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XXXII.—On some new species of Chrysochloris

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pointed, 1½ as long as the head ; outer ray of ventral somewhat produced, reaching the anal. Caudal peduncle twice as long as deep. Perhaps a dusky lateral band.

A single specimen, 45 mm. in total length.

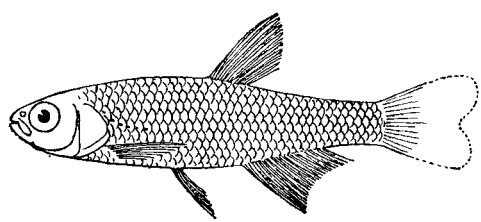
The barbels at once distinguish this remarkable fish from any other member of the family.

PHOXINOPSIS, gen. nov.

Allied to *Lebiasina*, C. & V., but with the teeth conical instead of tricuspid and the anal fin longer.

Phoxinopsis typicus, sp. n.

Depth of body nearly equal to the length of head, 4 in the length of the fish. Snout much shorter than eye, the diameter of which is 3 in the length of head and a little less than the interorbital width. Teeth conical, in a single series ; maxillary toothless, extending to below the anterior edge of eye. Scales cycloid, 33 in a longitudinal series; lateral line



Phoxinopsis typicus.

developed anteriorly, on 6 or 7 scales only. Dorsal 10; origin a little nearer to base of caudal than to tip of snout; longest ray a little shorter than the head. Anal 16 ; origin below end of dorsal ; free edge emarginate. Pectoral shorter than the head, extending a little beyond the base of ventrals, which do not quite reach the anal. Caudal peduncle a little longer than deep. A dark linear lateral streak.

A single specimen, 34 mm. in total length.

XXXII.—*On some new Species of* Chrysochloris.

By R. BROOM, M.D., D.Sc., C.M.Z.S.

DOBSON, in his monograph on the Insectivora, published in 1883, recognizes only five species of *Chrysochloris* as inhabiting South Africa, viz. *Chrysochloris aurea* (=*asiatica*)

C. villosa, *C. Trevelyani*, *C. rutilans* (=*hottentota*), and *C. obtusirostris*; and W. L. Sclater, in his 'Mammals of South Africa,' recognizes only the same five. Recently, as the result mainly of the researches of Mr. C. H. B. Grant, Oldfield Thomas has added a few new species belonging to the subgenus *Amblysomus*, viz. *A. chrysillus*, *A. iris*, *A. Corriæ*, and a subspecies *A. hottentottus pondoliæ*.

Though I have devoted comparatively little attention to systematic zoology, I have from time to time made pretty extensive collections of the bones of small mammals, and the best hunting-grounds I have invariably found to be the haunts of owls. In the disgorged pellets often found in great abundance in rock-clefts the small mammal skulls are usually preserved uninjured, and the owls frequently obtain specimens which the collector of skins will not readily come across. Having been recently studying the development and variations of the teeth of *Chrysochloris*, I have gone over with care the collection of small mole skulls that I have made from time to time, and among them I have discovered four new species. Through the kindness of Mr. Peringuey, Director of the South African Museum, I have examined all the specimens in the museum, and have found in the collection the skins of two forms of which I had already the skulls, and also another new species.

The examination of these new forms has led me to doubt the wisdom of making *Amblysomus* a distinct genus, and I shall therefore retain, provisionally at least, the generic name *Chrysochloris* for all the species.

Chrysochloris Sclateri, sp. n.

Of this new species two specimens have been in the South African Museum for some years. Both are preserved in spirit and come from Beaufort West.

The nose-pad at once distinguishes the species from *C. asiatica*, as its outer end is not produced into a sharp point as in the common species, but rounded. The general colour of the back is reddish brown, not unlike many specimens of *C. hottentota*. The lips and cheeks are dull cream-yellow, and the light patches extend to a little behind the ocular region, over the temporal area, and meet each other above the nasal pad. On the upper surface of the head a few brown hairs are mixed with the yellow, and above the nasal pad so many as to make the area pale brown. The general colour of the abdomen is a pale dirty brown.

The skull differs from that of *C. asiatica* in being much

narrower and in having no trace of the protuberance into the temporal well. In general proportions the skull is much more like that of *C. hottentota*, but much smaller.

The teeth are forty in number and resemble pretty closely in general structure those of *C. hottentota*, though smaller. The second last molar is not unlike the last molar of *C. hottentota*, owing to the posterior style being rudimentary. The lower teeth are almost identical in structure with those of *C. hottentota*, the premolars and molars having the well-developed posterior basal ledge. The second last molar has the ledge which is absent in *C. hottentota*, and the last molar is small. The whole structure of the skull and teeth shows this species to be much more nearly related to *C. hottentota* than to *C. asiatica*; and if this species, because it has forty teeth, is retained in the genus *Chrysochloris*, it seems scarcely advisable to make a distinct genus for *C. hottentota* merely because the minute last molar is missing.

Dimensions of the type (probably slightly shrunk by spirit) :—

Head and body 96 mm.; hind foot (s. u.) 11.

Skull: greatest length 23·2; basal length 18·8; greatest breadth 15·6; greatest height 12; interorbital breadth 7·2; front of i^1 to back of m^3 10; palate across posterior premolars 7·7.

Hab. Beaufort West, Cape Colony. Also probably much further east.

Type. Specimen no. 3448 in South African Museum. Young female.

I have named the specimen after Mr. W. L. Sclater, late Director of the South African Museum.

Chrysochloris Wintoni, sp. n.

About ten years ago I obtained a couple of specimens of moles at Port Nolloth. Unfortunately at that time I had not seen *C. asiatica*, and assumed that the Port Nolloth animals belonged to the ordinary species. The skin of one was sent to the British Museum, but the skull was destroyed for the sake of the brain. From the other specimen a skeleton was prepared. As I had kept the lower jaw of the first specimen with a preparation of the tongue, I have for some time been aware that it belonged to an undescribed species. Luckily there is in the collection of the South African Museum a specimen from Port Nolloth which, though rather badly preserved in spirit, may be taken as the type.

The nose-pad at the sides is intermediate in shape between that of *C. asiatica* and *C. Sclateri*, and forms a blunt angle. The digging portion of the snout is narrower and longer than in the other species. The back is pale slaty grey in colour, with a greenish iridescence, while the whole of the upperside of the head and the lips are yellowish grey, which becomes darker above the nose-pad. The abdomen is the same colour as the back. The fore and hind feet are relatively broader than in most species. The fore foot has a large pad on the inner side of the first digit, doubtless to facilitate digging in the sand. The fourth toe of the front foot is fairly well developed.

The skull is chiefly remarkable for the great size of the posterior olfactory region. In this it differs from all other known species. Whereas in all other species the interorbital region is flat or concave, here it is convex. There is less of a crest between the parietal and occipital regions than in *C. asiatica*, and the projection formed by the head of the malleus is smaller, though quite distinct.

The teeth are forty in number and resemble those of *C. asiatica*, except in being smaller and in the relatively smaller size of the first premolar and the last two molars. Lower molars have no basal ledge.

Dimensions of type:—

Head and body 90 mm.; hind foot (s. u.) 10·3.

Skull: greatest length 21·3; greatest breadth 16·2; greatest height 11·2; interorbital breadth 9·2; front of i^1 to back of m^3 9; palate across posterior premolars 7·8.

Hab. Port Nolloth, Cape Colony. Among the sand-dunes.

Type. Specimen no. 1917 in South African Museum.

The species is named after Mr. W. E. de Winton, who has done much towards the study of South African mammals, and to whom I have been indebted at different times for kind assistance.

Chrysochloris Granti, sp. n.

Of this species I have four well-preserved skulls from Garies, Namaqualand; but the skin was unknown till I discovered a specimen in the South African Museum without locality or history, but which doubtless also comes from Namaqualand.

The nasal pad is rather small, the hard portion very short and the outer soft portion very narrow at the sides. The fur is extremely long, the hairs on the back being about 20 mm. in length. The general colour on the back is greyish

brown, the tips of the hairs being light and the inner part of the fur dark. In spirit the fur shows a violet iridescence. The whole head is light yellowish; it is unusually broad and the nose short. The fore feet have a much smaller pad to the first digit than *C. Wintoni*, while the fourth digit is a fairly well developed functional toe, larger than in any other known species, and with a rather large claw.

The skull is like that of *C. asiatica* in being relatively broad, but differs in being much smaller, in having a relatively much shorter snout, and in having scarcely any trace of a protuberance into the temporal fossa.

The teeth are forty in number, and the most noteworthy feature is that the first upper premolar is of small size and single-rooted. This character is constant in all five skulls. In the lower jaw of the type there are only nine teeth on the right side.

Dimensions of type:—

Greatest length 82 mm.; hind foot 9.

Skull: greatest length 19·2; basal length 15; greatest breadth 17; greatest height 11·5; interorbital breadth 7; front of i^1 to back of m^3 8·5; palatal width across posterior premolars 7·6.

Hab. Namaqualand.

Type. In South African Museum.

The species is named after Mr. C. H. B. Grant, who has done so much in the last few years to advance our knowledge of South African Mammals.

Chrysochloris namaquensis, sp. n.

This new species is represented by four fairly well preserved skulls, but nothing is known of the skin; but as the skulls are easily distinguished from those of any known species, and as the skull and teeth are much safer guides than the skins, I think it well to give the form a name.

The skull is about the same size as in *C. Granti*, but is narrower and longer. It is further differentiated by having a large protuberance in the posterior wall of the temporal fossa, as in *C. asiatica*. The teeth resemble, so far as preserved, those of *C. asiatica*, the first upper premolar being large and double-rooted. The second upper incisor is relatively larger than in *C. asiatica*.

Skull: greatest length 20 mm.; basal length 16·5; greatest breadth 15·5; greatest height 11; orbital breadth 6·5; front of i^1 to back of m^3 8·5; palate across posterior premolars 7·8.

There are forty teeth.

Hab. Garies, Namaqualand.

Type. The type skull will be deposited in the South African Museum and a co-type given to the British Museum.

Chrysochloris tenuis, sp. n.

This species is only represented by two skulls, both slightly imperfect, from Garies. It differs from all the preceding species in having, like *C. hottentota*, only thirty-six teeth, and thus belongs to the subgenus *Amblysomus*. It differs, however, from all the known species of *Amblysomus* in having a large protuberance encroaching on the temporal fossa as in *C. asiatica*.

Skull: greatest length 20·5 mm.; basal length 16; greatest breadth 14·5; greatest height 10·2; interorbital width 6·5; front of i^1 to back of m^3 9·6; palate across posterior premolars 7·3.

Hab. Garies, Namaqualand.

Type. The type skull will be deposited in the South African Museum and a co-type given to the British Museum.

The following may be taken as a synopsis of the species, omitting one or two imperfectly known and very doubtfully distinct forms:—

Synopsis of the Species.

I. Teeth 40.
- A. Bony projection on posterior wall of temporal fossa; zygomatic arch small; ratio of breadth of skull to length 75 to 85 : 100.
  - *a.* Interorbital region narrow.
    - *a'.* Skull, breadth to length ratio over 80 : 100. — *C. asiatica.*
    - *b'.* Skull, breadth to length ratio 75 : 100 .... — *C. namaquensis.*
  - *b.* Interorbital region expanded ..... — *C. Wintoni.*
- B. Bony projection on posterior wall of temporal fossa very small or absent; zygomatic arch small.
  - *a.* Skull, breadth to length ratio 90 : 100..... — *C. Granti.*
  - *b.* Skull, breadth to length ratio 66 : 100..... — *C. Sclateri.*
- C. Bony projection on posterior wall of temporal fossa very small or absent; zygomatic arch greatly expanded.
  - *a.* Length of skull 33 mm..... — *C. villosa.*
  - *b.* Length of skull 42 mm..... — *C. Trevelyani.*

II. Teeth 36.
- A. Bony projection on posterior wall of temporal fossa; ratio of skull breadth to length 68 : 100.. — *C. tenuis.*

B. No bony projection on posterior wall of temporal fossa.	
a. Skull, breadth to length ratio about 60 : 100.	
a'. Length of skull 28 mm.	*C. hottentota.* *C. Corriæ.*
b'. Length of skull 25 mm.	*C. iris.*
b. Skull, breadth to length ratio about 72 : 100 ..	*C. obtusirostris.* *C. chrysillus.*

Chrysochloris Corriæ and *C. chrysillus*, recently described by Thomas, appear to be closely allied to *C. hottentota* and *C. obtusirostris* respectively, and no marked cranial characters are stated by which they can be readily distinguished. I am not acquainted with either of these recently described species.

Victoria College, Stellenbosch,
Nov. 30, 1906.

XXXIII.—*New Species of* Sphegidæ *from Australia.*

By R. E. Turner.

Only two genera allied to *Ampulex* have hitherto been recorded as Australian, each containing a single Australian species. *Aphelotoma* was described by Westwood for a Tasmanian species, and I am now able to describe two additional species from the mainland. *Dolichurus carbonarius*, Sm., belonging to a small but wide-ranging genus, was described by Smith from Champion Bay, W.A. I can now record its occurrence at Mackay, on the Queensland coast. I also describe three species of a new genus, which is, perhaps, nearest to *Aphelotoma*.

Genus Aphelotoma, Westw.

Aphelotoma, Westw. Proc. Ent. Soc. London, 1840, p. 12.

Type, *Aphelotoma tasmanica*, Westw.

Aphelotoma aterrima, sp. n.

♂. Head and thorax opaque, delicately reticulate. Clypeus broadly rounded anteriorly, without a median carina. Head broad, the eyes not quite touching the base of the mandibles and convergent towards the vertex. Pronotum narrow, elongate, depressed anteriorly, broadest posteriorly, with a median longitudinal sulca. Mesonotum short and broad,