

- 1 (M. C. Z. 7701) Pom, Jobi Id., D. N. G. (T. Barbour) 1907.
1 (M. C. Z. 7702) Jende, Roon Id., D. N. G. (T. Barbour) 1907.
1 (M. C. Z. 7703) Manokwari, D. N. G. (T. Barbour) 1907.
1 (M. C. Z. 7704) Ansoes, Jobi Id., D. N. G. (T. Barbour) 1907.
2 (M. C. Z. 7706) Sorong, D. N. G. (T. Barbour) 1907.
1 (M. C. Z. 27944) Lake Sentani, D. N. G. (P. Wirz) 1929.
2 (M. C. Z. 49248-9) Aitape, A. N. G. (W. M. Beck) 1944.
1 (U. S. N. M. 119461) Toem, D. N. G. (W. H. Stickel) 1944.
1 (U. S. N. M. 121218) Sansapor, D. N. G. (G. M. Kohls) 1944.

No supranasal; nasal entire; upper and lower loreal; supraoculars 6-8, the anterior ones in contact with the frontal; midbody scale rows 37-42 (42 in U. S. N. M. 121218 only); lamellae under fourth toe 20-27. Largest (U. S. N. M. 121218), 112 (50 + 62) mm., but surpassed in tail length by a ♂ (M. C. Z. 7706), 123 (46 + 77) mm.

Stickel remarks that the Toem skink was taken during clearing of secondary growth on reddish sandy soil about 450 yards inland.

Meyer's brief description states that the Jobi Island type had 38 scale rows and was distinguished from *elegans* Gray (now a syn. of

¹ Not of Boulenger (1887, p. 247) et al.

t. tenuis Gray) by the black lateral band extending forward beyond the anterior corner of the eye. Two statements that clearly indicate he was not describing the larger skink (*L. (S.) megaspila papuense*) of which we also have examples from Jobi Island.

LYGOSOMA (SPHENOMORPHUS) VARIEGATUM STICKELI subsp. nov.

Type. Museum of Comparative Zoölogy No. 49326, a gravid ♀ from Gusiko, Australian New Guinea, collected by W. H. Stickel, May 8-13, 1944.

Paratypes.

- 5 (M. C. Z. 49327-9, 49615-6) Gusiko, A. N. G. (W. H. Stickel) 1944.
 9 (U. S. N. M. 119450-1, 119453, 119456-60) Gusiko, A. N. G. (W. H. Stickel) 1944.
 1 (U. S. N. M. 120106) Draeger Harbor, A. N. G. (G. H. Penn) 1944.

Diagnosis. Differs from the western race, *L. v. jobiense* Meyer, in slightly larger size and more numerous midbody scale rows. In both scale rows and lamellae it resembles the still larger, but very differently colored, *L. (S.) megaspila papuense* (Macleay) occurring in the same localities. Many of the Gusiko females are gravid.

Description. Rostral in contact with a divided frontonasal (divided in 6 paratypes, undivided in 9) and sometimes an additional azygous shield; no supranasal; nasal entire (semidivided on left of U. S. N. M. 119457, divided in 119451); two superposed loreals; supraoculars 7 (6-8 in paratypes), the first four (three in all Gusiko paratypes) in contact with the frontal; midbody scale rows 44 (42-46, average 44); lamellae under fourth toe 24 (23-29, average 26.4).

Color. Substantially that of *L. v. jobiense* but with little black on flanks.

Size. Total length of ♀ type, 118 (45 + 73) mm., surpassed by a ♂ (U. S. N. M. 119456) of 127 (47 + 80) mm., and ♀ (U. S. N. M. 120106) of 125 (49 + 76) mm.

Habits. Diurnal and terrestrial according to Stickel.

LYGOSOMA (SPHENOMORPHUS) MEGASPILA MEGASPILA (Günther)

Hinulia megaspila Günther, 1877, Proc. Zool. Soc. London, p. 128, pl. xxviii: Duke of York Island = Atafu, Tokelau Islands.

L(ygosoma) jobiense elegans Sternfeld, 1921 (1920), Abhand. Senckenberg. Naturf. Ges., 36, p. 397, pl. xxxi, fig. 1: Ross Island, "Neu Pommern" = New Britain.

- 1 (M. C. Z. 4707) New Britain Archipelago (Mus. Godeffroy) 1882.
 2 (M. C. Z. 33532-3) Ross Id., New Britain (Mus. Senckenberg) 1932.

No supranasal; nasal entire; upper and lower loreal; supraoculars 5-6, the two anterior ones in contact with the frontal; midbody scale rows 44-48; lamellae under fourth toe 24-27. Largest (M. C. Z. 4707), 212 (88 + 124) mm.

Hinulia megapila Günther was placed in the synonymy of *jobiense* Meyer by Boulenger (1887, p. 247) which I regard as a very different reptile (*vide L. variegatum jobiense* Meyer). Günther gave the midbody scale rows of *megaspila* as 41-47, so I restrict his name to the eastern form with 44-48 scale rows. Our Ross Island skinks are paratypes of *elegans* Sternfeld, a name preoccupied in *Lygosoma* by *Hinulia elegans* Gray.

LYGOSOMA (SPHENOMORPHUS) MEGASPILA PAPUENSE (Macleay)

Hinulia papuensis Macleay, 1877, Proc. Linn. Soc. N. S. W., 2, p. 62: "Katow"
 = Binaturi River, British New Guinea.

Lygosoma amblyplacodes Vogt, 1932, Sitzb. Ges. Naturf. Freunde Berlin, p. 283:
 Australian, New Guinea.

- 1 (M. C. Z. 7685) Wooi Bay, D. N. G. (T. Barbour) 1907.
 2 (M. C. Z. 7686) Jamna Id., D. N. G. (T. Barbour) 1907.
 3 (M. C. Z. 44188-90) Wau, A. N. G. (H. Stevens) 1933.
 5 (M. C. Z. 48574-8) Aitape, A. N. G. (W. M. Beek) 1944.
 1 (M. C. Z. 49330) Langemak Bay, A. N. G. (C. W. Moren) 1944.
 1 (M. C. Z. 49331) Gusiko, A. N. G. (W. H. Stiekel) 1944.
 8 (M. C. Z. 49332-7) Toem, D. N. G. (W. H. Stiekel) 1944.
 3 (M. C. Z. 49338-9) Liki Id., D. N. G. (W. H. Stiekel) 1944.
 1 (U. S. N. M. 37287) Australian New Guinea (Berlin Mus.).
 2 (U. S. N. M. 119179-80) Gusiko, A. N. G. (J. F. Cassel) 1944.
 3 (U. S. N. M. 119435-7) Finschhafen, A. N. G. (W. H. Stiekel) 1944
 11 (U. S. N. M. 119438-48) Gusiko, A. N. G. (W. H. Stiekel) 1944.
 1 (U. S. N. M. 119449) Toem, D. N. G. (W. H. Stiekel) 1944.
 1 (U. S. N. M. 119452) Gusiko, A. N. G. (W. H. Stiekel) 1944.
 1 (U. S. N. M. 124928) Biak Id., D. N. G. (W. M. Welch) 1944.

No supranasal; nasal entire, semidivided or divided; upper and lower anterior loreals; supraoculars 3-7 (3 on left side of U. S. N. M. 124928 only, which has 5 on right), the two (31 ex.) or three (10 ex.) anterior ones in contact with the frontal (without geographical significance); midbody scale rows 39-44 (39 in one Toem skink only); lamellae under fourth toe 21-29. Largest ♂ (M. C. Z. 49339), 234

(91 + 143) mm., but surpassed in body length by eight others ranging from 92–96 mm., smallest (M. C. Z. 49337), 70 (28 + 42) mm.

It is questionable whether this race can be maintained for Hediger (1934, p. 458) gives a range of 40–46 midbody scale rows for "*jobiense*" in New Britain, at most New Guinea skinks *average* lower. Vogt's 90 + 150 mm. holotype of *amblyplacodes* appears to be a *papuense* in which the nasal is divided, a not uncommon condition, enabling him to call the upper portion a supranasal.

The first three skinks listed above were referred by Barbour (1912, p. 90) to "*jobiense*," with which this species has long been confused, but the Pom specimen mistaken for a young "*jobiense*" was actually a gravid *minutum* Meyer.

Color in life of a Finschhafen skink as recorded by Stickel, was: Above, olive brown with black markings; eyelids edged with yellow; posterior part of lips and about ear suffused with orange; tail brown with black markings and rows of tan spots. Below, throat, chest and forelegs suffused with orange; tail watery pink.

A gravid ♀ taken by Stickel at Gusiko on April 11, was: Above, head anteriorly olive green, rest olive brown and black; eyelids yellow; upper lips strongly tinged with orange; sides gray brown spotted with tan; legs black mottled with brown; a dorso-lateral row of orange spots on posterior trunk and most of tail. Below, scales of chin and throat edged or tinged with orange; throat ventro-laterally, front of forelegs, and sides on same plane, tinged with orange; belly pale opalescent; limbs pale lavender; anterior third of tail rosy orange, posterior two-thirds pale bluish.

Stickel remarks that none of the Toem specimens possess the lovely pastel colors characteristic of Gusiko skinks; this is especially true as regards their underparts which are almost colorless in the Toem skinks. It might be added that Gusiko lizards were taken between April 4 and May 18, the Toem ones from May 26 to October 9. The Biak Island skink alone lacks the heavy black streaks on sides of neck and shoulder, suggesting by its pallid appearance a low-lying, sandy habitat.

Though a young one was taken resting on a twig in a shrub, Stickel states that the species is essentially terrestrial, scurrying when disturbed to seek shelter beneath leaves or, when pursued, making for some deep burrow that has its opening between the buttress roots of a tree. Four Toem skinks were taken in abandoned foxholes beside a track through scrub, one on the ground in jungle, another beneath a rotting log.

LYGOSOMA (SPHENOMORPHUS) MELANOPOGON Duméril & Bibron

Lygosoma melanopogon Duméril & Bibron (part), 1839, Erpét. Gén., 5, p. 723: New Guinea.

1 (M. C. Z. 28681) Mimika River, D. N. G. (Brit. Mus.) 1929.

No supranasal; nasal entire; a single loreal; supraoculars 7; the four anterior ones in contact with the frontal; midbody scale rows 48; lamellae under fourth toe 17. Length 184 (89 + 95) mm. Closely related to *m. megaspila* and *m. papuense* but differing from both in having a single loreal.

LYGOSOMA (SPHENOMORPHUS) STRIOLATUM KÜHNEI Roux

Lygosoma (Hinulia) Kühnei Roux, 1910, Abhand. Senckenberg. Naturf. Ges., 33, p. 237, pl. xiii, fig. 2: Kei Islands, Dutch East Indies.

Cotype ♀ (M. C. Z. 27945) Kei Ids., S. W. of D. N. G. (Basel Mus.) 1929.

No supranasals; nasal entire; a single anterior loreal; supraoculars 7, the four anterior ones in contact with the frontal; midbody scale rows 40; lamellae under fourth toe 29. Length of gravid ♀, 132 (52 + 80) mm.

When describing *kühnei* Roux compared it with *melanopogon*, making no mention of *striolatum* Weber from the nearby island of Damma. Weber's species was said to have finely striate scales, while those of *kühnei* were allegedly smooth; under strong magnification, however, there is a suggestion of striae in *kühnei* and certainly our specimen does not differ in this respect from eight *striolatum* collected by E. R. Dunn on Komodo Island. The adpressed hind limb of *striolatum* was said to reach the tympanum, but does not extend far beyond the shoulder in our series, some only to the shoulder as in *kühnei*. Both species have 40–42 midbody scale rows, while the lamellae under the fourth toe number 26–30 in our *striolatum*, 29–34 in *kühnei*. *L. kühnei* is treated as a race on account of some slight color differences; our gravid ♀ has a black throat while all our *striolatum* are immaculate white below.

LYGOSOMA (SPIHENOMORPHUS) ARUENSE (Doria)

Eumeces aruensis Doria, 1874, Ann. Mus. Civ. Stor. Nat. Genova, 6, p. 335, pl. xi, fig. c: Aru Islands, south of Dutch New Guinea.

Lygosoma rufum Boulenger, 1887, Cat. Lizards Brit. Mus., 3, p. 239: "Wokan" i.e. Wokam Island, Aru Islands.

Lygosoma (Leiolopisma) papuae Kinghorn, 1928, Rec. Australian Mus., 16, p. 292, fig. 1: Mount Lamington district, British New Guinea.

♂, 5 ♀ ♀, 2 yng. (M. C. Z. 47059-66) Mt. Wilhelm, A. N. G.
(P. J. Darlington) 1944.

Prefrontals narrowly or broadly in contact, fused into a single shield in M. C. Z. 47064; supraoculars 4 (5-6 if some very small posterior ones are included); supraciliaries 6-8; upper labials 7-8; the fifth (in M. C. Z. 47059 as in type of *rufum*) or sixth (in rest of series) below the eye; lower labials 6-7; ear-opening as large as, or smaller than, the eye opening; midbody scale rows 32-36; lamellae under fourth toe 19-22; toes of the adpressed hind limb overlapping the fingers of the backward pressed forelimb only in specimens with a head and body length under 61 mm., *they are widely separated in all adult females*; the distance from tip of snout to forelimb is contained $1\frac{1}{3}$ to $1\frac{2}{3}$ in the distance from axilla to groin. Length of ♂ (M. C. Z. 47065), 163 (61 + 102) mm., ♀ (M. C. Z. 47063), 181 (75 + 106) mm. One gravid ♀, taken October 13-26, holds three unpigmented embryos.

Eumeces aruensis Doria was synonymized with "*jobiense*" (i.e. *megaspila* of this report) by Boulenger (1887, p. 247) on the strength of a specimen sent him by the Marquis of Doria as representing "*aruensis*," but this skink was not one of the thirteen cotypes but came from Ansoes, Jobi Island, where *megaspila papuense* might be expected to occur.

The fact that Boulenger omitted the low number of 36 midbody scale rows from his redescription of "*jobiense*," suggests that the skink sent him by Doria had the higher number of *megaspila*.

Our eight specimens, though variable, appear to agree well with the description and figure of *aruensis* except that the figure shows a clearly delineated transparent disk. Though the lower eyelids are semi-transparent in our series there is no actual disk. Otherwise they also agree with Kinghorn's description of *papuae* except that by its shape the foremost supraocular in *papuae* appears to be divided. Comparative studies may possibly show that *papuae* can be used in a subspecific sense.

The lighter variegations of which Boulenger writes, tend to form on the flanks vertical stripes that nearly meet on the back and correspond to the wavy crossbands mentioned by Kinghorn. They are particularly well defined in the youngest skink (M. C. Z. 47062). Below, the throat of adult females may be with or without conspicuous dark vermiculations.

LYGOSOMA (SPHENOMORPHUS) CONSOBRINUM MAINDRONI Sauvage

Lygosoma (Hinulia) maindroni Sauvage, 1879 (read 22.xi.78), Bull. Soc. Philom. Paris (7), 3, p. 55: "Haas" (? Haar), Dutch New Guinea.

2 (U. S. N. M. 119532-3) Gamadodo, B. N. G. (G. H. Penn) 1944.

No supranasal; nasal entire; a single anterior loreal; prefrontals in contact; supraoculars 4-5, the two anterior ones in contact with the frontal; nuchals 5 pairs; midbody scale rows 30; lamellae under fourth toe 24. Larger ♂ (U. S. N. M. 119532), 104 (44 + 60) mm.

Trinomials are used as this skink differs but slightly from our topotype of *L. c. consobrinum* Peters & Doria (15.x.1878, p. 342) from "Batcian" = Batjan Island, Molucca Islands.

LYGOSOMA (SPHENOMORPHUS) PARDALE MOSZKOWSKII Vogt

Lygosoma moszkowskii Vogt, 1912, Sitzb. Ges. Naturf. Freunde Berlin, p. 357: Dutch New Guinea.

1 (M. C. Z. 7668) Sorong, D. N. G. (T. Barbour) 1907.

1 (M. C. Z. 21064) Merauke, D. N. G. (Amsterdam Mus.) 1925.

1 (M. C. Z. 49340) Finschhafen, A. N. G. (L. W. Jarcho) 1944.

1 (U. S. N. M. 119462) Finschhafen, A. N. G. (W. H. Stickel) 1944.

No supranasal; nasal entire; a single anterior loreal; prefrontals separated; supraoculars 4-5, the two anterior ones in contact with the frontal; nuchals 4-5 pairs; midbody scale rows 26-28; adpressed limbs fail to meet; lamellae under fourth toe 14-19. Largest (M. C. Z. 7668), 124+ (55 + 69+) mm., tail regenerating.

Color in life of an 80 (35 + 45) mm. skink as recorded by Stickel: Snout reddish-orange brown; body brown flecked with black; tail black flecked with lighter. Terrestrial.

Differs from *L. p. pardale* of the southeast only in its more uniform coloring. One wonders whether the Astrolabe Bay skink referred to *emigrans* Lidth de Jeude by de Rooij (1915, p. 180) is not really a *pardale* with ill-developed nuchals.

LYGOSOMA (SPHENOMORPHUS) PARDALE PARDALE (Macleay)

Hinulia pardalis Macleay, 1877, Proc. Linn. Soc. N. S. W., 2, p. 63: Barrow Island, Queensland.

Lygosoma (Hinulia) elegantulum Peters & Doria, 1878, Ann. Mus. Civ. Stor. Nat. Genova, 13, p. 344: Somerset, Cape York, Queensland.

?*Lygosoma nigrolineatum* Boulenger, 1897, Ann. Mag. Nat. Hist. (6), 19, p. 6:
Mount Victoria, Owen Stanley Mountains, British New Guinea.

♂ (M. C. Z. 10200) S. E. Cape of B. N. G. (Australian Mus.) 1914.

Midbody scale rows 26; lamellae under fourth toe 18. Length ♂, 180 (75 + 105) mm.

This specimen, received as *elegantulum*, agrees with our extensive series of *p. pardale* from Queensland and islands in the Torres Straits, also with the description of *nigrolineatum* except in coloration, having many black dashes on the dorsum but no definite dorsolateral lines. Such lines, longitudinal or transverse, are formed by fusion of the black markings. From the skinks referred to *L. p. moszkowskii* it differs only in the more abundant spotting; in the two mid-dorsal rows being less noticeably enlarged transversely, a character which is variable in our Queensland series, even as between skinks from the same locality; and in the adpressed limbs just meeting, a character probably correlated with its large size.

LYGOSOMA (SPHENOMORPHUS) MINUTUM Meyer

Lygosoma (Hinulia) minuta Meyer, 1874, Monatsb. Akad. Wiss. Berlin, p. 132:
Dutch New Guinea.

Lygosoma minuta var. *typica* de Jong, 1927, Nova Guinea, 15, p. 312: n.n. for
type of *minuta* Meyer.

Lygosoma minuta var. *obtusirostrum* de Jong, 1927, Nova Guinea, 15, p. 312,
fig. 3a: Upper Sermowai River, Dutch New Guinea (restricted).

Lygosoma minuta var. *rotundirostrum* de Jong, 1927, Nova Guinea, 15, p. 313,
fig. 3b: Parana Valley, Dutch New Guinea (restricted).

♀ (M. C. Z. 7687) Pom, Jobi Id., D. N. G. (T. Barbour) 1907.

♀ (U. S. N. M. 119463) Toem, D. N. G. (W. H. Stickel) 1944.

No supranasal; nasal entire; a single anterior loreal; prefrontals minute, widely separated; supraoculars 4, the two anterior ones in contact with the frontal; nuchal developed on one side only; midbody scale rows 22; lamellae under fourth toe 15-16. Larger ♀ (M. C. Z. 7687), 74 (35 + 39) mm.

The Jobi Island skink, mistaken for a young "*Sphenomorphus jobicense*" by Barbour (1912, p. 90), is actually gravid, the body cavity being almost filled by an egg measuring 8 x 3 mm. Also gravid is the Toem skink taken on June 9 among dead leaves on jungle floor at edge of clearing, by John M. Kern for W. H. Stickel. It is 2 mm. longer in head and body than the other but lacks a tail.

ICTISCINCUS as a section of LYGOSOMA

Malcolm Smith (1937, p. 222) suggests separating half a dozen New Guinean-Solomons' skinks from his "section" *Lygosoma* on the fang like character of the larger species. After examining several specimens the differences appear so slight as to make the change inadvisable. I therefore retain *pratti* and *solomonis* in the subgenus *Lygosoma*.

LYGOSOMA (LYGOSOMA) PRATTI PRATTI Boulenger

Lygosoma pratti Boulenger, 1903, Proc. Zool. Soc. London, p. 128, pl. xiii, fig. 1: Dinawa, 4,000 feet, Owen Stanley Mountains, British New Guinea.

- 1 (M. C. Z. 10176) British New Guinea (Australian Mus.) 1914.
- 2 (M. C. Z. 48596-7) Aitape, A. N. G. (W. M. Beck) 1944.

No supranasal; nasal entire; a single anterior loreal; prefrontals separated; supraoculars 4, the two anterior ones in contact with the frontal; nuchals absent (though the semicircle of scales bordering the parietals are slightly enlarged and undoubtedly correspond to what Vogt called nuchals and temporals in his description of *neuhausi*); midbody scale rows 34-36; lamellae under fourth toe 16-18 (13-14 in cotypes of *pratti*). Larger (M. C. Z. 10176), 191 (80 + 111) mm.

Trinomials are used as there is undoubtedly a western race — *wollastoni* — only distinguishable by average scale counts. As the cotypes of *pratti* had fewer subdigital lamellae it is possible our Aitape skinks should be referred to another race. *L. p. neuhausi* Vogt (1911, p. 422) from Satelberg, A. N. G., appears to differ from typical *pratti* only in the 34-38 midbody scale rows, the tail being allegedly angular below, and the dorsal longitudinal lines. In this connection it is interesting to note that two of our *L. p. wollastoni* (*vide infra*) have these longitudinal lines resulting from the usual transverse lines breaking up and coalescing longitudinally. *L. p. jeudi* Boulenger (1914, p. 26) apparently differs only in having the prefrontals in contact.

LYGOSOMA (LYGOSOMA) PRATTI WOLLASTONI Boulenger

Lygosoma wollastoni Boulenger, 1914, Trans. Zool. Soc. London, 20, p. 261, pl. xxx, fig. 1: Mimika River, Dutch New Guinea.

- 2 (M. C. Z. 49617-8) Toem, D. N. G. (W. H. Stickel) 1944.
- 8 (U. S. N. M. 119464-7, 119469-71, -73) Toem, D. N. G. (W. H. Stickel) 1944.

No supranasal; nasal entire; a single anterior loreal; prefrontals separated; supraoculars 4, or 5 if a small posterior scale is included, the one or two anterior ones in contact with the frontal; nuchals absent (though the semicircle of scales bordering the parietals are slightly enlarged); midbody scale rows 32-36 (36 in M. C. Z. 49617 only); lamellae under fourth toe 16-19. Largest ♂ (U. S. N. M. 119466), 200 (78 + 128) mm., ♀ (U. S. N. M. 119465), 150+ (81 + 69+) mm.

Color in life of a gravid ♀ (U. S. N. M. 119465) as recorded by Stickel. Above, head blackish brown with yellowish white markings on sides and on neck; back brownish orange mottled with brown, the ground color being most evident on the middle of the sides; tail brownish black speckled with white or with white bands invaded with brown. Below, chin and throat anteriorly whitish mauve barred with purplish brown; belly pale lemon; tail tinged with yellow at base, white mesially, brown on distal half.

A gravid ♀ (U. S. N. M. 119465) held three eggs measuring 17 x 8 mm. on June 13. Most of the series were taken by following bulldozers as described for *L. (L.) s. schodei* below.

LYGOSOMA (LYGOSOMA) SOLOMONIS SCHODEI Vogt

Lygosoma schodei Vogt, 1912, Sitzb. Ges. Naturf. Freunde Berlin, p. 6: "Valise"
= Walif or Guilbert Island, Australian New Guinea.

Lygosoma longicaudatum de Rooij, 1915, Rept. Indo-Austr. Archip., 1, p. 220,
fig. 84: Lorentz River, Dutch New Guinea.

Cotype (M. C. Z. 37206) Valise Id., A. N. G. (Schoede) 1933.

11 (M. C. Z. 48591-5) Aitape, A. N. G. (W. M. Beck) 1944.

6 (M. C. Z. 49342-6) Toem, D. N. G. (W. H. Stickel) 1944.

1 (M. C. Z. 49393) Liki Id., D. N. G. (W. H. Stickel) 1944.

1 (U. S. N. M. 119463) Toem, D. N. G. (W. H. Stickel) 1944.

1 (U. S. N. M. 119474) Gusiko, A. N. G. (W. H. Stickel) 1944.

9 (U. S. N. M. 119475-83) Toem, D. N. G. (W. H. Stickel) 1944.

No supranasal; nasal entire; a single anterior loreal; prefrontals separated (barely in U. S. N. M. 119482); supraoculars 4, possibly 5, the two anterior ones in contact with the frontal; nuchals 3-6 pairs (a single nuchal on one side of U. S. N. M. 119478, 2 or 3 feebly developed on the other); midbody scale rows 26-28; lamellae under fourth toe 13-18, average 15.1 for 27 skinks. Largest ♂ (U. S. N. M. 119476), 148+ (67 + 81+) mm., ♀ (U. S. N. M. 119475), 160 (63 + 97) mm., the smallest (M. C. Z. 49342), 58 (22 + 36) mm., was hatched in the laboratory on July 22.

Color in life of M. C. Z. 49346 as recorded by Stickel: Above, head dull red suffused with brown, back grayish brown and black. Below, chin and anterior part of throat dull white; rest of throat and anterior part of abdomen yellowish; posterior part of abdomen, and tail (including sides) orangeish. U. S. N. M. 119463 measuring 116 (52 + 64) mm., differs from all the rest in being unspotted above and spotted below, each scale on the ventral surface having a dusky center. This condition is occasionally approached in the others only on the underside of the tail. Whether it indicates a subspecific difference remains to be seen.

Nine were taken by following bulldozers clearing secondary growth jungle on moist, loose, rather sandy, reddish soil about 450 yards from the ocean beach. Several others during the removal of heaps of trash mixed with humus and earth. One was found in a foxhole.

LYGOSOMA (LEIOLOPISMA) FLAVIPES Parker

Lygosoma flavipes Parker, 1936, Ann. Mag. Nat. Hist. (10), **17**, p. 89: Mondo, British New Guinea.

♂ ♂ ♀ (M. C. Z. 47054-6) Mt. Wilhelm, A. N. G. (P. J. Darlington) 1944.

Frontonasal broader than long; supraoculars 4, the foremost 2 in contact with the frontal; frontal as long as, or longer than, the frontoparietals and interparietal together; interparietal moderate; supraciliaries 6-10; upper labials 7-8; lower labials 6-10; midbody scale rows 38-42; limbs pentadactyle; digits dilated; lamellae under fourth toe 19-22; length from snout to forelimb contained $1\frac{1}{3}$ (♀ and halfgrown ♂) to $1\frac{1}{5}$ (adult ♂) times in the distance between axilla and groin; toes of adpressed hindlimb reach wrist of backward-pressed forelimb.

Apart from all three of these skinks (one ♂ is now in Leiden Museum) having distinct, though small, palpebral disks in the lower eyelid, they agree well with Parker's description of the holotype ♀, the only known specimen, so that the data furnished above extends our knowledge of the variational range. Apparently there is sexual dichromatism for the coloring of our ♀ corresponds fairly closely with that of the holotype except that the white temporal bar and lateral flecks are lacking (present in the ♂♂). The males, however, are dark reddish brown above, lighter on the flanks, with 8 irregular, silvery gray crossbars on nape and back, and about 10 more on the tail.

Length of adult ♂ (M. C. Z. 47054), 194 (88 + 106) mm., of subadult ♀ (M. C. Z. 47056), 168 (70 + 98) mm.

LYGOSOMA (LEIOLOPISMA) PREHENSICAUDA Loveridge

Lygosoma (Leiolopisma) prehensicauda Loveridge, 1945, Proc. Biol. Soc. Washington, **58**, p. 48: Mount Wilhelm at 7,500–8,000 feet, Bismarek Range, Australian New Guinea.

♂ ♂ (M. C. Z. 47057–8) Mt. Wilhelm, A. N. G. (P. J. Darlington) 1944.

These are the type and paratype of which full particulars have been published; midbody scale rows 38; lamellae under fourth toe 15–18. Type ♂ (M. C. Z. 47057), 141 (69 + 72) mm.

LYGOSOMA (LEIOLOPISMA) ELEGANTOIDES LOBULUS Loveridge

Lygosoma (Leiolopisma) elegantoides lobulus Loveridge, 1945, Proc. Biol. Soc. Washington, **58**, p. 49: Mount Wilhelm at 7,500–8,000 feet, Bismarek Range, Australian New Guinea.

16 (M. C. Z. 47067–82) Mt. Wilhelm, A. N. G. (P. J. Darlington) 1944.

These are the type and paratypes of which full particulars have been published; midbody scale rows 34–36; lamellae beneath fourth toe 19–24. Type ♂ (M. C. Z. 47067), 146 (60 + 86) mm.

The name *elegantoides* was proposed by Ahl for *elegans* Boulenger, preoccupied in *Lygosoma* by *Hinulia elegans* Gray.

LYGOSOMA (LEIOLOPISMA) VIRENS VIRENS (Peters)

Lipinia virens Peters, 1881, Sitzb. Ges. Naturf. Freunde Berlin, p. 81: British New Guinea.

1 (M. C. Z. 10164) Kiriwina Id., B. N. G. (Australian Mus.) 1914.

1 (M. C. Z. 48579) Aitape, A. N. G. (W. M. Beek) 1944.

1 (U. S. N. M. 119181) Gusiko, A. N. G. (J. F. Cassel) 1944.

20 (U. S. N. M. 119335–54) Gusiko, A. N. G. (W. M. Stickel) 1944.

Frontonasal broader than long; supraoculars 5, rarely 6 (in three specimens only), the two (rarely three or four; four on right side of M. C. Z. 10164 only) anterior ones in contact with the frontal; frontoparietal paired or *single* (single in five Gusiko skinks, semidivided in others); interparietal large; ear-opening small; midbody scale rows

32-34; limbs pentadactyle; digits dilated basally; subdigital lamellae transversely enlarged on basal portion; lamellae beneath fourth toe 14-15 + 6-8 distally (U. S. N. M. 119347 has the distal portion missing from all digits). Largest ♂ (M. C. Z. 10164), 110 (55 + 55) mm., though other males surpass it with tail lengths of 65 and 67 mm. respectively; smallest (U. S. N. M. 119352), 54 (27 + 27) mm.

Color in life of U. S. N. M. 119337 as recorded by Stickel: Above, olive tinged with bronze; eyelids edged with yellow; lips green; neck and flanks flecked with light green; bronze brown especially strong on posterior portion of body; legs olive mottled with green. Below, chin and throat tinged with pale yellowish green; belly slightly iridescent greenish white, the lower flanks mottled with brown; legs and tail a dull yellowish green darker than the belly. Apparently there is a good deal of variation, for others are described as having the parietal and temporal areas suffused with reddish brown; bodies bright olive green; chin and throat green; bellies bright yellow.

Though common on bushes and tree trunks, very elusive and difficult to snare or catch (W. H. S.). *L. anolis* Boulenger (1883) is a race of *virens* and not the reverse as stated by Malcolm Smith (1937, p. 224, footnote).

LYGOSOMA (LEIOLOPISMA) SEMONI Oudemans

Lygosoma semoni Oudemans, 1894, in Semon, Zool. Forsch. Austr., 5, p. 142: New Guinea.

♀ (M. C. Z. 48580) Aitape, A. N. G. (W. M. Beck) 1944.

Frontonasal broader than long; supraoculars 4 (or with a triangular-shaped fifth), the two anterior ones in contact with the frontal; frontoparietal paired; interparietal large; ear-opening small; midbody scale rows 28; limbs pentadactyle; digits dilated basally; subdigital lamellae transversely enlarged on basal portion; lamellae beneath fourth toe 13 + 8 distally. Length of head and body 74 mm.

This specimen also differs from the description given by de Rooij (1915, p. 234) in having the fifth and sixth (not sixth and seventh) upper labials below the orbit; toes of adpressed hind limb just meet finger tips (not wrist); 9½ (not 8) dark transverse bands on nape and back.

Parker (1936, p. 89) suggests that there is a northern (typical) form with 26 midbody scale rows, and a southern one with 28, for all seven specimens in the British Museum have the higher number. The Aitape skink shows that, as in other species, it is between west and east.

LYGOSOMA (LEIOLOPISMA) LONGICEPS Boulenger

Lygosoma longiceps Boulenger, 1895, Ann. Mag. Nat. Hist. (6), 16, p. 408: Trobriand Islands, British New Guinea.

6 (M. C. Z. 48584-8) Aitape, A. N. G. (W. M. Beck) 1944.

2 (M. C. Z. 49613-4) Gusiko, A. N. G. (W. H. Stickel) 1944.

6 (U. S. N. M. 119356-9-62-63) Gusiko, A. N. G. (W. H. Stickel) 1944

1 (U. S. N. M. 120107) Draeger Harbor, A. N. G. (G. H. Penn) 1944.

Frontonasal longer than broad; supraoculars 4, the two anterior ones in contact with the frontal; frontoparietals paired (partially fused in U. S. N. M. 119363); interparietal large; ear-opening small; midbody scale rows 22-26 (22 in U. S. N. M. 119356 only; 24 in rest of Gusiko series; 26 in Aitape series and U. S. N. M. 120107); limbs pentadactyle; digits dilated; subdigital lamellae transversely dilated; lamellae under fourth toe 12-16 + 4-6 distally. Largest skink with original tail, a ♂ (M. C. Z. 48584), 96 (40 + 56) mm., but surpassed in head and body lengths of 41-42 mm., head and body length of smallest 19 mm.

The holotype of *longiceps* was said to have 24 midbody scale rows, but this was later corrected by Parker (1940, p. 266) who found it had 26. Thus there appears to be no geographical significance in 26 at Aitape as 22-24 occur at Gusiko in an intermediate coastal area.

Color in life of U. S. N. M. 119359 as recorded by Stickel: Above, head sooty with pale yellowish green stripe continued on back as a vertebral stripe flanked with olive brown, the olive brown stripes converging posteriorly and becoming reddish brown, anteriorly they are edged by a black line, below which is a bronze dorso-lateral band with an olive area below fading into the pale, metallic gold belly; limbs dappled with light brown and black; tail orange bronze above and pale dull orange below; in young specimens brighter dull orange.

An active species living on tree trunks, quick to retreat into crevices and consequently hard to catch (W. H. S.).

LYGOSOMA (LEIOLOPISMA) NOCTUA NOCTUA (Lesson)

Scincus noctua Lesson, 1830, Zool., in Duperry, Voyage autour du Monde . . . sur . . . La Coquille, 2, pt. 1, p. 48: "Qualan" = Kusaie Island, Caroline Islands.

Lygosoma (Lipinia) aurea Meyer, 1874, Monatsb. Akad. Wiss. Berlin, p. 132: Jobi Island, Dutch New Guinea.

1 (M. C. Z. 7657) Sorong, D. N. G. (T. Barbour) 1907.

2 (M. C. Z. 48589-90) Aitape, A. N. G. (W. M. Beck) 1944.

1 (M. C. Z. 49351) Liki Id., D. N. G. (W. H. Stickel) 1944.

1 (U. S. N. M. 124639) Toem, D. N. G. (W. H. Stickel) 1944.

Frontonasal as broad as, or broader than, long; supraoculars 4, the two anterior ones in contact with the frontal; frontoparietal paired; interparietal large; ear opening moderate; midbody scale rows 24-26; limbs pentadactyle; digits not dilated; subdigital lamellae more or less enlarged; lamellae under fourth toe 18-22. Largest (M. C. Z. 48589), 87 (40 + 47) mm.

Color in life of U. S. N. M. 124639 as recorded by Stickel: Above, head spot yellow; back ruddy bronze with yellow dorso-lateral stripes; sides spotted with yellow; tail bronzy orange ringed with orange-yellow spots. Below, throat and chin faintly greenish yellow, belly pale dull-greenish yellow. Of another specimen (M. C. Z. 49351) he writes: Stripes dull cream, tail orange.

One of these arboreal skinks was taken beneath loose bark on the buttress root of a large living tree in dark jungle, the other at edge of thatch on a hut (W. H. S.).

LYGOSOMA (LEIOLOPISMA) PULCHRUM Boulenger

Lygosoma pulchrum Boulenger, 1903, Proc. Zool. Soc. London, p. 127, pl. xii, fig. 3: Albert Edward Mountains at 6,000 feet, British New Guinea.

1 (M. C. Z. 49410) Aitape, A. N. G. (W. M. Beek) 1944.

Frontonasal as broad as long; supraoculars 4, the two anterior ones in contact with the frontal; frontoparietal single; interparietal moderate; ear opening small; midbody scale rows 22 (24 in type); limbs pentadactyle; digits not dilated; subdigital lamellae more or less transversely enlarged; lamellae under fourth toe 21 (22 in type). Length 87+ (39 + 48+) mm.

The striking color pattern of the tail should render this species readily recognizable in the field.

LYGOSOMA (LEIOLOPISMA) STANLEYANUM STANLEYANUM Boulenger

Lygosoma Stanleyanum Boulenger, 1897, Ann. Mag. Nat. Hist. (6), 19, p. 7, pl. i, fig. 2: Mount Victoria, Owen Stanley Mountains, British New Guinea.

1 (M. C. Z. 21000) Helwigg Mtns., D. N. G. (Amsterdam Mus.) 1925.

27 (M. C. Z. 47083-96) Mt. Wilhelm, A. N. G. (P. J. Darlington) 1944.

Frontonasal broader than long; supraoculars 4, the two anterior ones in contact with the frontal; frontoparietal single; interparietal large; ear opening large; midbody scale rows 30-34 (only fourteen of Wilhelm series counted); limbs pentadactyle; digits not dilated; lamellae under fourth toe 21-27 (only fourteen of Wilhelm series counted).

The following supplementary data is derived from the fourteen catalogued specimens in the fine series from Mount Wilhelm, the supraciliary and labial counts are taken from the right side only. Prefrontals separated (in 11) or in contact (in 3); supraciliaries 6-8; upper labials 7, the fifth below the orbit (constant); lower labials 6-7; nuchals 1-3 pairs. Largest ♂ (M. C. Z. 47085), 151 (58 + 93) mm.; ♀ (M. C. Z. 47090), 129 (51 + 78) mm., but exceeded by several with head and body lengths of 52-57 mm. whose tails are regenerating.

The presence of a dorso-lateral series of buff dashes, frequently coalescing into a line which forms the upper edge of a dark lateral band, together with the absence of a white lateral line are characteristic aids to ready recognition. In life breeding males are apparently lemon-yellow on abdomen and beneath tail.

LYGOSOMA (LEIOLOPISMA) STANLEYANUM MOROKANUM (Parker)

Leiopisma morokanum Parker, 1936, Ann. Mag. Nat. Hist. (10), 17, p. 87: Moroka, British New Guinea.

2 (M. C. Z. 44199-200) Mt. Misim, A. N. G. (H. Stevens) 1933.

Midbody scale rows 28-30; lamellae under fourth toe 21-22; tip of fourth toe of adpressed hind limb reaches elbow of backward pressed forelimb. Larger measures 111 (52 + 59) mm.

In all other respects these two skinks agree with Parker's description of *morokanum* which he compares with *miotis*. Actually it is intermediate between that species and *stanleyanum* from which it differs only in the number of midbody scale rows 28-30, instead of 30-34.

LYGOSOMA (LEIOLOPISMA) MIOTIS Boulenger

Lygosoma miotis Boulenger, 1895, Ann. Mag. Nat. Hist. (6) 16, p. 29: Ferguson and D'Entrecasteaux Islands, British New Guinea.

Lygosoma (Liopisma) subnitens Boettger, 1896, Abhand. Ber. König. Zool. Mus. Dresden, 6, No. 7, p. 2: Bongu, Astrolabe Bay, Australian New Guinea.

- 4 (M. C. Z. 49347-9) Finsehafen, A. N. G. (L. W. Jarcho) 1944.
 1 (M. C. Z. 49394) Toem, D. N. G. (W. H. Stickel) 1944.
 2 (U. S. N. M. 119182-3) Milne Bay, B. N. G. (J. F. Cassel) 1944.
 1 (U. S. N. M. 119355) Gusiko, A. N. G. (W. H. Stickel) 1944.

Frontonasal as broad as, or broader than, long; supraoculars 4, the two anterior ones in contact with the frontal; frontoparietal single; interparietal large; ear opening moderate; midbody scale rows 26; limbs pentadactyle; digits not dilated; subdigital lamellae more or less enlarged transversely; lamellae under fourth toe 15-21. Largest (M. C. Z. 49347), 91+ (43 + 48+) mm., but surpassed in head and body length of 54 mm. by the Toem skink.

Color in life of M. C. Z. 49394 as recorded by Stickel. Above, crown of head with a brassy tinge, otherwise gray flecked with black and cream. Below, white. As now preserved this specimen looks like gray lichen, being strikingly different from the striped individuals from elsewhere, though close scrutiny shows how the stripes disappeared.

As pointed out by its describer this skink closely resembles *noctua*, so closely in fact that the single frontoparietal appears to be the only distinguishing character. Parker (1936, p. 87) points out that the type actually has 26, not 24, midbody scale rows. Found on the pale-colored trunks of dead, but still standing, trees. Apparently rare at Toem as only one was seen by Stickel, though others were reported by Captain Edward J. Ross.

LYGOSOMA (LEIOLOPISMA) FUSCUM BECCARII (Peters & Doria)

Heteropus Beccarii Peters & Doria, 1878, Ann. Mus. Civ. Stor. Nat. Genova, 13, p. 361: Tual, Kei Island, Dutch East Indies.

- 1 (M. C. Z. 33537) Kei Islands (R. Mertens) 1908.

Characters as in typical form but frontal equals length of frontoparietal and interparietal together, and midbody scale rows 40; lamellae beneath fourth toe 31. Length 131 (48 + 85) mm.

From the summary of data which follows the key to the forms of *fuscum* in New Guinea, it will be seen that both the typical form and more especially *L. f. luctuosum* occasionally (in 12 of 176 examined) possess the character formerly thought to separate *beccarii*, viz., length of frontal equal to that of the frontoparietal and interparietal together. As it also overlaps in the number of midbody scale rows I relegate *beccarii* to subspecific status.

LYGOSOMA (LEIOLOPISMA) FUSCUM FUSCUM (Duméril & Bibron)

Heteropus fuscus Duméril & Bibron, 1839, *Erpét. Gén.*, **5**, p. 579: "Ile de Waigiou," i.e. Waigeo Island, Dutch New Guinea (restricted).

Heteropus tricarinatus Meyer, 1874, *Monatsb. Akad. Wiss. Berlin*, p. 133: Dore, Jobi Island, Dutch New Guinea.

- 1 (M. C. Z. 7309) Fakfak, D. N. G. (A. E. Pratt) 1907.
- 7 (M. C. Z. 7673) Saonek, D. N. G. (T. Barbour) 1907.
- 8 (M. C. Z. 7675) Sorong, D. N. G. (T. Barbour) 1907.
- 13 (M. C. Z. 7679) Manokwari, D. N. G. (T. Barbour) 1907.
- 3 (M. C. Z. 7684) Jende, D. N. G. (T. Barbour) 1907.
- 49 (M. C. Z. 49411-445) Toem, D. N. G. (W. H. Stickel) 1944.
- 3 (U. S. N. M. 40029-31) Saonek, D. N. G. (T. Barbour) 1907.
- 30 (U. S. N. M. 119305-34) Toem, D. N. G. (W. H. Stickel) 1944.

Frontonasal broader than long (only a few checked); supraoculars 4, the two anterior ones in contact with the frontal; frontal as long as, or longer than, the frontoparietal; frontoparietal single; interparietal very small, absent in M. C. Z. 49413; upper labials anterior to subocular 4, except on right side of M. C. Z. 7679 where there are 5; midbody scale rows 32-36, tricarinate; forelimb quadridactyle; digits not dilated at base; lamellae under fourth toe 25-31. Largest (both in M. C. Z. series 7673) 152 (53 + 99) mm., and 144 (60 + 84) mm.

Some of the specimens referred to *fuscum* by Barbour (1912, p. 93) have been transferred elsewhere, one Sorong skink to *L. novaeguineae*, the Ansoes lizard to *Emoia iridescens*, the Pom specimen to *Emoia tropidolepis*, while the Jamna Island reptile appears to represent an undescribed insular subspecies. Otherwise, judging from my examination of the material, and as indicated by the data furnished below, there seems to be no structural grounds for recognizing races, but the coloration is sufficiently different to warrant recognition of an eastern form as discussed under *L. f. luctuosum*.

One of these skinks was recovered from the stomach of a tree snake (*Ahaetulla c. schlenkeri*).

LYGOSOMA (LEIOLOPISMA) FUSCUM LUCTUOSUM (Peters & Doria)

Heteropus luctuosus Peters & Doria, 1878, *Ann. Mus. Civ. Stor. Nat. Genova*, **13**, p. 364: Mount Epa, British New Guinea.

Lygosoma atrigulare Ogilby, 1890, *Rec. Australian Mus.*, **1**, p. 94: St. John's River District, British New Guinea.

Lygosoma nigrigulare Boulenger, 1897, *Ann. Mus. Civ. Stor. Nat. Genova*, (2), **18**, p. 700, pl. vii, fig. 3: Inawi, British New Guinea.

Leirolepisma pullum Barbour, 1911, Proc. Biol. Soc. Washington, **24**, p. 15.
Humboldt Bay, Dutch New Guinea.

Leirolepisma fuscum diguliense Kopstein, 1926, Zool. Medel., **9**, p. 88: Assike,
Upper Digul River, Dutch New Guinea.

- 1 (M. C. Z. 4711) New Britain Arch. (Mus. Godeffroy) 1882.
 - 1 (M. C. Z. 7486) Humboldt Bay, D. N. G. (T. Barbour) 1907.
 - 2 (M. C. Z. 22907-8) Merauke, D. N. G. (P. T. L. Putnam) 1927.
 - 6 (M. C. Z. 38977-81) Assike, D. N. G. (F. Kopstein) 1923.
 - 9 (M. C. Z. 48581-3) Aitape, A. N. G. (W. M. Beck) 1944.
 - 41 (M. C. Z. 39352-81) Gusiko, A. N. G. (W. H. Stickel) 1944.
 - 2 (M. C. Z. 49390-1) Finschhafen, A. N. G. (L. W. Jarcho) 1944.
 - 5 (U. S. N. M. 119184-8) Milne Bay, B. N. G. (J. F. Cassel) 1944.
 - 3 (U. S. N. M. 119259-61) Finschhafen, A. N. G. (W. H. Stickel) 1944.
 - 41 (U. S. N. M. 119262-302) Gusiko, A. N. G. (W. H. Stickel) 1944.
 - 2 (U. S. N. M. 119303-4) Hollandia, D. N. G. (W. H. Stickel) 1944.
 - 1 (U. S. N. M. 120353) Milne Bay, B. N. G. (G. H. Bick) 1944.
- while the undermentioned represent the aberration *nigrigulare*
- 1 (M. C. Z. 47097) Mt. Wilhelm, A. N. G. (P. J. Darlington) 1944.
 - 7 (M. C. Z. 49382-7) Gusiko, A. N. G. (W. H. Stickel) 1944.
 - 2 (M. C. Z. 49388-9) Aitape, A. N. G. (W. M. Beck) 1944.
- together with one or two others in the U. S. N. M. Gusiko series.

The New Britain specimen listed above, being fully adult, is arbitrarily assigned to *luctuosum*. Whether some older name than *luctuosum* is available for this eastern race appears doubtful. *L. leucotacnia* Bleeker, 1860, of Ceram, to judge by our Ceram material, represents still another race.

Frontonasal broader than long (only a few checked); supraoculars 4, the two anterior ones in contact with the frontal; frontal shorter than, as long as, or longer than, the frontoparietal; frontoparietal single; interparietal, when present, very small; upper labials anterior to subocular 4, except on left side of head in M. C. Z. 38981 where there are 3; midbody scale rows 32-37; forelimb quadridactyle; digits not dilated at base; lamellae under fourth toe 25-33. Largest, a ♂ (U. S. N. M. 119303), 163 (61 + 102) mm., but surpassed in tail length by ♂ (M. C. Z. 49352), of 164 (59 + 105) mm.

Boulenger, when describing *nigrigulare*, remarked on its similarity to *fuscum* of which he also had specimens from Inawi. It will be noted that we have both types from Gusiko and Aitape with nothing to distinguish them except the fusion of interparietal with frontoparietal, while intermediates are not uncommon in the larger series. In the typical form the only individual lacking an interparietal appears to

have lost it to the parietals rather than by fusion with the fronto-parietal.

The synonymizing of *pullum* may appear strange in view of the holotype (M. C. Z. 7486) being said to have 42 midbody scale rows, actually it has but 36 as I have verified by half a dozen counts. Furthermore, the number of lamellae under the fourth toe is the same on either hind foot, viz. 29, not 32, while the total length is 130 (48 + 82) mm., so that the tail is not "almost exactly twice as long as head and body." The color description, and subsequently published colored plate (Barbour, 1912, pl. ii, fig. 3) of this abnormal individual, however, leave no room for doubt that M. C. Z. 7486 is the actual holotype. Stickel's two specimens from Hollandia, also in Humboldt Bay, are quite normal.

LYGOSOMA (LEIOLOPISMA) FUSCUM JAMNANUM subsp. nov.

Leiolepisma fuscum Barbour (part), 1912, Mem. Mus. Comp. Zoöl., 44, p. 93: "Djamna, Papua."

Holotype. Museum of Comparative Zoölogy, No. 7677, a ♀ from Jamna Island, Dutch New Guinea, collected by Thomas Barbour, 1907.

Diagnosis. Characters those of the typical form from which it differs only in having 29 (or 28) midbody scale rows instead of 32-36 (for over one hundred specimens counted). Lamellae under fourth toe 27. Length from snout to anus 46 mm., tail missing.

Differs from *novaequinae* Meyer in its larger size, anteriorly pointed (not truncate) frontal, longer digits, and different coloring. See also following key, while from remarks made under typical *fusca* it will be noted that color pattern furnishes the only basis on which to separate an eastern race on the main island.

Key to the New Guinean races of FUSCUM

1. Midbody scale rows 29 (? 28-30); range: Jamna (Djamna) Island, Dutch New Guinea *f. jamnanum*
 Midbody scale rows 32-40 2
2. Frontal usually not longer than frontoparietal; midbody scale rows 32-38.
 Flanks of young resemble those of adults in being more or less uniform olive-brown with or without paler flecks; range: New Guinea west of 139° E., with young skinks from Toem showing some traces of lateral markings *f. fuscum*

SUMMARY OF DATA OF RACES FOUND IN THE NEW GUINEA REGION
Lygosoma (Leiopisma) fuscum

	East longitude	Localities	Specimens examined	Maximum length in mm. for		Midbody scale-rows	Lamellae on Fourth toe	Frontal in relation to frontoparietal				
				H. & B.	Tail			shorter than	as long as	longer than	as long as frontoparietal and interparietal	
<i>L. f. jannatum</i>	139°15' E.	Janna Id.*	1	46	—	28 or 29	27	1				
<i>L. fuscum fuscum</i>	130°35' E.	Waigeo Id.*	10	60	99	32-34	26-31	6	4	1		
	130°35' E.	Saonek	8	57	98	34-36	26-29	5	3			
	131°15' E.	Sorong	1	48	—	34	28	1				
	132°15' E.	Fakfak	13	58	96	32-34-36	25-31	12	1			
	134°05' E.	Manokwari	2	55	84	32-34	26-28	2	1			
	134°30' E.	Jende, Roon										
	136°10' E.	Dore, Jobi*	59	60	98	32-34-36	25-32	9	47	3		
	139°00' E.	Toem										
<i>L. f. luctuosum</i>	140°15' E.	Asike*	6	47	64	32-33	26-29	3	2	1		
	140°20' E.	Merauke	2	48	62	32	25-30	2				
	140°45' E.	Humboldt B.*	1	47	83	36	29		1			
	140°45' E.	Hollandia	2	61	102	33-34	27-29		2			
	142°25' E.	Aitape	1	52	80	32-34-36	26-31		8			
	146°35' E.	Inawi*										
	146°45' E.	Mount Epa*										
	147°50' E.	Gusiko	60	59	105	32-34-37	26-33	1	44	8	7	
	147°50' E.	Finschhafen	5	61	84	32-34	25-33		1	1	3	
	150°30' E.	Milne Bay	6	56	86	32-34	28-32		3	2	1	
<i>L. f. beccarii</i>	ca. 132° E.	Kei Islands	1	48	85	40	31				1	

*Type Locality

Flanks of young display a broad black lateral band edged above and below with white (in addition to a pair of light lines on dorsum), these markings breaking up and disappearing with age though occasionally persisting in varying degrees in adults which, except for the absence of paler flecks, are very similar to the typical form; range: New Guinea east of 140° E.

f. luctuosum

Frontal usually as long as frontoparietal and interparietal together; midbody scale rows 38-40.

Flanks of adult colored much like those of juvenile *luctuosum* and flecked with lighter while the olive-brown dorsum has both light and black flecks; range: Kei Islands (i.e. between 5° and 6° S., 131°50, and 133°15, E.) *f. beccarii*

LYGOSOMA (LEIOLOPISMA) BICARINATUM (Macleay)

Heteropus bicarinatus Macleay, 1877, Proc. Linn. Soc. N. S. W., 2, p. 68: Hall Sound, British New Guinea.

Heteropus Albertisii Peters & Doria, 1878, Ann. Mus. Civ. Stor. Nat. Genova, 13, p. 362: Yule Island, British New Guinea.

1 (U. S. N. M. 117563) Near Port Moresby, B. N. G. (J. E. Hadley) 1944.

Frontonasal broader than long; supraoculars 4, the two foremost in contact with the frontal; frontoparietal single; interparietal large; midbody scale rows 30, bicarinate; forelimbs quadridactyle, digits not dilated; subdigital lamellae transversely enlarged; lamellae under fourth toe 28. Length 93 (40 + 53) mm. Taken seven miles from the Port; condition poor.

LYGOSOMA (LEIOLOPISMA) NOVAEGUINEAE Meyer

Lygosoma (Carlia) Novae Guineae Meyer, 1874, Monatsb. Akad. Wiss. Berlin, p. 132: (Dutch) New Guinea.

Lygosoma curtum Boulenger, 1897, Ann. Mag. Nat. Hist. (6), 19, p. 9: Mount Victoria, Owen Stanley Mountains, British New Guinea.

1 (M. C. Z. 21065) "Kloofbivak," D. N. G. (Amsterdam Mus.) 1925.

1 (M. C. Z. 49392) Sorong, D. N. G. (T. Barbour) 1907.

Frontonasal broader than long; supraoculars 4, the two anterior ones in contact with the frontal; frontoparietals single; interparietal large; midbody scale rows 24; forelimbs quadridactyle; digits not

dilated; subdigital lamellae transversely enlarged; lamellae under fourth toe 24 (and uncountable). Larger (M. C. Z. 49392), 63+ (35 + 28+) mm., tail regenerating. The Sorong lizard was reregistered from M. C. Z. 7676, a series of *L. (L.) f. fuscum* Duméril & Bibron.

EMOIA

The making of a major division in Boulenger's (1887, p. 219) key to this group, based on whether there were more than, or less than, 40 lamellae under the fourth toe was unfortunate in view of the fact that five of our eight New Guinean representatives of the genus would come under both sections. This division may in part have been responsible for the describing of *mivarti* which is here considered a synonym of *b. baudinii*.

Even less fortunate was de Rooij's (1915, pp. 246-247) key based on whether the ear opening was "as large as," or "slightly larger than," the palpebral disk. Another unstable character utilized by both authors depended on whether the frontoparietal and interparietal were distinct or fused, a matter dealt with under *cyanogaster* and other species.

EMOIA CYANOASTER (Lesson)

Scincus cyanogaster Lesson, 1830, Zool., in Duperry, Voyage autour du Monde . . . sur . . . La Coquille, 2, pt. 1, p. 47, pl. iii, fig. 3: "Oualan," = Kusaie Island, Caroline Islands.

Lygosoma iridescens Boulenger, 1897, Ann. Mag. Nat. Hist. (6), 19, p. 9, pl. i, fig. 4: Mount Victoria, Owen Stanley Mountains, British New Guinea.

Lygosoma cyanogaster keiensis Sternfeld, 1921 (1920), Abhand. Senckenberg. Naturf. Ges., 36, p. 405: Langgur, Kei Islands.

Lygosoma cyanogaster aruensis Sternfeld, 1921 (1920), Abhand. Senckenberg. Naturf. Ges., 36, p. 405: Papakula, Kobraor Island, Aru Islands.

1 (M. C. Z. 4712) New Britain (Mus. Godeffroy) 1882.

1 (M. C. Z. 7683) Ansoes, D. N. G. (T. Barbour) 1907.

1 (M. C. Z. 7688) Wooi Bay, D. N. G. (T. Barbour) 1907.

1 (M. C. Z. 7689) Sorong, D. N. G. (T. Barbour) 1907.

2 (M. C. Z. 48603) Aitape, A. N. G. (W. M. Beck) 1944.

2 (M. C. Z. 49317) Toem, D. N. G. (W. H. Stickel) 1944.

1 (U. S. N. M. 75974) Wooi Bay, D. N. G. (T. Barbour) 1907.

1 (U. S. N. M. 118826) Finschhafen, A. N. G. (A. M. Keefe) 1944.

5 (U. S. N. M. 119398, 119416, 119425-7) Gusiko, A. N. G. (W. H. Stickel) 1944.

Prefrontal much shorter than frontal; frontoparietal slightly longer than, or as long as, broad; frontoparietal fused with interparietal, *or interparietal distinct*; midbody scale rows 24–28; lamellae under fourth toe 66–90. Largest (U. S. N. M. 79574), 283 (95 + 188) mm.

Color in life of a Toem skink as recorded by Stickel. Above, metallic green and bronze mixed and mottled on head; neck and shoulders metallic green; hinder half of body and base of tail bronze underlain by green, rest of tail mostly light bronze; stripe on side of neck brownish; flanks bronzy green; forelimbs as head; hind limbs bronze with green tinge. Below, chin and throat pale greenish yellow; belly bright yellowish green mesially, bluish green towards sides; preanal region and vicinity of hind legs bright greenish yellow; palms and soles brown; fingers and toes black; base of tail bright greenish yellow, remainder dull white and light bronze.

One of the Toem specimens of this arboreal skink was taken at light in a tent on the night of August 28 (W. H. S.). The Ansoes skink (M. C. Z. 7683) listed above was referred to *L. fuscum* by Barbour (1912, p. 93).

It does not seem possible to regard *iridescens* as distinct, even as a race, for specimens with and without fused interparietals occur at Wooi Bay, Toem, and Gusiko, so that the case seems to parallel that involving *Lygosoma (Leiopisma) fuscum luctuosum* (in which frontoparietal and interparietal are distinct) and the variety *nigrigulare* (in which they are fused). Nor do there seem to be grounds for recognizing the two races — *keiensis* and *aruensis* — proposed, without diagnosis, by Sternfeld.

Emoa euneiceps de Vis (1890, p. 498) from St. Joseph's River, British New Guinea, agrees in every respect with *cyanogaster* except in the number of midbody scale rows, said to be 33–36 (? possibly a misprint for 23–26).

EMOIA CYANURA (Lesson)

Scincus cyanurus Lesson, 1830, Zool. in Duperry, Voyage autour du Monde . . . sur . . . La Coquille, 2, pt. 1, p. 49, pl. iv, fig. 2: Tahiti, Society Islands.

Eumeces lessonii Duméril & Bibron, 1839, Erpét. Gén., 5, p. 654: substitute name for *cyanurus* Lesson.

Lygosoma (Emoa) impar Werner, 1898, Zool. Anz., 21, p. 553: Ralum and Mioko Islands, New Britain Archipelago.

2 (M. C. Z. 4708) New Britain Arch. (Mus. Godeffroy) 1882.

Prefrontal much shorter than the frontal; frontoparietal as long as,

or slightly longer than, broad, fused with the interparietal; midbody scale rows 28-29; lamellae under fourth toe 55-60. Larger skink, 116+ (49 + 67+) mm.

For comments on New Guinean "*cyanura*" (auct.) see *Emoia caeruleocauda* below.

EMOIA CAERULEOCAUDA de Vis

Mocoo caeruleocauda de Vis, 1892, Ann. Queensland Mus., No. 2, p. 12:
"Sudest" = Tagula Island, British New Guinea.

Lygosoma cyanurum weneri Vogt, 1912, Sitzb. Ges. Naturf. Freunde Berlin,
p. 5: Mariana or Ladrone Islands.

Lygosoma weneri triviale Schüz, 1929, Abhand. Ber. Zool. Mus. Dresden, (2),
17, p. 8: Dore, Jobi Island, Dutch New Guinea.

- 4 (M. C. Z. 7647) Pom, D. N. G. (T. Barbour) 1907.
- 1 (M. C. Z. 7648) Jamna Id., D. N. G. (T. Barbour) 1907.
- 11 (M. C. Z. 7649) Wooi Bay, D. N. G. (T. Barbour) 1907.
- 1 (M. C. Z. 7653) Saonek, D. N. G. (T. Barbour) 1907.
- 3 (M. C. Z. 7654) Ansoes, D. N. G. (T. Barbour) 1907.
- 4 (M. C. Z. 42153-6) Kokoda, D. N. G. (Brit. Mus.) 1936.
- 2 (M. C. Z. 44195-6) Wau, A. N. G. (H. Stevens) 1933.
- 8 (M. C. Z. 48599-602) Aitape, A. N. G. (W. M. Beck) 1944.
- 1 (M. C. Z. 49247) Finsehafen, A. N. G. (L. W. Jareho) 1944.
- 11 (M. C. Z. 49301-9) Liki Id., D. N. G. (W. H. Stiekel) 1944.
- 2 (M. C. Z. 49310-1) Toem, D. N. G. (W. H. Stiekel) 1944.
- 2 (U. S. N. M. 40035-6) Wooi Bay, D. N. G. (T. Barbour) 1944.
- 1 (U. S. N. M. 118827) Finschhafen, A. N. G. (A. M. Keefe) 1944.
- 1 (U. S. N. M. 119418) Finschhafen, A. N. G. (W. H. Stiekel) 1944.
- 4 (U. S. N. M. 119419-22) Gusiko, A. N. G. (W. H. Stiekel) 1944.
- 1 (U. S. N. M. 119423) Hollandia, D. N. G. (W. H. Stiekel) 1944.
- 1 (U. S. N. M. 119424) Toem, D. N. G. (W. H. Stiekel) 1944.
- 9 (U. S. N. M. 119534-42) Gamadodo, B. N. G. (G. H. Penn) 1944.
- 4 (U. S. N. M. 120102-5) Amsterdam Id., D. N. G. (G. H. Penn)
1944.
- 2 (U. S. N. M. 122106-7) Near Finsehafen, A. N. G. (J. E. Hadley)
1944.

For the first two characters mentioned below, only a representative selection of skinks were examined.

Prefrontals shorter than the frontal; frontoparietal as long as, or slightly longer than, broad, fused with the interparietal; midbody scale rows 26-34, average 30.5 for seventy-one specimens; lamellae under fourth toe 31-50, average 40.5 for seventy-one specimens. Largest (M. C. Z. 7654), 140 (50 + 90) mm., and (U. S. N. M. 119535), 140 (55 + 85) mm.

Color in life of U. S. N. M. 119418-9 as recorded by Stickel. Above, head and body black with yellow stripes; tail blue (but not so in some others). Below, chin and throat greenish blue; belly iridescent. So closely do the striking markings of this skink resemble those of *cyanura* that I would have treated it as a subspecies had not Mr. W. C. Brown of Stanford invited my attention to the fact that both occur together on some islands of the Solomon group without apparent overlapping of characters.

Stickel failed to find this species in the jungle, but it was common among the brush and grass of the sandy coastal plain; some specimens were in drift trash. One was found on the rocky base of an islet 150 yards from Pie Beach, with which it was connected at low tide by a wet gravel flat interspersed with tidal pools. Except for the rocks and cliffs around its base, the islet carried a dense growth of vegetation. One skink was recovered from the stomach of a young boa (*Enygrus carinatus*).

EMOIA BAUDINII BAUDINII (Duméril & Bibron)

Eumeces Baudinii Duméril & Bibron, 1839, *Erpét. Gén.*, **5**, p. 653: New Guinea.

Euprepes Physicae Duméril & Bibron, 1839, *Erpét. Gén.*, **5**, p. 688: New Guinea.

Lygosoma mivarti Boulenger (part ?), 1887, *Cat. Lizards Brit. Mus.*, **3**, p. 292, pl. xxiii, fig. 1: Wild Island, Admiralty Islands.

1 (M. C. Z. 42157) Kokoda, B. N. G. (Brit. Mus.) 1936.

2 (M. C. Z. 48604) Aitape, A. N. G. (W. M. Beek) 1944.

1 (U. S. N. M. 119189) Milne Bay, B. N. G. (J. F. Cassel) 1944.

50 (U. S. N. M. 119364-97, 119399-403, 119405-15) Gusiko, A. N. G. (W. H. Stickel) 1944.

For the first two characters and scale counts mentioned below, of the Gusiko series only 15 skinks were examined.

Prefrontals much shorter than the frontal; frontoparietals as long as, or slightly shorter than, broad, fused with the interparietal; midbody scale rows 36-40, average 38 for eighteen skinks; lamellae under fourth toe 37-45, average 40.3 for seventeen skinks. Largest (U. S. N. M. 119368), 154 (57 + 97) mm., but exceeded by 2 mm. in head and body length of U. S. N. M. 119405.

Color in life of a gravid ♀ (U. S. N. M. 119367) as recorded by Stickel. Above, head and neck olive bronze edged with olive gold; eyelids edged with gold; an olive vertebral stripe, flanked by a mottled

brown stripe, bordered by a weak olive stripe, below which is a broad black band on flank that becomes reddish brown on side of neck to eye; from the ear commences a narrow stripe that is tan on the neck but changes to light metallic green on the flank where it extends from axilla to groin cutting through the broad black lateral band a little of which is seen below fading into the belly coloring; limbs olive, spotted with black; base of tail gray brown edged with black, below which it is brown on sides, the posterior two-thirds wholly gray brown. Below, chin and throat tinged with green; belly an iridescent bluish slate; limbs slate; tail mottled slate and gray.

Variations from this type of coloration were also noted by Stickel. Indeed, were it not for the fact that individuals with sharply defined vertebral and lateral stripes occur alongside those lacking the vertebral stripe together with intermediates, they might well be thought to be distinct.

Stickel found this skink living "on or near large blocks of vegetated coral rock but not on the sea cliffs." From our material it would appear that typical *baudinii* is the form occupying the littoral in eastern Guinea, while its subspecies *pallidiceps* (with fewer midbody scale rows) occurs on higher ground (1,000 to 10,000 feet) in the interior, except that in western Guinea it is also to be found in the coastal belt.

I cannot see any reason for regarding *mivarti* as distinct, but it would be interesting to have confirmation of Boulenger's lowest count of 34 midbody scale rows which would indicate a tendency towards *pallidiceps* comparable to that shown by *pallidiceps* occasionally exhibiting 36 midbody scale rows.

EMOIA BAUDINII PALLIDICEPS Vis

- ? *Euprepes (Tiliqua) callistictus* Peters & Doria, 1878, Ann. Mus. Civ. Stor. Nat. Genova, **13**, p. 355: Sorong, Dutch New Guinea.
- Emoia pallidiceps* de Vis, 1890, Proc. Linn. Soc. N. S. W. (2), **5**, p. 497: St. Joseph's River, British New Guinea.
- Lygosoma Méhelyi* Werner, 1899, Zool. Anz., **22**, p. 371: "Friederich-Wilhelmshaven" = Madang, Australian New Guinea.
- Lygosoma jakati* Kopstein, 1926, Zool. Meded., **9**, p. 94: Jakati River, "Bintuni" = Bentoni Bay, Dutch New Guinea.
- Lygosoma mivarti* var. *obscurum* de Jong, 1927, Novae Guinea, **15**, p. 317: Pionierbivak, Mamberamo River, Dutch New Guinea (restricted).

28 (M. C. Z. 7661) Jamna Id., D. N. G. (T. Barbour) 1907.

14 (M. C. Z. 7662) Sorong, D. N. G. (T. Barbour) 1907.

- 8 (M. C. Z. 7664, 7695) Manokwari, D. N. G. (T. Barbour) 1907.
 3 (M. C. Z. 7665) Pom, D. N. G. (T. Barbour) 1907.
 5 (M. C. Z. 7666, 7694) Wooi Bay, D. N. G. (T. Barbour) 1907.
 4 (M. C. Z. 7693) Ansoes, D. N. G. (T. Barbour) 1907.
 1 (M. C. Z. 19606) Lake Sentani, D. N. G. (Basel Mus.) 1924.
 1 (M. C. Z. 19608) Central D. N. G. (Basel Mus.) 1924.
 5 (M. C. Z. 44192-4) Wau, B. N. G. (H. Stevens) 1933.
 3 (M. C. Z. 47098-100) Mt. Wilhelm, A. N. G. (P. J. D.) 1944.
 8 (M. C. Z. 49318-25) Toem, D. N. G. (W. H. Stickel) 1944.
 1 (U. S. N. M. 40024) Wooi Bay, D. N. G. (T. Barbour) 1907.
 3 (U. S. N. M. 40032-4) Jamna Id., D. N. G. (T. Barbour) 1907.
 1 (U. S. N. M. 58505) Sorong, D. N. G. (J. Hurter) 190 ?
 1 (U. S. N. M. 75973) Manokwari, D. N. G. (T. Barbour) 1907.
 5 (U. S. N. M. 124640-4) Toem, D. N. G. (W. H. Stickel) 1944.

Prefrontals much shorter than the frontal; frontoparietal as long as, or slightly longer than, broad, fused with the interparietal; mid-body scale rows 30-34, rarely 36, average 32.9 for sixty-four skinks; lamellae under fourth toe 25-48, average 34 for sixty-four skinks. Largest ♂ (M. C. Z. 47098), 145 (55 + 90) mm., and ♀ (M. C. Z. 47099), 142 (55 + 77) mm., both surpassed by the type of 150 (50 + 100) mm., *fide de Vis*.

Except that they have not got 28 midbody scale rows, our Sorong specimens agree so closely with the description of *callistictus* from Sorong that I am inclined to think a recount of the type would reveal it as having 30. In that event *callistictus* would have precedence over *pallidiceps*.

Much confusion has existed between *pallidiceps* and typical *baudinii* owing to both forms exhibiting two color phases. Barbour (1912, p. 94) referred those (M. C. Z. 7661-6) with a pale vertebral and four dorso-lateral white lines to *mivarti*, and others (M. C. Z. 7693-5), in which the lines were absent, to *baudinii*, both phases occurring at Manokwari and Wooi Bay. When I found both occurring also on Mount Wilhelm and noted that these striking color phases possess identical scale counts and squamation, there seemed no reasonable grounds to treat them as distinct.

I regard *pallidiceps* as a race of *baudinii*, whose color pattern exhibits corresponding variation, because both forms may have 36 mid-body scale rows though so high a number is rare in *pallidiceps* as it was found in only four (one each from Jamna, Ansoes, Wau and Mount Wilhelm) of the sixty-four specimens counted.

L. mehelyi was said to lack auricular lobules, a condition to be found in M. C. Z. 7695 and other occasional specimens. *L. jakati*

was compared with "mivarti," i.e. *b. baudinii*, as was de Jong's *L. mivarti* var. *obscurum*. The coloration, on which alone this "variety" was based, is characteristic of young *b. baudinii* and persists in later life in some adults of *b. pallidiceps* as our series shows.

I might add that when a light vertebral stripe is present it differs from that of *Emoia caeruleocauda* de Vis by broadening in the nuchal region to occupy two full scales, instead of two half-scales as in *caeruleocauda* which also differs in possessing a more pointed snout.

EMOIA TROPIDOLEPIS (Boulenger)

Lygosoma tropidolepis Boulenger, 1914, Trans. Zool. Soc. London, **20**, p. 260, pl. xxix, fig. 4: Mimika River, Dutch New Guinea.

- 1 (M. C. Z. 7682) Pom, Jobi Id., D. N. G. (T. Barbour) 1907.
- 1 (M. C. Z. 21001) Bivak Id., D. N. G. (Amsterdam Mus.) 1925.
- 1 (M. C. Z. 44191) Wau, A. N. G. (H. Stevens) 1933.
- 1 (U. S. N. M. 119404) Gusiko, A. N. G. (W. H. Stickel) 1944.
- 1 (U. S. N. M. 119417) Toem, D. N. G. (W. H. Stickel) 1944.

Prefrontal much shorter than the frontal; frontoparietal as long as, or slightly longer than, broad, fused with the interparietal; midbody scale rows 36-40, keeled; lamellae under fourth toe 34-41. Largest (U. S. N. M. 119404), 169 (55 + 114) mm., and (M. C. Z. 21001), 161+ (70 + 91+) mm., tail reproduced.

The skink from Pom, being without stripes, has a superficial resemblance to *L. (Leiopisma) fuscum* to which it was referred by Barbour (1912, p. 93). The Toem specimen was taken by Stickel during clearing of dense secondary growth composed of bananas, breadfruit, coconuts and spiny palms about four to five hundred yards from the seashore.

EMOIA ATROCOSTATA IRRORATA (Macleay)

Mabouia irrorata Macleay, 1877, Proc. Linn. Soc. N. S. W., **2**, p. 66: Hall Sound, British New Guinea.

- 1 (M. C. Z. 7696) Ansoes, D. N. G. (T. Barbour) 1907.
- 2 (M. C. Z. 7698) Sorong, D. N. G. (T. Barbour) 1907.
- 1 (M. C. Z. 7699) Saonek, D. N. G. (T. Barbour) 1907.
- 2 (M. C. Z. 7700) Wooi Bay, D. N. G. (T. Barbour) 1907.
- 1 (U. S. N. M. 58504) Jobi Id., D. N. G. (J. Hurter) 1907.
- 1 (U. S. N. M. 120108) Draeger Harbor, A. N. G. (G. H. Penn) 1944.

Prefrontal included once and two-thirds (once and a half in duplicate of M. C. Z. 7700 only) times in the length of the frontal; frontoparietal as broad as, or slightly broader than, long (broken up into three scales in M. C. Z. 7700); interparietal distinct; midbody scale rows 34-39; lamellae under fourth toe 32-38. Largest (M. C. Z. 7699) 175+ (70 + 105+) mm., tail regenerated, but slightly surpassed in head and body length by two others.

The first half-dozen specimens listed above were referred by Barbour (1912, p. 94) to *atrocostatum* (Lesson) of "Oualan" = Kusaie Island in the Carolines. However, they differ from our Caroline material (M. C. Z. 22073-5) from Ponape Island in possessing a noticeably larger mental. The entire group of associated species appears in need of revision but it would seem that *boettgeri* (Sternfeld, 1921) of the Carolines is a synonym of the typical form. Solomons material, which has a larger ear opening, is usually referred to *E. a. nigrum* (Hombron & Jacquinet), though the type locality of *nigrum* was unknown. *E. a. parietalis* (Peters, 1871), with shorter prefrontals, is a western race while the dusky-throated skinks of the Philippines, for which the names *bitaeniata* (Peters, 1864), *cumingii* (Peters, 1867), and *microsticta* (Peters, 1874) are available appear intermediate between *atrocostata* and *parietalis* but nearer to the latter.

ABLEPHARUS BOUTONII NOVAEGUINEAE (Mertens)

Cryptoblepharus boutonii novae-guineae Mertens, 1928, Zool. Anz., 78, p. 87: Mamberamo, Dutch New Guinea.

- 3 (M. C. Z. 7484) Saonek, D. N. G. (T. Barbour) 1907.
- 1 (M. C. Z. 7671) Wooi Bay, D. N. G. (T. Barbour) 1907.
- 1 (M. C. Z. 7672) British New Guinea (T. Barbour) 1907.
- 1 (M. C. Z. 49300) Liki Id., D. N. G. (W. H. Stickel) 1944.
- 1 (U. S. N. M. 29415) Port Moresby, B. N. G. (Karcher)
- 2 (U. S. N. M. 119484-5) Gusiko, A. N. G. (W. H. Stickel) 1944.

Frontal not half the size of the shield formed by fusion of frontoparietals with interparietal; upper eyelid represented by 3-5 (3-5 in Saonek series alone, 3 elsewhere) large scales; midbody scale rows 22-26; fingers and toes 5. Largest (M. C. Z. 49300), 81 (38 + 43) mm., but surpassed in head and body length by four others of 42 mm.

Color in life as recorded by Stickel. Above, head metallic bronze with rosy tinge; (and for U. S. N. M. 119484) back and dorsolateral stripe light gray with metallic reddish gold tinge. Below, belly grayish white with iridescent sheen.

The Liki Island skink may represent yet another race but without a series it would be unwise to name it. The back is flecked with darker and quite devoid of stripes, the frontal is small and very narrow and the head also is narrower than is the case with most of the others listed.

ABLEPHARUS BOUTONII KEINENSIS ROUX

Ablepharus boutoni var. *keiensis* Roux, 1910, Abhand. Senckenberg. Naturf. Ges., **33**, p. 240, pl. xiii, fig. 3: Elat, Kei-Dulah, etc., Great Kei Island, Kei Islands.

1 (M. C. Z. 29162) Elat, Kei Is. (Senckenberg Mus.) 1929.

1 (M. C. Z. 29163) Kei-Dulah, Kei Is. (Senck. Mus.) 1929.

These two skinks, being cotypes, conform to the redescription and figures of this race given by Mertens (1931, p. 147, pl. ii, fig. 18) in his monograph of the species.

PYGOPODIDAE

LIALIS JICARI Boulenger

Lialis jicari Boulenger, 1903, Ann. Mag. Nat. Hist. (7), **12**, p. 430: Fly River, British New Guinea.

1 (M. C. Z. 19723) Lababia, A. N. G. (Brit. Mus.) 1924.

2 (M. C. Z. 48571-2) Aitape, A. N. G. (W. M. Beck) 1944.

1 (M. C. Z. 49395) Port Moresby, B. N. G. (C. W. Moren) 1944.

1 (U. S. N. M. 119258) Toem, D. N. G. (W. H. Stickel) 1944.

Tip of snout truncate; upper labials 16-21; lower labials 18-20; midbody scale rows 22; preanal pores 6-8. Largest (M. C. Z. 19723), 650+ (310 + 340+) mm., tail reproduced. The Toem scale-foot was secured by Stickel following bulldozers clearing jungle growth on moist, loose, rather sandy, reddish soil.

VARANIDAE

VARANUS INDICUS INDICUS (Daudin)

Tupinambis indicus Daudin, 1802, Hist. Nat. Rept., **3**, p. 46, pl. xxx: Amboina Island, Molucca Islands.

Monitor douarrha Lesson, 1830, Zool., in Duperry, Voyage autour du Monde . . . sur . . . La Coquille, **2**, pt. 1, p. 53: Praslin Bay, New Ireland.

Monitor chlorostigma Gray, 1831, in Griffith, Anim. Kingdom, 9, Synops., p. 26: Rawack Island, north of Waigeo Island, Dutch New Guinea.

Monitor doreanus Meyer, 1874, Monatsb. Akad. Wiss. Berlin, p. 130: Dore, Jobi Island, Dutch New Guinea.

Varanus indicus rouxi Mertens, 1926, Senckenbergiana, 8, p. 276: Durdjela, Wammer, Aru Islands.

Varanus indicus jobiensis Ahl, 1932, Mitt. Zool. Mus. Berlin, 17, p. 892: Jobi = Japen Island, Dutch New Guinea.

1 (M. C. Z. 7488) Aru Islands (A. E. Pratt) 1911.

2 (M. C. Z. 44186-7) Wau, A. N. G. (H. Stevens) 1933.

1 (M. C. Z. 48573) Aitape, A. N. G. (W. M. Beck) 1944.

1 (M. C. Z. 49282) Toem, D. N. G. (W. H. Stickel) 1944.

1 (M. C. Z. 49283) Liki Id., D. N. G. (W. H. Stickel) 1944.

1 (U. S. N. M. 119547) Gusiko, A. N. G. (W. H. Stickel) 1944.

Nostril round (M. C. Z. 48573) or oval (rest of series), slightly nearer end of snout than eye; median series of supraoculars transversely enlarged; nuchals not spinose; dorsals smooth (M. C. Z. 48573; 44186), very obtusely keeled (M. C. Z. 7488), or keeled (rest); midbody scale rows 125-176 (M. C. Z. 49283-49282), the ventrals smooth, or obtusely keeled in adults; tail with a very low, double-toothed crest (not distinguishable in juveniles), strongly compressed except on basal quarter. Largest skinned out; next (M. C. Z. 49282), 770 (300 + 470) mm., another (M. C. Z. 48573), 715 (265 + 450) mm.

Color above, blackish with clearly marked ocelli (M. C. Z. 44187; 48573), spotted (M. C. Z. 44186; 48573) or flecked (rest) with yellow, or (*vide* Stickel) blue on distal half of tail (M. C. Z. 49282). Two of the most easterly monitors (M. C. Z. 44186; 48573) have smoother scales and larger spots or ocelli than the western, with the exception of an ocellate juvenile. Mertens (1942, pp. 260-272) remarks on the extreme variability of the species and the doubtful validity of *V. i. kalabeck* (Lesson, 1830), with one or other of whose characters some of these monitors conform.

The Toem specimen was "shot in jungle near a small stream" (W. H. S.). Ticks were present on several.

VARANUS PRASINUS BECCARII (Doria)

Monitor beccarii Doria, 1874, Ann. Mus. Civ. Stor. Nat. Genova, 6, p. 331, pl. xi, fig. a: "Wokan," i.e. Wokam Island, Aru Islands.

2 (M. C. Z. 7489) Aru Islands (A. E. Pratt) 1911.

Nostril round; median series of supraoculars transversely enlarged; nuchal scales strongly keeled; tail without crest, slightly compressed posteriorly; color black. Larger, 845 (295 + 550) mm. In size this fine topotype surpasses the type and largest known specimen recorded by Mertens (1942, p. 294). These two monitors were presented by Barbour who (1912, pp. 89 and 183) referred them to *V. kordensis* (part).

SERPENTES

TYPHLOPIDAE

TYPHLOPS ERYCINUS Werner

Typhlops erycinus Werner, 1901, Verh. Zool. Bot. Ges. Wien, **51**, p. 611: Australian New Guinea.

- 3 (M. C. Z. 49396, 49619-20) Toem, D. N. G. (W. H. Stickel) 1944.
- 1 (U. S. N. M. 118823) Finschhafen, A. N. G. (A. M. Keefe) 1944.
- 7 (U. S. N. M. 119488, 119491-96) Toem, D. N. G. (W. H. Stickel) 1944.

Rostral nearly a third the width of head, not extending to the level of the eyes; nasal completely divided, the cleft proceeding from the first labial; preocular in contact with second and third labials; no subocular; midbody scale rows 20; diameter into total length 27-32 (44 in type which was much larger than any in this series); tail into total length of *presumed* males 12-19 times, in *presumed* females 22-28 times. Largest (U. S. N. M. 119488), 297 (286 + 11) mm.

Color in life of U. S. N. M. 119488 as recorded by Stickel. Snout light lavender slightly tinged with pinkish orange; preocular and ocular purplish; back dull brown. Below, semi-transparent dull white.

Most of these blind snakes were turned up by bulldozers working in loose, reddish, rather sandy soil; one was taken in a heap of humus and decomposing vegetation, another was found dead on road. This species succumbs very slowly to strong ether vapor. (W. H. S.)

BOIDAE

BOTHROCHILUS BOA (Schlegel)

Tortria boa Schlegel, 1837, Essai Phys. Serp., **2**, p. 22: New Ireland.

- 1 (M. C. Z. 20946) New Britain Archipelago (Exch. F. Werner) 1925.
- 1 (M. C. Z. 26939) Tusel, Duke of York Id. (Vienna Mus.) 1928.
- 1 (M. C. Z. 26940) Port Weber, New Britain (Vienna Mus.) 1928.

Midbody scale rows 37-38, smooth; ventrals 253-257; anal 1; subcaudals 49-52, paired and single. Largest, a ♂ (M. C. Z. 26939), 1045 (1010 + 35) mm. The habits of this python, long known as *Nardoa* or *Nardoana*, should be interesting for its body is strongly compressed and as strikingly ringed as that of a sea snake.

LIASIS FUSCUS ALBERTISII Peters & Doria

Liasis Albertisii Peters & Doria, 1878, Ann. Mus. Civ. Stor. Nat. Genova, **13**, p. 401, pl. iii, figs. 2a-d: "Kapaor" = Kapar and Andai, Dutch New Guinea.

Leiopython gracilis Hubrecht, 1879, Notes Leyden Mus., **1**, p. 15: "Salwatti" = Salawati Island, Dutch New Guinea.

♂ (M. C. Z. 48614) Aitape, A. N. G. (W. M. Beck) 1944.

♂ (M. C. Z. 49397) Toem, D. N. G. (W. H. Stickel) 1944.

♀ (U. S. N. M. 118950) Finschhafen, A. N. G. (A. M. Keefe) 1944.

Rostral pitted (except for Toem snake which appears to have been kept in captivity and developed canker, for its regenerated rostral is not pitted); 1 pair of prefrontals; parietals bordered by small shields; upper labials 12-13, first 6 pitted; lower labials 15-16, median 7 pitted; midbody scale rows 47-49; ventrals 267-279; anal 1; subcaudals 73-75. Larger ♂ (M. C. Z. 48614), 1253 (1082 + 171) mm., ♀ (U. S. N. M. 118950), 1742+ (1540 + 202+) mm.

Color in life of Toem python as recorded by Stickel. Above, head black; eye dark grayish brown; whitish flecks behind eyes; lips black and white; body and tail iridescent blackish brown merging into yellowish brown and then yellowish on the sides, the lowest row of scales being almost white. Below, gulars and genials suffused with pink; ventrals white tinged with pink on their posterior borders, especially on the anterior third of the belly; subcaudals, especially near base of tail, yellowish edged with pink posteriorly.

Spinous hairs defecated by this Toem snake have been identified by Dr. G. H. H. Tate as those of the commonest New Guinea bandicoot (*Echimypera*). The local natives considered this to be one of the deadliest of New Guinean snakes (W. H. S.).

LIASIS AMETHISTINUS AMETHISTINUS (Schneider)

Boa Amethystina Schneider, 1801, Hist. Amphib., **2**, p. 254: No type locality.

Aspidopython Jakati Meyer, 1874, Monatsb. Akad. Wiss. Berlin, p. 135: Jakati, and Jobi Island, Dutch New Guinea.

Hypaspistes dipsadides Ogilby, 1891, Rec. Australian Mus., 1, p. 192: Fly River, British New Guinea.

♂ (M. C. Z. 4431) New Ireland (E. Gerrard) 1879.

juv. (M. C. Z. 7297) Astrolabe Bay, A. N. G. (T. Barbour) ca. 1908.

♂ (U. S. N. M. 119548) Mios Woendi, D. N. G. (G. H. Penn) 1944.

Rostral pitted; 2 pairs of prefrontals; a pair of interparietals; parietals bordered by irregular shields; upper labials 12-13, first 4-5 pitted; lower labials 18-21, median 7-8 pitted; midbody scale rows 43-52; ventrals 333; anal 1; subcaudals 120. Largest, a ♂ (U. S. N. M. 119548), has the head and body skinned out so measures 1890 (1500 + 390) mm.

The scale counts of this large individual from the Padaido Islands in the northwest, tend to cast doubts on the validity of *L. a. kinghorni* Stull from Queensland.

CHONDROPYTHON VIRIDIS (Schlegel)

Python viridis Schlegel, 1872, Dierentum Rept., p. 54: Aror = Aru Island, south of Dutch New Guinea.

Chondropython azurea Meyer, 1874, Monatsb. Akad. Wiss. Berlin, p. 134: "Mysore" = Biak Island, Dutch New Guinea.

Chondropython pulcher Sauvage, 1878, Bull. Soc. Philom. Paris (7), 2, p. 37: "Misore" = Biak Island, Dutch New Guinea.

♀ (M. C. Z. 7490) Fakfak, D. N. G. (A. E. Pratt) 1907.

♂ (M. C. Z. 7551) Manokwari, D. N. G. (T. Barbour) 1907.

yng. (U. S. N. M. 121214) Buna, A. N. G. (G. M. Kohls) 1944.

Rostral pitted; crown covered with small scales; upper labials 12, first 2-3 pitted; lower labials 15-17, median 6-7 pitted; midbody scale rows 55-70; ventrals 232-236; anal 1; subcaudals 94-104. Length of ♂, 1368 (1166 + 202) mm., ♀, 1387 (1170 + 217) mm. A tooth is present on either side of the premaxilla as pointed out by Dunn (1939, p. 1) for a specimen from Biak Island.

ENYGRUS ASPER ASPER (Günther)

Erebophis asper Günther, 1877, Proc. Zool. Soc. London, p. 132, pl. xxi: No type locality (restricted to Bismarek Archipelago = New Britain Archipelago, by Stull).

♀ (M. C. Z. 4705) New Britain Archipelago (Mus. Godeffroy) 1882.

♀ (M. C. Z. 6282) New Britain Archipelago (J. F. G. Nulauf) 1890.

Upper labials 10; lower labials 12-13; circumorbital scales 13-15; no labials; midbody scale rows 37-41; average 39, ventrals 149-150; anal 1; subcaudals 18-19; dorsal spots ?24-?25, very indistinct. Larger ♀ (M. C. Z. 4707), 660 (612 + 48) mm.

ENYGRUS ASPER SCHMIDTI Stull

Enygrus asper schmidti Stull, 1932, Occ. Pap. Boston Soc. Nat. Hist., 8, p. 26: "Kaiserin Augusta River" = Sepik River, Australian New Guinea.

- Type ♀ (M. C. Z. 29778) Sepik River, A. N. G. (Amsterdam Mus.) 1931.
 4 (M. C. Z. 48607-10) Aitape, A. N. G. (W. M. Beck) 1944.
 ♂ (M. C. Z. 49398) Toem, D. N. G. (W. H. Stickel) 1944.
 ♀ (U. S. N. M. 118077) Finschhafen, A. N. G. (W. M. Gordon) 1944.
 ♂ (U. S. N. M. 119497) Toem, D. N. G. (W. H. Stickel) 1944.
 ♂ (U. S. N. M. 119745) Finschhafen, A. N. G. (A. M. Keefe) 1944.

Upper labials 10-12; lower labials 12-16; circumorbital scales 11-16, no labials; midbody scale rows 34-37, average 35.6; ventrals 127-138; anal 1; subcaudals 15-21; dorsal spots ?15-?22, often indistinct or coalescing. Largest ♂ (U. S. N. M. 119497), 453 (410 + 43) mm., ♀ (U. S. N. M. 118077), 708 (650 + 58) mm.

W. H. & L. F. Stickel (1946, p. 11) have pointed out the entire absence of spurs in this large female, also that in the three males the spurs are less curved than in *carinatus*. Stickel records one Toem boa was found on May 31 sluggishly digging a hole with its snout between the buttress roots of a tree growing on a mud flat about a foot from a small creek. The other was taken September 2 from a long-standing heap of humus, earth and plant debris.

ENYGRUS CARINATUS (Schneider)

Boa carinata Schneider, 1801, Hist. Amphib., 2, p. 261: No type locality.

Cenchrus ocellata Gray, 1831, in Griffith, Anim. Kingdom, 9, Synops., p. 97: No type locality.

- 2 (M. C. Z. 7568-9) Jamna Id., D. N. G. (T. Barbour) 1907.
 1 (M. C. Z. 10551) British New Guinea (Queensland Mus.) 1914.
 1 (M. C. Z. 44178) Surprise Creek, A. N. G. (H. Stevens) 1933.
 3 (M. C. Z. 48611-3) Aitape, A. N. G. (W. M. Beck) 1944.
 1 (M. C. Z. 49399) Saidor, A. N. G. (C. W. Moren) 1944.
 4 (M. C. Z. 49446-9) Toem, D. N. G. (W. H. Stickel) 1944.
 3 (M. C. Z. 49470-2) Liki Id., D. N. G. (W. H. Stickel) 1944.
 1 (U. S. N. M. 56577) New Guinea (J. Hurter)

- 1 (U. S. N. M. 118040) Alioma, B. N. G. (A. M. Keefe) 1943.
 1 (U. S. N. M. 118822) Finschhafen, A. N. G. (A. M. Keefe) 1944.
 4 (U. S. N. M. 119498-501) Toem, D. N. G. (W. H. Stickel) 1944.
 1 (U. S. N. M. 119502) Gusiko, A. N. G. (J. Kern) 1944.

Upper labials 10-13, average 11.4; lower labials 10-15, average 12.1; circumorbital ring consists of 2, rarely 3, labials and 9-13, average 11.1, other scales; midbody scale rows 32-37, average 34.7; ventrals 170-197, average 180.5; anal 1; subcaudals 35-53, average 48. Largest ♂ (M. C. Z. 10551), 617 (540 + 77) mm., ♀ (U. S. N. M. 56577), 726 (640 + 86) mm.

Part of this material has been studied by W. H. & L. F. Stickel (1946, p. 10) who have charted the length of the male spurs and their development in a few of the adult females. Stickel found the Toem boas under piles of coconut palm fronds and other trash, those from Liki Island were brought in by Natives. One snake held a skink (*Emoia caeruleocauda*), another a larger skink and a third from Aitape, many parasitic worms (*Ophidascaris* sp.).

COLUBRIDAE

ACROCHORDUS GRANULATUS GRANULATUS (Schneider)

Hydrus granulatus Schneider, 1799, Hist. Amphib., **1**, p. 243: India.

Acrochordus fasciatus Shaw, 1802, Gen. Zool., **3**, p. 576, pl. cxxx: No type locality.

♀ (M. C. Z. 7627) Wooi Bay, D. N. G. (T. Barbour) 1907.

Nostrals chiefly directed upwards; midbody scales 110; ventrals absent but a median fold of skin on belly; tail strongly compressed. Length of ♀, 841 (762 + 79) mm.

Chersydrus was synonymized with *Acrochordus* by Malcolm Smith (1943, p. 131); trinomials are employed on account of *A. g. luzonensis* (Loveridge, 1938).

NATRIX MELANOCEPHALA (Werner)

Tropidonotus melanocephalus Werner, 1925, Sitzb. Akad. Wiss. Wien, **134**, p. 47: Port Weber, (Blanche Bay), New Britain.

♀ (M. C. Z. 22201) New Britain (F. Werner) 1926.

Preoculars 2; postoculars 3; upper labials 9, the fifth and sixth entering the orbit; lower labials 9, the first 5 in contact with the an-

terior sublinguals; midbody scale rows 17; ventrals 178; anals 2; subcaudals 109. Length 849 (580 + 269) mm.

This snake bears a label "Paratypen. (Werner coll. No. 1340)," and was bought as such. Apart from minor discrepancies in ventral and subcaudal counts its length bears no resemblance to that given by Werner — 1163 (803 + 360) mm. — for the only paratype mentioned. Perhaps the relationship of this snake to the New Guinean *hypomelas* is that of a subspecies.

NATRIX DORIAE (Boulenger)

Tropidonotus doriae Boulenger, 1897, Ann. Mus. Civ. Stor. Nat. Genova (2), 18, p. 704: Haveri, Moroka District, British New Guinea.

♂ (M. C. Z. 28469) British New Guinea (Brit. Mus.) 1929.

Preoculars 2; postoculars 3; upper labials 8, the third, fourth and fifth entering the orbit; lower labials 9, the first 5 in contact with the anterior sublinguals; midbody scale rows 17; ventrals 153; anals 2; subcaudals 74+, tip of tail missing.

NATRIX MAIRII MULTISCUTELLATA Brongersma

Natrix mairii multiscutellata Brongersma, 1948, Proc. Kon. Ned. Akad. Wetensch. (Amsterdam), 51, pr. 372: Alkmaar, Lorentz River, Dutch New Guinea.

2 (M. C. Z. 7308) Fakfak, D. N. G. (A. E. Pratt) 1909.

¹³ (M. C. Z. 44171-3) Mt. Misim, A. N. G. (H. Stevens) 1933.

¹¹ (M. C. Z. 44174) Wau, A. N. G. (H. Stevens) 1933.

¹¹ (M. C. Z. 48615) Aitape, A. N. G. (W. M. Beck) 1944.

1 (M. C. Z. 49473) Liki Id., D. N. G. (W. H. Stickel) 1944.

1 (M. C. Z. 49474) Toem, D. N. G. (W. H. Stickel) 1944.

1 (U. S. N. M. 124638) Toem, D. N. G. (W. H. Stickel) 1944.

1 (U. S. N. M. 124930) Biak Id., D. N. G. (W. M. Welch) 1944.

Preoculars 2; postoculars 3, rarely 2 (right side of M. C. Z. 44172 only); upper labials 7-9, the third, fourth and fifth, the fourth and fifth, or the fourth, fifth and sixth entering the orbit; lower labials 8-9, the first 4, or 5, or 6, in contact with the anterior sublinguals; midbody scale rows 15; ventrals 143-169; anals 2; subcaudals 66-97.

¹Brongersma (whose paper I have seen in galley) regards those five snakes as representing an intermediate form.

Largest ♂ (M. C. Z. 49473), 840 (600 + 240) mm., ♀ (M. C. Z. 44171). 794 (604 + 190) mm.

The upper lip and collar of a young Toem snake were light orange in life, according to Stickel who found it swimming in a small pool in a sago swamp. The Toem male was on land a hundred yards from water, while the Liki Island male was captured in wet jungle.

STEGONOTUS MAGNUS (Meyer)

Lycodon magnus Meyer, 1874, Monatsb. Akad. Wiss. Berlin, p. 136: "Mysore" = Biak Island, Dutch New Guinea.

♂ ♀ (M. C. Z. 7312) Fakfak, D. N. G. (A. E. Pratt) 1909.

♂ (U. S. N. M. 124635) Toem, D. N. G. (W. H. Stickel) 1944.

Preoculars 2; postoculars 2; upper labials 7-9, the third and fourth or fourth and fifth entering the orbit; lower labials 8-10, the first 4 or 5 in contact with the anterior sublinguals; anterior temporals 2 but fused erratically; midbody scale rows 19; ventrals 202-219; anal 1; subcaudals 86-92 pairs. Length of ♂ (M. C. Z. 7312), 962 (730 + 231) mm., ♀, 586 (456 + 130) mm.

Color in life of Toem male as recorded by Stickel. Above, pinkish gray-brown, head darker; upper labials grayish pink with yellow area on fourth and fifth; lower labials grayish pink tinged with yellow. Below, throat reddish lavender; belly pale dull pinkish lavender with the edges of the ventrals grayer; subcaudals paler with faint gray transverse streaks and a narrower, median, gray stripe.

This Toem snake was found in a long-standing and partly revegetated heap of humus, earth and plant debris. The Fakfak specimens were referred by Barbour (1912, p. 115) to *modestus* (Schlegel), a species with only 17 midbody scale rows. Whether *S. pocchi* Werner, without locality, can be synonymized with *magnus*, seems doubtful.

STEGONOTUS MODESTUS (Schlegel)

Lycodon modestus Schlegel, 1837, Phys. Serp., 2, p. 119, pl. iv, figs. 16-17: Amboina Island and New Guinea.

Lycodon cucullatum Duméril & Bibron, 1854, Erpét. Gén., 7, p. 376: "Havre Dorey" = Dore Harbor, Jobi Island, Dutch New Guinea.

Stegonotus reticulatus Boulenger, 1895, Ann. Mag. Nat. Hist. (6), 16, p. 31: Ferguson Island, British New Guinea.

♀ (M. C. Z. 44175) Wau, A. N. G. (H. Stevens) 1933.

♂ (M. C. Z. 49483) Toem, D. N. G. (W. H. Stickel) 1944.

2 juv. (U. S. N. M. 119510-1) Gusiko, A. N. G. (J. F. Cassel) 1944.

♂ (U. S. N. M. 119549) Mios Woendi, D. N. G. (G. H. Penn) 1944.

♂ skin (U. S. N. M. 119746) Finschhafen, A. N. G. (A. M. Keefe) 1944.

Preoculars 1-2 (both conditions in U. S. N. M. 119510); postoculars 2; upper labials 7-9, the third and fourth or fourth and fifth entering the orbit; lower labials 8-9, the first 4 or 5 in contact with the anterior sublinguals; anterior temporals 2; midbody scale rows 17; ventrals 167-207; anal 1; subcaudals 81-83 pairs, tips missing in all three males. Length of ♂ (U. S. N. M. 119746), 1256+ (1000 + 256+) mm., ♀ (M. C. Z. 44175), 541 (400 + 141) mm.

One adult ♂ (U. S. N. M. 119746) is plumbeous, the other reddish brown reticulated with black. The Toem male was found at night in the leaf axil of a cocos tree by Alfred Haffer.

STEGONOTUS GUENTHERI Boulenger

Stegonotus guentheri Boulenger, 1895, Ann. Mag. Nat. Hist. (6), 16, p. 31:
Ferguson Island, British New Guinea.

♂ ♂ (M. C. Z. 7313) Fakfak, D. N. G. (A. E. Pratt) 1909.

Preocular 1; postoculars 1-2; upper labials 7, the third and fourth entering the orbit; lower labials 7-8, the first 4 in contact with the anterior sublinguals; anterior temporals 1-2 (1 on right, 2 on left of one snake); midbody scale rows 15; ventrals 179-185; anal 1; subcaudals 104+-120 pairs; uniformly white below. Larger ♂, 653 (450 + 203) mm.

These specimens were referred by Barbour (1912, p. 115) to *cucullatus* (Duméril & Bibron), a species with 17 midbody scale rows. Whether *S. dorsalis* Werner, without locality, is a synonym, is worth considering.

STEGONOTUS DIEHLI Lindholm

Stegonotus diehli Lindholm, 1905, Jahrb. Nassau Ver. Naturk., 58, p. 236:
Bogadjim, Astrolabe Bay, Australian New Guinea.

3 (M. C. Z. 49475, 49484-5) Toem, D. N. G. (W. H. Stickel) 1944.

1 (M. C. Z. 49491) Saidor, A. N. G. (C. W. Moren) 1944.

3 (U. S. N. M. 119507-9) Toem, D. N. G. (W. H. Stickel) 1944.

Preocular 1-2 (2 in M. C. Z. 49491 only); postoculars 2; upper

labials 7, the third and fourth entering the orbit; lower labials 7-8, the first 4 in contact with the anterior sublinguals; anterior temporals ?2, erratically fused; midbody scale rows 15; ventrals 161-176; anal 1; subcaudals 78-90 pairs, each edged with gray and a gray spot at base. Length of ♂ (U. S. N. M. 119507), 620 (453 + 167) mm., ♀ (M. C. Z. 49485), 503 (367 + 136) mm., juvenile (M. C. Z. 49491), 195 (150 + 45) mm.

Color in life of a ♀ (M. C. Z. 49484) as recorded by Stickel. Above, dark gray-brown; labials gray-white with dark sutures. Below, the three foremost ventrals yellow at base, the remaining ventrals white with yellow spots on their antero-lateral edges; subcaudals white, each with a brown antero-median blotch. I might add that the juvenile coloration is strikingly different from that of the adults, the head being white blotched and spotted with brown; body brown, each scale light-edged. Below, white, uniform.

Of the characters utilized by de Rooij (1917, p. 114) to separate this species from *guentheri* only the ventral count holds, and even so there is a slight overlap. In our material the fewer subcaudals and different coloring suffice. One might be tempted to regard *dichli* as a race of *guentheri* but for our Fakfak specimens revealing that *guentheri* occurs in the northwest as well as the southeast.

AHAETULLA PUNCTULATA LINEOLATA (Jacquinot & Guichenot)

- Dendrophis lineolata* Jacquinot & Guichenot, 1853, in Voyage au Pole Sud . . .
Astrolabe . . . , Zool., **3**, Rept. et Poiss., p. 20, pl. ii, fig. 1: New Guinea.
- Dendrophis punctulatus* var. *atrostriata* Meyer, 1874, Monatsb. Akad. Wiss.
Berlin, p. 136: "Jobi and Mysore" i.e. Jappen and Biak Islands, Dutch
New Guinea.
- Dendrophis punctulatus* var. *fasciata* Meyer, 1874, Monatsb. Akad. Wiss.
Berlin, p. 136: Passim, Geelvink Bay, Dutch New Guinea.
- Dendrophis macrops* Günther, 1877, Proc. Zool. Soc. London, p. 131, fig.:
Duke of York Island, New Britain Archipelago.
- Dendrophis breviceps* Macleay, 1877. Proc. Linn. Soc. N. S. W., **2**, p. 37:
"Katow" = Binaturi River, British New Guinea.
- Dendrophis papuae* Ogilby, 1891, Rec. Australian Mus., **1**, p. 193: Fly River,
British New Guinea.
- Dendrophis elegans* Ogilby, 1891, Rec. Australian Mus., **1**, p. 194: Fly River,
British New Guinea.
- Dendrophis gastrosticta* Boulenger, 1894, Cat. Snakes Brit. Mus., **2**, p. 86, pl.
iv, fig. 3: "Northwest" i.e. Dutch New Guinea.
- Dendrophis nouhuysii* de Jeude, 1911, Nova Guinea, **5**, p. 277, pl. viii, fig. 3:
Lorentz River, Dutch New Guinea.

♂ juv. (M. C. Z. 48618) Aitape, A. N. G. (W. M. Beck) 1944.

♀ (U. S. N. M. 124636) Toem, D. N. G. (W. H. Stickel) 1944.

Preocular 1; postoculars 2; diameter of eye longer (♀), or much longer (♂ juv.), than its distance from the nostril; upper labials 9, the fourth, fifth and sixth, or fifth and sixth, entering the orbit; lower labials 9, the first 5 in contact with the anterior sublinguals; frontal much longer (♂ juv.), or shorter than (♀), its distance from end of snout; midbody scale rows 13; ventrals 193-197; anals 2; subcaudals 143 (♂), missing in ♀, which measures 1276+ (922 + 354+) mm.

Color in life of ♀ as recorded by Stickel. Above, head olive; rostral, side of snout, upper and lower lips chrome yellow; loreal region yellowish olive; iris grayish brown; temporals olive; anterior part of back olive, the scales edged with brownish black posteriorly; vertebral row edged with blue anteriorly; lateral scales yellow ventrally; at midbody, end of body, as well as tail, the scales are yellowish olive, blue ventrally. Below, sides of ventrals greenish, then bluish yellow; anterior part of belly bluish white, posteriorly grayish mottled with yellow; tail yellow with a median, black-flecked stripe.

Dendrophis meeki Boulenger is omitted from the synonymy on account of Parker's (1936, p. 91) findings. Neither specimen mentioned above has a black streak on the side of the head, while both show the characteristic dusky longitudinal line beneath the tail. A third specimen labeled "*Dendrophis lineolatus* H. & J., German New Guinea. No. 708.", purchased in 1928 from Franz Werner, like so much of Werner's material was poorly localized. It differs from *lineolata* in the low number of subcaudals (117) and absence of subcaudal streak, while the rubbed snout suggested it had been long in confinement. It was in fact a typical Australian *A. p. punctulata* (Gray) with examples of which it has been compared before being discarded.

AHAETULLA CALLIGASTER SCHLENCKERI (Macleay)

Dendrelaphis schlenckeri Macleay, 1898, Proc. Linn. Soc. N. S. W., 5, p. 361:
Fife Bay, British New Guinea.

♀ (M. C. Z. 44170) Mt. Misim, A. N. G. (H. Stevens) 1938.

♂ & juv. (M. C. Z. 48616-7) Aitape, A. N. G. (W. M. Beck) 1944.

juv. (M. C. Z. 49400) Saidor, A. N. G. (C. W. Moren) 1944.

7 (M. C. Z. 49476-82) Toem, D. N. G. (W. H. Stickel) 1944.

♀ (M. C. Z. 49489) Hollandia, D. N. G. (C. W. Moren) 1944.

♂ (U. S. N. M. 119190) Gusiko, A. N. G. (J. F. Cassel) 1944.

- ♂ ♀ (U. S. N. M. 119504-5) Gusiko, A. N. G. (W. H. Stickel) 1944.
 ♀ (U. S. N. M. 119506) Toem, D. N. G. (W. H. Stickel) 1944.
 Head (U. S. N. M. 119550) Mios Woendi, D. N. G. (G. H. Penn) 1944.

Preocular 1; postoculars 1-2; diameter of eye equal to its distance from the nostril; upper labials 8-9, the fourth and fifth, fourth, fifth and sixth, or fifth and sixth entering the orbit; lower labials 8-10, the first 5 in contact with the anterior sublinguals; frontal shorter than (4 ex.), equal to (7 ex.), or longer than (6 ex.), its distance from the end of the snout; midbody scales 13; ventrals 172-186; anals 2; subcaudals 123-144. Largest ♂ (M. C. Z. 48616), 919+ (636 + 283+) mm., ♀ (M. C. Z. 44170), 1239 (805 + 434) mm.

Color in life of a ♂ (M. C. Z. 49476) as recorded by Stickel. Above, head dull brown, eye bronze brown, upper lip yellow; back bronze brown, lower edges of the scales on neck and forepart robin's egg blue, second row of dorsals on posterior part of neck greenish yellow, the first row colored like belly. Below, chin, throat and neck pale yellow; belly and subcaudals rather light reddish bronze.

Color of ♀ (M. C. Z. 49482) after a fortnight in alcohol, as recorded by Stickel. Above, head olive brown, upper lip cream with yellow cast dorsally; back medium brown; first scale row of neck grayish edged below with yellow, second, third, and fourth yellow below, brown above, fifth and sixth blue below and brown above. Below, lower jaw and throat creamy; belly gray on cream, the ventrals edged with yellow.

I should have been inclined to apply *papuensis* (Boulenger, 1896) to these New Guinean specimens were it not for Meise and Hennig (1932, p. 278) regarding *papuensis* as a color form occurring on the islands off the southeast coast from whence I have no material.

Most of the series were taken by Stickel in the compound or brushy jungle; one (M. C. Z. 49477) was seen to fall at least seventy-five feet from a tree into the roadway where it was run over by two cars. One snake (M. C. Z. 49476) had swallowed a skink (*Lygosoma* (L.) *f. fuscum*) while another held a large frog (*Hyla arfakiana*).

AHAETULLA CALLIGASTER SALOMONIS (Günther)

Dendrophis salomonis Günther, 1867, Ann. Mag. Nat. Hist. (4), 5, p. 25: Solomon Islands.

- ♂ (M. C. Z. 4703) New Britain (Hamburg Mus.) 1882.
 ♂ ♀ (M. C. Z. 10273-4) New Britain (Australian Mus.) 1914.

Preocular 1; postoculars 2; diameter of eye equal to its distance from the nostril; upper labials 8-9, the fourth and fifth or fifth and sixth entering the orbit; lower labials 9-10, the first 5 in contact with the anterior sublinguals; frontal shorter than, equal to, or longer than its distance from the end of the snout; midbody scale rows 13; ventrals 189-194; anals 2; subcaudals 154-158. Larger ♂ (M. C. Z. 10274), 796 (518 + 278) mm., ♀, 1155 (768 + 387).

BOIGA IRREGULARIS IRREGULARIS (Merrem)

Coluber irregularis Merrem, 1802, in Bechstein, Herr de la Cepede's Naturg. Amphib., 4, p. 239, pl. xxxvii, fig. 1: No type locality.

Hurria pseudoboiga Daudin, 1803, Hist. Nat. Rept., 5, p. 277, pl. lix, figs. 8-9; lxvi, figs. 1 and 3: nom. nov. for *irregularis*.

Pappohis laticeps Macleay, 1877, Proc. Linn. Soc. N. S. W., 2, p. 39: Hall Sound, British New Guinea.

Pappohis flavigastra Macleay, 1877, Proc. Linn. Soc. N. S. W., 2, p. 40: "Kato" = Binaturi River, British New Guinea.

Dipsadomorphus irregularis papuanus Méhely, 1898, Termés. Füzetek (Budapest), 21, p. 172: Seleo Island near Berlinhafen, i.e. Aitape, Australian New Guinea (restricted).

Mislaid (M. C. Z. 7567) Manokwari, D. N. G. (T. Barbour) 1907.

2 (M. C. Z. 44179-80) Bulowat, A. N. G. (H. Stevens) 1933.

2 (M. C. Z. 48619-20) Aitape, A. N. G. (W. M. Beck) 1944.

Head (M. C. Z. 49490) southeast A. N. G. (C. W. Moren) 1944.

1 (M. C. Z. 49621) Mios Woendi, D. N. G. (G. H. Penn) 1944.

1 (U. S. N. M. 118821) Finschhafen, A. N. G. (A. M. Keefe) 1944.

1 (U. S. N. M. 119191) Gusiko, A. N. G. (J. F. Cassel) 1944.

2 (U. S. N. M. 119512-3) Gusiko, A. N. G. (W. H. Stickel) 1944.

1 (U. S. N. M. 120351) Mios Woendi, D. N. G. (G. H. Penn) 1944.

Preocular 1; postoculars 2; upper labials 9, the fourth, fifth and sixth entering the orbit; lower labials 12-14, the first 5 in contact with the anterior sublinguals; midbody scale rows 21; ventrals 230-255; anal 1; subcaudals 102-113. Largest ♂ (M. C. Z. 44179), 1816+ (1460 + 356+) mm., ♀ (M. C. Z. 48620), 1363 (1060 + 303) mm.

Color in life of a ♀ (U. S. N. M. 119512) as recorded by Stickel. Above, head olive brown, upper lip dull yellowish, paler where bordering mouth, marked with brownish anteriorly and posteriorly; body olive-brown becoming grayer laterally. Below, bright yellow anteriorly the ventrals on last two-thirds of body are pale, dull, pinkish-buffy medially, pink laterally; subcaudals whitish medially, pink laterally.

This snake was taken on the night of May 14 on coastal road about eighteen miles north of Gusiko, the road being flanked by Kunai grass with coral limestone cliffs about fifty feet away on either side. The young male from Gusiko was found dead on road passing through grassy flats on coral terrace and within one or two hundred feet of coral cliffs.

FORDONIA LEUCOBALIA (Schlegel)

Homalopsis leucobalia (Schlegel), 1837, Phys. Serp., 2, p. 345, pl. xiii, figs. 8-9:
Timor Island, Lesser Sunda Islands.
? *Fordonia Papuensis* Macleay, 1877, Proc. Linn. Soc. N. S. W., 2, p. 35:
"Katow" i.e. Binaturi River, British New Guinea.

♂, 4 ♀ ♀ (M. C. Z. 22813-7) Merauke, D. N. G. (P. T. L. Putnam)
1927.

No loreal; preocular 1; postoculars 2; upper labials 5, the third entering the orbit; lower labials 7, the first 3 or 4 in contact with the anterior sublinguals; midbody scale rows 25-27; ventrals 151-156; anals 2; subcaudals 31-39. Length of ♂ (M. C. Z. 22814), 565 (485 + 80) mm., largest ♀ (M. C. Z. 22813), 734 (657 + 77) mm. Coloration uniform or blotched. Nematodes (*Ortleppina longissima*) were recovered from the stomach of one specimen.

Boulenger suggests that *papuensis* Macleay, with 22 midbody scale rows and third labial excluded from the orbit, may be based on an aberrant individual, but Macleay states he had "several specimens." It is quite time someone reexamined them and settled the matter. Numerous differences make Macleay's description impossible to reconcile with *Cerberus r. novaeguineae*.

CERBERUS RYNCHOPS NOVAEGUINEAE subsp. nov.

Type. Museum of Comparative Zoölogy, No. 22818, an adult ♂ from Merauke, Dutch New Guinea, collected by P. T. L. Putnam in 1927.

Paratypes. Museum of Comparative Zoölogy, Nos. 22819-21 (♀, ♀, ♂) and a head, with same data as the type.

Diagnosis. Differs from typical *rynchops* in the lower number of subcaudals in both sexes, from *r. australis* as follows:

1. Midbody scales in 23-25, exceptionally 27, rows; ventrals less than 160 2
 Midbody scales in 27-29 rows; ventrals more than 160; range: Babuyan and Luzon Islands, Philippine Islands *microlepis*
2. Subcaudals 43-51 3
 Subcaudals 50-69 (49-72 in literature), viz. 50-62 for 32 ♀ ♀, 55-69 for 38 ♂ ♂; range: India and Ceylon east through Indo-China to the Philippine and Pelew Islands south to Timor *r. rynchops*
3. Nasal cleft usually (8 out of 10 sides) extending to first labial; loreal in contact with second, third and fourth labials (9 sides), or second and third only (1 side); range: New Guinea (? southern only) *r. novaeguineae*
 Nasal cleft usually extending to the second labial; loreal in contact with the second and third labials (7 sides), or second, third and fourth (1 side); range: northern Australia *r. australis*
C. r. australis also apparently differs from *novaeguineae* in its vivid color pattern. All four kinds of *Cerberus* are represented in the Museum of Comparative Zoölogy.

Description. (Of Paratypes, where they differ from the type, in parenthesis). Preocular 1; postoculars 2; upper labials 9-10; lower labials 9 (-10), the first 4 (3 on left side of uncatalogued head) in contact with the anterior sublinguals; midbody scale rows 23; ventrals 145 (-151); anals 2; subcaudals (43-) 49 (♂ ♂ 48-49, ♀ ♀ 43-44). Length of type ♂, 827 (690 + 137) mm., of ♀ (M. C. Z. 22819), 780 (656 + 124) mm.

That *Cerberus*, and not *Hurria*, is the correct name for this genus of water snakes has been pointed out by Malcolm Smith (1930, p. 61) who, however, (1943, p. 393) follows Boulenger (1896, p. 16) in misquoting Schneider's spelling of *rynhops*.

MYRON RICHARDSONII Gray

Myron richardsonii Gray, 1849, Cat. Snakes Brit. Mus., p. 70: Northwest Australia.

♂ (M. C. Z. 38963) Bivak Id., D. N. G. (Leiden Mus.) 1935.

Loreal 1; preocular 1; postoculars 2; upper labials 9, the fourth entering the orbit; lower labials 11, the first 3-4 in contact with the anterior sublinguals; midbody scale rows 21; ventrals 135; anals 2; subcaudals 39 pairs. Length of ♂, 356 (300 + 56) mm.

ELAPIDAE

ASPIDOMORPHUS SCHLEGELII (Günther)

Diemenia schlegelii Günther, 1872, Ann. Mag. Nat. Hist. (9), 4, pp. 14, 35:
Misool Island, Molucca Islands.

Pseudelaps muelleri insulae Barbour, 1908, Bull. Mus. Comp. Zoöl., 51, p. 320:
Djamna = Jamna Island, Dutch New Guinea.

Pseudelaps muelleri var. *concolor* Werner, 1925, Sitzb. Akad. Wiss. 134, Abt. 1, p. 63: Fakfak, Dutch New Guinea.

♀ (M. C. Z. 7080) Jamna Id., D. N. G. (T. Barbour) 1907.

♂ (M. C. Z. 7311) Fakfak, D. N. G. (T. Barbour) 1909.

♂ (M. C. Z. 38967) Salawati Id., D. N. G. (Leiden Mus.) 1935.

♂ ♀ (U. S. N. M. 119514-5) Toem, D. N. G. (W. H. Stickel) 1944.

♂ (U. S. N. M. 124929) Biak Id., D. N. G. (W. M. Welch) 1944.

Top of head unspotted or almost so; an uninterrupted light streak on side of head; snout flat; upper labials 6, the third and fourth entering the orbit; lower labials 6, the first 4 in contact with the anterior sublinguals; midbody scales 15; ventrals 140-148; anals 2; subcaudals 18-27. Largest ♂ (M. C. Z. 7311), 397 (358 + 39) mm., larger ♀ (M. C. Z. 7080), 387 (355 + 32) mm.

The Jamna Island female is holotype of *insulae*, here sexed and correctly measured for the first time. It was placed in the synonymy by Brongersma (1934, p. 235) who unravelled the involved synonymy of this species with *mulleri* and its numerous races.

ASPIDOMORPHUS MULLERI MULLERI (Schlegel)

Elaps mulleri Schlegel, 1837, Phys. Serp., 1, pp. 182, 243 (part), pl. xvi, figs. 16-17: In forest at base of Mount Lamantsiri, Lobo, Triton Bay, Dutch New Guinea.

♀ (M. C. Z. 38966) Salawati Id., D. N. G. (Leiden Mus.) 1935.

♂ ♀ (M. C. Z. 48621-2) Aitape, A. N. G. (W. M. Beck) 1944.

♂ (M. C. Z. 49486) Toem, D. N. G. (W. H. Stickel) 1944.

♂ ♀ (U. S. N. M. 119517-9) Toem, D. N. G. (W. H. Stickel) 1944.

Top of head with light-edged dark spots; a dark suborbital bar interrupts the light streak on side of head; snout sloping downwards; upper labials 7, the third and fourth entering the orbit; lower labials 7, the first 3 or 4, or first, third and fourth only, in contact with the anterior sublinguals; midbody scale rows 15; ventrals 162-177; anals

2; subcaudals 29-38. Largest ♂ (U. S. N. M. 119519), 662 (568 + 94) mm., ♀ (M. C. Z. 38966), 661 (585 + 76) mm.

PSEUDECHIS AUSTRALIS AUSTRALIS (Gray)

Naja australis Gray, 1842, Zool. Misc., p. 55: Northeast Australia.

♀ (M. C. Z. 22811) Merauke, D. N. G. (P. T. L. Putnam) 1927.

Rostral much broader than deep; internasals less than half as long as the prefrontals; frontal once and two-thirds as broad as long; upper labials 6, the third and fourth entering the orbit; midbody scale rows 17; ventrals 191; anals 2; subcaudals 53, *all single* except the last. Length of ♀, 1068 (910 + 158) mm.

The unique condition of the subcaudals in this snake has already been the subject of comment (Loveridge, 1927, p. 58).

MICROPECHIS IKAHEKA IKAHEKA (Lesson)

Coluber ikaheka Lesson, 1830, Zool., in Duperry, Voyage autour du Monde . . . sur . . . La Coquille, 2, pt. 1, p. 54, pl. v: Forests fringing Doreréy = Dore Harbor, Dutch New Guinea.

Naja elaps Schlegel, 1837, Phys. Serp., 2, p. 485: No type locality.

♂ (M. C. Z. 22377) Fakfak, D. N. G. (Brit. Mus.) 1926.

Preocular 1; postoculars 2; temporals 2 + 2; upper labials 6, the third and fourth entering the orbit; lower labials 7, the first 4 in contact with the anterior sublinguals; midbody scale rows 15; ventrals 183; anals 2; subcaudals 37-43 pairs. Length of ♂, 1064 (925 + 139) mm.

While there is apparently no appreciable difference in squamation, the striking coloring of this Fakfak specimen is as figured and described by Lesson and in my (1945, p. 161) key to the genus.

MICROPECHIS IKAHEKA FASCIATUS Fischer

Ophiophagus ikaheka var. *fasciatus* Fischer, 1884, Abhand. Nat. Ver. Hamburg., 8, p. 10, pl. vii, figs. 3a-c: Aru Islands.

♂♂ (M. C. Z. 48623-4) Aitape, A. N. G. (W. M. Beck) 1944.

♂ (U. S. N. M. 119520) Gusiko, A. N. G. (W. H. Stickel) 1944.

These males agree with the squamation given for the typical form except that the range of ventrals is 180–185; subcaudals 37–39. Largest perfect ♂ (M. C. Z. 48624), 1314 (1150 + 164) mm. In color pattern, being more or less banded, they agree with *i. fasciatus* and the Solomons' race *i. clapoides*. The Gusiko snake was taken after rain in a jungle ravine through which ran a small stream, where it was captured by J. M. Kern and Captain J. F. Mangrum.

ACANTHOPHIS ANTARCTICUS ANTARCTICUS (Shaw)

Boa antarctica Shaw, 1794, Nat. Misc., pl. ccccxxv: Australasia.

Boa palpebrosa Shaw, 1802, Gen. Zool., 3, p. 362: No type locality.

Acanthophis cerastinus Daudin, 1803, Hist. Nat. Rept., 5, p. 289, pl. lxxvii: No type locality.

Acanthophis laevis Macleay, 1877, Proc. Linn. Soc. N. S. W., 2, p. 40: "Katow"
= Binaturi River, British New Guinea.

♀ (M. C. Z. 7565) Manokwari, D. N. G. (T. Barbour) 1907.

♂ (M. C. Z. 38965) Great Kei Id. (Leiden Mus.) 1935.

♀ (M. C. Z. 44176) Surprise Creek, A. N. G. (H. Stevens) 1933.

juv. (M. C. Z. 46492) Buna, B. N. G. (C. W. Moren) 1944.

♀ (U. S. N. M. 119192) Gusiko, A. N. G. (J. F. Cassel) 1944.

juv. (U. S. N. M. 119516) Toem, D. N. G. (W. H. Stickel) 1944.

Head shields smooth; preocular 1; postoculars 2; suboculars 1–3; upper labials 6–7; lower labials 7–8, the first 4, or first, third and fourth only, in contact with the anterior sublinguals; temporals 1 + 2, 1 + 3, 2 + 2 or 2 + 3; midbody scale rows 21–22 (actually 19 or 20 at precise midbody of M. C. Z. 38965); ventrals 111–131; anal 1; subcaudals 43–51. Largest, a ♀ (M. C. Z. 44176), 591 (490 + 101) mm.

Nematodes (*Abbreviata* sp., *Kalicephalus* sp., and ♀ Spiruroidea) were recovered from the stomach of the Manokwari death adder.

ACANTHOPHIS ANTARCTICUS RUGOSUS subsp. nov.

Type. Museum of Comparative Zoölogy, No. 22812, an adult ♂ from Merauke, southwest Dutch New Guinea, collected by P. T. L. Putnam in 1927.

Paratype. A head with same data as type.

Diagnosis. Head shields very strongly rugose, otherwise like the typical banded form of *antarctica* figured by Shaw which appears to have smooth head shields.

Description. Preocular 1; postoculars 2; suboculars 2-3; upper labials 7 (6 in paratype); lower labials 8, the first 4 in contact with the anterior sublinguals; temporals 2 + 3; midbody scale rows 21; ventrals 119; anal 1; subcaudals 48, the first 30 single, the posterior 18 paired. Length of type ♂, 595 (500 + 95) mm. Body with 30 broad, dark crossbands, tail with 10.

HYDROPHIIDAE

From Australian or Indonesian oceans the Museum of Comparative Zoölogy has all but two of the score of sea snakes definitely known as occurring on the coasts of New Guinea and the Aru Islands. Only those clearly taken from New Guinean seas are dealt with below.

LATICAUDA LATICAUDATA (Linné)

Coluber laticaudatus Linné (part), 1758, Syst. Nat. (ed. 10), 1, p. 222: "Indiis."

♀ (M. C. Z. 23793) Geelvink Bay, D. N. G. (M. A. Smith) 1927.

Prefrontals 2; upper lip brown; midbody scale rows 19; ventrals about 226. Tail missing.

LATICAUDA COLUBRINA (Schneider)

Hydrus colubrinus Schneider, 1799, Hist. Amphib., 1, p. 238: No type locality.

♂ (M. C. Z. 10546) British New Guinea (Queensland Mus.) 1914.

Prefrontals 3; upper lip mostly white; midbody scale rows 23; ventrals 219; anals 2; subcaudals 43. Length 399 (350 + 49) mm.

HYDROPHIS FASCIATUS ATRICEPS Günther

Hydrophis atriceps Günther, 1864, Rept. British India, p. 371, pl. xxv, figs. I-I': Siam.

♂ (U. S. N. M. 124637) Toem, D. N. G. (W. H. Stickel) 1944.

Prefrontals 2; head black except for a light postocular and another temporal spot; midbody scale rows 40; ventrals 340; anals 2; subcaudals 56. Length 873 (785 + 88) mm.

The snake (M. C. Z. 29787) from Broome, West Australia, which I (1934, p. 295) referred to this race, is, in reality, an example of *Hydrophis elegans* (Gray).

SALIENTIA

HYLIDAE

The arrangement of species is substantially that of van Kampen (1923, p. ix). Though that author refers to a very small outer metatarsal tubercle being present in *montana*, *arfakiana* and *congenita*, actually it is a small subarticular tubercle at the base of the fourth toe to which he alludes. None of the sixteen species mentioned below have an outer metatarsal tubercle. For the sake of brevity the word "eye" is used instead of "orbital diameter," and "heel" in place of "tibio-tarsal articulation of the adpressed hind limb."

HYLA GRAMINEA Boulenger

Hyla graminea Boulenger, 1905, Ann. Mag. Nat. Hist. (7), 16, p. 183: At 9,000 feet, northern British New Guinea.

♀ (M. C. Z. 26526) Toem, D. N. G. (W. H. Stickel) 1944.

♂ (U. S. N. M. 119172) Milne Bay, B. N. G. (J. F. Cassel) 1944.

♂ (U. S. N. M. 119543) Mios Woendi, D. N. G. (G. H. Penn) 1944.

Vomerine teeth between the choanae; head as long as broad; snout once and a half to once and two-thirds as long as the eye; interorbital space nearly twice as long as an upper eyelid; tympanum three-quarters the eye diameter; outer finger webbed to disk; heel reaches to between eye and nostril (♂. ♀) or beyond end of snout (U. S. N. M. 119543). This last specimen, therefore, would run down to *H. rhacophorus*, quite a different frog, in van Kampen's (1923, p. 24) key. Larger ♂ (U. S. N. M. 119543) measures 73 mm., ♀, 65 mm.

Parker (1936, p. 76) refers to a 69 mm. ♂ from Kokoda, B. N. G., as the largest and second known example of this species.

HYLA NIGROPUNCTATA (Meyer)

Hyperolius nigropunctatus Meyer, 1874, Monatsb. Akad. Wiss. Berlin, p. 139: Jobi Island, Geelvink Bay, Dutch New Guinea.

Hyla bernsteini Horst, 1883, Notes Leyden Mus., 5, p. 241: "Gebeh," i.e. Gebe (restricted) and Salawati Islands, Dutch New Guinea.

Hyla ouwensii Barbour, 1908, Bull. Mus. Comp. Zoöl., 51, p. 325: Pom, north coast of Jobi = Japen Island, Dutch New Guinea.

Hyla (Hylella) nigromaculata (Meyer) Barbour, 1908, Bull. Mus. Comp. Zoöl., 51, p. 325: *Nomen nudum*, being lapsus for *nigropunctata*, and nothing to do with *Hyla nigromaculata* (Tschudi) of Brazil.

Hyla atropunctata van Kampen, 1923, Amphib. Indo-Australian Archip., p. 37: nom. nov. for *nigropunctata* Meyer, believed preoccupied.

Type ♀ (M. C. Z. 2434) Pom, D. N. G. (T. Barbour) 1903.

♀ (M. C. Z. 9392) New Guinea (Berlin Mus.) 1922.

? ♀ (U. S. N. M. 121216) Dobodura, A. N. G. (G. M. Kohls) 1944.

Vomerine teeth absent; head as long as, or slightly longer than, broad; snout once and a half as long as the eye; interorbital space as broad as, or broader than, an upper eyelid; tympanum half the eye diameter; outer finger webbed to disk; heel reaches to between eye and nostril (M. C. Z. 9392), end of snout (M. C. Z. 2434), or just beyond (U. S. N. M. 121216). The light area on posterior portion of upper jaw is present only in M. C. Z. 9392, but all three exhibit the striking and apparently characteristic black streak on the hind side of thigh and tibia. Largest ♀ (M. C. Z. 2434), 35 mm.

Thus this frog, the type of *ouwensii* is now an eighth of an inch less than the "about an inch and a half" of the original description; its tympanum is clearly equal to half (*not* "a fifth") the eye diameter; the tibio-tarsal articulation does not reach "a considerable distance beyond the snout." The only remaining difference between it and *nigropunctata*, though not mentioned in the description, is a series of white tubercles on the hinder side of the forearm, their position is indicated in one of the others; in *montana* I found the presence of similar tubercles dependent on age.

Hyla nigromaculata appears to be a lapsus for *nigropunctata* (Meyer) for I have failed to find it in the literature prior to 1908. But M. C. Z. 9392 which has borne this name in the collection for almost a quarter of a century, has a curious history. Accompanying it from Berlin was a label that read "*Hyla nigromaculata* Mey. Neu Guinea." However the letters "*cul*" were illegible and in transcribing the name to the M. C. Z. label Barbour wrote "*Hyla nigromarginata* Mayer," and so it remained until recently.

The question arises as to whether this Berlin frog could be the type of *nigropunctata*, no mention having been made of more than one. This, however, seems unlikely as it differs in several points, viz. Nostril twice as far from eye as from tip of snout (*not* a little nearer tip of snout); outer finger almost webbed to disk (*not* almost half-webbed); heel reaches nostril (*not* tip of snout or beyond). Length 31 (*not* 27) mm.; breadth of head 9 (*not* 10) mm.; length of forelimb 11 (*not* 17) mm.; length of hind limb 43 (*not* 47) mm. It should be mentioned that its rather shrivelled state would indicate that the frog had dried out at some time. From its appearance it might well have been collected at the same time as the type.

Boulenger (1882, p. 421) referred Meyer's *nigropunctata* to *Hylolla*,

a genus considered unrecognizable by van Kampen (1923, p. 37) who, on transferring *nigropunctata* to *Hyla* renamed it *atropunctata* on the grounds that *nigropunctata* was preoccupied in *Hyla* by a Mexican species of Cope. Actually it is the Mexican frog that requires re-naming.

HYLA DARLINGTONI Loveridge

Hyla darlingtoni Loveridge, 1945, Proc. Biol. Soc. Washington, 58, p. 53: Mount Wilhelm, Bismarek Range, Madang Division, Australian New Guinea.

Type ♀ (M. C. Z. 25890) Mt. Wilhelm, A. N. G. (P. J. Darlington) 1944.

Vomerine teeth between the choanae; head as long as broad; snout twice as long as the eye; interorbital space nearly twice as broad as an upper eyelid; tympanum seven-eighths the eye diameter; outer finger three-quarters webbed but continued as a fringe to the disk; heel reaches to anterior border of eye. Length of gravid ♀, 50 mm.

HYLA MONTANA MONTANA Peters & Doria

Hyla (Litoria) montana Peters & Doria, 1878, Ann. Mus. Civ. Stor. Nat. Genova, 13, p. 423, pl. vii, fig. 1: Hatam, Arfak Mountains, Dutch New Guinea.

Hyla papua van Kampen, 1909, Nova Guinea, 9, p. 33, pl. ii, fig. 2: "Noord Fluss" = Lorentz River, near Bivak Island, Dutch New Guinea.

?*Hyla pulchra* Wandolleck, 1911, Abhand. Ber. König. Zool. Mus. Dresden, 13, No. 6, p. 12, pl. xii, figs. 50-59: Locality omitted.

1 (M. C. Z. 9382) New Guinea (Berlin Mus.) 1922.

24 (M.C.Z. 25880-9) Toromanbanau, A. N. G. (P. J. Darlington) 1944.

Vomerine teeth in two *oblique* series between the choanae; head as long as, or slightly longer or shorter than, broad; snout once and a quarter to once and a half as long as the eye; interorbital space as broad as, or once and a quarter times as broad as, an upper eyelid; tympanum two-fifths (♀) to half the eye diameter; outer finger half-webbed; forearm with a white, crenulated, dermal fold extending as a ridge along outer edge of fourth finger; heel reaches to anterior border of eye or well beyond end of snout. The Tarambanau series consists of one tadpole; one young frog (23 mm. from snout to anus) with stump of tail; one young (21 mm.) without trace of tail; four males

(sexed by dissection, ranging from 44–52 mm.) with uncolored nuptial pads, and twenty males (48–52 mm.) with brown nuptial pads; a single ♀ (M. C. Z. 25880) measuring 76 mm.

Toromanbanau, 7500 feet, in the Bismarck Range, is far removed from the Arfak Mountains in the northwest of the island, but the gap is bridged to a considerable extent by van Kampen's (1923, p. 34) records. The series agrees well with his detailed description except that the vomerine teeth are not in two "transverse" rows as depicted in Peters and Doria's poor illustration, and for the absence of an alleged outer metatarsal tubercle already discussed.

HYLA MONTANA PRATTI Boulenger

Hyla pratti Boulenger, 1911, Ann. Mag. Nat. Hist. (8), 8, p. 55: Wendessi, and others from the Arfak Mountains at 8000 feet, Dutch New Guinea.

1 (M. C. Z. 11651) Angi Lakes, Arfak Mtns., D. N. G. (Brit. Mus.) 1925.

Vomerine teeth between the choanae; head as long as broad; snout one and a half times as long as the eye; interorbital space as broad as an upper eyelid; tympanum half the eye diameter; outer finger a third webbed; heel reaches the nostril. Length of gravid ♀, 51 mm.

This frog shows such close relationship to *montana* of the same mountains that I venture to regard it as a subspecies with probable habitat differences. Structurally it differs from *montana* only in the less deeply emarginate tongue; less webbed fingers, the outer being a third instead of half-webbed, absent between first and second fingers and so deeply emarginate that when it does reach the tubercles of second, third, and fourth it does so only as a narrow margin; similarly the second toe is webbed to the tubercle on one side only though to the disk on the other, fifth toe to the disk. One clump of vomerine teeth have never been developed in this individual.

HYLA PYGMAEA (Meyer)

Hyperolius pygmaeus Meyer, 1874, Monatsb. Akad. Wiss. Berlin, p. 139: Jobi Island, Dutch New Guinea.

Hylella boulengeri v. Méhely, 1897 (not *Seytopsis boulengeri* Cope, 1887), Termész. Füzetek, 20, p. 414, pl. x, fig. 8: "Friederich-Wilhelmshafen" i.e. Madang, Australian New Guinea.

Hyla fallax Boulenger, 1898, Proc. Zool. Soc. London, p. 482, pl. xxxix, fig. 4:
"Katow" = Binaturi River, British New Guinea.

Hyla mehelyi Nieden, 1923, Das Tierreich, **46**, Anura, **1**, p. 215: nom. nov. for
boulengeri (v. Méhely) preoccupied in *Hyla*.

1 (M. C. Z. 9384) New Guinea (Berlin Mus.) 1922.

47 (M. C. Z. 25864-5, 26010-9) Aitape, A. N. G. (W. M. Beck) 1944.

7 (U. S. N. M. 119202-8) Toem, D. N. G. (W. H. Stickel) 1944.

Vomerine teeth (absent in young and a 25 mm. frog from Toem) between the posterior borders of the choanae; head as long as, or slightly longer or shorter than, broad; snout once and a quarter times as long as the eye; interorbital space as broad as, or once and a quarter times as broad as, an upper eyelid; tympanum half to two-thirds the eye diameter; outer finger half to two-thirds webbed; heel reaches eye, nostril, or (U. S. N. M. 119203-4) just beyond end of snout. Largest ♂ (M. C. Z. 26011) 32 mm., ♀ (M. C. Z. 26010) 34 mm.; smallest of the young 14 mm. (Meyer's type was 15 mm.).

The juvenile dorsal pattern figured by van Kampen (1923, p. 36, fig. 4) and others, is highly variable and by no means confined to the young, though the majority of adults tend to be uniformly yellowish green or brown above.

HYLA ARFAKIANA Peters & Doria

Hyla arfakiana Peters & Doria, 1878, Ann. Mus. Civ. Stor. Nat. Genova, **13**, p. 421, pl. vi, fig. 2: Hatam, Arfak Mountains, Dutch New Guinea.

♂ (M. C. Z. 10754) Hellwig Mtns., D. N. G. (Amsterdam Mus.) 1925.

♂, 4 ♀, 2 juv. (M. C. Z. 23293-9) Mt. Misim, A. N. G. (H. Stevens) 1933.

Vomerine teeth in usually oblique series between the choanae; head as long as (young), or shorter than, broad; snout as long as, or longer than, the eye; interorbital space as broad as, more usually broader than, an upper eyelid; tympanum one-third to half (M. C. Z. 23296) the eye diameter; outer finger one-third to half-webbed; *no* outer metatarsal tubercle; heel reaches eye to well beyond end of snout in both sexes; undersurfaces characteristically marbled or vermiculated with brown. Larger ♂ (M. C. Z. 23294), 66 mm., ♀ (M. C. Z. 23293), 80 mm., young 33 mm.

A frog of this species was recovered from the stomach of a bronze-back tree snake (*Ahaetulla calligaster schenkeri*).

HYLA BRONGERSMAI Loveridge

Hyla brongersmai Loveridge, 1945, Proc. Biol. Soc. Washington, 58, p. 56: Parana Valley, Dutch New Guinea.

Type ♂ (M. C. Z. 15203) Parana Valley, D. N. G. (P. Wirz) 1925.

Vomerine teeth absent; head as long as broad; snout once and a third as long as the eye; interorbital space once and a half as broad as an upper eyelid; tympanum three-quarters the eye diameter; outer finger half webbed; heel reaches end of snout. Length of adult ♂, 24 mm.

This frog was received from the late Dr. Jean Roux as *Hyla arfakiana* Peters & Doria, but has little in common with that 70 mm. species, being adult at 24 mm.

HYLA BICOLOR (Gray)

Eucnemis bicolor Gray, 1842, Zool. Misc., p. 57: Port Essington, Northern Territory, Australia.

5 (M. C. Z. 12846-50) Merauke, D. N. G. (P. T. L. Putnam) 1927.

32 (M. C. Z. 25853-62) Aitape, A. N. G. (W. M. Beck) 1944.

12 (M. C. Z. 26036-40) Aitape, A. N. G. (W. M. Beck) 1944.

8 (M. C. Z. 25996-97) near Darwin, N. T. (T. R. Tovell) 1944.

The almost topotypic Darwin series are from Knuckey's Lagoon about nine miles south of the port. This material is separable into three groups of which the Darwin and ten of the first Aitape series may be regarded as typical, their characters being:

Vomerine teeth absent; head as long as broad; snout once and a quarter to once and a half times as long as the eye; interorbital space broader than an upper eyelid; tympanum half to two-thirds the eye diameter; outer finger one-third webbed; heel reaches eye or end of snout. Largest ♂ (M. C. Z. 25997), 26 mm., gravid ♀ (M. C. Z. 25855), 26 mm., youngest are 20 mm.

As the remaining 22 specimens of the first Aitape series are juveniles without vomerine teeth they may be referable to either the first or the second group of *bicolor* discussed here. This second group is characterized by 6 ♂♂ and 6 ♀♀ (M. C. Z. 26036-40) which may be considered as adult for the females are gravid. They apparently differ only in the possession of vomerine teeth and larger size. The possibility of their representing *albolabris* Wandolleck, described from Aitape, is rejected principally because that species is said to have to have

a tympanum only one-third the eye diameter, toes narrowly webbed, upper surface marbled with lighter, lower spotted with brown, and length which is given as about 40 mm. The largest of both sexes (♂ M. C. Z. 26036; ♀ M. C. Z. 26037) in our series measure exactly 30 mm., females of that size being gravid. These twelve adults exhibit some average differences from adults in group one but nothing constant. The tympanum is three-quarters to seven-eighths the eye diameter, while the heel reaches eye (in 1), nostril (in 7), or beyond end of snout (in 4).

The third group is composed of the Merauke frogs in which the heel reaches the end of snout (in 3), or well beyond (in 4). They were seen by van Kampen in 1927 and thought to be referable to *bicolor* though he added that the possibility of their being the young of some larger species should not be ruled out. In size they range from 19-25 mm.

HYLA THESAURENSIS Peters

Hyla thesaurensis Peters, 1877, Monatsb. Akad. Wiss. Berlin, p. 421: Treasury Island, Solomon Islands (2 ex., 28 mm.).

Hyla impura Peters & Doria, 1878, Ann. Mus. Civ. Stor. Nat. Genova, **13**, p. 426, pl. vii, fig. 2: Yule Island, British New Guinea (2 ex., 42 mm.).

Hyla macrops Boulenger, 1883, Ann. Mag. Nat. Hist. (5), **12**, p. 164: Treasury Island, Solomon Islands (♂, 38 mm.).

Hyla macgregori Ogilby, 1890, Rec. Australian Mus., **1**, p. 100: St. Joseph's River = Kito River, British New Guinea (26 ex., max. 30 mm.).

Hyla solomonis Vogt, 1912, Sitzb. Ges. Naturf. Freunde Berlin, p. 10: Bougainville Island, Solomon Islands (♂, 48 mm.).

♀ (M. C. Z. 9373) New Guinea (Berlin Mus.) 1922.

♂ (M. C. Z. 15202) Pionierbiwak, Mamberamo River, D. N. G. (P. Wirz) 1925.

6 ♂ 3 ♀, 75 juv. (M. C. Z. 25866-7, 26020-9) Aitape, A. N. G. (W. M. Beck) 1944.

juv. (M. C. Z. 26067) Liki Id., opp. Sarmi, D. N. G. (W. H. Stickel) 1944.

♂, 2 juv. (M. C. Z. 26068; U. S. N. M. 119200-1) Toem, D. N. G. (J. H. Kern).

Vomerine teeth (absent in very young, developed on left side only in adult M. C. Z. 9373) in oblique, or roundish, groups between the choanae; head as long as, or slightly longer than, broad; snout once and a half times as long as the eye; interorbital space once and a quarter to once and three-quarters as broad as an upper eyelid;

tympanum half to three-quarters the eye diameter; outer finger one-third to half-webbed (U. S. N. M. 119201); outer aspect of forearm with a row of white spots or tubercles; heel reaches eye, nostril (U. S. N. M. 119200 ad. ♂; 119201 juv.) or beyond end of snout (M. C. Z. 26028, etc.). All largest ♂♂ measure 40 mm., females of 43-45 mm. in the Aitape series are gravid, juv. 12-28 mm.

All these seventy-four 12-28 mm. juveniles from Aitape display evidence of recent metamorphosis in an unusually distinct, diamond-shaped, dermal marking around the insertion of the arms. Very few exhibit vomerine teeth. Otherwise they agree with the characters given above except that the developing tympanum is sometimes smaller and there is no sign of tubercles along the forearm. Below, they are immaculate except for a few individuals possessing some conspicuous, scattered, black spots. In this connection it is interesting to note that one adult male shows similar azygous spotting. Thirty-eight of these juveniles, ranging from 16-26 mm., show, though often faintly, a light, broad, vertebral stripe from occiput to anus, at times a pair of dorso-lateral lines are also distinguishable. Though this livery resembles that of the type of *thesaurensis* it is not so conspicuous in these formalin-preserved specimens.

Only one Aitape juvenile (the seventy-fifth), 26 mm. in length, has assumed the three light lines distinctly, but unlike the others the skin around its arms no longer shows any marking, while the tubercles on the outer aspect of the forearm are visible. The three juveniles from other localities range from 22-27 mm., and all display the striped livery. Adults are uniformly olive, brown, or gray above.

The Museum of Comparative Zoölogy is fortunate in possessing a fine series of *thesaurensis* from nine different islands in the Solomon group, and this material clearly demonstrates the untenability of *macrops* and *solomonis*. The reasons for this will be set forth in a report on the herpetofauna of the islands by Mr. W. C. Brown.

The New Guinea species were separated on the grounds that the vomerine teeth were "between the posterior borders of the choanae," instead of "between the choanae." Actually they are between the choanae in both Solomons and Guinean frogs though a slight tilting of the head may give the impression that they are situated between the posterior borders. While *H. impura* was based on the uniformly colored adult, *macgregori* was described from the strikingly striped and patterned young, duplicating what occurred in the Solomons with *thesaurensis* (young) and *macrops* (adult) from Treasury Island.

One juvenile (M. C. Z. 26068) was taken squatting on a leaf in the scrub (J. H. K.).

HYLA ANGULARIS Loveridge

Hyla angularis Loveridge, 1945, Proc. Biol. Soc. Washington, **58**, p. 54: Mount Wilhelm, Bismarek Range, Madang Division, Australian New Guinea.

Type ♂, 9 juv. (M. C. Z. 25891-9) Mt. Wilhelm, A. N. G. (P. J. D.) 1944.

Vomerine teeth between the choanae; head longer than broad; snout once and a half as long as the eye; interorbital space nearly twice as broad as an upper eyelid; tympanum about half the eye diameter; outer finger half-webbed; heel reaches the nostril. Length of ♂, 45 mm., juveniles 17-38 mm.

In van Kampen's (1923, p. 26) key the nearest relative appears to be *H. everetti* Boulenger, of Timor, to which species it bears little resemblance.

HYLA INFRAFRENATA INFRAFRENATA Günther

Hyla infrafrenata Günther, June 1867, Ann. Mag. Nat. Hist. (3), **20**, p. 56: Cape York, Queensland.

Calamita dolichopsis Cope, September 1867, Journ. Acad. Nat. Sci. Philadelphia (2), **6**, p. 204: Amboina Island, Molucca Islands.

Litoria guttata Macleay, 1878, Proc. Linn. Soc. N. S. Wales, **2**, p. 137: "Katow" = Binaturi River, British New Guinea.

Hyla dolichopsis var. *tenuigranulata* Boettger, 1895, Zool. Anz., **18**, p. 136: Halmahera Island, Molucca Islands.

Hyla spengleri Boulenger, 1912, Zool. Jahrb. Suppl., **15**, p. 215: Dinawa, Owen Stanley Mountains, British New Guinea.

♀, juv. (M. C. Z. 2675) Sorong, D. N. G. (T. Barbour) 1907.

♂♂ (M. C. Z. 2678) Ternate Id., Moluccas (T. Barbour) 1907.

♀ (M. C. Z. 2680) Manokwari, D. N. G. (T. Barbour) 1907.

14 (M. C. Z. 12143-9; 12158-64) Merauke, D. N. G. (P. T. L. Putnam) 1927.

♂ (M. C. Z. 24288) Karakelang Id., (D. Fairchild) 1940.

♀, 7 juv. (M. C. Z. 25868-72) Aitape, A. N. G. (W. M. Beck) 1944.

♂ (M. C. Z. 26055) Finschhafen, A. N. G. (L. W. Jarcho) 1944.

♂ (M. C. Z. 26056) Gusiko, Kalueng River, A. N. G. (D. Crocker) 1944.

♀ (M. C. Z. 26057) Hollandia, D. N. G. (N. Moren) 1944.

12 (M. C. Z. 26058-63) Toem, D. N. G. (W. H. Stickel) 1944.

3 ♂♂ (M. C. Z. 26064-6) Liki Id., D. N. G. (W. H. Stickel) 1944.

♂ (U. S. N. M. 57718) Sorong, D. N. G. (T. Barbour) 1907.

♀ (U. S. N. M. 119744) Finschhafen, A. N. G. (A. Keefe)

♀ (U. S. N. M. 121215) Sansapor, D. N. G. (G. M. Kohls) 1943.

Vomerine teeth (absent or only indicated in 22 mm. juveniles) between the choanae; head as long as, or slightly longer than, broad; snout once and a half to twice (M. C. Z. 2678, 12148, 25868, 25871) as long as the eye; interorbital space once and a quarter to once and three-quarter times as broad as an upper eyelid; tympanum (absent on right side of M. C. Z. 12143) two-thirds to ten-elevenths the eye diameter; outer finger half (young) to two-thirds (adults) webbed; heel reaches eye or beyond end of snout. Largest ♂♂ (M. C. Z. 26064-6) measure 100 mm., ♀ (M. C. Z. 26057), 130 mm., smallest frog (M. C. Z. 26062) 21 mm.

H. spengleri was based on an exceptionally large 115 mm. frog which differed from most *infrafnata* in having a tympanum "as large as the eye," instead of the normal two-thirds to four-fifths. In seven frogs listed above with snout to anus lengths ranging from 34 to 115 mm. in length the tympanum eye relationship in millimetres is 3/, 3/45, 3/5, 3.5/5, 4/5, 5/7:5, 6/9, 10/11. This seems to indicate that with growth there is a tendency for the tympanum to increase in size more rapidly than the eye. As Kinghorn (1928, p. 289) once suggested might happen, *H. spengleri* must be regarded as a synonym of *infrafnata*.

The color in life, or rather 45 minutes after death, of a 118 mm. ♀ (M. C. Z. 26059) from Toem, was recorded by the collector. "Above, bright green; labial margin, palate, tongue, and tympanum, lavender, the tympanum with a bar of green above; iris metallic reddish brown, pupil a horizontal slit; anal region light green; groins lavender; femora anteriorly and posteriorly green tinged with lavender; anterior edge of tibia narrowly tinged with reddish brown; anterior side of talus lavender extending on to first three toes and all webs; two outer toes green, lavender, and reddish brown; two outer webs striped mesially with green suffused with reddish brown; top of tarsus green followed by a narrow stripe of pale whitish lavender; rear and under side of tarsus dull lavender.

"Below, lower jaw edged with cream and lavender; throat and chin bright yellowish green; chest pale yellowish green; belly whitish tinged with lavender; forelimbs dull white; palms pale lavender; tibia mesially dirty white, dirty gray towards sides; femur pale greenish gray suffused with lavender; soles lavender." (W. H. Stickel).

This ♀ was taken in a foxhole at Toem, a second one as large was captured at night (2.ix.44) on the ground in a coconut grove; several very young examples in camp (4.x) or in a puddle in the grove (viii), on a young banana plant (i.ix), on a leaf in thicket (25.ix), while the only adult ♂ was caught when singing on the side of a tent (27.ix).

HYLA INFRAFRENATA MILITARIA (Ramsay)

Pelodryas militarius Ramsay, 1878, Proc. Linn. Soc. N. S. Wales, **2**, p. 28:
New Ireland, New Britain Archipelago.

Hyla dolichopsis var. *pollicaris* Werner, 1898, Zool. Anz., **21**, pp. 554, 556:
Ralum, New Britain Archipelago.

♀ (M. C. Z. 3580) New Britain (Australian Mus.) 1914.

Vomerine teeth between the choanae, head shorter than broad; snout once and a half times as long as the eye; interorbital space nearly twice as broad as an upper eyelid; tympanum half the eye diameter; outer finger two-thirds webbed; heel reaches beyond end of snout. Length of ♀, 125 mm.

As this frog apparently differs from *infrafrenata* only in its possession of a strongly projecting rudiment of pollex, it seems reasonable to regard it as the representative of that species in the New Britain Archipelago.

HYLA CAERULEA (Shaw)

Rana caerulea Shaw, 1790, in White, Journ. Voy. N. S. Wales, App., p. 248,
pl. —: New South Wales (presumed, not stated).

Hyla irrorata de Vis, 1884, Proc. Roy. Soc. Queensland, **1**, p. 128: Gympie,
Queensland.

Hyla gilleni Spencer, 1896, in Rep. Horn Sci. Exped., **2**, p. 173, pl. xv, figs.
14–17: Alice Springs, Central Australia.

8 (M. C. Z. 12151–7; U. S. N. M. 75985) Merauke, D. N. G.
(P. T. L. Putnam) 1927.

Vomerine teeth between the posterior borders of the choanae; head shorter than broad; snout once and a quarter to once and a half as long as the eye; interorbital space once to once and a half times as broad as an upper eyelid; tympanum two-thirds to four-fifths the eye diameter; outer finger half-webbed; heel reaches tympanum or eye. Largest ♀ (M. C. Z. 12151), 86 mm., smallest frog (M. C. Z. 12152), 55 mm.

Though the Museum of Comparative Zoölogy has so little New Guinean material of *caerulea*, the species is represented in the collections by topotypes and frogs from ten Australian localities. From the brief description of the young frog that Macleay named *Litoria guttata*, long synonymized with *infrafrenata*, it seems just possible that the species was based on a young *caerulea*? Whether all the very young frogs from Aitape and Toem referred to *infrafrenata* (p.402)

are really that species and not *caerulea* has been carefully considered but cannot be said to be beyond question.

HYLA CONGENITA Peters & Doria

Hyla (Litoria) congenita Peters & Doria, 1878, Ann. Mus. Civ. Stor. Nat. Genova, **13**, p. 247, pl. vi, figs. 4-5: Yule Island, British New Guinea.

♀ (M. C. Z. 11650) Upuli, B. N. G. (Brit. Mus.) 1925.

Vomerine teeth behind the level of the posterior borders of the choanae; head as long as broad; snout once and a quarter times as long as the eye; interorbital space once and a quarter times as broad as an upper eyelid; tympanum half the eye diameter; outer finger half-webbed; heel reaches eye. Length of gravid ♀, 35 mm.

HYLA BECKI Loveridge

Hyla becki Loveridge, 1945, Proc. Biol. Soc. Washington, **58**, p. 55: Mount Wilhelm, Bismarek Range, Madang Division, Australian New Guinea.

Type ♂ + 39 (M. C. Z. 25900-9) Mt. Wilhelm, A. N. G.
(P. J. Darlington) 1944.

Vomerine teeth between the posterior borders of the choanae; head as long as, or slightly longer than, broad; snout once and a half times as long as the eye; interorbital space once and a third times as broad as an upper eyelid; tympanum about half the eye diameter; outer finger without web; heel reaches eye or well beyond end of snout. Length of type ♂ (M. C. Z. 25900) 38 mm.

H. vagabunda Peters & Doria appears to be the nearest relative of *H. becki*.

NYCTIMYSTES PAPUA (Boulenger)

Nyctimantis papua Boulenger, 1897, Ann. Mag. Nat. Hist. (6), **19**, p. 12, pl. i, fig. 5: Mount Victoria, Owen Stanley Mountains, British New Guinea.

Cotype ♀ (M. C. Z. 12838) Mt. Victoria, B. N. G. (Brit. Mus.) 1927.

5 ♂♂ (M. C. Z. 21816-20) Mondo, B. N. G. (L. E. Cheesman) 1934.

Vomerine teeth between the choanae; head as long as, or slightly shorter than, broad; snout once and a quarter times as long as the eye; interorbital space as broad as an upper eyelid; tympanum one-third to half the eye diameter even in the male series; outer finger one-third

(♂♂) to half-webbed (♀); heel reaches end of snout or beyond. Length of largest ♂ (M. C. Z. 21820), 51 mm., of gravid ♀, 55 mm.

Parker (1936, p. 77, fig. 78) discusses the Mondo series and his figure depicts the degree of webbing of the outer finger which I should call a third-webbed, attributing its contraction to preservation in too strong alcohol. In the ♀ cotype the webbing is clearly half, which would place it as *semipalmata* sp. n. in Parker's synopsis (p. 77), but it lacks the large lappet on the heel possessed by *semipalmata*. It will be noted also that I do not find the snout of *papua* as long as the eye.

NYCTIMYSTES MILNEANA Loveridge

Nyctimystes milneana Loveridge, 1945, Proc. Biol. Soc. Washington, **58**, p. 57: Milne Bay, Eastern Division, British New Guinea.

Type ♀ (M. C. Z. 11652) Milne Bay, B. N. G. (Brit. Mus.) 1925.

Vomerine teeth between the choanae; head slightly longer than broad; snout once and a half times as long as the eye; interorbital space narrower than an upper eyelid; tympanum two-thirds the eye diameter; outer finger half-webbed; heel reaches halfway between eye and end of snout. Length of gravid ♀, 48 mm.

NYCTIMYSTES MONTANA Parker

Nyctimystes montana Parker, 1936, Ann. Mag. Nat. Hist. (10), **17**, p. 80, fig. 4: Mondo, 5,000 ft., British New Guinea.

Paratype ♂♂♂ (M. C. Z. 21327-9) Mondo, B. N. G. (L. E. Cheesman) 1934.

Vomerine teeth between the choanae; head slightly longer than broad; snout once and a half times as long as the eye; interorbital space once and a quarter times as broad as an upper eyelid; tympanum half the eye diameter; outer finger half-webbed; heel reaches nostril or beyond end of snout. Length of largest ♂, 45 mm.

RANIDAE

[PLATYMANTIS CORRUGATUS CORRUGATUS (A. Duméril)]

Hylodes corrugatus A. Duméril, 1853, Ann. Sci. Nat. (3), **19**, p. 176: "Java."
Platymantis plicifera Günther, 1858, Cat. Batr. Sal. Brit. Mus., p. 95, pl. viii, fig. B: Philippines.

Rana rugata van Kampen, 1923, Amphibia Indo-Australian Archipelago, pp. 162, 190: nom. nov. for *corrugata* A. Dum., preoc. in *Rana*.

As Duméril in his description of *corrugatus* mentions this frog's large head it seems reasonable to assume that it came from the Philippines rather than the New Guinea region. Frogs from these two insular groups are undoubtedly subspecifically distinct, whether *Platymantis plieifera pelewensis* Peters, 1867, from the Pelew Islands, is a recognizable race, scarcely concerns us here.

Nor have I gone into the question whether *Platymantis* should be accorded only subgeneric status within the genus *Rana* as suggested by Van Kampen, a disposition with much in its favor. The large series of Philippine *corrugatus* in the Museum of Comparative Zoölogy do, however, clearly differ from our New Guinea material in possessing

a
Head broader than, occasionally only as broad as, long; heel of adpressed hindlimb usually reaches well beyond end of snout through sometimes only to the loreal region; range: Philippine Islands. *P. c. corrugatus*

Head narrower than, occasionally as broad as, long; heel of adpressed hind limb reaches the eye (38%), loreal region (53%), rarely even to end of snout (9%); range: Molucca Islands and New Guinea. *P. c. papuensis*

Whether I am correct in applying *papuensis* Meyer, the earliest name available from this region, to the common coastal form of New Guinea must remain uncertain.

PLATYMANTIS CORRUGATUS PAPUENSIS Meyer

Platymantis corrugatus var. *papuensis* Meyer, 1874, Monatsb. Akad. Wiss. Berlin, p. 139: "Mysore" = Biak Island, Dutch New Guinea.

Cornufer moszkowskii Vogt, 1912, Sitzb. Ges. Naturf. Freunde Berlin, p. 358: Interior of Dutch New Guinea.

- 1 (M. C. Z. 2687) Ansoes Id., D. N. G. (T. Barbour) 1906.
- 1 (M. C. Z. 9375) New Guinea (Berlin Mus.) 1922.
- 4 (M. C. Z. 12959-62) Matapau, A. N. G. (E. A. Briggs) 1925.
- 6 (M. C. Z. 26030-5) Aitape, A. N. G. (W. M. Beck) 1944.
- 26 (M. C. Z. 26071-9) Toem, D. N. G. (W. H. Stickel) 1944.
- 2 (M. C. Z. 26080-1) Liki Id., D. N. G. (W. H. Stickel) 1944.
- 2 (M. C. Z. 26082-3) Gusiko, A. N. G. (D. Crocker) 1944.
- 1 (U. S. N. M. 119174) Milne Bay, B. N. G. (J. F. Cassel) 1944.
- 1 (U. S. N. M. 119175) Gusiko, A. N. G. (J. F. Cassel) 1944.
- 2 (U. S. N. M. 119197-8) Gusiko, A. N. G. (W. H. Stickel) 1944.
- 16 (U. S. N. M. 119209-24) Toem, A. N. G. (W. H. Stickel) 1944.
- 1 (U. S. N. M. 119530) Gamadodo, B. N. G. (G. H. Penn) 1944.

Tongue without, or with indistinct, papilla, except M. C. Z. 9375 and 12961; interorbital space as broad as, or narrower than, rarely broader than (for e.g. U. S. N. M. 119223) an upper eyelid; first finger extending beyond second; subarticular tubercles strongly developed; outer metatarsals united; tips of toes slightly, or well (M. C. Z. 26080-1) dilated. For variation in breadth of head and limb length see preceding key where the percentages refer to the 42 frogs from Toem only.

In life this Toem series evidently displayed considerable color variation, now somewhat obscured by formalin preservation. Of one dissected individual (No. 264, taken 23.vii.44) Stichel records: Above, gray; lips barred gray and cream. Below, light; yellowish patch at groin; postero-ventral surface of femur pale reddish orange; beneath tibia a bare trace of orange. This frog was 37 mm.; another of 30 mm. (No. 265, taken 23.vii.44) was: Above, mottled gray and tan; lips gray and cream; flanks yellowish tan. Below, belly faint yellowish; femur and tibia rosy. Femur and tibia of one gravid ♀ (M. C. Z. 26072, taken 21.vii.44) were suffused with reddish below, but other frogs ranged from reddish orange to yellow, even in a young one of 19 mm. (No. 240, taken 30.vi.44). In formalin most of the Toem frogs are uniform white below, the throat and chest of one ♂ is uniform dark gray, those of a dozen other frogs are more or less heavily mottled with brown.

Half-a-dozen of the Toem series display pale brown dorso-lateral lines corresponding to the striking color variants which occur in every large series and on which I believe the 56 mm. *Cornufer moszkowskii* Vogt was based. One of the Aitape series (M. C. Z. 26031) corresponds closely to the color description of *moszkowskii*, which may be translated as: Above, dark; snout to eyes light colored; back with a pair of reddish white dorsolateral streaks; lips spotted; limbs indistinctly barred. Below, yellow; chin and throat speckled with darker. Another frog (U. S. N. M. 119198) differs only in having the chin and throat white and unspotted.

The entire description of *papuensis* might be translated as follows: "Much more slender than the typical form and cherry red on top." It may be, therefore, that the name *papuensis* is not applicable to our series of gray frogs from localities along the north coast of Guinea all the way from Ansoes Island to Gamadodo, Milne Bay. In that event *moszkowskii* would be available and *rubrostriatus* might become a synonym of *papuensis* as their type localities are nearest.

I can find no characters on which to separate the Liki Island frogs

though the ♀ (M. C. Z. 26081), 65 mm. in length, is so much larger than (with the exception of M. C. Z. 9375, which is 60 mm.) the numerous gravid females (M. C. Z. 26031; U. S. N. M. 119213 for e.g.) which do not exceed 45 mm. The 13 mm. Ansoes Island frog is too small and dried for taxonomic studies.

Stickel remarks that these ground frogs are the "toads" of New Guinea, being found at times far from permanent water under trash in dry, partly cleared jungle; in open dry country; and in abandoned foxholes.

PLATYMANTIS CORRUGATUS RUBROSTRIATUS (Barbour)

Cornufer corrugatus rubrostriatus Barbour, 1908, Proc. Biol. Soc. Washington, 21, p. 190: Roon Island, Geelvink Bay, Dutch New Guinea.

2 (M. C. Z. 2441) Roon Id., D. N. G. (T. Barbour) 1906.

At the time this race was described its author was apparently unaware of *P. c. papuensis* Meyer from "Mysore" i.e. Biak Island, about 110 miles northeast of Roon Island but almost in the same latitude. As the brief description of *papuensis* (see above) makes no mention of the vertebral stripe which characterizes the Roon cotypes we must assume it was absent as is the case with 62 of the frogs referred to *papuensis* in this paper. The solitary exception is U. S. N. M. 119197 which, however, has light dorso-lateral stripes also and does not appear separable from the other four frogs from Gusiko. That this difference between the frogs of Roon Island and the main island should exist is the more surprising as Roon (Ron or Run) Island is so close to the western tip of Geelvink Bay.

None of the four structural characters mentioned by Barbour separate *rubrostriatus* from the mainland specimens (of which there were no examples in the Museum of Comparative Zoölogy when he wrote), but the shorter limb length of his cotypes (the adpressed heel reaches to the eye in one frog, to the loreal region in the other) serves to differentiate one from typical *corrugatus* of the Philippines.

PLATYMANTIS CHEESMANAE Parker

Platymantis cheesmanae Parker, 1940, Ann. Mag. Nat. Hist. (11), 5, p. 257: Cyclops (= Cijloop) Mountains, 3,000-4,000 feet, Dutch New Guinea.

Paratype (M. C. Z. 26501) Cyclops Mtns., D. N. G. (L. E. Cheesman) 1947.

This 23 mm. adult of a dwarf species whose gravid females measure only 27 mm., is adequately covered by Parker's full description of the type series.

PLATYMANTIS BEAUFORTI (van Kampen)

Cornufer beauforti van Kampen, 1913, Bijdr. t. d. Dierk., Pt. 19, p. 91: Bajon and Majalibit Bay, "Waigeu" i.e. Waigeo Island, Dutch New Guinea.

Cotype ♀ (M. C. Z. 10774) Majalibit Bay, D. N. G. (Amsterdam Mus.) 1925.

Tongue with papilla; head as broad as long; interorbital space as broad as an upper eyelid; first finger extending beyond the second; subarticular tubercles strongly developed; outer metatarsals united; tips of fingers and toes slightly dilated. Length of ♀, 60 mm.

As this species attains a length of 78 mm., and its dorsum is strikingly smooth in marked contrast to the local races of *corrugatus*, there seems little question of its specific distinctness. The sole character used to separate them by van Kampen (1923, p. 162) is that of the lingual papilla, of rather dubious value. On the strength of it, and size, I was at first inclined to regard the 60 mm. M. C. Z. 9375 as *beauforti* but rejected it on account of the presence of dorsal rugosities.

PLATYMANTIS BOULENGERI (Boettger)

Cornufer boulengeri Boettger, 1892, Kat. Batr. Mus. Senckenberg. Naturf. Ges. F. am M., p. 18: New Britain.

♀ (M. C. Z. 1729) New Britain (Godeffroy Mus.) 1880.

♀ (M. C. Z. 9372) New Britain (Berlin Mus.) 1892.

Tongue with cavity in place of papilla; interorbital space $1\frac{1}{2}$ to $1\frac{3}{4}$ times as broad as an upper eyelid; head much broader than long; first finger extending beyond the second; subarticular tubercles strongly developed; outer metatarsals united; tips of fingers and toes slightly dilated. Length of both gravid ♀♀ *circa* 70 mm. Nematode worms in M. C. Z. 1729.

RANA DAEMELI (Steindachner)

Hylorana Daemeli Steindachner, 1868, Sitzb. Akad. Wiss. Wien, 57, p. 532, pl. C: Cape York, Queensland.

Hylarana nebulosa Macleay, 1877, Proc. Linn. Soc. N. S. Wales, 2, p. 135: Cape York, Queensland.

Hyla nobilis De Vis, 1884, Proc. Royal Soc. Queensland, 1, p. 129: Cape York, Queensland.

- ♂ (M. C. Z. 9376) New Britain (Berlin Mus.) 1922.
 ♂ (M. C. Z. 9381) New Guinea (Berlin Mus.) 1922.
 2 juv. (M. C. Z. 10761-2) Sabang, D. N. G. (Amsterdam Mus.) 1925.
 2 hgr. (M. C. Z. 12965-6) Madang, A. N. G. (E. A. Briggs) 1925.
 ♂, hgr. (M. C. Z. 25873-4) Aitape, A. N. G. (W. M. Beck) 1944.
 ♀ (M. C. Z. 26218) Hollandia, D. N. G. (C. W. Moren) 1946.
 5 juv. (M. C. Z. 26069-70) Toem, D. N. G. (W. H. Stickel) 1944.
 3 juv. (U. S. N. M. 119225-7) Toem, D. N. G. (W. H. Stickel) 1944.

Adult males (M. C. Z. 9376, 9381, 25873) with internal vocal sacs and a humeral gland (obvious only in M. C. Z. 25873); distance between the thickened dorso-lateral glandular folds immediately behind the eyes equals the distance from the nostril to the posterior border of the eye; tympanum $\frac{3}{5}$ to $\frac{3}{4}$ the diameter of the eye from which it is separated by a distance equal to about half its own diameter; heel reaches the eye (Sabang; Madang; Aitape; Hollandia; 2 Toem), between eye and nostril (Sabang; Aitape; 3 Toem), nostril (Toem), or end of snout (New Britain; Madang; 2 Toem); tibia included in length of head and body 1.8 to 2.5 times; toes fully webbed (at least on one side) except the fourth which has the last two joints free or the penultimate phalange fringed with web.

Back gray-brown, pale brown, or reddish brown, with a characteristic double series of dark spots, at least on the hinder half, and often corresponding to raised warts. Below, white, but throat and breast in one male (M. C. Z. 25873) with dusky mottling, and one juvenile (M. C. Z. 10761) flecked with brown over the entire undersurface. Largest ♂ (M. C. Z. 9376), 70 mm., largest ♀ (M. C. Z. 26218) 82 mm.

The Museum of Comparative Zoölogy has no Australian material of *daemeli* which I (1935, p. 54) erroneously referred to the synonymy of *papua* with which it has repeatedly been confused. Indeed, *Rana florensis* Boulenger, of which we have specimens collected by Dunn, was made a subspecies of *papua* by Mertens (1927, p. 242) to which he later (1930, p. 225) referred Dunn's (1928, p. 6) frogs, is in reality a subspecies of *daemeli* and apparently cannot be regarded as a subspecies of *papua*. Attention is directed to the variation in limb length as exemplified by the Toem series, making this character of little use in keys though the hind leg of *daemeli* definitely averages shorter than that of *papua*.

The Toem series (M. C. Z. 26069-70) were all taken in jungle — one in a deserted foxhole, another in a foxhole after a night of rain, a third in a temporary pool, and a fourth in Casuarina forest near the mouth of the Tor River.

RANA PAPUA PAPUA Lesson

Rana papua Lesson, 1830, Zool. in Duperry, Voyage autour du Monde . . .
 . sur . . . La Coquille, 2, p. 59, pl. vii, fig. 1: "Waigou" = Waigeo Island,
 Dutch New Guinea.

Rana fallax van Kampen, 1913, Nova Guinea, 9, p. 458: "Waigeu" = Waigeo
 Island, Dutch New Guinea.

- ♂ ♀ (M. C. Z. 2703) Pom, Jobi Id., D. N. G. (T. Barbour) 1906.
 4 hgr. (M. C. Z. 2704) Sorong, D. N. G. (T. Barbour) 1906.
 ♂ (M. C. Z. 2706) Manokwari, D. N. G. (T. Barbour) 1906.
 2 ♀ ♀ (M. C. Z. 9379-80) New Guinea (Berlin Mus.) 1922.
 hgr. (U. S. N. M. 57672) New Guinea (J. Hurter) 1913.

Adult males (M. C. Z. 2703, 2706) with external vocal sacs and humeral glands; distance between the narrow dorso-lateral glandular folds immediately behind the eyes equal to, or rather more than, the distance from the nostril to the posterior border of the eye; tympanum $\frac{3}{5}$ to $\frac{3}{4}$ the diameter of the eye from which it is separated by a distance equal to about half its own diameter; heel reaches to nostril (M. C. Z. 2703; 9379), end of snout (M. C. Z. 2704; 9380), or beyond (M. C. Z. 9380; U. S. N. M. 57672); tibia included in length of head and body 1.5 to 1.9 times; toes fully webbed except the fourth which has the last joint narrowly fringed.

Back brown, uniform or occasionally with a few scattered spots and raised warts of darker hue. Below, throat and chest white more or less distinctly marbled with brown leaving large white spots in adults (M. C. Z. 2703 ♀; 9379 ♀), the marblings sometimes extending to the belly (M. C. Z. 2704 — 2 ex.). In this connection Lesson's description reads: "Elle est blanche sous le cou, le thorax et le ventre." Largest ♂ (M. C. Z. 2706) 62 mm.; largest ♀ (M. C. Z. 2703) 72 mm.

RANA PAPUA NOVAEBRITANNIAE Werner

Rana novae-britanniae Werner, 1894, Zool. Anz., 17, p. 155: New Britain.

- ♂ (M. C. Z. 1730) New Britain Archipelago (Mus. Godeffroy) N. D.

Adult male with external vocal sacs and humeral glands; distance between the narrow dorso-lateral glandular folds immediately behind the eyes considerably more than the distance from the nostril to the posterior border of the eye; tympanum $\frac{7}{9}$ the diameter of the eye from which it is separated by a distance about half its own diameter; heel reaches the eye; tibia included in length of head and body 2.2

times; toes fully webbed except the fourth which has the last joint narrowly fringed.

Back pale brown, uniform; throat, chest, and belly uniform white. Length of ♂, 76 mm.

Our specimen, like Roux's (1918, p. 411) was received as *Hyla nigrofrenata* Günther, a species described from Cape York, Queensland. Boulenger (1918, p. 241) had placed *novacbritanniac*, with a query, in the synonymy of *krefftii* Boulenger (1882, p. 64), and Roux (1918, p. 411) confirmed this disposition. He was followed by Boulenger (1920, p. 186) and van Kampen (1923, p. 206). Actually the white-bellied *Rana novacbritanniae* is perfectly distinct from the mottled-bellied *krefftii*, and its uniformly white underside appears to separate it also from *R. p. papua* Lesson.

RANA GRISEA GRISEA van Kampen

Rana grisea van Kampen, 1913, Nova Guinea, 9, p. 460, pl. xi, fig. 3: Went Mountains, 1,300 metres, Dutch New Guinea.

♂ (M. C. Z. 23292) Mt. Misim, A. N. G. (H. Stevens) 1933.

2 juv. (M. C. Z. 25875-6) Aitape, A. N. G. (W. M. Beck) 1944.

2 ♀ ♀. 2 juv. (M. C. Z. 25877-9) Kundiawa, A. N. G. (P. J. Darlington) 1944.

Distance between the narrow dorso-lateral glandular folds immediately behind the eyes equals the distance from the nostril to the anterior border of the tympanum; tympanum $\frac{1}{2}$ to $\frac{2}{3}$ the diameter of the eye from which it is separated by a distance equal to *rather more than half* its own diameter; heel reaches the eye (M. C. Z. 25875), between eye and nostril (M. C. Z. 25876-7), end of snout (M. C. Z. 25879), or well beyond (M. C. Z. 25878); tibia included in length of head and body 1.6 to 1.75 times (Kundiawa) or 1.75 to 2 times (Aitape); toes fully webbed except the fourth which has the last joint narrowly or broadly fringed.

Back brown, uniform; throat and chest white heavily infuscated but leaving some white vermiculations showing on the chest which carries the pair of dark blotches common to many members of this group. Larger ♀ (M. C. Z. 25877), 96 mm. Length of ♂ (M. C. Z. 23292) 78 mm.

These New Guinea frogs are specifically identical with the Queensland material that I (1935, p. 54) erroneously referred to *R. p. papua* Lesson. One of them (M. C. Z. 18146) was a male with internal vocal

sacs and no sign of a humeral gland. In this connection it may be noted that van Kampen (1923, p. 208) says *grisea* has "large external vocal sacs and a humeral gland." As, however, his 1913 description of *grisea* was based on an 85 mm. ♀, this additional information was probably taken from Boulenger (1920, p. 186). But Parker (1936, p. 68) states that the three male frogs Boulenger (1920, p. 186) referred to *grisea* were actually *papua*, and that many of his "*papua*" were really *grisea*, hence my misidentification. By defining the differences between *papua* and *grisea* Parker has greatly clarified the situation. My material entirely agrees with his synopsis except in the four words italicized above. Parker's key calls for females with a tympanum separated from the eye "by a distance nearly equal to its own horizontal diameter" whereas in our series there is no material difference from *papua* in this respect.

RANA GRISEA MILNEANA subsp. nov.

Type. United States National Museum No. 119173, a gravid ♀ from the Kwatto Branch Mission, 50 feet, Milne Bay, British New Guinea. Collected by Joseph F. Cassell.

Diagnosis. Differs from *Rana grisea* van Kampen (which was described as having only a narrow fringe of web on the terminal phalange of the fourth toe, as is the case with our series of *grisea*) in (1) the more extensive webbing of the fourth toe on which it extends quite broadly to the disk, especially on the outer side; (2) the tympanum being separated from the eye by a distance equal only to a third of the tympanic diameter; (3) first finger extending well beyond second; (4) the smaller size, being gravid at 80 mm., instead of 96 mm.

Description. Vomerine teeth in two oblique series between, but extending backwards behind the level of, the choanae; head longer than broad; snout pointed, projecting; nostril nearer end of snout than orbit, the distance from nostril to orbit being as long as the orbit; canthus rostralis strong; loreal region concave; interorbital space much narrower than an upper eyelid; distance between the dorso-lateral folds behind the eyes equal to the distance from nostril to tympanum; tympanum seven-tenths that of orbit from which it is separated by a distance equal to one third its own diameter.

Disks of fingers and toes small, first finger extending well beyond second, which is shorter than the fourth; fifth toe longer than the third, toes, *including* the fourth, webbed to disks; outer metatarsals separated to their base by web; subarticular tubercles well developed;

a distinct, elliptic, inner, and a low, round, outer, metatarsal tubercle; no tarsal fold; the tibio-tarsal articulation of the adpressed hind limb reaches the snout; tibia 1.6 times in length of head and body. Skin above, smooth and without warts, a narrow dorso-lateral fold.

Color in alcohol after formalin. Above, purplish plumbeous, uniform on head and back; loreal, tympanum, and temporal region dark brown; some irregular, light-edged, black marks in groin; about a dozen dark crossbars on each hind limb. Below, buccal border mottled with darker and lighter; throat and forearm white, uniform except for a pair of streaks (common to members of this formenkreis) on the chest, a few flecks about base of forearms and a dark streak on the anterior base of each forearm; belly and thighs yellowish, uniform.

Size. Length of head and body of adult ♀, 80 mm.

RANA ARFAKI Meyer

Rana Arfaki Meyer, 1874, Monatsb. Akad. Wiss. Berlin, p. 138: Arfak Mountains, Dutch New Guinea.

Rana macroscelis Boulenger, 1888, Ann. Mag. Nat. Hist. (6), 1, p. 345: "Sogere" i.e. Sogeri Camp, 1,750 feet, British New Guinea.

? ♀ (M. C. Z. 9371) New Guinea (Berlin Mus.) 1922.

♀ (M. C. Z. 11637) Haveri, B. N. G. (Brit. Mus.) 1925.

Head as broad as long; tympanum $\frac{1}{2}$ to $\frac{3}{5}$ the diameter of the eye from which it is separated by a distance about equal to its own diameter; no dorso-lateral glandular folds; first finger extending beyond second; dilations of fingers and toes with a lateral crescentic groove; tibia included in length of head and body 1.6 to 1.8 times; toes fully webbed to disks. Sides of head not darker than upper surface. Larger ♀ (M. C. Z. 11637), 150 mm.; type was 115 mm., cotype of *macroscelis* 140 mm.

The first specimen was received from Berlin as *arfaki*, the second from the British Museum as *macroscelis*. Parker (1935, p. 71) who may have seen the type of *waigcënsis*, has expressed doubts regarding its usual disposition as a strict synonym of *arfaki*, noting a relatively smaller tympanum in van Kampen's species. However, the description of the 36 mm. type agrees well with our 150 mm. female except that in the latter (a) the lower jaw *is* denticulated; (b) the snout is *longer* than the orbit; (c) the terminal phalange of the fourth toe *is* webbed to the disk as in van Kampen's (1913, pl. xi, fig. 2) figure, which contradicts the description; (d) the heel extends *beyond* the end of the snout, instead of falling short of the end, a matter of little significance.

BREVICIPITIDAE

GENYOPHRYNE THOMSONI Boulenger

Genyophryne thomsoni Boulenger, 1890, Proc. Zool. Soc. London, p. 327, pl. xxv, fig. 1: "Sudest Island," i.e. Tagula Island, British New Guinea.

1 (M. C. Z. 11646) Albert Edward Mtns., B. N. G. (Brit. Mus.) 1925.

Vomerine odontoids present; two transverse palatal ridges, the posterior serrate; tongue notched and free behind. Length 33 mm. One of the series collected at 6,000 feet by Rohu.

XENOBATRACHUS ROSTRATUS (Méhely)

Choanacantha rostrata Méhely, 1898, Termés. Füzetek, **21**, p. 175, pl. xii: Erima, Astrolabe Bay, Australian New Guinea.

1 (M. C. Z. 9378) Australian New Guinea (Berlin Mus.) 1922.

A pair of high, conical, vomerine odontoids present; a single palatal ridge, strongly serrate; tongue entire, not noticeably free behind. Length 42 mm.

ASTEROPHRYS RUFESCENS (Macleay)

Hylophorbus rufescens Macleay, 1878, Proc. Linn. Soc. N. S. Wales, **2**, p. 136: "Katow," = Binaturi River, British New Guinea.

Mantophryne lateralis Boulenger, 1897, Ann. Mag. Nat. Hist. (6), **19**, p. 12, pl. ii, fig. 3: Mount Victoria, Owen Stanley Mountains, British New Guinea.

1 (M. C. Z. 2894) Albert Edward Mtns., B. N. G. (Brit. Mus.) 1912.

1 (U. S. N. M. 12465) Toem, D. N. G. (W. H. Stickel) 1944.

No vomerine odontoids; two palatal ridges, the anterior curved, smooth, the posterior serrate; tongue entire, not noticeably free behind; a pair of mental tubercles; tympanum two-thirds the eye diameter; digital disks small. Length 40-42 mm.

The color in life of the Toem frog is described by Stickel as: Above, a mixture of brown and clay, a black dorsolateral band, upper lip, hind arm and flanks clay, the lip and forearm banded with blackish brown; hind limbs light orange-yellow with orange-gold spots. Below white suffused with gray, especially anteriorly, and spotted with black; soles gray.

ASTEROPHRYS VALVIFERA (Barbour)

Pomalops valvifera Barbour, 1910, Proc. Biol. Soc. Washington, **23**, p. 89, pl. i: Fakfak, Dutch New Guinea.

Type (M. C. Z. 2577) Fakfak, D. N. G. (A. E. Pratt) N. D.

Two palatal ridges, the anterior curved, smooth, the posterior serrate; tongue entire, slightly free behind; no mental tubercles; tympanum indistinct; digital disks small; chin and throat brown, spotted with white, *only* breast and belly immaculate. Length 32 mm.

The frog from Mafulu, 4,000 feet, referred to this species by Parker (1936, p. 73) with some misgivings, actually appears to resemble the type in the coloring of the underside.

ASTEROPHRYS ROBUSTA (Boulenger)

Mantophryne robusta Boulenger, 1898, Proc. Zool. Soc. London, p. 480, pl.

xxxviii, fig. 4: "St. Aignan Island," = Misima Island, British New Guinea 1 (M. C. Z. 9386) New Guinea (Berlin Mus.) 1922.

Two palatal ridges, the anterior curved, smooth, the posterior serrate; tongue feebly nicked, not noticeably free behind; no mental tubercles; tympanum *distinct*, slightly more than half the eye diameter; digital disks small; heel reaches nostril; chin and breast fuscous breaking up into spots on side of belly. Length 41 mm.

ASTEROPHRYS PANSA PANSA (Fry)

Aphantophryne pansa pansa Fry, 1917 (1916), Proc. Linn. Soc. N. S. Wales, **41**, p. 772, pl. liv, and lv, fig. 2: Mount Scratchley, Owen Stanley Mountains, British New Guinea.

Paratype (M. C. Z. 26223) Mt. Scratchley, B. N. G. (A. Guilianetti) 1896.

Snout rounded, scarcely prominent, slightly *longer* than the eye diameter; interorbital space *twice* as broad as an upper eyelid; tympanum slightly distinct, about two-thirds the eye diameter; third toe considerably longer than the fifth. Length 22 mm.

When attempting to determine the generic status of the frogs described below, I observed that the pre-pharyngeal palatal ridges were curved in the reverse direction to that figured by Fry (1917, pl. liv, fig. 1b) for his genus *Aphantophryne*. Nor was the anterior ridge

serrated to anything like the extent shown, being almost smooth, while on the second ridge the serrations were even more sharply defined. Fry also shows (figs. 1c-1d) the terminal phalange of the fourth toe as pronouncedly T-shaped, whereas it is only club-shaped as might be anticipated in a frog whose habitus suggests terrestrial habits.

However, feeling sure that our frogs represented the same species, I wrote to Mr. J. Roy Kinghorn at the Australian Museum for further information. He agreed with me that Fry was at fault in drawing the palatal ridges with forward-directed curves, instead of backward; and stated that the terminal phalanges depicted as T-shaped should be club-shaped or nodular. He kindly sent me the paratype listed above which I have not dissected.

I communicated these findings to Mr. H. W. Parker and he pointed out that there were now no grounds for maintaining *Aphantophryne* as distinct from *Asterophrys*, furthermore the two Mount Wilhem specimens submitted (and now in the British Museum) agreed very closely with the description of *Asterophrys minima* Parker of which the only known examples are in the Amsterdam Museum. Mr. Parker suggested sending the recently acquired British Museum paratype of *pansa* to Dr. L. D. Brongersma for comparison with the types of *minima* and later forwarded Dr. Brongersma's views on their status, which were as follows.

“As far as I can judge the two species are distinct. I find the following differences: In *pansa* the snout is about equal to the diameter of the orbit, while in *minima* it is distinctly longer. The snout of *minima* is more pointed and more prominent. The canthus rostralis in *pansa* is more marked, the loreal region being more vertical. In *minima* the canthus rostralis is more rounded, the loreal region much more oblique. In *pansa* the interorbital breadth is greater; this difference is somewhat difficult to express in words, as in *minima* there is some difference between the type and the paratype. In the the type of *minima* the upper eyelid is broader than the interorbital space, in the somewhat shrunken paratype the upper eyelid is slightly narrower than the interorbital space. Placing the specimens side by side, I find that the interorbital space in *pansa* makes the impression of being much broader relatively. The anterior palatal ridge seems to be much more developed in *pansa* than in *minima*. There may be a slight difference in the shape of the coracoids too. The anterior border of the coracoid in *pansa* shows a more marked forward curve near its medial border than in *minima*.”

Some of the above differences are shown to be within the range of a subspecies by the long series of frogs from Mount Wilhelm described

below, in view of this I prefer to regard *minima* as a third montane race.

ASTEROPHRYS PANSA WILHELMANA subsp. nov.

Type. Museum of Comparative Zoölogy, No. 25910, a gravid ♀ from Mount Wilhelm, 8,000 feet, Bismarck Range, Madang Division, Australian New Guinea, collected by Captain P. J. Darlington, Jr., October, 1944.

Paratypes. Museum of Comparative Zoölogy, Nos. 25911-9, the last of which is now in the Australian Museum, and two uncatalogued specimens in the British Museum, all with the same data as the type.

Diagnosis. Differs from the typical form and *A. p. minima* in the snout being truncate at tip; from *pansa* in the much narrower interorbital space, and from *minima*, of which the type female was adult at 27 mm., in being double the size. The type of *p. pansa* was also 27 mm. but Fry did not state if it is adult.

Description. Snout truncate at tip, (equal to or) slightly longer than the eye diameter; canthus rostralis rounded; loreal region slightly oblique, concave; interorbital space as broad as, or narrower than, an upper eyelid; tympanum distinct or indistinct, about three-fifths the eye diameter; fingers and toes without disks, first finger shorter than the second, which is slightly shorter than the fourth; toes short, the third considerably longer than the fifth; subarticular tubercles not developed, a very weak inner, but no outer, metatarsal tubercle; tibio-tarsal articulation of the adpressed hind limb reaches the axilla or shou' der.

Color in life. Recorded by Dr. Darlington as "dark slate." Substantially the same in alcohol; below, paler.

Size. Type ♀ (M. C. Z. 25910), 50 mm. Smallest paratype (M. C. Z. 25912), 11 mm.

Habitat. Taken beneath logs in the forest at 8,000 feet (P. J. D.).

ASTEROPHRYS OXYCEPHALA (Schlegel)

Bombinator oxycephalus Schlegel, 1858, Handl. Dierk., 2, p. 58, pl. iv, fig. 74: New Guinea.

?*Xenorhina stresemanni* Ahl, 1932, Mitt. Zool. Mus. Berlin, 17, p. 897: Jobi = Japen Island, Dutch New Guinea.

♀ (M. C. Z. 7610) Humboldt Bay, D. N. G. (P. N. van Kampen) 1921.

A single palatal ridge, serrate; tongue entire, not free behind; no mental tubercles; tympanum indistinct, about equal to the eye diam-

eter, which is half the length of the snout; digital disks small; heel reaches tympanum. Length 41 mm.

Color in life violet gray above; throat, belly, and underside of thighs brick red, according to van Kampen who collected it in a spring brook on south shore of the Bay, 26.i.1910.

METOPOSTIRA OCELLATA Méhely

Metopostira ocellata Méhely, 1901, *Térmés. Füzetek.*, **24**, pp. 190, 239, pls. vii, xii, fig. 1: Sattelberg, Australian New Guinea.

Metopostira macra van Kampen, 1906, *Nova Guinea*, **5**, p. 167, pl. vi, figs. 1-2: "Am Moso und Tami," i.e. Mosso River, Australian New Guinea.

1 (M. C. Z. 7612) Humboldt Bay, D. N. G. (P. N. van Kampen) 1921.

1 (M. C. Z. 9377) Australian New Guinea (Berlin Mus.) 1922.

1 (M. C. Z. 12958) Matapau, Wakip R., A. N. G. (E. A. Briggs) 1923.

Two palatal ridges, the anterior curved, smooth, the posterior serrate; tongue entire, not or scarcely free behind; snout shorter or slightly *longer* than the eye diameter; tympanum distinct or indistinct in adult, about three-quarters the eye diameter; digital disks of fingers small, of toes moderate. Length 32-37 mm. The Matapau frog was taken beneath a stone near running water, January, 1923.

BARAGENYS CHEESMANAE Parker

Baragenys cheesmanae Parker, 1936, *Ann. Mag. Nat. Hist.* (10), **17**, p. 66, fig. 1: Mt. Tafa, 8,500 feet, British New Guinea.

Paratype (M. C. Z. 19921) Mt. Tafa, B. N. G. (L. E. Cheesman) 1934.

The genus *Baragenys*, of which *cheesmanae* is genotype, was erected by Parker (1936) to include *Hylophorbus kopsteini* Mertens and *Xenorhina atra* Günther, formerly assigned to *Metopostira* by Parker (1934).

SPHENOPHRYNE CORNUTA Peters & Doria

Sphenophryne cornuta Peters & Doria, 1878, *Ann. Mus. Civ. Stor. Nat. Genova*, **13**, p. 430, pl. vii, fig. 4: "flumen Wa Samson," = Wasemsan River, Dutch New Guinea.

Chaperina ceratophthalmus van Kampen, 1909, *Nova Guinea*, **9**, p. 43, pl. ii, fig. 8: "Noord Fluss" = Lorentz River, near Geitenkamp and Resi Peak, Dutch New Guinea.

1 (M. C. Z. 7611) Kohari Mtns., D. N. G. (P. N. van Kampen) 1921.

Snout longer than eye; upper eyelid with spinelike tubercle; disks of fingers larger than those of toes; heel reaches tympanum. Length 34 mm. Additional data is contained on the collector's label which reads "between Modder-lust and Kasawari," two localities I have failed to find.

SPHENOPHRYNE SCHLAGINHAUFENI Wandolleck

Sphenophryne schlaginhaufeni Wandolleck, 1911, Abhand. Ber. König. Zool. Mus. Dresden, **13**, No. 6, p. 5, figs. 10-17: Upper reaches of Rienjamur, 650-700 metres, Torricelli Mountains, Australian New Guinea.

Sphenophryne klossi Boulenger, 1914, Trans. Zool. Soc. London, **20**, p. 251, pl. xxvii, figs. 3-3b: Launch Camp, Setekwa River, Dutch New Guinea.

1 (M. C. Z. 26219) Aitape, A. N. G. (W. M. Beck) 1944.

1 (U. S. N. M. 124646) Toem, D. N. G. (W. H. Stickel) 1944.

Snout longer than eye; canthus rostralis angular; upper eyelid normal; disks of fingers smaller than those of toes; heel reaches nostril (Aitape) or eye (Toem). Length 24-26 mm. The Toem frog is very nearly topotypic.

SPHENOPHRYNE MACRORHYNCHA (van Kampen)

Chaperina macrorhyncha van Kampen, 1906, Nova Guinea, **5**, p. 168, fig. 3: Manikion District, Dutch New Guinea.

Chaperina basipalmata van Kampen, 1906, Nova Guinea, **5**, p. 169, figs. 4-5: Tawarin and Timena River, Dutch New Guinea.

Chaperina quatuorlobata Wandolleck, 1911, Abhand. Ber. König. Zool. Mus. Dresden, **13**, No. 6, p. 9, figs. 34-36: Torricelli Mountains, Dutch New Guinea.

Chaperina punctata van Kampen, 1913, Nova Guinea, **9**, p. 643, pl. xi, fig. 7: Went Mountains, 800-1,050 metres, and Hellwig Mountains, 2,500 metres, Dutch New Guinea.

1 (M. C. Z. 9383) New Guinea (Berlin Mus.) 1922.

Paratype (M. C. Z. 10773) Went Mtns., D. N. G. (Amsterdam Mus.) 1925.

Snout as long as eye; canthus rostralis rounded; disk of third finger twice as broad as penultimate phalange, slightly larger than those of toes; heel reaches tympanum (M. C. Z. 9383) or eye. Length 25-31 mm. The smaller frog, taken 11-12.x.09 by the Dutch New Guinea Expedition, is a paratype of *C. punctata*.

SPHENOPHRYNE BREVICRUS (van Kampen)

Ozydactyla brevicrus van Kampen, 1913, Nova Guinea, 9, p. 465, pl. xi, fig. 8: Hellwig Mountains, 2,500 metres, and Wichman Mountains, 3,000 metres, Dutch New Guinea.

19 (M. C. Z. 25920-9) Mt. Wilhelm, A. N. G. (P. J. Darlington) 1944.

Except for the tympanum being two-thirds the eye diameter in adults, and the third toe being considerably (instead of "a little") longer than the fifth, these frogs agree reasonably well with Parker's (1934) description. Our largest are 3 mm. shorter than the type. Length of ♂ (M. C. Z. 25925), 27 mm., of a spent ♀ (M. C. Z. 25920) 27 mm.

The coloration is amazingly variable. Above, pinkish, heavily overlaid with purplish black, through every gradation to those with a mottled crown and almost uniform fawn colored back bordered by a black stripe extending from end of snout through nostril and eye to below groin. Besides a great variety of spotting and marbling, the young sometimes display a heavily black-edged, white, V-shaped mark whose apex is directed to the anus. Below, white, uniform or lightly speckled or heavily marbled with black so that the throat is very largely black.

Found between 10,000 and 12,000 feet above timber line in shallow recesses under tussocks. One, together with 14 eggs, each about 5 mm. in diameter, was taken in moss under a tussock at 11,000 feet. A woodeny croaking call, presumably produced by this species, was heard as high as 13,000 feet (P. J. D.).

OREOPHRYNE ANTHONYI (Boulenger)

Sphenophryne anthonyi Boulenger, 1897, Ann. Mag. Nat. Hist. (6), 19, p. 10, pl. ii, fig. 1: Mount Victoria, Owen Stanley Mountains, British New Guinea.

Cotype (M. C. Z. 2896) Mt. Victoria, B. N. G. (Brit. Mus.) 1912.

Snout slightly longer than the eye diameter; tympanum about half the eye diameter; disks of fingers about thrice as broad as the penultimate phalanges, the third about three-quarters the eye diameter; toes webbed, the fifth longer than the third. Length 40 mm.

OREOPHRYNE BIROI (Méhely)

Sphenophryne biroi Méhely, 1897, Termés. Füzetek, **20**, pp. 400, 411, pl. x, figs. 3-6: "Friederich-Wilhelmshaven" = Madang, Australian New Guinea.

Sphenophryne loriae Boulenger, 1898, Ann. Mus. Civ. Stor. Nat. Genova, (2), **18**, p. 707, pl. viii, fig. 3: Moroka, British New Guinea.

?*Sphenophryne mertoni* Roux, 1910, Abhand. Senckenberg. Naturf. Ges., **33**, p. 227: Samang, Wokam, Aru Islands.

Mehelyia lineata Wandolleck, 1911, Abhand. Ber. König. Zool. Mus. Dresden, **13**, No. 6, p. 7, figs. 18-26: "Sacksackhütte," Torricelli Mountains, Australian New Guinea.

Mehelyia affinis Wandolleck, 1911, Abhand. Ber. König. Zool. Mus. Dresden, **13**, No. 6, p. 8, figs. 27-35: Torricelli Mountains, Australian New Guinea.

1 (M. C. Z. 3498) Ferguson Id., B. N. G. (Brit. Mus.) 1914.

5 (M. C. Z. 26220-2) Aitape, A. N. G. (W. M. Beck) 1944.

1 (U. S. N. M. 113199) Gusiko, A. N. G. (J. M. Kern) 1944.

Snout as long as the eye diameter; tympanum about one-third the eye diameter; disks of fingers twice as broad as penultimate phalanges; toes webbed, the fifth longer than the third. Length ♂ (M. C. Z. 26220) 21 mm., ♀ (U. S. N. M. 113199) 24 mm.

COPHIXALUS GEISLERORUM Boettger

Cophixalus geislerorum Boettger, 1892, Kat. Batr. Mus. Senckenberg. Naturf. Ges., p. 24: "Kaiserwilhemsland," = Australian New Guinea.

2 (M. C. Z. 12963-4) Matapau, A. N. G. (E. A. Briggs) 1923.

Snout *as long as* the eye diameter; inner finger three-quarters the length of second, with a large disk; disks of fingers slightly larger than those of toes; toes slightly webbed at base, the third not extending as far as the fifth; heel reaches the shoulder. Lengths 23-28 mm. Taken near running water in Sago Palm Forest.

COPHIXALUS BIROI DARLINGTONI subsp. nov.

Type. Museum of Comparative Zoölogy, No. 25930, a gravid ♀ from Toromanbanau, 7,500 feet, Bismarek Range, Madang Division, Australian New Guinea, collected by Captain P. J. Darlington, Jr., October, 1944.

Paratypes. Museum of Comparative Zoölogy, Nos. 25931-9, and forty others of which a pair are now in the Australian Museum and a pair in the British Museum.

Diagnosis. Agrees with Parker's redescription of the typical form from Sattelberg in most respects, but differs in the third toe being slightly shorter (not "much longer") than the fifth (all fifty frogs the same); in the tympanum being half (not "about one third") the eye diameter (a dozen examined); in having a markedly rugose (not "smooth") skin; and while all have a dark streak from the posterior corner of the eyelid extending almost to the shoulder, in none is it continued as a dark streak along the side of the body, nor do any exhibit dorso-lateral lines.

It might be added that while the snout *is* "somewhat longer" (often considerably longer) than the eye diameter in the great majority (thirty-seven) of the series, the snout *equals* the eye diameter in thirteen frogs (including M. C. Z. 25931, 25935-7).

From *C. variegatus* (van Kampen) from Digul River, Dutch New Guinea, *darlingtoni* differs in the third toe being slightly (not "distinctly") shorter than the fifth; while the tibio-tarsal articulation of the adpressed hind limb fails to reach the axilla in gravid females, in all the rest it reaches the shoulder or tympanum (not "the eye"); it differs also in its warty (not "smooth") skin, and possibly in size (the type of *variegatus* was 18 mm., our example 17 mm.).

Size. Type ♀ (M. C. Z. 25930), 27 mm., a dozen gravid paratype ♀ ♀ range from 22-26 mm., a dozen baggy-throated paratype ♂ ♂ from 19-23 mm., the youngest specimen is 17 mm.

Remarks. This fine series of beautifully preserved frogs is named for the collector, Dr. P. J. Darlington, Jr., of the Museum of Comparative Zoology, who has done so much to advance our knowledge of the herpetology of the Bismarck Range.

COPHIXALUS VERRUCOSUS (Boulenger)

Sphenophryne verrucosus Boulenger, 1898, Ann. Mus. Civ. Stor. Nat. Genova (2), 18, p. 707, pl. viii, fig. 2: Mount Victoria, Owen Stanley Mountains, British New Guinea.

♂ (M. C. Z. 3496) Ferguson Id., B. N. G. (Brit. Mus.) 1914.

Snout rounded, longer than the eye diameter; inner finger with a small disk, about half the length of second; disks of other fingers scarcely larger than those of toes; toes free, the third extending beyond the fifth; heel reaches the nostril. Length 24 mm.

COPHIXALUS VARIEGATUS VARIEGATUS (van Kampen)

Hylophorbus variegatus van Kampen, 1923, Amphib. Indo-Australian Archip., p. 138: Digul (Digoel) River, Dutch New Guinea.

1 (M. C. Z. 9385) New Guinea (Berlin Mus.) 1922.

Snout obtusely pointed, as long as the eye diameter; tympanum less than half the eye diameter; inner finger about half the length of the second, which is slightly longer than the fourth; disks of fingers larger than those of toes; toes free, the third not extending as far as the fifth; heel reaches the tympanum (not eye). Length 17 mm.

Agrees closely with Parker's (1934, p. 176) description of external characters, but, being pale brown flecked with darker, does not conform to the color description. Received from Berlin as *Hylophorbus boettgeri* (Méhely) of Halmaheira, a species that Parker (1934, p. 61) refers to *Asterophrys*.

COPHIXALUS VARIEGATUS PARKERI subsp. nov.

Type. Museum of Comparative Zoölogy, No. 25940, a gravid ♀ from Mount Wilhelm, 8,000 feet, Bismarck Range, Madang Division, Australian New Guinea, collected by Captain P. J. Darlington, Jr., October, 1944.

Diagnosis. Differs from the typical form in having an angular canthus rostralis; an interorbital space as broad as (not "broader than") an upper eyelid; a tympanum only half (not "nearly two-thirds") the eye diameter; third toe as long as (not "very distinctly shorter than") the fifth; skin of dorsum with scattered tubercles (not "smooth"); no broad crossbar on femur, tibia, or tarsus; and possibly greater size.

Description. Snout obtusely pointed, slightly prominent, as long as the eye diameter; canthus rostralis angular; loreal region vertical, slightly concave; interorbital space as broad as an upper eyelid; tympanum distinct, half the eye diameter; disks of fingers large, truncate distally, first finger much shorter than the second which is about as long as the fourth; toes *long*, free, their disks slightly smaller than those of the fingers, the third as long as the fifth; subarticular tubercles developed; no metatarsal tubercles; tibio-tarsal articulation of the adpressed hind limb reaches almost to the eye.

Skin smooth with scattered tubercles, a fine, raised line from snout to anus; a W-shaped, raised glandular marking on scapular region.

Color. Above, plumbeous, a broad, light, transverse bar unites the upper eyelids anteriorly; sides of head as far as tympanum dark; from tympanum to groin, and on the basal part of fore and hind limbs, creamy white variegated with darker. Below, throat dark brown; breast, belly and limbs creamy white with dusky mottling; subarticular tubercles and disks mostly white.

Size. Type ♀, 28 mm.

Remarks. This unique specimen was submitted to Mr. H. W. Parker who agrees that it is near *variegatus*, but as the species is not represented in the British Museum he ventures no opinion on the significance of the characters by which I have separated it.

COPHIXALUS OXYRHINUS (Boulenger)

Phrynixalus oxyrhinus Boulenger, 1898, Proc. Zool. Soc. London, p. 480, pl. xxxviii, fig. 3: "St. Aignan Island," = Misima Island, British New Guinea.

1 (M. C. Z. 9387) New Guinea (Berlin Mus.) 1922.

Disks of fingers smaller than those of toes. Length 22 mm.

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