

A REVIEW OF THE GENUS *LYGOSOMA* (SCINCIDAE: REPTILIA) AND ITS ALLIES.

By MALCOLM A. SMITH, M.R.C.S., F.Z.S.

(From the Department of Zoology, British Museum (Natural History),
London.)

Since Boulenger wrote his Catalogue of Lizards in 1887, no comprehensive attempt has been made to deal with the large group of Scinks which he called *Lygosoma*. The elevation of his Subgenera, or rather Sections, to higher rank by later herpetologists has not helped the classification of the group, and in some cases has led to greater confusion. That some of the Sections, however, although they cannot be defined in clear generic terms, represent natural groups, has long been recognised. The combination of cephalic scalation, colour-pattern and form, which is to be found, for instance, in *Otosaurus* and in the well-developed species of *Lygosoma*, is quite distinct from that which obtains in *Riopa* or in *Emoia*. The well-developed members of each group appear to be a natural assemblage of species; they are capable of being defined as such, and are treated here as genera. On the other hand such groups as *Siaphos* and *Hemiergus*, which are merely assemblages, mainly of degenerate species, and not capable of being defined, have been abandoned. *Homolepida casuarinae*, the type of *Homolepida*, and three other species usually referred to *Lygosoma*, are placed in the genus *Tiliqua*. The status given to *Sphenomorphus*, *Lygosoma* (*sensu strictu*) and *Leiolopisma*, will be dealt with under their respective headings.

The ancestor of the Scinks is not known, and there is no palæontological material to help us, but we may conceive it as a somewhat clumsily built, rather long-bodied and short-legged creature. It had a scaly lower eyelid, and an ear-opening without denticulations. The body was covered with more or less equal-sized scales and there was a full complement of head-shields including an occipital. The species of *Otosaurus*, *Dasia*, *Lygosoma* and *Emoia* that we know today, with their well-developed limbs, lacertiform bodies and symmetrically arranged head-shields, are certainly not primitive, although it may be from them that the degenerate ones have been derived.

In comparison with the tremendous changes that have taken place in the body and limbs, it is remarkable how little the head-shields have been affected. Many of the degenerate forms of *Lygosoma*, with their attenuated bodies, bud-like extremities, and closed ears, still retain all the head-shields that characterize the most highly developed members of that genus. These changes, as pointed out long ago by Günther and Boulenger, have no bearing on phylogeny.

The major structural changes that can occur are as follows:—

1. *Elongation of the body*.—Slight elongation of the body has occurred in many species, but marked elongation, with the assumption of a snake-like form, e.g., *Lygosoma verreauxi*, *Riopa*

(*E.*) *anchietae*, has occurred only in the genera *Lygosoma* and *Riopa*.

2. *Reduction in the size, and ultimate disappearance, of the limbs.*—Marked elongation of the body is invariably accompanied by degeneration of the limbs. In the terminal forms of *Rhodona* they have disappeared entirely. In *Lygosoma quadrupes*, in spite of their minute size and the distance which separates the anterior from the posterior pair, they are still perfectly formed and functionally useful.
3. *Changes in the tail.*—Elongation and thickening of the tail, particularly of the basal part. This change is usual in those species which have marked elongation of the body, but it may occur in species in which the body is not markedly elongate, e.g., *Lygosoma lesueri*, *L. monotropis*, *L. (E.) muelleri*. Compression of the tail has been described by Werner (*Lygosoma (Hinulia) compressicauda*, 1897, Australia) and by De Witte (*L. (Siaphos) compressicauda* 1933=*de wittei* Loveridge, Belgian Congo). The character, in a lesser degree, can be seen also in *Lygosoma delicatum*, *L. albertisii* and in several Ablepharids. It is best marked in the distal half of the tail, and is particularly noticeable when regeneration has occurred.
4. *Closure of the ear-opening, and degeneration of the auditory structures* has occurred in many Scinks that lead a more or less subterranean existence. The change is brought about by growth of the scales which surround the opening. The apparent punctiform opening can, by inserting a needle into it, be shewn often to be much larger than it appears at first sight. When the ear-opening is completely covered over, the tympanum and extra-columellar structures are lost; the columella auris remains and is attached by a rod or tube of tissue to the skin. Its position is usually indicated externally by a depression.
5. *Degeneration of the eye and its coverings* has occurred only in markedly degenerate species that have taken to a fossorial life, e.g., *Rhodona anguinoides*.
6. *Closure of the palatal notch* so that it lies farther back in the mouth. All the species that I have examined in which there is great elongation of the body shew this change.
7. *Increase in the size of the frontal shield and, in consequence, separation and reduction in the size of the prefrontals, which may ultimately be united with it.* The steps by which this change takes place can be studied best in *Lygosoma*, s. s. in its passage from *Sphenomorphus*.
8. *Enlargement of the body scales.*—The change has been brought about by (1) the union of two scales, or (2) apparent growth of one scale and suppression of the one adjacent to it. The change is best studied on the neck or at the base of the tail. Enlargement, usually in a transverse direction, of the dorsal scales, has taken place in many species. In those

which have marked reduction (18 to 22) in the number of scale-rows round the body, the scales are of uniform size throughout.

9. *Changes in the head shields.*—Fragmentation of the head-shields, as it has occurred in the Lacertidae has not taken place in the Scincidae. All the evidence that can be acquired from the degenerate forms indicates that the changes which have occurred have been in the opposite direction, namely in reduction in the number of shields by the union of two or more. I have assumed that such shields once lost, have not been regained.

The loss of the supranasals by union with the nasals and the union of the fronto-parietals and the interparietal into a single shield, has occurred again and again in species which in all other respects are highly developed.

10. *The successive steps by which the transparent "window" in the lower eyelid has been formed from the scaly lid* is already well known. It is best seen in the Leiolopismids, and as far as the Scincidae are concerned, culminates in *Ablepharus*, under which heading it is also discussed.

11. *Changes in the digits.*—The digital characters of the species, particularly of those which affect the hind foot, have received but little attention. Like the changes that have occurred in the other parts of the body they have no bearing on phylogeny, but are of interest from an ecological point of view. Four types of modification can be recognised.

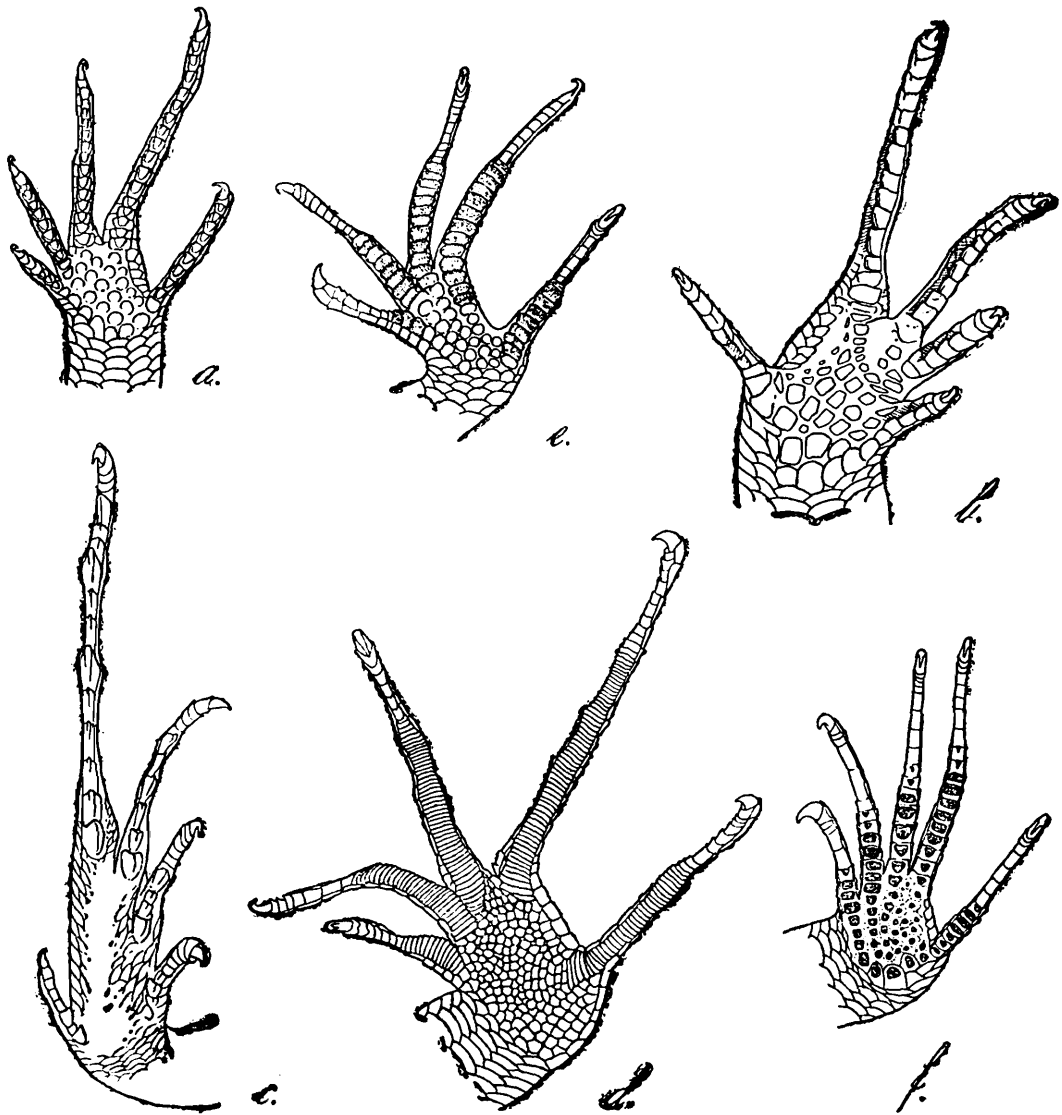
1. The simplest and least specialised form is shown in figure 1a (*Lygosoma indicum*), the subdigital lamellae being simply rounded or slightly keeled. It is the commonest form and occurs in the majority of species of *Lygosoma*, in *Riopa*, and with a few exceptions in all degenerate forms.

2. Figure 1b (*Otosaurus mimikanum*). The distinctive feature is a prominent ridge upon the lower aspect of the toes. It appears to have been formed by longitudinal division of the keeled lamellae and then increased growth of the inner portion; it is most marked upon the third and fourth toes. This type of modification occurs also in *Lygosoma melanopogon*, *L. (E.) muelleri*, *L. (E.) pratti* and others. A similar modification can be seen in the hind feet of many of the Agamidae and Lacertidae.

3. Figure 1c (*Otosaurus anomalopus*). The fourth toe is greatly elongated and the subdigital lamellae are very strongly keeled, those beneath the articulations being also much larger than the others. In *anomalopus* this type of foot reaches its greatest development; it can be seen also, though to a lesser degree, in *Otosaurus granulatum*, *O. sarasinorum*, *Lygosoma scotophilum*, *L. sanctum* and *L. maculatum*.

4. This type is characterized by enlargement of the subdigital lamellae upon the basal phalanges of the toe, and subsequently, as specialization proceeds, modification in the structure of those lamellae and differentiation of them from the lamellae upon the terminal phalanges (figure 1d *Emoia sanfordi*, figure 1e *Lygosoma anolis* and figure 1f

Dasia vittata). Many of the species which have these enlarged lamellae shew also that peculiar brown or black pigmentation upon the plates which can be seen in some species of Ground-Gecko (*i.e.*, *Gymnodactylus frenatus*, *Cnemaspis littoralis*), and which is associated with the proliferation of the epithelial cells and appears to be the forerunner of the hair-like processes that are characteristic of the true adhesive digit. In *Logosoma anolis* these hair-like structures have actually appeared.



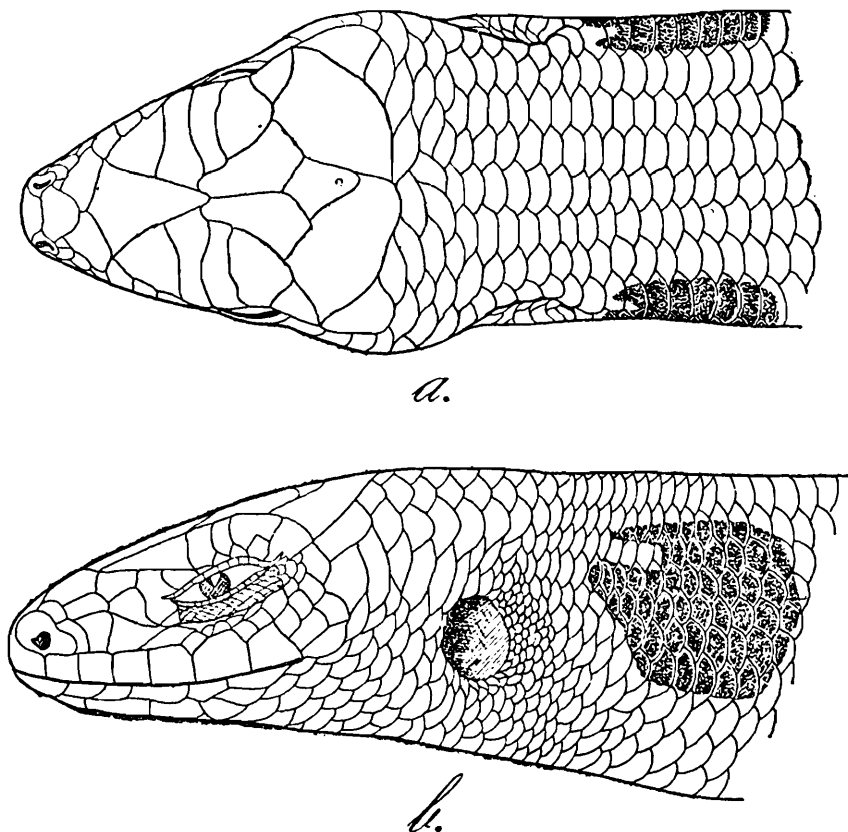
TEXT-FIG. 1.—Hind foot of a. *Lygosoma indicum*. b. *Otosaurus mimikanum*. c. *Otosaurus anomalopus*. d. *Emoia sanfordi*. e. *Lygosoma anolis*. f. *Dasia vittata*.

Our knowledge of the habits of the Scinks which have developed this type of foot is scanty, but many of them lead a more or less arboreal existence, an exception being *Emoia atrocostata* which lives on stones and rocks by the sea-shore. The modification is no doubt the earliest stage in the evolution of the adhesive digital disc which has attained so high a degree of development in the Geckonidae, and to a less extent in some Iguanids (*Anolis*). In the Scinks it is not yet sufficiently developed to enable them to make proper use of it as an adhesive structure. None of them appear to be able to climb a perfectly smooth surface as can most of the Geckoes and many of the Anoles.

Loss of the first finger has occurred in a large group of *Leiolopismids* (Section III). There are no species shewing the gradual disappearance of the digit; either it is there fully developed, or it has been lost, although dissection will usually show a vestige of the metacarpal remaining.

As already stated the purpose of this paper is to show generic relationships and to endeavour to trace the degenerate forms in each group as far as possible. In consequence the validity of species, except in a few instances, has not been questioned. The key characters under which the lists are arranged are intended primarily to indicate lines of descent rather than means of identification. Terms which apply to length of body and limb, size of ear, etc., can be approximate only, and may vary with the individual or in accordance with age.

Under *Otosaurus*, *Dasia*, *Emoia*, *Riopa* and *Rhodona* are listed all the species which appear to be valid for those genera. Those marked with an asterisk have not been seen by me. The species of *Lygosoma* are too numerous to be dealt with the same way, and only those in the British Museum collection have been mentioned.



TEXT-FIG. 2.—Upper (a) and side view (b) of head of *Otosaurus concinnatum* (B. M. 1932, 12.14.32-33).

The original manuscript of this article was destroyed by fire on the train in India. The carbon copy retained in London did not include all the final changes and these have been added from memory. It is hoped that the article as now presented is in the same form as the original one.

Genus **Otosaurus** Gray.*Otosaurus* Gray., *Cat. Liz. Brit. Mus.*, I, 1845, p. 93 (type *cumingi*).*Parotosaurus* Boulenger, *Trans. Zool. Soc. London*, XX, 1914, p. 257 (type *annectens*).

Supranasals present; fronto-parietals and interparietal distinct; ear-opening usually very large, without auricular lobules, tympanum not deeply sunk; lower eyelid scaly; limbs well developed, pentadactyle.

Range.—Malaysia to New Guinea; Celebes and the Philippines.

The separation of *Otosaurus* from *Lygosoma* rests entirely upon the presence or absence of supranasal shields. The distinction is slim, but it is a convenient means of separating from the main body of *Lygosoma* a group of species which have a number of characters in common and which are undoubtedly derived from the same stock. They are closely related to the *melanopogon-maculatum* group which, in the absence of supranasals, are placed under *Lygosoma*. In *O. concinnatum* the supranasals may be present or absent.

I. Supranasals large, in contact with one another; 6 or 7 supraoculars.

<i>cumingi</i> Gray	Philippines
<i>celebense</i> Müll.	Celebes

II. Supranasals small, widely separated from one another.

A. 6 or 7 supraoculars.

<i>sarasinorum</i> Blgr.	Celebes
<i>annectens</i> Blgr.	New Guinea

B. 5 or 6 supraoculars.

<i>granulatum</i> Blgr.	New Guinea
<i>nigrilabre</i> Günth.	Celebes
<i>simum</i> Sauvage	New Guinea
<i>amblyplacodes</i> Vogt	New Guinea
<i>tropidonotus</i> Blgr.	Celebes
<i>variegatum</i> Peters	East Indies
<i>kinabaluense</i> Bartlett	Borneo
<i>llanosi</i> Taylor	Philippines
<i>mimikanum</i> Blgr.	New Guinea

C. 4 (5) supraoculars.

<i>jobiense</i> Meyer	Papuaasia
<i>concinnatum</i> Blgr. ¹	Solomon Is.
<i>curtirostris</i> Taylor	Philippines
<i>murudensis</i> M. A. Smith	Borneo
<i>anomalopus</i> Blgr. ²	Sumatra; ? Penang

¹ Supranasals present or absent.

² Originally described from Penang, the species has not since been obtained in the Malay Peninsula.

Genus **Lygosoma** Hardw. & Gray.(Section *Sphenomorphus*.)

Sphenomorphus Fitzinger, *Syst. Rept.*, 1843, p. 23 (type *melanopogon* Dum. & Bib.).

Eulamprus Fitzinger, *l.c.s.*, p. 22 (type *Lquoyi*).

Hinulia Gray., *Cat. Liz. Brit. Mus.*, 1845, p. 22 (type *Lyg. quoyi* Dum. & Bib.).

Lissonota (not of Gravenh. 1829), Blyth, *Journ. Asiat. Soc. Bengal*, XXII, 1853, p. 653 (type *maculata*).

(Section *Lygosoma*.)

Lygosoma Hardw. & Gray, *Zool. Journ.*, III, 1827, p. 228 (type *serpens*=*quadrupes*).

Siaphos Gray, in *Griff. Anim. King.*, IX, 1831, Syn. p. 72 (type *aequalis*).

Peromeles Wiegmann, *Herp. Mex.*, 1834, p. 11 (subst. name for *Siaphos*, same type).

Anomalopus Dumeril, *Cat. Meth. Rept.*, 1851, p. 185 (type *verreauxi*).

Coloscincus Peters, *Mon. Akad. Berlin*, 1876, p. 532 (type *truncatus*).

I am unable to find any character by which to separate generically the well-developed forms of *Lygosoma*, usually called *Sphenomorphus*, from the degenerate ones called *Lygosoma, sensu strictu*. Between the extremes in each Section the difference is enormous, but the gap can be bridged by connecting forms showing every stage of development. As arranged here they form a descending series in degeneration, and the two Sections are introduced merely to facilitate description and recognition. The *lesueuri-strauchi*, and the *monotropis-fasciolatum* groups, are divergents from the main line of descent, which continues on from *stellatum* through *undulatum*. Section *Leiolopisma* is dealt with separately.

Range.—The Western Pacific Islands, Australasia, Papuaasia, the Oriental Region, Africa, N. America.

(Section *Sphenomorphus*.)

Supranasals absent; eyelids well developed, the lower scaly; prefrontals, fronto-parietals and interparietal distinct; limbs more or less well developed, pentadactyle; ear-opening present or absent; frontal not broader than the supraocular region.

I. The length of the leg exceeds the distance between the arm and the tip of the snout.

A. Ear-opening without lobules.

a. Normally 5-7 supraoculars.

<i>melanopogon</i> Dum. & Bib.	Papuaasia
<i>scotophilum</i> Blgr.	Malaysia
<i>aignanum</i> Blgr.	New Guinea
<i>lousiadense</i> Blgr.	Louisiade Archipelago
<i>striolatum</i> Weber	Flores Islands
<i>maindroni</i> Sauvage	New Guinea
<i>florense</i> Weber	Flores-Timor Islands
<i>dussumieri</i> Gray	Southern India
<i>maculatum</i> Blyth	Indo-China
<i>sanctum</i> Dum. & Bib.	Malaysia
<i>acutum</i> Peters	Philippines

b. 4 supraoculars.

<i>jagori</i> Peters	Philippines
<i>tersum</i> M. A. Smith	Siam
<i>indicum</i> Gray	Indo-China
<i>presigne</i> Blgr.	Malay Peninsula
<i>quoyi</i> Dum. & Bib.	Australia
<i>tenue</i> Gray	Eastern Australia
<i>stellatum</i> Blgr.	Malay Peninsula ; Annam

B. Ear-opening with very distinct lobules anteriorly ; nasals large, in contact with or just separated from one another ; tail long and thick at the base. Dorsal scales larger than laterals ; 4, sometimes 5, supraoculars.

<i>lesueuri</i> Dum. & Bib.	Western Australia
<i>dorsale</i> Blgr.	New Guinea
<i>leae</i> Blgr.	Central Australia
<i>taeniolatum</i> Shaw	Australia
<i>labillardieri</i> Gray	Western Australia
<i>fischeri</i> Blgr.	Australia
<i>ocelliferum</i> Blgr.	Western Australia
<i>strauchi</i> Blgr.	Queensland

II. The length of the leg equals the distance between the arm and the tip of snout.

A. Dorsal scales obtusely keeled, forming continuous lines.

<i>monotropis</i> Blgr.	Australia
<i>richardsoni</i> Gray	Western Australia
<i>fasciolatum</i> Günth.	Australia

B. Dorsal scales smooth or nearly so.

<i>undulatum</i> Ptrs. & Doria	Papuasias
<i>rufum</i> Blgr.	Aru Islands
<i>minutum</i> Meyer	New Guinea
<i>nigrolineatum</i> Blgr.	”
<i>pallidum</i> Günth.	Western Australia
<i>isolepis</i> Blgr.	Australia
<i>pardalis</i> Macleay	New Guinea ; North- ern Australia
<i>ornatum</i> Gray	New Zealand
<i>malayanum</i> Doria	Malaysia
<i>emigrans</i> Lidth de J.	Sumba—New Guinea
<i>modigliani</i> Blgr.	Mentawai Islands
<i>shelfordi</i> Blgr.	Borneo
<i>cameronicus</i> M. A. Smith	Malay Peninsula
<i>taprobanense</i> Kelaart	Ceylon
<i>striatopunctatum</i> Ahl.	”
<i>fallax</i> Peters	”
<i>decipiens</i> Blgr.	Philippines
<i>deplanchi</i> Bavay	New Caledonia

III. The length of leg is less than distance between arm and the tip of the snout.

A. Ear-opening very distinct.

<i>temmincki</i> Dum. & Bib.	Sumatra—Celebes
<i>alfredi</i> Blgr.	North Borneo
<i>antoniorum</i> M. A. Smith	Timor
<i>forbesi</i> Blgr.	New Guinea
<i>courcyanum</i> Annand.	Assam
<i>helenae</i> Cochran	Siam
<i>textum</i> Müll.	Celebes
<i>brevipes</i> Bttgr.	”
<i>steeri</i> Stejneger	Philippines
<i>atrigrularis</i> Stejneger	”
<i>biparietalis</i> Taylor	”
<i>vigintiserium</i> Sjostedt	Fernando Po
<i>australe</i> Gray	Western Australia

B. Ear-opening punctiform or covered with scales.

<i>luzonense</i> Blgr.	Philippines
<i>scutirostrum</i> Peters	Eastern Australia
<i>cophias</i> Blgr.	Malay Peninsula

(Section *Lygosoma.*)

IV Body elongate, the distance between the tip of the snout and the arm being from 2 to 4 times in the distance between the axilla and groin. Limbs short or vestigial. Frontal usually broader than the supraocular region.

A. Digits 5-5 ; ear-opening small or punctiform.

<i>pumilum</i> Blgr.	North Queensland
<i>punctulatum</i> Peters	Queensland
<i>mjobergi</i> Lonnb.	North Queensland
<i>graueri</i> Sternfeld	East Africa
<i>quadrupes</i> Linn.	Indo-China ; Malaya

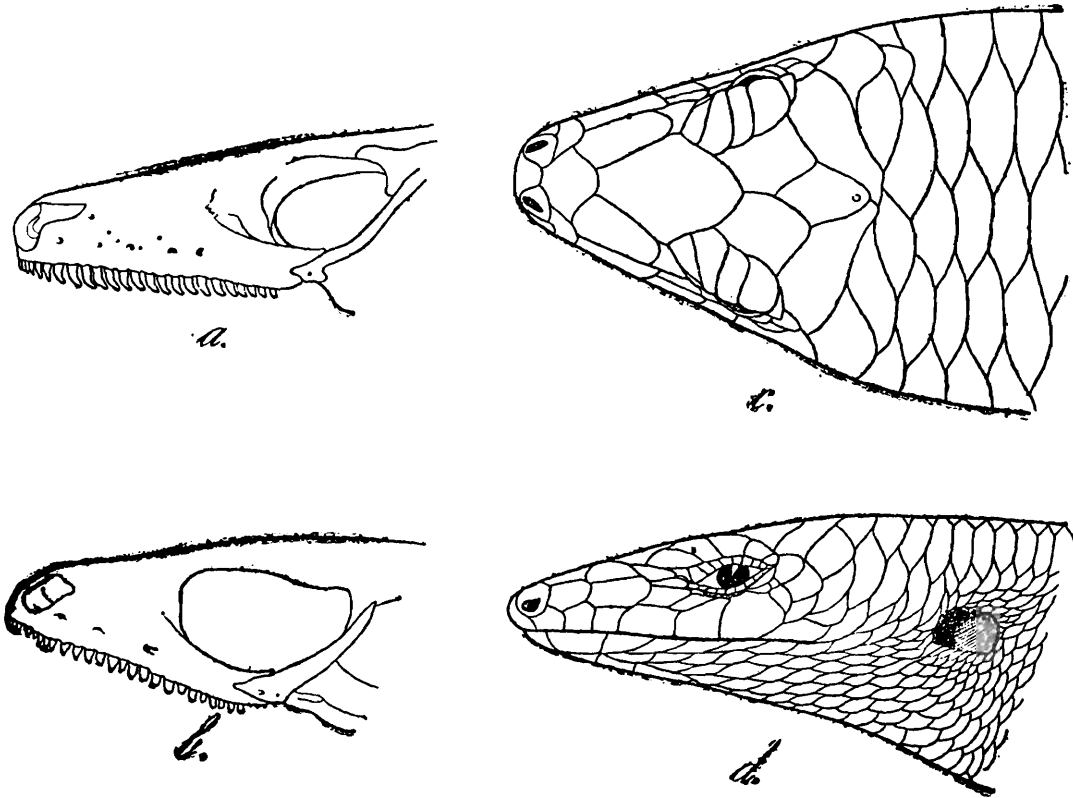
B. Digits reduced in number ; ear punctiform or covered with scales.

<i>aloyssi-sabaudae</i> Peracca	East Africa
<i>meleagris</i> Blgr.	Tanganyika Territory
<i>clathrotis</i> Blgr.	Kenya
<i>aequale</i> Gray	Western Australia
<i>miodactylum</i> Blgr.	Malay Peninsula
<i>sumatrense</i> Blgr.	Sumatra
<i>reticulatum</i> Günth.	New South Wales
<i>larutense</i> Blgr.	Malay Peninsula
<i>verreauxi</i> Dum.	Eastern Australia
<i>truncatum</i> Peters	Queensland

Lygosoma (Ictiscincus).

Elania (not of Sundevall) Gray, *Cat. Liz. Brit. Mus.*, 1845, p. 80 (type *Scincus muelleri* Schleg.).

*Ictiscincus*¹ nom. nov. for *Elania* preocc.



TEXT-FIG. 3.—a. Teeth of *Lygosoma (Ictiscincus) muelleri*. b. Teeth of *Lygosoma indicum*. c-d. Upper and side views of head of *Lygosoma (Ictiscincus) muelleri* (B. M. 1913, 10.10.173).

Teeth fang-like in the larger species. Frontal broader than the supraocular region, in contact with the enlarged first supraciliary. Body stout, somewhat elongate, limbs short, pentadactyle, tail thick. Ear-opening moderate, tympanum sunk.

Connects with *Lygosoma* through the *rufum-undulatum* group. With the exception of *crassicauda* and *woodfordi*, a group of closely related species.

<i>muelleri</i> Schleg.	New Guinea
<i>pratti</i> Blgr.	„
<i>woolastoni</i> Blgr.	„
<i>loriae</i> Blgr.	„
<i>oligolepis</i> Blgr.	„
<i>solomonis</i> Blgr.	New Guinea ; Solomon Islands
<i>crassicauda</i> Dum.	Papuasias ; Queensland
<i>woodfordi</i> Blgr.	Solomon Islands

¹ *Ictis*= a weasel.

(Section *Leiolopisma.*)

- Tridactylus* (not of Latreille 1802) Cuvier, *Regné Anim.*, 1829, p. 64 (type *decreiensis*).
- Tetradactylus* (not of Merrem 1820) Cuvier, *l. c. s.*, p. 64 (type *decreiensis*).
- Peromelis* Wagler, *Nat. Syst. Amphib.*, 1830, p. 160 (substitute name for *Tetradactylus* Cuvier).
- Hemiergus* Wagler, *l. c. s.*, p. 160 (substitute name for *Tridactylus* Cuvier); Boulenger, *Cat. Liz. Brit. Mus.*, III, 1887, p. 223.
- Leiolopisma* Dum. & Bib., *Erp. Gen.*, V, 1839, p. 742 (type *Scincus telfairii*).
- Chelomeles* Dum. & Bib., *l. c. s.*, p. 774 (type *C. quadrilineatus*).
- Heteropus* (not of Beauvois 1805) Dum. & Bib., *l. c. s.*, p. 742 (type *Lygosoma fuscum*).
- Lampropholis* Fitzinger, *Syst. Rept.*, 1843, p. 22 (type *Lyg. guichenoti*).
- Eulepis* Fitzinger, *l. c. s.*, p. 22 (type *Lyg. duperreyi*=*trilineatum*).
- Lipinia* Gray, *Cat. Diz., Brit. Mus.*, 1845, p. 84 (type *L. pulchella*).
- Mocoa* Gray, *l. c. s.*, p. 80 (type *guichenoti*).
- Oligosoma* Girard, *Proc. Acad. Philad.*, 1857, p. 196 (type *Mocoa zeylandica*=*moco*).
- Hombromia* Girard, *l. c. s.*, p. 196 (type *fasciolaris*).
- Lygosomella* Girard, *l. c. s.*, p. 196 (type *aestuosa*).
- Cyclodina* Girard, *l. c. s.*, p. 195 (type *aenea*).
- Cophoscincus* Peters, *Mon. Akad. Berlin*, 1867, p. 19 (type *quadrivittata*).
- Anotis* Bavay, *Mem. Soc. Linn., Normandie*, IV, 1869 (5), p. 29 (type *marei*).
- Nannoscincus* Günther, *Ann. Mag. Nat. Hist.*, (4) X, 1872, p. 421 (type *N. fuscus*=*marei*).
- Lioscincus* Bocage, *Journ. Acad. Sci. Lisbon*, XV, 1873, p. 328 (type *steindachneri*=*tricolor*).
- Tropidoscincus* Bocage, *l. c. s.*, p. 230 (type *aubrianus*).
- Saurosincus* Peters, *Sitz. Ges. Nat. Fr. Berlin*, 1879, p. 149 (type *braconnieri*=*variabile*).
- Lygisaurus* de Vis, *Proc. Roy. Soc. Queensland*, I, 1884, p. 77 (type *foliorum*=*mandus*).
- Myophila* de Vis, *l. c. s.*, p. 77 (type *vivax*= ? *blackmanni*).

Under *Leiolopisma* are included a number of species that cannot clearly be assigned to any genus. All agree in having an undivided, more or less transparent disc in the lower eyelid, a character that from a generic point of view is worthless, as it is in *Mabuya*, *Riopa*, *Scelotes*, *Sepsina* and others. The successive steps in the transformation of the scaly lid into one having a disc can be traced in numerous species. Usually there is no difficulty in deciding which character is present, but in some species, e.g., *L. ornatum*, *L. reevesi*, both conditions can be found.

The majority of the *Leiolopismids* have no doubt been derived from *Lygosoma* by the simple change in the eyelid, others from *Emoia* by loss of the supranasal shield through fusion with the nasal. The arrangement in the present list is based partly upon easily determined characters, partly upon geographical distribution.

I. Fronto-parietals paired (except in *novae-guineae*) ; interparietal large.

A. Subdigital lamellae not transversely enlarged.

- a. Limbs well developed, pentadactyle ; ear-opening large or moderate.
- | | |
|-----------------------------|-------------------------|
| <i>grande</i> Gray | New Zealand Archipelago |
| <i>lineo-ocellatum</i> Dum. | " |
| <i>suteri</i> Blgr. | " |
| <i>aeneum</i> Girard | " |
| <i>smithi</i> Gray | " |
| <i>homalonotum</i> Blgr. | " |
| <i>moco</i> Dum. & Bib. | " |
| <i>dendyi</i> Blgr. | " |

<i>entrecasteauxi</i> Dum. & Bib.	Australia ; Tasmania
<i>mustelinum</i> O'Shaughn. ¹	"
<i>lichenigerum</i> O'Shaughn.	New South Wales
<i>infrapunctatum</i> Blgr.	Western Australia
<i>challengeri</i> Blgr.	Queensland
<i>nigrofasciolatum</i> Peters	New Caledonia
<i>nototaenia</i> Blgr.	New Guinea
<i>noctua</i> Less.	"
<i>himalayana</i> Günth.	Himalayas
<i>ladacense</i> Günth.	"
<i>sikkimense</i> Blyth	"
<i>doriae</i> Blgr.	Burma
<i>bilineatum</i> Gray	Southern India
<i>laterimaculatum</i> Blgr.	"
<i>vittigerum</i> Blgr.	Indo-China ; Malaya
<i>reevesi</i> Gray	China ; Indo-China
<i>unicolor</i> Harlan	U. S. A.
<i>rupicola</i> M. A. Smith	Siam
<i>telfairi</i> Desjard	Mauritius

- b. Body elongate, limbs short, not meeting when adpressed ; digits 5-5 or reduced in number ; ear punctiform or covered with scales.

<i>peroni</i> Fitz.	Australia
<i>maccoyi</i> Luc. & Frost	Eastern Australia
<i>woodwardi</i> Luc. & Frost	Western Australia
<i>quadrilineatum</i> Dum. & Bib.	"
<i>decesiense</i> Fitz.	Australia
<i>scharffi</i> Blgr.	Queensland
<i>gracile</i> Bavay	New Caledonia
<i>mariae</i> Bavay	"

- B. Lamellae beneath the basal phalanges transversely enlarged and differentiated from those on the terminal phalanges (except in *pulchellum*).

- a. Snout subacuminate ; prefrontals separated from one another ; tail ? prehensile.

<i>elegans</i> Blgr.	New Guinea
<i>semoni</i> Oudemans	"
<i>flavipes</i> Parker	"
<i>parkeri</i> M. A. Smith	"

- b. Snout acuminate ; prefrontals in broad contact with one another.

<i>anolis</i> Blgr. ²	Solomon Islands
<i>longiceps</i> Blgr.	New Guinea
<i>pulchellum</i> Gray	Philippines

¹ *Lygosoma (Leiolopisma) pseudotropis* Werner 1903 (type in Natural History Museum, Brussels), is identical with this species.

² *Lygosoma virens* (Peters) from Papua with 34-36 scales round the body and 13-14 lamellae beneath the 4th toe, is a race of *L. anolis* which has 36-40 scales round the body and 15-17 lamellae beneath the toe.

II. Fronto-parietals united ; interparietal usually large ; limbs pentadactyle, usually well developed.

A. Ear-opening present.

<i>ocellata</i> Gray	Tasmania
<i>pretiosum</i> O'Shaughn.	"
<i>trilineatum</i> Gray	Australia ; Tasmania ; W Pacific Islands
<i>guichenoti</i> Gray	Australia
<i>metallicum</i> O'Shaughn.	W. Pacific Islands
<i>delicatum</i> Werner	Queensland
<i>variable</i> Bavay	New Caledonia
<i>steindachneri</i> Bocage	"
<i>tricolor</i> Bavay	"
<i>euryotis</i> Werner ¹	"
<i>novae-caledoniae</i> Parker	"
<i>austro-caledonicum</i> Bavay	"
<i>stanleyanum</i> Blgr.	New Guinea
<i>miotis</i> Blgr.	"
<i>morokanum</i> Parker	"
<i>pulchrum</i> Blgr.	"
<i>travancoricum</i> Bedd.	Southern India
<i>palnicum</i> Boettg.	"

B. Ear closed.

<i>initiale</i> Werner	Western Australia
<i>relictum</i> Vincig.	Sumatra
<i>infralineolatum</i> Günth.	Celebes ; Philippines
<i>quadrivittatum</i> Peters	Celebes ; Borneo
<i>surdum</i> Blgr.	Malaya

III. Frontoparietals united ; interparietal small or absent ; limbs usually well developed ; 4 fingers and 5 toes.

<i>nigrigulare</i> Blgr.	New Guinea
<i>fuscum</i> Dum. & Bib.	Papuasias
<i>becarrii</i> Peters & Doria	Kei Islands
<i>bicarinata</i> Macleay	New Guinea
<i>pectorale</i> de Vis	Queensland
<i>blackmanni</i> de Vis	"
<i>mundum</i> de Vis	"
<i>devisii</i> Blgr.	"
<i>mundivense</i> Browne	"
<i>tetradactylum</i> O'Shaughn.	Eastern Australia
<i>rhomboidale</i> Peters	Queensland
<i>maccooeyi</i> Ram. & Ogilby	New South Wales
<i>curtum</i> Blgr.	New Guinea
<i>novae-guinae</i> Meyer	"
<i>spinauris</i> M. A. Smith	Timor

¹ Doubtfully distinct from *tricolor*.

Genus **Dasia** Gray.

- Dasia* Gray, *Ann. Mag. Nat. Hist.*, II, 1839, p. 331 (type *olivacea*).
Lamprolepis Fitzinger, *Syst. Rept.*, 1843, p. 22 (type *Scincus smaragdinus* Lesson).
Liotropis Fitzinger, *l. c. s.*, p. 22 (type *Euprepes ernesti*=*olivacea*).
Keneuxia Gray, *Cat. Liz. Brit. Mus.*, 1845, p. 79 (type *smaragdinus*).
Apterygodon Ederling, *Nat. Tijds. Med. Ind.*, XXVI, 1863, p. 483 (type *vittata*).
Theconyx (not of Gray 1845) Annandale, *Spol. Zeyl.*, III, 1906, p. 191 (type *halianus*).

Supranasals present (except in *smaragdina* in which they are united anteriorly, or completely, with the nasal); prefrontals, frontoparietals and interparietal distinct; lower eyelid scaly; ear-opening small, tympanum sunk.

Limbs well developed, pentadactyle, the lamellae below the basal phalanges of the digits more or less expanded and differentiated from those below the terminal phalanges (fig. 1f).

Range.—From Southern India to the Western Pacific Islands.

As far as is known all the species are arboreal and subarboreal in their habits.

<i>smaragdina</i> Lesson	East Indies to W. Pacific Is.
<i>dahlii</i> Werner	Bismarck Archipelago
<i>olivacea</i> Gray	Indo-China; Malaysia; Philippines
<i>subcoerulea</i> Blgr.	South India
<i>vittata</i> Ederling	Borneo
<i>nieuwenhuisi</i> Lidth de J.	„
<i>vyneri</i> Shelford	„
<i>grisea</i> Gray	Malaysia; Philippines
<i>haliana</i> Haly & Nev.	Ceylon

Genus **Emoia** Gray.

- Eusoma* (not of Germar 1817) Fitzinger, *Syst. Rept.*, 1843, p. 22 (type *lessoni*=*cyanura*).
Emoia Gray, *Cat. Liz. Brit. Mus.*, 1845, p. 95 (type *Scincus atrocostatus* Lesson).

Supranasals present, narrow, always separated from one another; lower eyelid with an undivided transparent disc; fronto-parietals united; interparietal small or absent; ear-opening never large, tympanum sunk. Limbs well developed, pentadactyle, digits long, the lamellae beneath the basal phalanges usually enlarged and differentiated from those on the terminal phalanges.

Range.—From Borneo and the Philippines to the Western Pacific Islands and North Australia.

I. Interparietal normally present.

<i>nigra</i> Hombr. & Jacq.	Papuasias; W. Pacific, Is.
<i>adspersa</i> Steindach.	Fiji and Samoan Is.
<i>parietale</i> Peters ¹	Borneo; Christmas I.,
<i>speiseri</i> Roux	New Hebrides

¹ *Lygosoma sinus* M. A. Smith is a race of this species.

<i>atrocostata</i> Lesson	Malaysia ; Papuasia ; W. Pacific Is.
<i>battersbyi</i> Procter	New Guinea
<i>sanfordi</i> Schmidt & Burt	W Pacific Is.
<i>cyanogaster</i> Lesson	Papuasia ; W. Pacific Is. ; Queensland
<i>samoensis</i> Dum.	W. Pacific Is.
<i>sorex</i> Boettger	Helmaheira I.
<i>ruficauda</i> Taylor	Philippines.
II. No interparietal.	
<i>cyanura</i> Lesson	Papuasia ; W Pacific Is.
<i>weneri</i> Vogt	"
<i>klossi</i> Blgr.	New Guinea
<i>tropidolepis</i> Blgr.	"
<i>baudini</i> Dum. & Bib.	Papuasia ; Celebes
<i>iridescens</i> Blgr.	"
<i>kukenthali</i> Boettger	Halmaheira I.
<i>mivarti</i> Blgr.	W. Pacific Is.
<i>tetrataenia</i> Blgr.	"
Species not seen by me.	
<i>acrocarinata</i> Kopstein	New Guinea
<i>ahli</i> Vogt	"
<i>buergersi</i> Vogt	"
<i>callisticta</i> Peters	"
<i>cunieiceps</i> de Vis	"
<i>pallidiceps</i> de Vis	"
<i>jakati</i> Kopstein	Solomon Is.
<i>flavigularis</i> Schmidt	"
<i>mehelyi</i> Werner	"
<i>murphyi</i> Burt	"
<i>whiteneyi</i> Burt	"
<i>similis</i> Dunn	Flores

Genus **Riopa** Gray.

- Riopa* Gray, *Ann. Mag. Nat. Hist.*, II, 1839, p. 332 (type *Lyg. punctata*).
Campsodactylus Dumeril, *C. R. Acad. Sci.*, IV, 1837, p. 16 (type *lamarrei*=
vosmaeri).
Chiamela Gray, *Ann. Mag. Nat. Hist.*, 1839, p. 332 (type *C. lineatus*).
Hagria Gray, *l. c. s.*, p. 333 (type *Scincus vosmaeri*).
Liosoma (not of Brandt 1834) Fitzinger, *Syst. Rept.*, 1843, p. 22 (type *Eumeces*
microlepis Dum. & Bib.).
Sphenosoma (not of Dejean 1834) Fitzinger, *l. c. s.*, p. 23 (type *Eumeces puncta-*
tus Wiegmann).
Eugongylus Fitzinger, *l. c. s.*, p. 23 (type *Eumeces oppelii-rufescens*).
Mochlus Günther, *Proc. Zool. Soc. London* 1864, p. 308 (type *punctulata*).
Panaspis Cope, *Proc. Acad. Philad.*, 1868, p. 317 (type *aeneus*=*cabindae*).
Eumecia Bocage, *Journ. Acad. Sci. Lisbon* III, 1870, p. 67 (type *anchietae*).

The genus, as now tentatively reconstructed, consists of four groups or subgenera, each one containing a number of species closely related to each other, but not clearly related to the species in the other groups.

Riopa (Riopa).

Supranasals present, sometimes united anteriorly with the nasals; frontal broader than the supraocular region, broadly truncate anteriorly; prefrontals usually small and widely separated; lower eyelid scaly or with a disc; ear-opening distinct; tympanum sunk; body stout, more or less elongate; limbs short.

Range.—The Oriental Region; Africa.

The depressed, cuneiform snout, which characterizes the African *sundevalli-modestum* group and culminates in *vinciguerra* is foreshadowed in the Oriental *herberti*, *bowringi*, *punctata* and *koratense*. The resemblance of *R. guineense* from W. Africa to *R. herberti* from Siam is remarkable. When a good series of each is examined it is possible to separate the African form from the Siamese in having a slightly longer body and a few more scales, counted in longitudinal series, down the back. But individuals can be found which, if the locality of origin were not known, it would be difficult to give a name to. Such a case is probably explained by great consistency within the genus rather than by parallel evolution.

I. Supranasals large, in contact with one another.

A. Lower eyelid scaly.

a. Supranasals entire, or united anteriorly with the nasals.

<i>fernandi</i> Burton	West Africa
<i>mocquardi</i> Chaban.	Central Africa
<i>bampfyldei</i> Bartlett	Malaya
<i>opisthorhodum</i> Werner*	Sumatra
<i>corpulentum</i> M. A. Smith	Annam
<i>koratense</i> M. A. Smith	Siam
<i>albopunctatum</i> Gray	India
<i>bowringi</i> Günther	Indo-China; Philip- pines
<i>herberti</i> M. A. Smith	Peninsular Siam
<i>guineense</i> Peters	West Africa
<i>sundevalli</i> A. Smith	Africa
<i>modestum</i> Günther	East Africa

b. Supranasals completely united with the nasals.

<i>vinciguerra</i> Parker	Somaliland
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B. Lower eyelid with a disc.

<i>guentheri</i> Peters	India
<i>punctata</i> Gmelin	„
<i>lineolata</i> Stol.	Burma
<i>anguina</i> Theobald	„
<i>lineata</i> Gray	Bombay District
<i>vosmaeri</i> Gray	Bengal
<i>mabuiiformis</i> Loveridge	Kenya Colony
<i>tanae</i> Loveridge	„

II. Supranasals separated from one another; lower eyelid scaly.

<i>producta</i> Blgr.*	Somaliland
<i>isodactyla</i> Günther	Siam

Riopa (Eugongylus).

Supranasals present ; frontal not broader than the supraocular region ; lower eyelid scaly.

Range.—Papuasias ; Western Pacific Islands ; Northern Australia.

I. Supranasals in contact with one another.

garnieri Bavay New Caledonia

II. Supranasals separated from one another.

albofasciolata Günther Solomon Islands ;
Northern Australia

microlepis Dum. & Bib.* Friendly Islands

rufescens Shaw Papuasias ; Northern
Australia

mentovaria Boettg.* Halmaheira

sulaense Kopstein* Sula Islands

Riopa (Panaspis).

Supranasals small, widely separated from one another, or absent (united with the nasals) ; frontal narrower than the supraocular region ; prefrontals, fronto-parietals and interparietal distinct ; lower eyelid with a disc ; limbs short, pentadactyle.

Range.—West Africa.

Parker has shown elsewhere (*Nov. Zool.* 1936, p. 139) that the species of the *breviceps-kitsoni* group are closely related to *reichenovei* and *africanum*, species which have lost the supranasal and are usually placed under *Leiolopisma*. This view is strengthened by the discovery that in some examples of *breviceps* (B. M. 1903. 11. 12. 10-14) union of the supranasal with the nasal has actually occurred. *Ablepharus cabindae* is placed in this group, with which, in cephalic scalation, it agrees. The disc of the lower eyelid in this species is very large but closure has not taken place. The palpebral fissure is still visible externally, the upper and lower eyelids being united only at the commissures.

I. Supranasals present, sometimes united with the nasals.

A. Disc of lower eyelid moderately large.

breviceps Peters French Congo

togoense Werner Ashanti

kitsoni Blgr. Gold Coast

B. Disc of lower eyelid very large.

cabindae Bocage Angola

II. Supranasals always united with the nasal ; disc of lower eyelid very large.

reichenovei Peters Cameroons

africanum Gray Gulf of Guinea

Riopa (Eumecia).

Supranasals present or united with the nasal, in contact with one another ; prefrontals very large ; frontal long and narrow ; fronto-parietals and interparietal distinct ; lower eyelid with an undivided opaque disc. Body very elongate ; limbs vestigial.

Range.—East Africa.

anchietae Bocage
johnstoni Blgr.

British East Africa
Nyasaland

Genus **Rhodona** Gray.

Rhodona Gray, *Ann. Mag. Nat. Hist.*, 1839, p. 335 (type *punctata*=*lineopunctulata* Dum. & Bib.).

Soridia Gray, *l. c. s.*, p. 335 (type *lineata*).

Praepeditus Dum. & Bib., *Erp. Gen.* V, 1839, p. 787 (subst. name for *Soridia*).

Brachystopus Dum. & Bib., *l. c. s.*, p. 778 (type *lineopunctulatus*).

Ronia Gray, in Grey's *Trav. Austral.* II, 1842, p. 437 (type *catenulata*=*lineopunctulata* Dum. & Bib.).

Leptosoma (not of Nardo 1826) Fitzinger, *Syst. Rept.* 1843, p. 23 (type *bougainvillii*).

Pholeophilus Smith, *Ill. S. Africa*, 1849, p. 15 Append., (type *capensis*=*lineata*).

Ophioscincus Peters, *Mon. Akad. Berlin*, 1873, p. 747 (type *australis*).

Isopachys Lonnb., *Kunigl. Sv. Vet. Akad. Handl.* LV, 1916, 4 p. 10 (type *gyldenstolpei*).

Typhloseps Angel, *Bull. Mus. Hist. Nat. Paris*, 1920, p. 4 (type *roulei*).

Snout more or less depressed and cunieforn in shape, with projecting rostral; nasals and frontonasal very large; frontal broader than the supraocular region; prefrontals small and widely separated or absent. Ear-opening punctiform or absent. Lower eyelid with an undivided disc, except in *pumila* and *anguinoides*. Limbs very short, or vestigial or absent.

Range.—Australia; Siam. This apparently unusual distribution is paralleled by that of the agamid genus *Physignathus*.

A group of degenerate species derived perhaps from some *Riopa*-like stock. The African *Riopa vinciguerra* although possessing *Rhodona*-like characters is too obviously related to the *Riopa modesta* group to be included here. *Rhodona anguinoides*, *Rh. roulei* and *Rh. ophioscincus* which I originally placed under *Ophioscincus* (*Fauna Brit. Ind.* II, p. 333) are too intimately linked with other species of *Rhodona* to be separated from them.

I. Frontoparietals and interparietal distinct.

A. Limbs pentadactyle.

microtis Gray

Australia

pumila Blgr.

Queensland

bougainvillii Gray

Southern Australia

B. Digits reduced in number.

frosti Zeitz.

Australia

terdigitatum Parker

Australian Bight

walkeri Blgr.

Australia

gerrardi Gray

”

punctatovittata Günther

Australia; Tasmania

fragile Günther

”

planiventralis Luc. & Frost*

Western Australia

macropisthopus Werner*

Queensland

picturata Fry*

Western Australia

nichollsi Loveridge*

”

C. No anterior limbs; posterior vestigial.

wilkinsi Parker

Queensland

- D. Neither anterior nor posterior limbs.
anguinoides Blgr. Siam.
roulei Angel " "
australe Peters Queensland
- II. Frontoparietals and interparietal united ; no anterior limbs ; posterior vestigial.
- A. Prefrontals present.
lineopunctulata Dum. & Bib. Western Australia
- B. No prefrontals.
bipes Fischer Western Australia
miopus Günther " "
lineata Gray " "

Genus **Ateuchosaurus** Gray.

Ateuchosaurus Gray, *Cat. Liz. Brit. Mus.* 1845, p. 107 (type *chinensis*).
Lygosaurus Hallowell, *Proc. Acad. Philad.*, 1860, p. 496 (type *pellopleurus*);
 Stejneger *Herp. Japan* 1907, p. 221.

Agrees with *Lygosoma* but no proper parietal shields, and the frontal very long and constricted, or divided, in the middle.

Range.—Tongking ; South China and the Riu Kiu Islands.

chinensis Gray Southern China ;
 Tongking
pellopleurus Hallowell Riu Kiu Islands

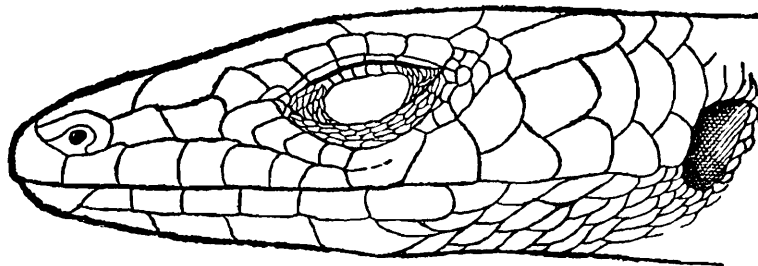
Genus **Cophoscincopus** Mertens.

Cophoscincopus (not of Peters 1867) ; Vaillant, *Bull. Soc. Philom.* (7) VIII, 1884, p. 170 (type *C. simulans*=*Tiliqua dura* Cope).
Cophoscincopus Mertens, *Zool. Stuttgart*, XXXII, 1934, p. 190.

Ear-opening present, but covered, or almost entirely, with scales ; dorsal and lateral scales strongly keeled, those on the flanks arranged obliquely.

In general appearance, except for the character of the ear, like *Tropidophorus*.

A single species in West Africa.



TEXT-FIG. 4.—Side view of head of *Ablepharus spenceri*.

Genus **Ablepharus** Fitzinger.

I have recently advanced the view (*Fauna Brit. India*, II, 1935, p. 309) that *Ablepharus* is a genus of polyphyletic origin. It has been formed, not by the diversification of a single species, but by the independent evolution of a particular character, namely the covering of the eye

by the growth of the lower eyelid with its accompanying transparent disc, and the ultimate union of that lid with the upper, in a number of species in different parts of the world. The union of the two lids, however, is not so complete as is usually believed. A close examination of those structures will show that in several species, *A. bouleengeri*, *A. egeriae*, *A. burnetti*, *A. pannonicus*, *A. tenuis*, the palpebral fissure still persists, but being small and hidden beneath the supercilium, or the vestige of the upper lid, has escaped observation.

A still earlier stage in the process of closure of the eye can be seen in the Australian *A. spenceri*, (fig. 4) a species in which the palpebral fissure is still visible externally, the union of the two lids having taken place only at the inner and outer commissures. *A. spenceri* was originally described as an *Emoia*, but its nearest relative is undoubtedly *A. lineo-ocellatus*. Closure of the eye in *spenceri* has not proceeded so far as in *lineo-ocellatus*, and the crescentic shield above the nasal which represents a combined supra- and post-nasal is different. In *A. lineo-ocellatus*, however, both supra- and post-nasal may be present (Loveridge, *Bull. Mem. Comp. Zool., Harvard*, LXXVII, 1934, p. 377) or both may be united with the nasal. In the character of the eye, in that closure is not yet complete, *Emoia spenceri* resembles *Ablepharus cabindae*. The latter, for reasons already given, is transferred to *Panaspis*, the former is now placed under *Ablepharus*, and the definition of that genus emended accordingly (Smith, *Fauna Brit. Ind.*, II, p. 309). That the condition of the eye as seen in these two species is but a further stage in the enlargement of the lower lid with its accompanying disc, such as obtains in *Lygosoma entrecasteauxi*, *L. trilineatum*, *L. himalayanum*, *L. albertisii*, *Riopa africanum*, to name but a few in which disc is particularly large, will not be disputed.

The origin of most of the Ablepharids cannot now be traced, the changes in cephalic scutellation having made this impossible. The majority appear to have been derived from *Lygosoma* through the Leiolopismids; *A. boutoni*, the most widely distributed species has all the characters of *Emoia*; *A. spenceri* and *A. lineo-ocellatus* possess supranasal shields but they do not appear to be related in any other way to the genera that have those shields.

Genus **Tiliqua** Gray:

Tiliqua Gray, *Ann. Phil.* (2) X, 1825, p. 201 (type *gigas*).

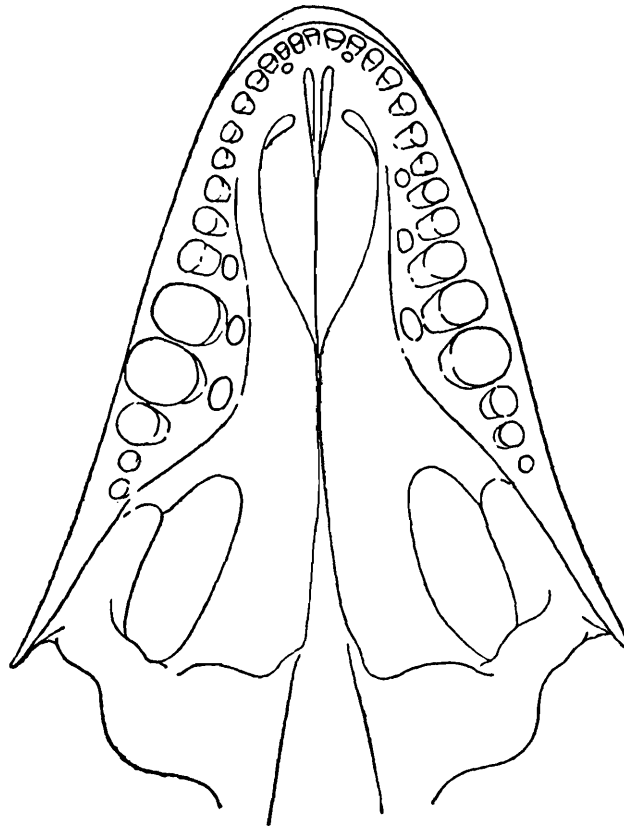
Cyclodus Wagler, *Desc. Icon. Amphib.* (1) 1828, tab. 6 and *Syst. Amphib.* 1830, p. 162 (type *flavigularis*=*gigas*).

Omolepida Gray, *Cat. Liz. Brit. Mus.*, 1845, p. 87 (type *Cyclodus casuarinae* Dum. & Bib.).

Cyclodomorphus Fitzinger, *Syst. Rept.*, 1843, p. 23 (type *Cyclodus casuarinae*).

Lateral teeth with spheroidal crowns increasing in size from before backwards, except the last two or three which are smaller. Eye-lids well developed, scaly; tympanum distinct, deeply sunk; nostril pierced in a single nasal, usually with a curved groove behind it; no supranasals; prefrontals, frontoparietals, and interparietal distinct, the last named

separating the parietals. Body more or less elongate, limbs short, pentadactyle.



TEXT-FIG. 5.—Upper jaw of *Tiliqua gigas*.

In the character of its teeth, and in having the parietals completely separated by the interparietal, *Cyclodus casuarinae* Dum. & Bib. agrees with *Tiliqua*, and its proper place is in that genus. Three other species, usually referred to *Lygosoma* or *Omolepida* are, for the same reason, placed there also. The genus with its additions, will now stand as follows :—

I. Length of tail not longer than the length of the body ; a complete series of scales between the orbit and the upper labials.

<i>gigas</i> Schneid.	Papuasias
<i>scincoides</i> White	Australia ; Tasmania
<i>nigrolutea</i> Gray	Australia
<i>occipitalis</i> Peters	Australia ; Tasmania
<i>adelaidensis</i> Peters	„

II. Length of tail longer than the length of the body ; no complete series of scales between the orbit and the upper labials.

<i>casuarinae</i> Dum. & Bib.	Australia ; Tasmania
<i>branchiale</i> Günth.	„
<i>wood-jonesi</i> Procter	„
<i>gastrostigma</i> Blgr.	„

Lygosoma parkeri, sp. nov.(Section *Leiolopisma*).

Type : Brit. Mus. 1913, 11.1.57.

Distance between the snout and the fore-limb once and a third times in the distance between the axilla and groin ; snout rounded ; rostral in good contact with the fronto-nasal, which is a little broader than long ; prefrontals large, just separated from one another and united with the anterior loreal ; posterior loreal longer than high ; frontal longer than the parietals and interparietal together, its lateral margins indented by the second supraocular ; four supraoculars, first largest, three in contact with the frontal ; parietals in contact with one another behind the interparietal ; a pair of nuchals ; eight or nine supraciliaries, all higher than long ; nine supralabials, the sixth largest and subocular ; two large superposed temporals. Ear-opening oval, nearly as large as the disc of the lower eyelid, no projecting lobules.

Body scales quite smooth, the dorsals a little larger than the laterals, 36 round the middle of the body ; a pair of enlarged preanals. Tail a little longer than the head and body, covered with sub-equal scales. Limbs rather short, just overlapping when adpressed ; subdigital lamellae beneath the basal phalanges transversely enlarged, and differentiated from those on the distal phalanges ; eight or nine lamellae beneath the basal phalanges of the fourth toe.

Light brown above indistinctly shaded with darker brown, and with dark brown sinuous alternating cross-bars extending from the vertebral line to the sides of the body ; tail with dark cross-bars above ; head-shields outlined with dark brown ; white below.

From snout to vent 53 m.m.

Described from a single specimen obtained by the Woolaston Expedition in 1913, on the Utakwa River, Dutch New Guinea.

L. parkeri is related to the species of the *elegans-flavipes* group ; it differs from them all in the character of the frontal and prefrontal, and in colour pattern.