

# I. ON THE PSEUDOSCORPIONS OF THE INDIAN MUSEUM, CALCUTTA.

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Our knowledge of the Pseudoscorpions of the western parts of the British Indian Empire was hitherto very limited; it was therefore of great interest to me to examine the collection belonging to the Indian Museum, Calcutta, and I take the opportunity here to thank the authorities of this Museum for the liberality with which this group of the collections has been placed at my disposal.

It will perhaps be of some interest to give a list of the species of Pseudoscorpions already known from the Indian Empire. They are as follows:—

1. *Chelifer indicus*, With. Madras.
2. „ *javanus*, Thorell. Burma.
3. „ *navigator*, With. Burma.
4. „ *orites*, Thorell. Burma; Madras.
5. „ *plebejus*, With. Burma; Ceylon.
6. „ *rotundus*, With. Nicobars.
7. „ *vermiformis*, With. Nicobars.
8. „ *birmanicus*, Thorell. Burma.
9. „ *concavus*, With. Nicobars.
10. „ *Galatheeae*, With. Nicobars.
11. „ *nicobarensis*, With. Nicobars.
12. „ *modestus*, With. Nicobars.
13. „ *Murrayi*, Pocock. Nicobars; Burma.
14. „ *sumatranus*, Thorell. Burma.
15. „ *bidens*, Stecker. India.
16. „ *bisulcus*, Thorell. Burma.
17. „ *borneoensis*, Ellingsen. Burma.
18. „ *depressus* (Koch) Hansen. ?
19. „ *Hansenii*, Thorell. Burma.
20. „ *Helferi*, Stecker. India.
21. *Pseudochiridium claviger*, Thorell. Burma.
22. „ *Thorellii*, With. Nicobars.
23. *Olpium biaroliatum*, Tömösváry. India orientalis.
24. „ *birmanicum*, With. Burma.
25. *Microcreagris birmanica*, Ellingsen. Burma.
26. *Obisium longicolle*, Frauenfeld. Nicobars.
27. *Megathis desiderata*, Stecker. India orientalis.
28. „ *Kochii*, Stecker. India orientalis.



Some of these species are very doubtful, such as No. 15, 20, 26, 27 and 28.

No. 18, *Chelifer depressus* (Koch) Hansen, was really not found in India but in a cargo from India, but about this species see further below.

As a result of the examination of the collection from the Indian Museum, I am able to give, as a continuation, the following list:—

- Chelifer indicus*, With. India.
- „ *javanus*, Thorell. India; Ceylon.
- „ *navigator*, With. Andamans; India; Ceylon.
- „ *orites*, Thorell. India; Ceylon.
- „ *plebejus*, With. India.
- 29. „ *nodosus*, Schrank. India; Ceylon.
- 30. „ *himalayensis*, sp. nov. India.
- „ *borneoensis*, Ellingsen. Ceylon.
- 31. „ *ceylanicus*, sp. nov. Ceylon.
- „ *depressus* (Koch) Hansen. India.
- „ *Hansenii*, Thorell. India.
- 32. „ *subruber*, E. Simon. India; Ceylon.
- 33. „ *superbus*, With. India.
- 34. *Cheiridium museorum*, Leach. India.
- „ *Olpium birmanicum*, With. India.
- 35. „ *Jacobsoni*, Tullgren. India.
- 36. „ *longiventer*, Keyserling. India.
- 37. *Garypus insularis*, Tullgren. India.
- 38. *Teaella affinis*, Hirst. India.
- 39. *Ideobisium* sp. India.

Before treating the species in the collection under consideration, I shall, in connection with these, make some remarks on the *Chelifer birmanicus* group.

There are in the collection a great number of specimens of the *birmanicus*-group; but, remarkably enough, there is not a single specimen with distinct transverse grooves on the cephalothorax; thus not a single specimen could be referred to *Chelifer birmanicus*, Thorell. There are, certainly, one or two specimens of *Ch. javanus* (see further below) which on the cephalothorax have a broad transverse band, irregularly limited in front and behind, with a darker colour than the rest of the surface; but I have considered this only as an accidental irregularity; at all events it does not resemble the usual transverse grooves.

The Indian species of this group, as regards those with no transverse groove on the cephalothorax, are on the whole rather difficult to distinguish from each other, with the exception of *Ch. orites*, which on account of its very short fingers seems to take a rather isolated place, at least among those which I know. There is another species with very short fingers, *Ch. vermiformis*, With, but among the rather numerous specimens in the collection with short fingers I have found none which could be separated from



the proper *Ch. orites*. *Ch. plebejus* seems to be a well-distinguished species. All specimens in the collection, belonging to this group, could be referred to species already known.

### *Chelifer indicus*, With.

India. Calcutta: leg. Sew Rutton, 1♂, M. No. <sup>1</sup>  $\frac{1387}{17}$ ; Calcutta: Museum premises, 1♀, 5-vi-1911, leg. S. W. Kemp, M. No.  $\frac{1385}{17}$ .—Satara district: Helvak, Koyna Valley, ca. 2000 ft., iv-1912, 2♂, 1♀, leg. F. H. Gravely, M. No.  $\frac{1576}{17}$ .

The specimen collected by Sew Rutton is not quite developed on account of its having recently cast its skin, but belongs certainly to this species. The species seems to be distinguishable from the nearly related Indian species by the proportionally slender palpal femur (2.5:1). The palps are a little more granulate than recorded by With (for ♀). The specimens from Helvak have the palps somewhat less granulate; the granulation is present mainly on the inner and the upper side, partly also on the hand.

### *Chelifer javanus*, Thorell.

India. Kobo, 400 ft., 2♂, 1♀, under logs, 1911, leg. S. W. Kemp, M. No.  $\frac{1410}{17}$ .—Ratnagiri district: Harnai, 4♂, 8-v-1912, M. No.  $\frac{1582}{17}$ .  
Ceylon: Pattipola, 6♂, under bark of trees, 2-vii-1910, M. No.  $\frac{1401}{17}$ .  
Locality unknown, 2♂, M. No.  $\frac{1391}{17}$ .

The specimens numbered  $\frac{1401}{17}$  are certainly fully typical, beautiful, dark coloured ones of this species, the relationship with *Ch. plebejus* is evident, but the palps are strongly granulate on the anterior side and partly also on the upper and lower side. The protuberance of the upper side of trochanter is distinct, but rather low.

As regards the specimens from Kobo and from Harnai, see my introductory remarks on the *birmanicus*-group about the transverse band of the cephalothorax which I regarded only as an irregularity or an accidental deformation of the skin.

### *Chelifer navigator*, With.

India. Calcutta, 2♂, taken in the Museum buildings from a nest of *Cypselus affinis*, 15-vi-1909, M. No.  $\frac{1571}{17}$ .—N. Bengal: Siripur, Saran, 3♂, M. No.  $\frac{1586}{17}$ .—South India: Oorgaum, ca. 2500 ft., 1♂, 20-x-1910, M. No.  $\frac{1574}{17}$ ; Marikuppam, ca. 2500 ft., 2♂, 19-x-1910, M. No.  $\frac{1407}{17}$ .

Ceylon: Peradeniya, 5♂, under bark of jack-fruit tree, 7-v-1910, M. No.  $\frac{1397}{17}$ .

Andamans: Ross I., 2♀, 29-iii-1911, collected by C. Paiva, M. No.  $\frac{1408}{17}$ .

This species seems to vary to a degree as regards the granulation of the palps; the specimens from the Andamans, from Marikuppam, and from Siripur have the anterior side of the palps somewhat granulate, which according to With also may be the case. The species seems to be well characterized by the strong, triangular protuberance of the posterior side of the palpal trochanter,



by the *high* femur, the long tibial stalk and the proportionally very slender hand.

### **Chelifer orites, Thorell.**

India. Calcutta, 2 ♀, taken in the Museum buildings from a nest of *Cypselus affinis*, 15-vi-1909 (together with *Ch. navigator*, With), M. No.  $\frac{1386}{17}$ ; 1 ♀ jun., 6-vi-1910 (badly preserved, but probably belonging to this species), leg. Nowbut, M. No.  $\frac{1388}{17}$ .—N. Bengal: Siripur, Saran, 3 ♀, M. No.  $\frac{1395}{17}$ .—South India: Marikuppam, ca. 1500 ft., 1 ♀, 19-x-1910, M. No.  $\frac{1570}{17}$ ; Anamalais, Paralai Estate, 3800 ft., 1 ♀, in rotten logs, 28-i-1912, M. No.  $\frac{1404}{17}$ ; Oorgaum, 1 ♀, M. No.  $\frac{1406}{17}$ .

Ceylon: Anuradhapura, 1 ♀ jun, x-1911, M. No.  $\frac{1402}{17}$ ; Peradeniya, 2 ♂, 1 ♀, M. No.  $\frac{1398}{17}$ .

This species, easily recognizable from the other Indian species of this group (excl. *Ch. vermiciformis*, With) by its very short fingers, seems, according to the localities above mentioned, to be widely distributed on the Indian continent as well as in Ceylon. It is also the largest Indian species of those belonging to the *birmanicus* group. A species so widely distributed must naturally vary more or less in some characters; this variation is especially pronounced as regards the granulation of the palps.

### **Chelifer plebejus, With.**

India. Darjiling District: Siliguri (base of E. Himalayas), 3 ♂, 12 ♀, 2 jun., on bark of *Ficus religiosa*, 28-iii-1910, M. No.  $\frac{1393}{17}$ .—Orissa District: Puri 1 jun., i-1908, M. No.  $\frac{1403}{17}$ .—Travancore: Trivandrum, 1 ♂, 30-xi-1911 (Trivandrum Museum).

Ceylon: Peradeniya, 2 ♂, under loose bark of jack-fruit tree, 7-vi-1910, M. No.  $\frac{1572}{17}$ .

The specimens from Siliguri are well developed; I have compared them with a specimen from Burma for which I am indebted to Mr. With. The upper side of the palpal trochanter has a small, pointed tubercle, also present in With's specimen. But the exceedingly robust and nearly smooth palps are good characters, as is also the strongly curved form of the hand (including the fingers). The specimen from Puri is very young, but belongs certainly to this species; the palps are nearly smooth, with the exception of some slight granulation on the inner side of femur.

### **Chelifer nodosus, Schrank.**

India. Calcutta, 1 ♀, Museum compound, under bricks, 17-x-1910, M. No.  $\frac{1384}{17}$ .—Dehra Dun (base of W. Himalayas), 1 ♂, on a wall of the dining-room of the Forest School, M. No.  $\frac{1575}{17}$ .

Ceylon: Peradeniya, 1 ♀, 4-viii-1910, M. No.  $\frac{1400}{17}$ .

There is no doubt that the specimens from Calcutta and from Dehra Dun belong to this species; the whole animal, the galea included, fully resembles German specimens with which they have been compared. The galea, as in *Ch. scorpioides*, is somewhat stag-horn like; but the pointed hairs distinguish it completely from the latter species. The animal is certainly imported from Europe, where the species is often found as a pseudo-parasite on flies.



As to the Ceylon specimen, it may be noted that the outer side of the palpal trochanter has the protuberance not so well developed as is the case in European specimens and in the two Indian specimens just mentioned, but it belongs to the same species, although it is not reported to be taken in a house.

*Chelifer himalayensis*, sp. nov.

♂. No eyes, nor ocular spots.

*Colour*.—The whole animal of a deep reddish brown colour.

Cephalothorax a little shorter than wide behind, strongly narrowing forwards from the posterior corner, with convex lateral margins; the slightly convex front margin is only  $\frac{1}{3}$  of the length of the posterior margin. Two very strong and deep transverse grooves, especially deep in the central part; the anterior groove about in the middle and straight, the posterior one at about the same distance from the anterior groove and the back margin, in the central part angularly curved backwards. The surface somewhat glossy, slightly but distinctly and regularly granulate. The hairs, most of them crowded along the front and the lateral margins, are truncate.

Abdomen very robust and broad, somewhat broader than long, but very much contracted. The tergites are certainly divided by a longitudinal line, but this line is very indistinct, on account of the contracted abdomen; for the same reason the anterior sclerites are also placed somewhat angularly to each other (which is often the case in species belonging to the subgenus *Chernes*); the surface is glossy and distinctly shagreened; on each sclerite there is in the middle a darker spot; the hairs, situated along the posterior and the lateral margins, are partly truncate and partly (on the posterior somites) nearly pointed; on the last somite there are some longer tactile hairs. The sternites are still more indistinctly divided longitudinally, glossy and minutely shagreened, with numerous, long and pointed hairs along the posterior margins.

Palps somewhat longer than the body<sup>1</sup>, very robust. Coxa glossy and slightly granulate; the other palpal joints glossy and distinctly granulate, including the fingers. The clothing of hairs very dense, the hairs rather long, pointed, but distinctly dentate; the hairs of the fingers nearly simple. Trochanter subglobose, in front nearly semicircular, behind with a rounded protuberance, above with a very strong and rounded one. Femur with a distinct and strong stalk, very robust (about twice as long as wide), in front and especially behind strongly widened from the stalk, the front margin slightly convex in the basal half and slightly concave in the distal half, the posterior side slightly convex; femur in all of rather equal width throughout and truncate at the tip (the femur as well as the tibia resembles very much With's figure of

<sup>1</sup> But see note above regarding the contraction of the abdomen.



*Ch. australiensis*). Tibia a little shorter and somewhat broader than femur, with very strong stalk, on the posterior side moderately and regularly convex, in front somewhat more convex, or rather somewhat swollen. Hand with a distinct stalk, and the base somewhat obliquely truncate with the inner corner broader and more rounded than the exterior one; the hand is about as long as, but considerably ( $1\frac{1}{3}$  times) wider than tibia, and about as high as broad, the inner side strongly convex (nearly semicircular), the outer side much less so, on both sides passing gradually into the fingers. Fingers robust, strongly curved and a little longer than the hand; the fixed finger exteriorly with 9-10 small accessory teeth in the distal half; on the inner side both fingers have 2 to 3 small accessory teeth near the tip; the fingers do not gape at all.

Mandibles: Galea with robust trunk and deeply tripartite tip, and along one side of the trunk provided with 7 long filiform teeth, increasing in length towards the base.

Legs minutely granulate with slightly clavate and dentate hairs. The trochantin of the two posterior pairs of legs perpendicularly articulated. Coxa IV very robust, much broader than trochanter, along the posterior margin provided with dense rows of long hairs. The tibia of all legs considerably longer than the tarsus. Claws simple.

The species belongs certainly to the *cimicoides*-group, as the sexual area as well as the whole appearance seems to indicate; the animal reminds one very much of a large *Chelifer cimicoides*.

Length 3.6 mm., length of abdomen 2.25 mm., width 2.30 mm.

*Measurements*.—Cephalothorax: long. 1.36; lat. 1.49. Femur: long. 1.07; lat. 0.52. Tibia: long. 0.93; lat. 0.57. Hand: long. 1.00; lat. 0.76. Fingers: long. 1.07 mm.

*Habitat*.—India: W. Himalayas, Mussoorie, 7000 ft., 1♂, M. No.  $\frac{1587}{17}$ .

The only species among the Asiatic-Australian forms, with which the new species has a nearer relation, is *Chelifer australiensis*, With; yet there are some essential characters in which the two species differ from each other, so they certainly cannot be united. Contrary to the characters mentioned above in the description of the new species, With's species (from Queensland) is distinguished as follows: "Two *rather distinct* grooves" on cephalothorax; "traces of lateral projections or keels on the tergites"; galea has only some shorter teeth at the tip; "the palps are indistinctly granular"; the protuberances of the trochanter have another shape; the hand "higher than broad"; the fingers also interiorly with "accessory teeth" near the middle. The differential characters are not great, but taken together they are certainly sufficient to distinguish the two species.

### *Chelifer borneoensis*, Ellingsen.

Ceylon: Peradeniya, 1♂, under loose bark of jack-fruit tree, 21-vi-1910, M. No.  $\frac{1399}{17}$ .



The specimen is somewhat smaller in size than the type from Borneo, but is apparently a fully mature male. The cephalothorax is completely smooth and there are no traces of teeth on the claws. These seem to be the only two characters of importance in which males of this species differ from those of *Chelifer Mortensenii*, With.

***Chelifer ceylanicus*, sp. nov.**

♂. No eyes, but ocular spots present.

*Colour*.—Cephalothorax, tergites and palps palish brown, fingers somewhat darker; the other parts of the animal whitish.

Cephalothorax a little longer than wide in the middle, where it is broadest; behind the anterior groove nearly parallel-sided, in front of it roundly narrowing forwards, the front margin slightly convex. A deep transverse groove about in the middle; before reaching the lateral margin it curves forwards, and the cephalothorax in this place is thus somewhat depressed and widened, attaining here, as mentioned, its greatest width. The posterior groove is scarcely visible, in some specimens indicated. The surface minutely, but distinctly and regularly granulate and only a little glossy. The hairs short, thick and slightly clavate.

Abdomen: The tergites divided longitudinally by a fine line, except the last one. The surface nearly glossless and minutely shagreened; the hairs somewhat longer than those of cephalothorax and slightly clavate; on the last somite some long, tactile hairs. The sternites divided like the tergites, glossy and slightly shagreened, with long, pointed hairs; on six sternites but the last one (4-9) provided with large, broad and laterally narrowing areas with dense bristles.

Palps somewhat longer than the body (with abdomen extended). Coxa smooth and glossy. Trochanter, femur and tibia nearly glossless and minutely, but distinctly granulate, hand very glossy and minutely granulate, fingers smooth. The hairs of trochanter and of the inner side of femur and part of the tibia slightly clavate, those of the outer side of the same joints and those of the hand more or less pointed; the clothing of the hand very dense; the hairs of the fingers dense and pointed with longer tactile ones. Trochanter pedicillate and proportionally slender, nearly twice as long as wide, the inner side somewhat convex, the outer side with a low triangular protuberance near the base, the upper side with a large, much rounded protuberance. Femur slender, nearly four times as long as wide, with a distinct stalk, the inner side nearly straight except for a short concave portion near the tip, behind suddenly widened from the stalk, the hind margin slightly convex, rounded at the tip; femur in all rather parallel-sided, yet a little narrower at the tip than at the base. Tibia a little longer than femur, long and slender, about 4 times as long as wide, with a short and curved stalk, somewhat



club shaped, *i.e.* gradually increasing in width from base to tip, the hind margin nearly straight only a little convex near the tip, the inner side slightly and evenly convex throughout. Hand broader than tibia (*ca.* 1.4 times), with a distinct stalk, and regularly rounded base, long and narrow ( $2\frac{1}{2}$  times as long as wide), rather parallel-sided, the inner side nearly straight, the outer side slightly convex, rather abruptly passing into the fingers. Fingers robust, slightly curved, much shorter than the hand (3 : 5).

Mandibles: Galea minute, with some very small teeth at the tip.

Legs granulate on the outer side, on the inner side as well as on trochanter and coxa smooth and glossy. The hairs partly truncate, partly pointed. Claws simple.

The species belongs to the *subruber*-group.

♀. The female resembles the male in all essential characters, except the palps which are somewhat more robust, the femur being  $3\frac{1}{4}$  times as long as wide, the tibia  $2\frac{1}{2}$  times and the hand  $1\frac{3}{4}$  times as long as broad, but the length of the fingers proportionally to that of the hand is about the same. The shape of the palpal joints is also somewhat different: the femur is distinctly curved (concave) on the inner side and somewhat more convex behind (than in the ♂), the tibia is nearly regularly convex on both sides (and therefore not so distinctly club-shaped), which is also the case as regards the hand. The galea is considerably more robust and with larger teeth at the tip.

♂. Length 2.65 mm.

*Measurements.*—Cephalothorax: long. 0.72; lat. 0.64. Trochanter: long. 0.36; lat. 0.20. Femur: long. 0.79; lat. 0.21. Tibia: long. 0.83; lat. 0.20. Hand: long. 0.72; lat. 0.28. Fingers: long. 0.43 mm.

♀. Length 2.93 mm.

*Measurements.*—Cephalothorax: long. 0.64; lat. 0.50. Trochanter: long. 0.28; lat. 0.17. Femur: long. 0.60; lat. 0.18. Tibia: long. 0.54; lat. 0.21. Hand: long. 0.57; lat. 0.33. Fingers: long. 0.36 mm.

*Habitat.*—Ceylon: Peradeniya, 10♂, 1♀, June, 1910, M. No.  $\frac{1396}{17}$ .

On examination of these specimens I thought at first that I had before me *Ch. sumatranus*, Thorell, but certain essential differences hindered their union, in spite of the resemblance, especially in the shape of the palps. Thorell says about his species, that the cephalothorax is "non granulatus," only "subtillissime coriaceus"; the new species has the cephalothorax distinctly granulate. Thorell's species is further said to have "sulcis duobus transversis," and the palps "laeves, nitidi," which does not agree with the Ceylon specimens.

The new species is related to certain species of the same group from Africa, such as *Ch. angulatus*, Ellingsen, with which



it has, for instance, the lack of eyes in common, but the measurements of the palps are different.

### ***Chelifer depressus* (C. L. Koch) Hansen.**

India. Calcutta, 1 ♂ jun., M. No.  $\frac{1383}{17}$ .

The specimen is very young, but the sex is certain on account of the coxae of the IV pair of legs, with the coxal sac, and of the keels of the sclerites which are very well developed on the 5 first tergites; the cephalothorax, too, has its posterolateral spine. The galea is very small with some fine teeth in the distal third. The cephalothorax is slightly granulate, but glossy. The palps are very slender; the femur about four times as long as wide, the stalk included; for this as well as for other reasons the specimen cannot well belong to *Ch. superbus*, With, with which it is however very closely related. The palpal fingers gape very much, both being distinctly "concave" (and not as in *Ch. superbus*, one of them "obtuse-angled") and in the concavity quite destitute of teeth; the straight concurrent part of the extremity is not quite so long as shown in With's figure. It is, however, with some hesitation that I have referred the specimen from Calcutta to the above species, partly because it is so young, partly because *Ch. depressus* has not yet been captured in India, but only in Denmark in a cargo of rice from India. However, there is reason to believe that the species is an Indian one.

### ***Chelifer Hansenii*, Thorell.**

India. Satara Distr: Hills near Medha, Yenna valley, ca. 2200 ft., 1 ♂, iv-1912, collected by F. H. Gravely, M. No.  $\frac{1578}{17}$ .

Thorell, in 1889, described a Pseudoscorpion under the above name, from Bhamo in Burma. He remarks that the single specimen he had for examination seemed not to be adult. The sex is not mentioned, but as he says that the galea is "sat fortis," it may perhaps have been a young female.

I have identified the above ♂ from Medha with Thorell's species, as his long and good description agrees well, taking into consideration that his specimen was young and perhaps a ♀, while the male from Medha is adult.

I shall state a little more about the species (if my identification be right) and about the differences from Thorell's description.

The cephalothorax and palps are of a very dark brown colour, the sclerites of the tergites light brown with a darker central spot.

The sternites 7-9 (the last sternite regarded as the eleventh) have in the middle of the broad, light, longitudinal band, a round area, limited on each side by a dark, irregularly crescentic band (interrupted in front and behind, and thus not being a circular band); the round area is provided with bristles, pointing obliquely towards the median line. This quite corresponds with the much



larger bristle-covered areas in most species of the *subruber*-group, to which the species also belongs.

The galea is small, with no traces of teeth.

The hand of the palps, as Thorell states, is glossy, but minutely shagreened; as regards the rest, Thorell's description as to granulation and hairs agrees well, the hairs being on the inner side of trochanter and femur slightly clavate, the other hairs only truncate, or on the fingers simple. The hand is only  $1\frac{1}{3}$  times as broad as the tibia (Thorell says *ca.*  $1\frac{1}{2}$  times). Differing most from Thorell's description are the shape and the dimensions of the femur, but this may perhaps depend on the age and the sex (see above). The femur of the male (from Medha Hills) has a slender stalk and is (seen from above) not a little wider at the base than at the extremity, thus narrowing distally (a rare case in the Chelifers); laterally seen the femur is abruptly, nearly perpendicularly widened from the stalk and very high at the base, but with the upper surface regularly slanting towards the tip. The length of the femur is about  $2\frac{1}{3}$  times the width at the base; Thorell says of his specimen, that this proportion is  $3\frac{1}{2}$ .

The length of the specimen from the hills near Medha (with abdomen extended) is 3 mm.

The other measurements are as follows:—Cephalothorax: long. 0.93; lat. 0.57. Femur: long. 0.60; lat. (at the base) 0.25. Tibia: long. 0.57; lat. 0.25. Hand: long. 0.57; lat. 0.34. Fingers: long. 0.43 mm.

### *Chelifer subruber*, E. Simon.

India. Dehra Dun (base of W. Himalayas), 1 ♀, on the wall of the dining room in the Forest School, M. No.  $\frac{1416}{17}$ .

Ceylon: Peradeniya, 1 jun., under loose bark of jack-fruit tree, 7-v-1910, M. No.  $\frac{1573}{17}$ .

The species is a cosmopolitan one. The specimen from Ceylon is rather young and badly preserved, but it may belong to this species.

### *Chelifer superbus*, With.

India. Travancore: Maddathoray (W. base of W. Ghats), 1 ♀, on a monkey (*Macacus sinicus*), 17-xi-1908, M. No.  $\frac{1411}{17}$ .—W. Dun (base of W. Himalayas), 2 ♀, 2 jun., under bark of dead Sal (*Shorea robusta*), 19-xi-1910, M. No.  $\frac{1418}{17}$ .—Kobo, 400 ft., 1 ♀, under logs, collected by S. W. Kemp (Abor Expedition), M. No.  $\frac{1409}{17}$ .

There were also in the collection 4 ♀ from an unknown locality, M. No.  $\frac{1412}{17}$ , with the notice on the label, that they were taken on a Cerambycid ("infesting *Batocera*").

All the specimens had the character in common, that the fingers were nearly as long as the hand, and that at least some of the claws of the legs had teeth, but there is no doubt that such teeth may be absent. In connexion with the specimens numbered  $\frac{1412}{17}$ , it may be of interest to note that With's type specimens also were taken on a *Batocera*, from Celebes.



**Cheiridium museorum, Leach.**

India. Calcutta, 1 ♀, taken in the Museum buildings from a nest of *Cypselus affinis*, 27-vii-1909, M. No.  $\frac{1390}{17}$ .—Dehra Dun (base of W. Himalayas), 1 ♂, on the wall of a bathroom in Dehra Dun College, M. No.  $\frac{1417}{17}$ .

There is no doubt that this species, of common occurrence in Europe in museums and other buildings, has been imported into India.

**Olpium birmanicum, With.**

Syn.: ? *Olpium biaroliatum*, Tömösváry.

? *Olpium Ortonedae*, Ellingsen.

India. Bombay, 1 ♂, June, 1911, M. No.  $\frac{1581}{17}$ ; Bombay: Girgaum, 1 jun. (♀?), 4-viii-1912, M. No.  $\frac{1585}{17}$ .

Assam. Kannyhati, Shamshernager, Sylhet, 2 ♂, collected by G. Mackrell, June 17, 1911, M. No.  $\frac{1394}{17}$ . The label in the tube was inscribed: "Caught in box of old books, etc., Kannyhati bungalow, feeding upon the mites which were in abundance round some dead Coleoptera."

These four Indian specimens (3 ♂ and 1 immature) certainly belong to With's species. The noteworthy feature as With points out is "a broad transverse stripe" on the cephalothorax. This "transverse stripe" is absolutely invisible as a transverse *groove*, and is scarcely to be seen when the animal is in a dry state; in alcohol on the contrary it is more or less visible as an inner division, but also in that case nearly invisible in the middle, though more distinct towards the lateral margins. I observed just the same thing in my specimens of *Olpium Ortonedae* (from Ecuador, see my description of this species), and on comparing my specimens from Ecuador with the Indian ones, I can find *no specific differences* between them. Three of the Indian specimens are males; among the specimens from Ecuador there are also females; these have their palps somewhat more robust and their galea a little longer.

The reason that I do not employ the name of *Olpium Ortonedae* for the Indian specimens is because another question arises. Are not both species synonymic with *Olpium biaroliatum*, Tömösváry? With has himself not been without the same sentiment, but finds that Tömösváry's description is "too insufficient for a sure determination." In this he is certainly right, but Tömösváry's description, short as it is, agrees nevertheless remarkably well, and that Tömösváry may possibly have believed he saw another "obsolete" transverse stripe, can easily be understood. I should be inclined to unite the three species, and then Tömösváry's name would have the priority. That I, in spite of this, do not do it, is because With's name for the species is at all events a safe one. Tömösváry's species was from "India orientalis."

To With's description I shall add the following remarks: I will not, like With, say that the palpal femur wholly lacks a stalk, but that it is rather indistinct, and that all tergites may be divided longitudinally, except the last one.

The young specimen from Girgaum agrees in all respects with the adult ones, but is of a paler colour and smaller size, and with



the palps not quite so well developed. The stripe of the cephalothorax is no more developed than in the older examples.

As With has not given any measurements of this species, I shall here give some from an excellent specimen ( $\sigma$ ) with extended abdomen, from Assam.

Length 2.72 mm.

*Measurements*.—Cephalothorax: long. 0.72; lat. 0.50. Femur: long. 0.61; lat. 0.16. Tibia: long. 0.43; lat. 0.18. Hand: long. 0.47; lat. 0.27. Fingers: long. 0.53 mm.

There are in the collection of the Indian Museum a number of specimens of a form or rather of two forms, quite different from the preceding species, and nearly allied to the Palæarctic *Olpium pallipes*, Lucas. In a paper on Pseudoscorpions from Formosa I have mentioned a species of *Olpium* from this island, which I referred to *Olpium longiventer*, Keyserling, yet fully attentive to a species, *Olpium Jacobsoni*, described by Tullgren from Java, so that I thought it best to consider the latter as a form of the former. The Indian specimens, just mentioned, have to a certain extent confirmed this opinion, but they prove nevertheless that there is really one form with somewhat more slender palps (*O. longiventer*) and another form with more robust palps (*O. Jacobsoni*), and I have therefore arranged the Indian specimens under each of these species or forms, as follows:—

### *Olpium longiventer*, Keyserling.

India. W. Dun (base of W. Himalayas), Karwapani, 9 specimens, on the newly whitewashed walls of a resthouse, M. No.  $\frac{1+1+5}{17}$ .

These specimens agree well with Keyserling's description and figures, among other things in the *slender* palps, the femur of which is about four times as long as wide, as Keyserling reports it; the fingers are about as long as the hand; the palps are quite smooth. I and II pairs of legs have the femoral pars basalis a little longer than pars tibialis.

In this as well as in the following species it is to be noticed that the femur of the I pair of legs has the basal part only *a little* longer than the tibial one (not at least  $1\frac{1}{2}$  times as long, as With states in his diagnosis of the genus *Olpium*), but there is no doubt that the two species mentioned here, by their whole appearance and their affinity to *Olpium pallipes*, belong to the true *Olpium*. This feature is present in the Indian specimens as well as in those from Formosa and in Tullgren's types from Java; Keyserling says that the femur is divided in the middle, which really is the case.

### *Olpium Jacobsoni*, Tullgren.

India. Calcutta, 1 specimen, running in sunshine on bathroom wall, Museum premises, 22-X-1011, M. No.  $\frac{1389}{17}$ .—Satara District: Koyna Valley, Talashi, 2000 ft., 1 specimen, iv-1912, collected by F. H. Gravely, M. No.  $\frac{1583}{17}$ ; Hills near Medha, Yenna Valley, 2500-3500 ft., 2 ♀, collected by F. H. Gravely, M.



No.  $\frac{1577}{17}$ ; Ratnagiri District: Karajgaon (10 miles N. of Dabhol), 1 specimen, v-1912 (S. P. Agharkar coll.); Harnai, 1 specimen, 8-v-1912 (S. P. Agharkar coll.). Dehra Dun, 1 jun., M. No.  $\frac{1414}{17}$ .—N. Bengal: Siripur, Saran, 1 specimen, under bark of Siris tree, M. No.  $\frac{2052}{17}$ .

All the specimens are distinguished by having their palps proportionally more robust than is the case in the preceding species: the palpal femur is in all about 3 times as long as wide, and all the characters agree well with Tullgren's description and figures.

### *Garypus insularis*, Tullgren.

India. Madras Presidency: Vizagapatam, 1 ♂, 21-iv-1910, collected by S. W. Kemp, M. No.  $\frac{1405}{17}$ .

I have no doubt that the above specimen belongs to this species, described by Tullgren from the Seychelles, and it is not very remarkable that this species has also been taken in India, although in the eastern part of the Deccan. The Indian specimen is a male, while Tullgren's type was a female. The galea of the male is, as is usual in *Garypus*, of somewhat smaller size than that of the female, but like this, with some minute teeth at the tips, at least this is the case in one of the galeas. The fingers are strongly curved and nearly  $1\frac{1}{2}$  times as long as the hand, which also may be concluded from Tullgren's figure to have been the case in the type, though Tullgren says nothing about it in his description. The length of the Indian specimen is about 4 mm., while the type was 3.3 mm. The species is distinguished by its long and slender palps and, as mentioned, by its proportionally long fingers.

### *Feaella affinis*, Hirst.

India. Chota Nagpur Div., Manbhum District, Purulia, 1 ♀, 10-ii-1912, collected by F. H. Gravely, M. No.  $\frac{1392}{17}$ .

There is certainly no doubt that the above specimen belongs to the species described by Hirst under the name *Feaella affinis*, from the Seychelles. This is, in the collection under consideration, the second proof of the zoogeographical connection between the Seychelles and the Indian Continent, the first being the preceding species, *Garypus insularis*. The capture of a species of the genus *Feaella* in the Indian Continent is of the greatest interest, though the Seychelles are geographically a connecting link between India and Africa, which must be considered as the cradle of the genus *Feaella*.

S Hirst, in describing his species, points out the great resemblance with *F. mucronata*, Tullgren. This resemblance is still greater than Hirst supposes, as one of the distinguishing characters, in my opinion, must drop. He points out, that of the four prominences of the front margin of cephalothorax, the two lateral ones are broader than the two central ones in his species, the contrary being the case in that described by Tullgren. But *F. mucronata*, in reality, may show a similar development, as



I have seen it in South African specimens. As Hirst rightly observes, the prominence of the anterior side of the palpal trochanter is much smaller in *F. affinis* than in *F. mucronata*, but there are strictly speaking, no real "prominences on the anterior side of the base of the femur" (Hirst) in either of the species, though the corner is perhaps a little more pronounced in *F. mucronata* than in *F. affinis*. "Die Vertiefung" (Tullgren) or "the gap" (Hirst) between the coxa of the II pair of legs is in the ♂ entirely and in the ♀ almost entirely filled up by a prominence from the posterior side of the coxae of the I pair. There is one other character which may be used to distinguish the two species: the first tergite, which is very short, has in each anterolateral corner a rather large thorn-like projection, pointing forwards in *F. mucronata*; this projection is not present in *F. affinis*.

Hirst says: "These differences are, perhaps, not important enough to be regarded as of specific value, and it is possible that this form should be regarded as a local variety of *F. mucronata*." This cannot well be so any longer, the species having also been taken in India, but the two species have very much in common and have no very clear distinguishing characters, and it may be that forms of transition should be found.

#### *Ideobisium* (*Ideoblothrus*) sp.

India. Malawany, near Bombay, 1 jun., 10-vii-1912, M. No.  $\frac{1584}{17}$ .

The specimen is very young and of small size (0.8 mm. long). The animal belongs to no species of the subgenus *Ideoblothrus* hitherto described, but as it is so immature and not well preserved, I do not wish to describe it as a new species. It is, however, the first specimen of this subgenus found on the continent of Southern Asia; from the whole south-eastern region of Asia only one species of *Ideoblothrus* is hitherto known, *Ideobisium* (*Ideoblothrus*) *bipectinatum*, Daday, originally described from New Guinea, and later recorded from the Bismarck-Archipelago (Ellingsen); but this species has its palps quite different from the Indian specimen. The species from New Guinea, too, is of small size. The galea of the Indian specimen is small and simple.

At all events this capture proves that the Indian Continent is inhabited by an *Ideoblothrus*.





Ellingsen, Edvard. 1914. "On the pseudoscorpions of the Indian Museum, Calcutta." *Records of the Indian Museum* 10, 1–14.

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