

6. REVISION OF THE GENERA AND SPECIES OF CHAMÆLEONIDÆ,  
WITH THE DESCRIPTION OF SOME NEW SPECIES. BY DR.  
J. E. GRAY, F.R.S., F.L.S., ETC.

(Plates XXXI., XXXII.)

The Chameleons form one of the most natural family of Lizards, as well as one of the most clearly defined. The distinction of the species from one another, as is almost always the case in a natural group, is difficult, and requires careful study and consideration. The species in general are well marked when the characters are eliminated; but there are a few species, as *Chamæleon vulgaris* and *C. senegalensis*, which have a broad geographical distribution, that offer several variations such as, if the differences did not appear gradually to pass into each other, might induce one to believe that they were specific; but they can hardly be even considered as local varieties, for the same variation seems to occur in specimens from different localities often situated far apart.

There is considerable difference in the sexes, especially of the horned species which, I believe, was first established in my 'Monograph;' but this difference does not appear to be common to all the species of the Horned Chameleons; for while the female of *C. owenii*, *C. bifidus*, and *C. parsonii* are hornless, the expansions on the sides of the nose of *C. pardalis*, which are analogous to the horn in *C. bifidus*, are as much expanded in the adult female as in the males of that species.

The female specimens are much more common in museums than males; they are perhaps more easily caught when they come to the ground to deposit their eggs: and this appears more probable from the fact that females containing eggs are often to be found among those collected. In some cases, even where there is a series of specimens, they are all females; at least I have not, from the external appearance, been able to discover a male of *C. senegalensis* or *C. dilepis*.

Dr. Hallowell (Journ. Acad. Nat. Sc. Philad. vii. 99) thought at one time that the occipital lobes were peculiar to the females; I also was once inclined to believe this might be the case, before I had seen his remark, from observing that all our specimens of *C. dilepis* appear to be females; but I had the same difficulty in finding any males of *C. senegalensis* or other allied species; and M. A. Duméril specially observes that "the cutaneous prolongation is not a character only of the female *C. dilepis*" (Arch. du Mus. x. 174).

There is considerable variation in the distinction and height of the occipital crest in the specimens of *C. vulgaris* and in some other species. This often arises from the animals having been kept in confinement without (or with only a very limited supply of) food, until the muscles have shrunk. This should make one careful in using the height of the crest as a character, more especially as many of the specimens in museums have been kept alive in confinement either in the country which they naturally inhabit or in some other, as collectors like to have them alive as pets.

PROC. ZOOL. SOC.—1864, No. XXX.

Yet the well-fed and fresh-caught specimens seem to vary considerably in this particular; for example, specimens of *C. vulgaris* from India, as a rule, seem to have the occipital crest higher and more arched than African specimens; but still there are in the Museum collection some African specimens which have quite as high crests.

Little attention seems to have been paid to the coloration of the species, probably because the animal greatly changes its colour during life; and specimens in spirits of some species, such as of *C. vulgaris*, offer many variations, from bright yellow to dark lead-grey. Yet in some species the distribution of the colours, at least in specimens in spirits, seems to form permanent specific marks, as, for example, the lines or white spots or white bands on the sides of several species.

The number of species has gradually increased. In my Monograph, published in the 'Catalogue of Lizards in the British Museum,' printed in 1845, I described eighteen species; the present revision contains thirty, distributed into fourteen genera.

Since the above Monograph, Dr. Hallowell has described three or four species from West Africa, in the 'Journal' and 'Proceedings' of the Academy of Natural Sciences of Philadelphia; but unfortunately I have not been able to make any of the specimens in the Museum collection agree with his descriptions. M. A. Duméril, in the 'Archives du Muséum,' has described and figured two new species, and he has given figures of the heads of fifteen other species. I have referred to these figures, as they elucidate several species described in my Monograph which had not before been figured. Unfortunately the figures are not as accurate as they might be; and one, that of *C. cucullatus*, is either absolutely erroneous or is from a Chameleon that differs very considerably in the proportion of the head, and in having a dentated crest on the chin, from the species to which M. A. Duméril has referred it, which was originally described by me from specimens in the British Museum collection—the account in the 'Erpétologie Générale' having been copied from my description.

Dr. Andrew Smith, in the fifth number of the 'South-African Quarterly Journal,' published at the Cape of Good Hope in October 1831, describes two new species, viz. *C. namaquensis* and *C. tæniabronchus*; and in the Appendix to his 'Zoology of South Africa,' 1849, he describes a third, under the name of *C. gutturalis*. I have not been able to identify the two latter.

Dr. Fitzinger, in his 'Systema Reptilium,' published at Vienna in 1843, is the only author, as far as I know, who has attempted to divide the Chameleons into genera. He separates the family into two genera—*Chamæleon*, with homogeneous, and *Bradypodium* with heterogeneous scales. The rest of the lengthened characters which he gives for the genera are only transcripts of one another. He divides the first genus into three sections, viz. *Chamæleon*, *Triceras*, and *Furcifer*. The genera and the sections consist of species which have very little affinity, and appear to be very incongruously associated together: for example, *Furcifer* consists of *C. bifurcus*, *C. parsonii*,

and *C. brookesii*; and *Bradypodium* of *C. pardalis*, *C. verrucosus*, *C. pumilus*, and *C. cucullatus*. The species are not characterized, except by the synonyms appended. It appears that he divides *C. vulgaris* into four, and *C. senegalensis* into two species.

The species have hitherto, except in the instance of Fitzinger above cited, all been referred to a single genus, in which they have been generally arranged in an artificial manner, merely to facilitate the finding of their names.

The species throw themselves into groups agreeing in natural characters: these groups are quite as distinct as the groups in the other families, which are regarded as genera; I have therefore so regarded them. If a comparison of genera of different families is to be established, and their affinities to each other studied, the genera in the different families should be formed on the same plan.

The Chameleons are essentially confined to Africa and the islands near to that continent. Thus, as far as we at present know, the following species, *Chamæleon calyptratus*, *C. verrucosus*, *C. balteatus*, *Apola lateralis*, *Calumma cucullata*, *Crassonota nasuta*, *Sauvagesia rhinocerotum*, *Dicranosaurus bifurca*, and *D. parsonii*, are confined to Madagascar; *Cyneosaurus pardalis* to the Isle of Bourbon; *Lophosaurus tigris* to the Seychelles; *C. burchelli*, *Pterosauria cristata*, and *Triceras owenii* to Fernando Po and perhaps Old Calabar; *C. gracilis* to West Africa—Liberia; *C. petersii* to Mozambique; *Ensirostris melleri* to Eastern Africa; *C. auratus* to Arabia; *C. granulatus*, *Brookesia superciliaris*, and *C. senegalensis* to W. Africa; *C. lævigatus* to Central Africa; *C. affinis* to Abyssinia; *Phumanola namaquensis* to South-east Africa; *Lophosaurus pumila* and *L. ventralis* to South Africa. *C. dilepis* is common to the west and south-east coast of Africa; while *C. vulgaris* is distributed over North and South Africa, Asia Minor, India, and Singapore.

Fam. CHAMÆLEONIDÆ, Gray, Cat. Lizards Brit. Mus. 264 (1845).

CHAMÆLEON, Gronovius, Fitz.

*Synopsis of the Genera.*

A. *The nose and orbit simple, not horned.*

1. CHAMÆLEON. Back and belly with a series of compressed elongated scales.
2. APOLA. Back-edge broad, with two series of minute scales; belly dentated.
3. PTEROSAURUS. Back and tail with a high fin, supported by bony rays, smooth-edged; belly dentated.
4. MICROSAURA. Back and chin crested; occiput keeled, compressed; sides smooth, divided into two square disks.
5. PHUMANOLA. Back rounded, with a series of large bony tubercles covered with scales.

6. LOPHOSAURA. Chin with a series of elongated processes covered with scales.
7. CALUMMA. Orbit with large lobes, covered with scales behind; back dentated; belly and chin rounded, not dentated.

B. *Nose simple; orbit angularly produced in front.*

8. BROOKESIA.

C. *Nose and orbit with cylindrical horns, covered with a sheath.*

9. TRICERAS. Horns, one on the nose and one on the front of each orbit.

D. *Nose with one or two bony prominences covered with scales.*

10. CRASSONOTA. Nose compressed in front, with a flexible compressed lobe covered with scales; back with a distant series of slender elongated scales.
11. ENSIROSTRIS. Nose-horn single, bony, central, sharp-edged above; occiput lobed behind; back with a lobed, erect fin.
12. SAUROCERAS. Nose-horn single, bony, central, sharp-edged below, grooved above; occiput simple behind; back dentate.
13. DICRANOSAURA. Nose-horns two, produced, compressed; back compressed; belly and chin rounded.
14. CYNEOSAURA. Nose dilated, and toothed on each side in front; back, chin, and belly dentate.

A. *Nose of male and female simple, not dilated; orbit simple.*

1. CHAMÆLEON.

Nose (of both sexes) simple, without any appendages or horns; the chin simple; orbit round, simple. The back, chin, and belly with a series of compressed elongated scales, forming a dentated crest.

a. *Occiput produced and acute behind, with raised central keel, with small scales behind the temples.* Calyptosaura.

1. CHAMÆLEON CALYPTRATUS, A. Dum. Arch. du Mus. vi. t. 21. f. 1.

The occipital ridge very high and large; scales equal, small.

*Hab.* Madagascar (*Mus. Paris.*).

I only know this species from the description and figure of M. A. Duméril.

2. CHAMÆLEON VERRUCOSUS, Gray, Cat. B. M. 267; Dum. & Bib. Erp. Gén. iii. t. 27. f. 1. B.M.

*Bradypodium verrucosum*, Fitz. Syst. Rept. 43.

Scales unequal; sides with several series of larger tubercles.

*Hab.* Madagascar. Males and females similar.

The series of scales on the belly and chin becomes less distinct in the older specimens.

- b. *Occiput produced and acute behind, with a raised central keel and with a flat space edged with a series of large scales, from the apex to the sides of the temple.* Chamæleon.

3. CHAMÆLEON VULGARIS, Gray, Cat. B.M. 265; A. Dum. Arch. du Mus. vi. t. 22. f. 1 (head). B.M.

The occipital crest moderate, upper edge arched; the side margin with a series of large scales, and more or less elevated; scales equal.

In spirits, brown, with two more or less interrupted pale longitudinal bands on each side; eyelids dark-rayed.

*Hab.* Africa and Asia; and naturalized in Europe.

Var. *marmoratus*. Forehead very concave; eyebrows and occipital crest very high. In spirits, pale brown, marbled with irregular black cross marks.

*Hab.* Dukhun (*Col. Sykes*).

In the British Museum there are specimens from S. Europe (*P. B. Well*); N. Africa, Egypt (*J. Burton*), Algiers and Tunis (*Fraser*), Tripoli (*Ritchie*); S. Africa (*Col. Denham*); Asia Minor, Xanthus (*Fellows*); India, Calcutta (*Hardwicke, Livesay*), Dukhun (*Sykes*), Anamallay Mountains (*Beddome*), Singapore (*Cantor*); Japan (*Zool. Soc.*).

After a most careful comparison, I have not been able to discover any distinction between the African and Asiatic specimens. The Asiatic ones have the bands on the sides less marked; indeed they are generally absent, but in some specimens they are clearly indicated. I was much tempted to separate them on this ground; but this character, and the height of the occipital crest, would not hold out after a rigorous examination and comparison.

Fitzinger, in his 'Systema Reptilium,' gives the names of *C. coromandelicus* to the Chameleon of India, *C. africanus* from Africa, *C. rimulosus* to that from Egypt, and *C. hispanicus* to that from Spain; but these species, or presumed species, are not characterized.

#### 4. CHAMÆLEON AURATUS.

B.M.

The scales large; dorsal, chin, and ventral crest well developed. The occiput extended and rather pointed behind, covered above with rather convex scales. The dorsal ridge is strongly toothed.

In spirits, pale yellow, with many bright yellow spots, and without any white spots or bands.

*Hab.* Arabia (*H. Christy*).

There is a second specimen, allied to this Chameleon, in the Museum collection, which differs in the occipital keel being very much lower and flatter; but in other respects they are very much alike. The one with the flatter occipital keel was received from the Zoological Gardens, and was said to have been sent from Mexico.

- c. *Occiput produced and acute behind, with a distinct central keel, with large hood-like occipital flaps, from apex to side of the temple, covered with flat scales.*

5. CHAMÆLEON PETERSII, n. s.

B.M.

*C. dilepis*, Peters, MS.

Back compressed, with a series of large compressed scales; forehead narrow, covered with flat scales with a strong sharp edge on each; occiput contracted and short-edged behind, with a well-raised central keel arched on its upper edge; occipital flaps broad, rounded, covered with large, flat, hexagonal scales; scales small, equal; chin and belly dentated, covered with flat scales.

In spirits, dark green, with a white spot behind the temple, and also a white streak from the axilla; forehead, temple, and side of occiput white.

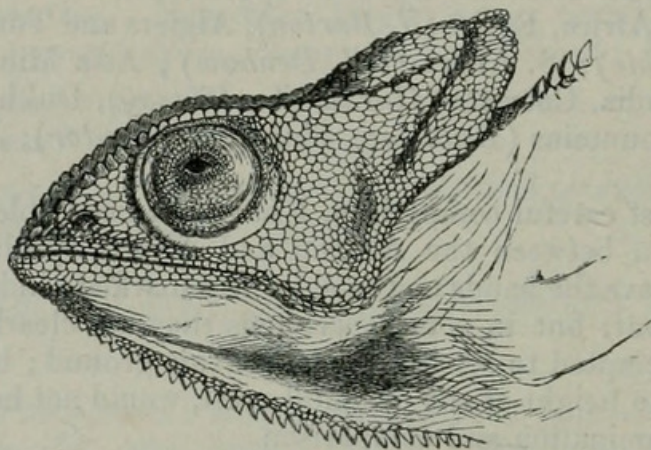
*Hab.* E. Africa, Mozambique (*MacLeod, Dr. Peters*).

Var. *kirkii*. The occipital lobes smaller.

B.M.

*C. dilepis*, Gray, P. Z. S. 1864.

*Hab.* Eastern Africa (*Dr. Kirk*). A female.



*Chamæleo petersii.*

- d. *Occiput produced and acute behind, with a low keel, and two large broad flaps behind, covered with large, irregular, convex shields; scales of body and limbs with larger tubercles.*

6. CHAMÆLEON MONACHUS. (Pl. XXXI.)

B.M.

Brown (in spirits), dorsal keel and body white-speckled, upper and lower lip at the gape and ventral crest white; the occipital flaps large, with irregular, unequal, flat shields; the body and limbs with low, convex, larger tubercles.

*C. cucullatus*, A. Duméril, Arch. du Mus. vi. t. 6. f. 9 (not Gray).

*C. parsonii*, Cat. Mus. Zool. Soc. MS.

*Hab.* Madagascar.

The head of this species is not well figured as that of *C. cucullatus* by M. A. Duméril. It is at once known from that species

by the form of the occiput, and the crest on the chin and belly. It is a fine large species. We received it from the Zoological Society in 1855.

e. *Occiput broad and rounded behind, flat above, with a scarcely raised central line behind.*

† *The sides of the occiput with small granular scales.* Erizia.

\* *Chin and belly with a distinct denticulate line of white scales.*

7. CHAMÆLEON SENEGALENSIS, Gray, Cat. B. M. 286; A. Dum. Arch. du Mus. vi. t. 22. f. 7 (fig. bad); Fitz. Syst. Rept. 41. B.M.

? *C. leptopus*, Fitz. Syst. Rept. 41.

Scales large; head broad and rounded behind; occiput covered above with convex scales.

In spirits, brown or purplish.

*Hab.* West Africa, Senegal (*Earl of Derby*).

8. CHAMÆLEON LÆVIGATUS, Gray, P. Z. S. 1863; Ann. & Mag. N. H. 1863, xii. 248. B.M.

Scales minute; the dorsal crest very indistinct, only visible on the nape; head rhombic behind; occiput covered above with flat thin scales.

*Hab.* Central Africa, Chartoom (*Petherick*).

Probably only a young specimen of the preceding.

9. CHAMÆLEON GRACILIS, Hallowell, Journ. Acad. N. S. Philad. viii. 324, t. 18 (♀ and eggs); Proc. Ac. N. S. Philad. 1854, 99; A. Dum. Arch. du Mus. x. 173 (a note only). B.M.

*C. senegalensis*, var., Gray, Cat.

Scales large; head broad and acute behind; occiput covered above with convex scales.

In spirits, olive, with a white spot on the shoulder, or interrupted on the upper part of the back, and with a band of white spots from the axilla.

*Hab.* W. Africa, Senegal (*A. Gerrard*), Angola, Congo, Cuanga, and Pungo Adongo (*Dr. Welwitsch*), ? Liberia (*Dr. Ford*).

Var. ? *leiocephalus*.

B.M.

Scales and colour like the former; the scales on the crown and occiput above flat, smooth, hexagonal.

*C. dilepis*, Gray, Cat. Mus.

*Hab.* W. Africa, Fantee (*Capt. Marryat*), Ashantee (*Mus. Leyden*).

The figure of Dr. Hallowell is a moderately good representation of this species; but the name is not the best, as it is a stouter and stronger species than *C. senegalensis*.

\*\* *Chin without any white dentated ridge of scales ; belly dentated.*

10. CHAMÆLEON AFFINIS, Rüppell ; Gray, P. Z. S. 1863 ; Ann. & Mag. N. H. 1863, xii. 248.

*C. abyssinicus*, Wiegmann, Mus. Berolin. ; Fitz. Syst. Rept. 43.

Lead-coloured (in spirits), with two white long spots on the temple behind the eyes, upper part of back with an interrupted broad white band ; scales large, subequal.

*Hab.* Abyssinia, from Mus. Francofort.

\*\*\* *Chin dentated ; middle of belly not dentated.*

11. CHAMÆLEON BALTEATUS, A. Dum. Arch. du Mus. vi. 260, t. 21. f. 2 ; x. 174.

Back dentated ; scales subequal, brown ; edge of jaws, middle of the belly, and tail, a broad oblique streak from shoulder to groin, and a streak on each side of the belly yellowish ; chin slightly dentated ; "middle of the belly not dentated" (Arch. Mus. x. 174).

*Hab.* Madagascar (*Mus. Paris.*). A single specimen. I have not seen this species.

The following species appear to belong to this division :—

12. CHAMÆLEON GRANULOSUS, Hallowell, Proc. Acad. N. S. Philad. 1856, 147.

Grey ; belly bluish ; scales on the sides unequal, tubercular ; four or five rows of flat quadrangular scales between the dorsal denticulations and the lateral tubercles.

*Hab.* West Africa (*Mus. Philad.*). A single specimen.

13. CHAMÆLEON BURCHELLI, Hallowell, Proc. Acad. N. S. Philad. 1856, 147.

Greenish, with a lateral yellow stripe ; scales of body unequal, tubercular, subrhomboid, interspersed with very small granules ; of sides of head, rather large, flattened.

*Hab.* Fernando Po (*Mus. Philad.*). A single specimen.

†† *Sides of the occiput with a fleshy lobe, covered with scales from the apex of the occiput to the middle of the temple. Dilepis.*

14. CHAMÆLEON DILEPIS, Leach ; Gray, Cat. B. M. 266 ; A. Smith, Zool. S. Africa, App. 3 ; A. Dum. Arch. du Mus. vi. t. 22. f. 8 (not good). B.M.

*C. bilobus*, Kuhl ; Fitz. Syst. Rept. 41.

Dorsal crest of a single series of short conical scales ; scales of body conical, convex, of crown and forehead flat, larger.

In spirits, bluish brown, a short white streak at angle of mouth, and a white band from the axilla along the sides of the belly, and another over the shoulder.

*Hab.* West Africa (*Richardson*), Gaboon (*Bowdich*), the type specimen described by Dr. Leach; S. Africa, Latakoo (*A. Smith*), Port Natal (*Rev. H. Calloway, Ayres*).

## 2. APOLA.

Nose of both sexes simple; orbit rounded. Chin and belly dentated. Back compressed; upper edge flat, with a series of minute scales on each side. Occiput keeled. Scales granular, equal.

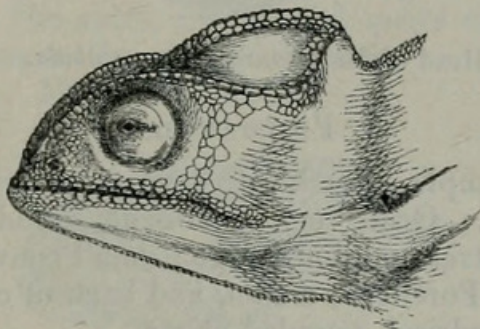
### 1. APOLA LATERALIS.

B.M.

*Chameleo lateralis*, Gray, Cat. B. M. 264; A. Dum. Arch. du Mus. vi. t. 22. f. 6 (head).

Pale brown, with a narrow, continued pale streak on the middle of the sides; ventral line white.

*Hab.* Madagascar.



*Apola lateralis.*

## 3. PTEROSAURUS.

Nose and chin simple. Back and tail with a high crest, supported by long bony rays. Belly slightly dentated. Chin and back smooth-edged. Orbit rounded. Occiput much produced, sloping, acute behind, flat above, or rather concave, without any central ridge; hinder sides covered with very small scales. Scales small, with scattered larger ones.

### 1. PTEROSAURUS CRISTATA.

B.M.

*Chameleo cristatus*, Gray, Cat. B. M. 264.

Sides with a series of larger circular scales.

In spirits—red-brown, with numerous large, equal, roundish, white spots.

*Hab.* Fernando Po; Old Calabar (*Murray*).

One of the Museum specimens has two dark spots in front of the upper part of the nose over the nostrils. Is this a sexual character?

## 4. MICROSAURA.

The occiput much narrowed and compressed behind, flat above, with a slightly raised central keel; the side of the occiput with a smooth space, separated from the smooth temple by a central nodulous

ridge (as in *Lophosaura*). Back and chin with a crest of small compressed scales. Belly not dentated. Scales of body unequal; of legs equal, flat.

1. *MICROSAURA MELANOCEPHALA*.

B.M.

White (in spirits), head and shoulders black, fore legs blackish; scales of the body granular, small, convex; with a longitudinal series of large, circular, slightly raised tubercles on the middle of each side, and with a similar series of small tubercles on the sides of the middle of the back; scales of the legs larger than those of the body, flat, equal.

*Hab.* S. Africa, Port Natal, 1862.



Head of *Microsaura melanocephala*.

5. *PHUMANOLA*.

Nose and chin simple. Back with a series of large bony tubercles covered with scales. Orbit very prominent, rounded. Occiput triangular, with a central nodulous ridge; small convex scales. Scales uniform, convex. Forehead, crown, and back of chin and belly not toothed. Tail cylindrical, rounded above.

1. *PHUMANOLA NAMAQUENSIS*.

B.M.

*Chamæleo namaquensis*, A. Smith, Zool. Journ. 1831; A. Dum. Arch. du Mus. vi. t. 22. f. 3\*.

*C. tuberculiferus*, Gray, Cat. B. M. 267.

In spirits, dark brown, paler below; sides black-spotted, with a series of irregular-shaped, black-edged, pale spots along the middle; belly with a dark-edged, central, broad longitudinal band.

*Hab.* S. Africa—Little Namaqua Land, near the mouth of the Gariep or Orange River (*A. Smith*).

6. *LOPHOSAURA*.

Nose simple, without appendages. Chin with a series of skinny lobules beneath. Occiput produced, acute behind, keeled above. Back and throat often dentated. Scales unequal. Belly not toothed.

a. *Back compressed, with a continuous series of large compressed scales; scales unequal.* *Lophosaura*.

1. *LOPHOSAURA PUMILA*.

B.M.

*Chameleo pumilus*, Gray, Cat. B. M. 269; A. Dum. Arch. du Mus. vi. t. 22. f. 5.

*Bradypodium pumilum*, Fitz. Syst. Rept. 43.

Scales of body and limbs moderate, unequal, with one or two series of large scales on the sides; sides of occiput and temples covered with flat scales.

In spirits, bluish, with a white streak from the orbit to the shoulder, and from the temples along the sides of the back.

*Hab.* South Africa; Cape of Good Hope.

Var. *fordii*. Scales larger, more acute; tubercles on the side of the back large, elongate, keeled; throat-fringe elongate, covered with acute scales; scales of belly small, equal.

*Hab.* S. Africa, on branches of underwood; from Haslar Hospital.

*Trup sutchées* of the Cape Colonist; that is, "Tread lightly."

## 2. LOPHOSAURA VENTRALIS.

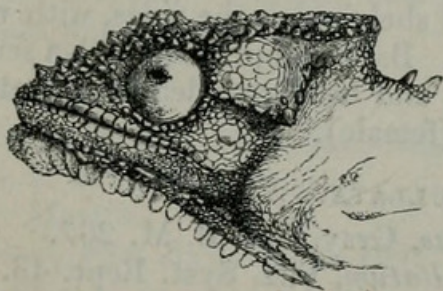
B.M.

*Chameleo ventralis*, Gray, Cat. B. M. 268.

*C. pusillus*, var.?, A. Smith, S. A. Zool. App. 2; A. Dum. l. c. 261.

Scales small, with three or four series of large, flat, oval scales, with convex centres, on the sides, and several series on the sides of the belly, and two series on the sides of the tail.

*Hab.* S. Africa. Male and female.



*Lophosaura ventralis*.

b. *The back with a series of distant conical compressed scales; tail and belly not crested.* Archaius.

## 3. LOPHOSAURA TIGRIS.

B.M.

*Chameleo tigris*, Gray, Cat. B. M. 268; A. Dum. Arch. du Mus. vi. t. 22. f. 3.

Scales of temple, occiput, back, and limbs uniform, small, granular.

In spirits, yellow, brown-spotted; spots sometimes confluent, forming short longitudinal lines.

*Hab.* Seychelles Islands.

*Chamæleo gutturalis*, A. Smith, Append. Z. S. A. 3.

"Back and tail surmounted with three rows of three-sided tubercles; body and tail covered with small scales and subconic tubercles; sides with two longitudinal rows of large subovate flat plates; chin and throat fringed longitudinally with long, small, thin, narrow and pointed lobes of skin. Length  $6\frac{1}{2}$  inches.

"*Hab.* S. Africa.

"Distinguished from *C. pumilus* by the length of the lobes of the

guttural fringes, and their being smooth and destitute of granular scales."

We have no specimen of this genus which has the scaleless lobes of the chin as here described.

*Chamæleo tæniabronchus*, A. Smith, S. Afr. Quart. Journ. 1831, p. 17.

"Yellowish green, with two longitudinal buff stripes along each side, and four or six smooth, oblong, jet-black stripes along the sides of the throat, best seen when the animal inflates itself, or when the skin is extended laterally; occipital casque narrow, produced, armed above with three dentated ridges, one on each side, and another along the centre; back with a ridge of short conical tubercles, inclined backwards; chin and throat with a short, dentated longitudinal fringe; scales of the body small and granular; temples divided longitudinally by a dentated ridge.

"*Hab.* Algoa Bay. One specimen,  $4\frac{1}{4}$  inches long."

#### 7. CALUMMA.

Nose and chin simple; orbits rounded. Occiput lozenge-shaped, produced behind, and shelving on the sides, with very large flaps on the hinder side edges. Back compressed, with a series of compressed conical scales. Chin and belly rounded, not dentated, without any line of conical scales (female).

##### 1. CALUMMA CUCULLATA.

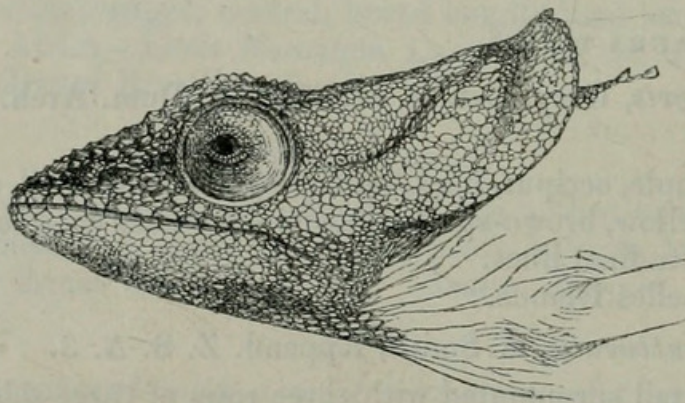
B.M.

*Chameleo cucullatus*, Gray, Cat. B. M. 267.

*Bradypodium cucullatum*, Fitz. Syst. Rept. 43.

*Hab.* Madagascar. A single female specimen.

A. Duméril (Arch. du Mus. vi. t. 22. f. 9) figured a "*C. capuchon*" with a well-marked dentated line of scales on the chin. It is a very distinct species. Described above (at page 470) as *C. monachus*.



*Calumma cucullata.*

B. Nose simple; orbit angularly produced in front.

#### 8. BROOKESIA.

Nose of both sexes simple. The eyebrows produced above into

triangular horns. Scales very minute. Chin, back, and belly not toothed; the sides of the back with a longitudinal series, and the chin with an arched series, of subulate erect scales. Tail short, compressed at the base.

1. BROOKESIA SUPERCILIARIS.

B.M.

*Chamæleo superciliaris*, Kuhl.

*C. brookesianus*, Gray, Cat. B. M. 270; cop., A. Dum. Arch. du Mus. vi. t. 22. f. 14.

*Chamæleon brookesii*, Fitz. Syst. Rept.

*Hab.* West Africa.

C. *Nose and orbit of male with cylindrical horns.*

9. TRICERAS.

*Chamæleon*, § *Triceras*, Fitz. Syst. Rept. 43.

The nose of the male with three horn-like processes, covered with a conical, continuous, horny sheath—one from the front of each orbit, and the other from the middle of the nose. Chin simple. Back, chin, and belly not crested. Occiput flat, with a slightly raised central line. Scales uniform, granular.

1. TRICERAS OWENII.

B.M.

*Chameleo owenii*, Gray, Cat. 269; Zool. Misc. t. 4; cop., A. Dum. Arch. du Mus. vi. t. 22. f. 10 (head).

♀. *C. bibronii*, Martin.

*Chamæleon owenii*, Fitz. Syst. Rept. 102.

Dark brown in spirits, with several series of oval longitudinal spots; those on side of back forming a pale band; eyelid dark-rayed.

*Hab.* Fernando Po (*Capt. Edw. Owen*).

D. *Nose with one or two bony processes covered with scales; orbits simple, unarmed.*

10. CRASSONOTA.

The nose (of male?) compressed in front, with a flexible compressed lobe covered with scales. Chin simple; orbit rounded. Back rounded, with a series of small, distant, slender, flexible, single scales. Chin and belly rounded, not dentated. Tail rounded above. Occiput flat above, produced behind, shelving on the sides, and covered with small scales. Scales equal, thin.

1. CRASSONOTA NASUTA.

B.M.

*Chameleo nasutus*, Gray, Cat. B. M. 268; A. Smith, Zool. S. Africa, App. 3; A. Dum. Arch. du Mus. vi. t. 22. f. 4 (head bad).

*Chamæleon nasutus*, Fitz. Syst. Rept. 42.

Pale brown; belly paler; head and limbs white-spotted.

*Hab.* Madagascar.

Var. "With three isolated spines, each about a line in length, on

the vertebral line, about midway between the head and the base of the tail.

“*Hab.* Eastward of Port Natal.

“Length: head and body 1 inch 10 lines; tail 1 inch 9 lines. Appears to be an adult.” (*A. Smith*, l. c.)

#### 11. ENSIROSTRIS.

Nose (of male, at least) with a single central compressed bony horn, sharp-edged above. Orbit rounded. Chin and belly simple, not dentated. Back and tail with a high crest of roundish lobes covered with scales. Occiput keeled, acutely produced behind, shelving on the sides, and with a broad hood-like lobe covered with scales on each side behind; scales unequal, granular, with larger rounded scattered tubercles.

##### 1. ENSIROSTRIS MELLERI. (Pl. XXXII. fig. 1.) B.M.

Stuffed, grey-brown, with whitish cross-bands on the body.

*Hab.* E. Africa, on the mountains in the interior (*Dr. Meller*). A single specimen, probably a male.

The head and hood are somewhat like those of *Calumma cucullata*; but the back-crest and the scales are very different, too different to be sexes of the same species, as I was once inclined to think they might be.

#### 12. SAUROCERAS.

Nose (of male, at least) with a single central elongated bony horn, with a deep angular channel on the upper, and a sharp edge on the lower side. Orbit rounded. Back rather compressed, with a series of compressed conical scales. Tail compressed above. Occiput keeled, acutely produced behind, shelving on the sides, with a raised edge below, covered with small scales behind. Scales unequal, granular, with large interspersed tubercles.

##### 1. SAUROCERAS RHINOCERATUM. (Pl. XXXII. fig. 2.) B.M.

*Chameleo rhinoceratus*, Gray, Cat. B. M. 267.

*Hab.* Madagascar. A single small specimen.

#### 13. DICRANOSAURA.

Nose of male produced on the sides into two compressed bony horns covered with scales; of female, simple, hornless. Orbit rounded. Occiput flat above, produced, broad, and rounded behind, with small scales on its hinder sides. Back compressed, keeled, sometimes dentated in front. Chin and belly not toothed. Scales equal.

##### 1. DICRANOSAURA BIFURCA. B.M.

*Chameleo bifurcus*, Gray, Cat. B. M. 268; A. Dum. Arch. du Mus. vi. t. 22. f. 3.

*Chamæleon brongniartii*, Fitz. Syst. Rept. 42.

Nose-horns elongate; back dentated in front. Grey (in spirits),





Gray, John Edward. 1865. "Revision of the genera and species of Chamaeleonidae, with the description of some new species." *Proceedings of the Zoological Society of London* 1864, 465–479.

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