

## XII. INDIAN ISOPODS

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Some time ago Dr. Annandale entrusted me with a small collection of Isopoda from the Indian Museum, mostly terrestrial species, but some of aquatic though not marine habitat. The present paper is concerned with a part of this collection, distributed between the two tribes of the Flabellifera and the Oniscidea.

In the former tribe only the genera *Alitropus* and *Sphacroma* are here represented. But I may take this opportunity of calling attention to two other generic names included in it. The elder of these is *Rhexana*, Schiölte and Meinert, 1883, in the family Cymothoidea. It has recently been again brought into notice by Dr. Thienemann in his excellent *Contributions to the knowledge of the Isopod-fauna of East Asia*, 1910. This name, however, which is not recorded in Scudder's *Nomenclator Zoologicus*, 1882, was preoccupied by Dr. Sörensen in 1879.<sup>1</sup> I therefore propose as a convenient substitute for it the form *Rhexanella*, still at present contented with the single species *R. verrucosa*, for which the genus was founded. The other generic name in question is *Brotherus*, Budde-Lund (in Voeltzkow's *Reise in Ostafrika*, vol. ii, p. 306, 1908), included by its author in the family Alcironidae, Hansen, which, as pointed out in 1904, should rather be called Corallanidae. But *Brotherus* is not distinguishable from *Argathona*, which I named in 1905, in a new family Argathonidae, unless the fusion of the fourth and fifth joints in the maxillipeds of *Argathona normani* suffices to distinguish that type species generically from *Brotherus longicornis*, Budde-Lund, 1908, and *Argathona reidi*, Stebbing, 1910, in which there is no such fusion. This distinction being disregarded, all three species will belong to *Argathona*, but if on the contrary it be thought to have generic value, *Argathona reidi* must be transferred to *Brotherus*.

With regard to the tribe Oniscidea it is well known that Budde-Lund's *Isopoda Terrestria*, 1885, was for long the leading treatise on the subject. Then for a considerable period the study was left almost entirely to the industry of M. Adrien Dollfus. During the last few years, however, there has been a great change. Many capable authors have found the group attractive. Instead of scanty illustrations or none at all, copious and elaborate drawings of structural details have been supplied, especially in the works of Sars, Racovitza and Budde-Lund. The new light is somewhat

<sup>1</sup> *Naturhistorisk Tidsskrift*, ser. 3, vol. xii, p. 124, footnote. *Rhexana* is here substituted by Sörensen for the preoccupied name *Anelasma* which he gave to a genus of Opiliones in 1873.

dazzling. It makes the inadequacy of earlier descriptions painfully felt. The systematist is warned against placing his trust in easily observed characters, for thereby he runs the risk of obscuring important variations and of mixing up new species with old. As might be expected, the fuller study of the various organisms has led to a multiplication of genera. Many of these indeed are introduced in the disguise of subgenera, like the rich heiresses in modern works of fiction, who hire themselves out as governesses or typists, just to see how it feels. As the ladies eventually come by their own, so subgenera in due course turn into genera. Surely they might as well have been so called from the outset. Whether the status of the names be generic or subgeneric, I have in this paper argued that *Metoponorthus*, Budde-Lund, must give way to *Porcellionides*, Miers. Also I have found it necessary to introduce two new genera by the names *Paraperiscyphis* and *Exalloniscus*. Two new species are proposed, *Sphaeroma annandalei* in one tribe and *Paraperiscyphis travancorensis* in the other.

### Tribe FLABELLIFERA.

#### Family AEGIDAE.

1879. *Aegidae*, Schiödte and Meinert, *Naturhist. Tidsskrift*, ser. 3, vol. xii, p. 325.  
 1890. „ Hansen, *Cirolanidae*, pp. 58 (294), 79 (315).  
 Gen. ALITROPUS, Milne-Edwards.  
 1840. *Alitropus*, Milne-Edwards, *Hist. Nat. Crust.*, vol. iii, pp. 234 (*Alitrope*), 245.  
 1879. „ Schiödte and Meinert, *Naturhist. Tidsskr.*, ser. 3, vol. xii, p. 403.  
 1890. *Rocincla* (*Alitropus*), Hansen, *Cirolanidae*, pp. 80 (316), 170 (406).  
 1892. *Rocincla*, Max Weber, *Zool. Ergebnisse einer Reise in Nederl. Ost-Ind.*, vol. ii, p. 553.  
 1893. *Alitropus* (*Rocincla*), Stebbing, *Hist. Crust.*, p. 348.

While Hansen and Max Weber quite rightly notice the close approximation of the genera *Rocincla* and *Alitropus*, there is a notable difference between the stout structure of the anterior limbs in most species of the former and their slenderness in *Alitropus typus*. If some species allotted to *Rocincla* have these limbs slender, it may prove advisable to transfer such forms to *Alitropus*, and so help to disburden *Rocincla*, which has recently received so many additions. It is not a little unsuitable to have a *Rocincla typus* (Milne-Edwards), which is in no sense typical of Leach's *Rocincla*.

#### *Alitropus typus*, Milne-Edwards.

1840. *Alitropus typus*, Milne-Edwards, *Hist. Nat. Crust.*, vol. iii, p. 247, pl. 33, figs. 1-7.

1879. *Alitropus typus*, Schiödte and Meinert, *Naturhist. Tidsskr.*, ser. 3, vol. xii, p. 404, pl. xiii, figs. 10-12.  
 1892. *Rocinela typus*, Max Weber, *Zool. Ergebn. einer Reise in Nederl. Ost-Ind.*, vol. ii, p. 553.

Of the two specimens which I refer to this species one measured about  $14 \times 6.5$  mm., the other was only 6 mm. long, the front part much narrower than the remainder, and the fifth peraeopod shorter than the fourth.

Locality.—The label states that they were obtained by Dr. Annandale, 7-xi-08, from Shasthancottah Lake, 12 miles N. N. E. of Quilon, Travancore.

#### Family SPHAEROMIDAE.

1910. *Sphacromidae*, Stebbing, "South African Crustacea," Part 5, in *Annals of the S. A. Mus.*, vol. vi, p. 426.

Under the above reference the history of this long-standing and much discussed family and its leading genus *Sphaeroma* can be traced.

#### Gen. SPHAEROMA, Bosc.

1802. *Sphaeroma*, Bosc, *Hist. Nat. Crust.*, vol. ii, p. 49.

#### *Sphaeroma annandalei*, sp. nov.

(Plate x.)

Superficially this species bears so great a resemblance to *Sphaeroma walkeri*, Stebbing, that I was at first tempted to regard it as at most an interesting variety. Such differences as might be detected by minute comparison of the respective antennae, limbs, pleopods and uropods, could not easily be insisted on as of specific importance. Even the tuberculation of the dorsal surface, though distinctive, might be regarded as a very variable feature. In various points it also agrees with *Sphacroma terebrans*, Bate. But a thorough examination has shown that the three forms cannot possibly be confounded together.

In the new species distinct tuberculation begins on the seventh segment of the peraeon. On the composite anterior portion of the pleon there are two strongly marked submedian tubercles, and on the telsonic portion there are two submedian pairs in succession followed by a single median tubercle and flanked on either side by a longitudinal row of three tubercles, besides some others more laterally placed. The telsonic apex is obtusely narrowed, not quite so much as in *S. terebrans*, but far more than can be truthfully shown in a dorsal view of the undissected specimen. In *S. walkeri* the apical margin is broadly rounded.

The first antennae have an elongate slender third joint, to which succeed eight to ten joints of which the first is the longest.

In the second antennae the third joint is rather shorter than the fourth, and the fourth than the fifth, all three being closely fringed with setules; the flagellum has eighteen joints each with an apical tuft of setae.

The upper lip has the margin obtusely triangular, not as in *S. walkeri* feebly trilobed and in *S. terebrans* evenly curved.

The mandibles have the cutting edge formed by two powerful well-separated teeth, not as in *S. terebrans* by what appears to be a consolidated piece. Between the cutting edge and the strong molar is a series of little spines, curving towards the molar, very different from the little tuft of spines in the other species.

The lobes of the lower lip are less narrowed distally than in *S. terebrans*. The first maxillae have three plumose setae on the inner plate, not four as in *S. walkeri*, the broad outer plate strongly setulose all along the outer margin, the apical bordered with spines, nine or more, most of them serrate, and two short smooth spines at the inner angle. The second maxillae are especially distinctive by the broad subquadrate form of the inner plate, very different from the oval apically acute shape in *S. walkeri*. The maxillipeds also differ by having the antepenultimate joint more narrowed distally.

The limbs of the peraeon are substantially alike in the two species, unless any importance can be attached to the stronger feathering in the specimens here dealt with. This armature in the second and third peraeopods, helped to some extent by extraneous accretions, gave those limbs the appearance of woolly masses, in which it was extremely difficult to determine either the outlines of the several joints or the articulations between them. The body of the animal carries some scattered setae, the borders of the side-plates of the pleon are furred, the plates of the uropods have setose margins, the number of teeth on the outer margin of the movable ramus being obscured by the thickness of the accompanying fringe.

The length of the specimen figured is about 9 mm., with a breadth about half the length.

Locality.—Port Canning, brackish water pool.

[Specimens of the species are often very abundant in the larger canals of the sponge *Spongilla alba* var. *bengalensis*, a form common in brackish water in the Gangetic delta. They are referred to on p. 78 of my forthcoming volume on the freshwater sponges, etc., in the "Fauna of British India" series, as representing a species allied to *Sphaeroma walkeri*, Stebbing.—N. A.]

The specific name is given out of respect to Dr. Annandale by whom the two specimens were obtained.

### Tribe ONISCIDEA.

The species about to be considered are all included in the family Oniscidae as summarized by Budde-Lund in his Revision of 1904. Without presuming to criticise the learned author's

arrangement, except to deprecate the use of sub-families, I may observe that he places the genus *Saidjahus* in his second sub-family Spherilloninae, and that probably his seventh sub-family will cover all the rest of the genera here considered. Thus *Paraperiscyphis* will naturally stand beside *Periscyphis* in the first section, which Budde-Lund calls Armadilloidea, *Hemilepistus* and *Porcellionides* belong to his second section called Oniscoidea, and the new genus *Exalloniscus* will find its place beside Dana's *Alloniscus* in the third section Alloniscoidea. In 1908 Budde-Lund himself gives a very reasonable premonition that the last word has not yet been said on the classification of the terrestrial Isopoda. There are in fact many parts of the world and many parts of India so little explored for animals of this group, that the future may have much to learn about its constitution.

Gen. SAÏDJAHUS, Budde-Lund.

1904. *Saidjahus*, Budde-Lund, *A Revision of "Crustacea Isopoda terrestria,"* pp. 36, 42, 49.

The genus was instituted to receive three species, *orientalis*, *elegans* and *guttatus*, all established by Dollfus in 1898 and by him referred to his genus *Mesarmadillo*, described with three other new species in 1892 (*Ann. Soc. Entom. de France*, vol. 61, p. 385) Budde-Lund assigns *Saidjahus* to his family Oniscidae, sub-family Spherilloninae. In his synoptic view he distinguishes it from other genera of the family by the combination of characters, pleural parts of the head coalesced, flagellum of second antennae two-jointed, telsonic segment narrowed behind, sub-triangular, uropods of moderate size, reaching a little beyond the telsonic segment, the lateral margin of the first peraeon segment with a rather thick duplicature. In the formal definition on p. 49 he adds that the head has the vertical marginal line produced to the eyes, that the side-plates of the first peraeon segment are fissured behind, that the sides of the telsonic segment are incurved, and that the outer branch of the uropods is small, thin, inserted in the hind side of the peduncle. He describes, with some figures, a new species, *S. creper*, from Borneo.

*Saidjahus*, sp.

Specimens procured by Dr. Annandale at Mandapam, Pamben Passage, S. India, in sand under stones, agree with this genus. In the length of 6 mm. these agree with *S. guttatus* (Dollfus). But in the shortness of the outer branch of the uropods they are nearer to *S. elegans*, from which they are separated by having the first joint of the flagellum of the second antennae little shorter than the second, just as is the case in *S. orientalis* (Dollfus). Not knowing how much variability the species may be liable to in these respects I abstain from giving a name to the present form.

## Gen. PARAPERISCYPHIS, nov.

*Periscyphis* was instituted by Gerstaecker in 1873, according to Budde-Lund, who refers to the account then given of "Die Gliederthier-Fauna des Sansibar-Gebietes, nach dem Material der v. d. Deckenschen Expedition, p. 526." Budde-Lund gives a fresh definition of the genus in 1908 (*Results of the Swedish Zool. Exp. to Egypt*, No. 26A, p. 10), and names the species included under it ("Isopoda von Madagaskar und Ostafrika," Voeltzkow's *Reise*, vol. 2, p. 278). To the genus thus defined *Paraperiscyphis* is approximate in regard to the mouth-organs, but is separated from it by the following characters:—

In the second antennae the first joint of the flagellum is not longer than the second; the telsonic segment is very obtusely triangular, not narrowly produced at the apex; the inner branch of the uropods is attached not to a projection of the peduncle's base but to a notch far down the inner margin, while still further down is attached the outer branch, not especially small, both branches extending beyond the peduncle, and the peduncle itself extending beyond the telsonic segment.

*Paraperiscyphis travancorcensis*, sp. nov.

(Plate xi.)

The present species should be taken as the type of the new genus. But *Periscyphus weberi*, Dollfus (in Max Weber's *Zool. Ergebn. einer Reise in Niederl. Ost-Indien*, vol. iv, p. 371, pl. 14, fig. 16, and in text-figs. 16 a—d, 1898), is probably congeneric.<sup>1</sup> For that species, however, no account is given of the mouth-organs, so that its generic position is rather uncertain. No reason is given for the spelling *Periscyphus* instead of *Periscyphis*, but there can be no doubt that Gerstaecker's genus was intended.

From the species taken at Sumatra, described and figured by Dollfus, the present form differs in various points. The rather broad conglobating body is not smooth, but covered with little minutely setulose warts. A much deeper transverse furrow than that shown by Dollfus separates the convex part of the head which carries the round prominent eyes from the forward part, which in both species shows a little median triangle between two broad lobes. While Dollfus speaks of the first segment of the peraeon as having the hind margin a little sinuous, in the present species the sides of that margin are angularly produced backward in quite an exceptional manner, with the second and third segments following suit hardly less conspicuously. In the second antennae Dollfus says that the flagellum of his species has the first joint one-third shorter than the second; in ours the second is but slightly longer than the first, apart from the apical seta which has

<sup>1</sup> In Lanchester's "Malay Crustacea of the Skeat Exp." (*Proc. Zool. Soc.*, p. 380, 1902) Budde-Lund, describing *Toradjia conglobator*, n. sp., says of that genus, "The *Pervsciphus weberi* Df. may be placed here."

its distal half abruptly narrower than the proximal. Dollfus describes and figures the peduncle of the uropods as obtusely quadrangular, which does not at all correspond with the graceful curves of both inner and outer margins in our species. He represents the branches as narrowly cylindrical, and says that the inner equals about half the length of the outer, though his figures no doubt rightly show that the inner is the longer, as in the new species, in which these branches reach about equally far back, the inner carrying two apical setae. The New Zealand species *Actaecia opihensis*, Chilton, 1901, has uropods very similar to those of our species.

Between the antennae the head is ventrally carinate. In the first maxillae I could only make out eight apical spines, and the armature of the inner plate was undecipherable in the dried condition. The maxillipeds are very broad as in *Periscyphis*. The limbs are fringed with numerous spines, most of them pointed, but one on the apical border of the fifth joint is shown in the first gnathopod as having an obtuse plumose apex.

The larger of the two specimens measured 11 mm. in length, by about 6 mm. in breadth.

Locality.—Maddathorai, western base of Western Ghats, Travancore.

The specific name is taken from that of the region whence Dr. Annandale procured this species.

#### Gen. HEMILEPISTUS, Budde-Lund.

1879. *Hemilepistus*, Budde-Lund, *Prospectus Isop. terrestrium*,  
p. 4.  
1885.        ,,                ,,        *Crustacea Isopoda terrestria*, pp.  
76, 151.  
1896.        ,,        Dollfus, *Mém. Soc. Zool. de France*, vol. ix,  
pp. 526, 546.  
1904.        ,,        Budde-Lund, *A Revision of "Crust. Isop.  
terr.,"* p. 37.

According to Budde-Lund the first species known to science of this remarkable genus were observed by Pallas in his Russian journey, of which the account was published in 1771. The species there described were named *Oniscus ruderalis* and *Oniscus crenulatus*. The latter may be, in Budde-Lund's opinion, perhaps identical with *Porcellio klugii*, Brandt, 1833. Though Savigny (pl. 13, fig. 4) gave a few figures of the Egyptian species which Audouin named *Porcellio reaumurii*, the first author to deal seriously with illustrations of the structural characters was Uljanin in his Russian treatise of the Crustacea of Turkestan, 1875. He describes and figures *Porcellio fedtschenkoi* and *P. elegans* as new and *P. ornatus* as the species so named by Milne-Edwards in 1840. Budde-Lund refers all three of Uljanin's descriptions to *Hemilepistus*, but leaves *P. ornatus*, Milne-Edwards, under *Porcellio* and makes

*P. ornatus*, Uljanin, a synonym of that author's *Hemilepistus fedtschenkoï* (see *Isop. terr.*, pp. 113, 158, 305). Certainly the colouring of Uljanin's *ornatus* is very distinct from that described by Milne-Edwards for his like-named species, but the ornamentation of the peraeon is in both confined to the first two segments, not extending to three as in the description or even four as indicated in the figure of the species *fedtschenkoï*. This consideration does not seem to be affected by the circumstance that in this genus the full development of the dentate crests is only gradually attained in the animal's progress to maturity.

In 1885 Budde-Lund made *Hemilepistus* the third of seven subgenera under *Porcellio*, that genus standing first in the Oniscoidea, which was the second section of the family Onisci. In his Revision, 1904, the family Oniscidae contains eight subfamilies, of which the Oniscinae is the seventh, divided into three tribes, with the Oniscoidea standing second and comprising *Armadillidium*, *Porcellio* and *Oniscus*. To *Porcellio* are assigned *Hemilepistus* and eight other names, apparently as subgenera, two being indicated as doubtful, and *Porcellio* itself not being named as a subgenus, but presumably to be taken for granted. Here the term Oniscoidea has suffered a great loss of rank, and must not be confounded with the terms Oniscoidea, Oniscoida and Oniscidea which have been used as group-names, to include all the terrestrial isopods.

*Hemilepistus klugii* (Brandt).

(Plate xii, B.)

1833. *Porcellio klugii*, Brandt, *Conspectus Crust. Oniscodorum*, p. 17.  
 1879. *Hemilepistus klugii*, Budde-Lund, *Prospectus Isop. terr. trium*, p. 4.  
 1885.        "        "        "        *Isopoda terrestria*, p. 152.  
 1908.        "        "        "        Voeltzkow's *Reise in Ost-afrika*, vol. ii, p. 281.

The description given under the last reference agrees so well with the figures now, I believe, for the first time given of this species that the identification may be accepted with some confidence. *H. crenulatus* (Pallas) would have priority, could its agreement with Brandt's species be satisfactorily shown.

A very striking effect is produced by the prominent pale blunt or rounded teeth forming transverse crests on the front part of the animal, contrasted with the dark grey, smooth or only microscopically setulose remainder of the body. The nearly related *H. veaumurii* (Audouin) is described as occupying deep perpendicular burrows in stony and clayey parts of the Sahara desert. Dollfus was told by M. Eugène Simon that the species named dwelt at the upper part of the hole, using its head as a sort of stopper to the entrance. Noticing the resemblance of the burrows to those of

*Cicindela*-larvae, M. Simon could not decide whether the isopod borrowed its habitation from some insect, or whether its own excavating activity would account for the extreme rugosity of its anterior segments. This problem awaits solution.

In the specimens here dealt with the head shows at the middle anteriorly a set of four or more unequal warts followed on either side by a widely diverging line of four larger warts, or three sets of four subequal warts. The first peraeon segment has fourteen, the second thirteen, large teeth cresting the hind margin, the third segment has twelve or thirteen smaller teeth or warts similarly placed. Laterally above the crests there are groups of four warts on the first, and of three on the second and third segments. The hind margin of the fourth segment has a fringe of very obscure little warts. The telsonic segment is considerably broader than long, with sinuous sides, faintly grooved down the middle to the very narrowly rounded apex.

Eyes small, dark, ocelli about 20.

The second antennae have the first joint of the flagellum a little longer than the second, the latter ending in a little process which, but for its minuteness, might pass for a joint rather than an apical spine.

Upper lip broad, in the dissected specimen showing no marginal hairs.

Mandibles with strongly dentate cutting-plates, adjoining which are a series of setules and several slender spines, to which succeeds the short stalked brush-like process implanted near a strong smooth projection of the trunk.

The first maxillae have the outer plate surmounted by three (or four, see Budde-Lund, 1908) strong and six very slender spines, all apparently smooth-edged. The inner plate has on the inner part of the apex two strong setulose setae of which the inner is the longer. At the apex of the outer margin is a minute spine. In Uljanin's *H. elegans* the margin is itself produced to a sharp point.

The maxillipeds have on or near the distal margin of the masticatory plate three minute spines, and two larger spines below. The short broad first joint of the palp displays one large spine; the conical second joint has on its inner margin one curved spine and a smaller spine between that and the small narrow third joint which carries two apical spines.

The first pleopods of the male have the inner plate ending in a broad pectinate spine, that plate in the second pair having a needle-like apex. The peduncle of the uropods is about as broad as long; the narrow inner rami reach a little beyond the telsonic segment, the conical outer rami reaching beyond the inner, but with a length not equal to the peduncles.

Length of measured specimen 15 mm., with a breadth of about 5 mm. Specimen figured rather larger.

Locality.—The specimens sent by Dr. N. Annandale were labelled as having been obtained at Quetta, under date 6-iv-08; by Mr. J. W. N. Cumming.

[Mr. Cumming tells me that this species is very abundant in the neighbourhood of Quetta and is often seen crawling about in bright sunlight.—N. A.]

Gen. PORCELLIONIDES, Miers.

1877. *Porcellionides*, Miers, *Proc. Zool. Soc. London*, p. 668.  
 1879. *Mctoponorthus*, Budde-Lund, *Prospectus Isop. terrestrium*,  
 p. 4.  
 1885. „ „ *Crustacea Isopoda terrestria*,  
 pp. 76, 161.  
 1898. „ Sars, *Crustacea of Norway*, vol. ii, pt. 10,  
 p. 183.  
 1904. „ Budde-Lund, *A Revision of "Crust. Isop. terr."* p. 37.

Miers speaking of *Porcellio*, Latreille, remarks that de Saussure "based the characters of his primary sections of this genus on the form of the segments of the body." "These," he adds, "appear to me at once so natural and so characteristic, that I adopt them as subgeneric divisions." Miers accordingly distinguishes them as *Porcellio*, with "Postero-lateral angles of all the segments of the body acute, and produced backward," and *Porcellionides*, with "Postero-lateral angles of the first four segments of the body not acute and not produced backward." To the latter subgenus he assigns three new species with the names *jelskii*, *flavo-vittata*, and *hispida*. The second of these is regarded by Budde-Lund as certainly, and the first as doubtfully, synonymous with *Porcellio pruinosus*, Brandt, while the third may be a synonym of *Porcellio orientalis*, Uljanin, both transferred by Budde-Lund to his *Mctoponorthus*. This makes it clear that the subgenus *Porcellionides* is the same as the subgenus *Mctoponorthus*, over which it has two years' priority. Why this has been uniformly disregarded is probably due in a large measure to Scudder's *Nomenclator Zoologicus*, 1882. That useful work mentions *Porcellionides* of Milne-Edwards, 1840, and *Porcellionides* of Miers, 1877, only indicating by a difference of type that the former was of higher than generic value. It is in fact a French word used by Milne-Edwards for his "Division des Porcellionides." That authors were misled by the "Nomenclator" is made the more likely by the frequent use of *Metoponorthus* which stands in Scudder's work by mistake for *Mctoponorthus*. Miers himself in the "List of the species described" in his paper prints *Porcelloides* twice instead of *Porcellionides*, and as this is on p. 654, it might be argued that *Porcelloides* has page precedence, but practically the list of species described must be regarded as later in date than the descriptions. It is unfortunate that the significant name *Metoponorthus* should have to be withdrawn, but it can scarcely be pleaded either that the date 1877 belongs to a dim antiquity or that the *Proceedings of the Zoological Society* are obscure and inaccessible.

It scarcely needs saying that the distinctive characters borrowed from de Saussure, in which Miers placed confidence, are no longer adequate for modern requirements. But the acknowledged identity of *P. flavo-vittata* with *M. pruinus* determines the precedence of *Porcellionides*.

*Porcellionides pruinus* (Brandt).

1833. *Porcellio pruinus*, Brandt, *Conspectus Crust. Oniscodorum*, p. 19.  
 1879. *Metoponorthus pruinus*, Budde-Lund, *Prospectus Isop. terrestrium*, p. 4.  
 1885.        "        "        Budde-Lund, *Crustacea Isopoda terrestria*, p. 169.  
 1896.        "        "        Dollfus, *Mém. Soc. Zool. de France*, vol. ix, p. 543.  
 1898.        "        "        Sars, *Crustacea of Norway*, vol. ii, pt. 10, p. 184, pl. 80, fig. 2.  
 1901.        "        "        (?) Chilton, *Trans. Linn. Soc.*, vol. viii, pt. 4, p. 141.  
 1908        "        "        Carl, *Nouv. Mém. Soc. Helvétique Sci. Nat.*, vol. xlii, pt. 2, pl. 3, fig. 80 (Racovitza).  
 1908.        "        "        Racovitza, *Arch. Zool. expérimentale*, ser. 4, vol. ix, No. 5, p. 386, figs. xiii—xvii.  
 1908        "        "        Budde-Lund, Voeltzkow's *Reise in Ostafrika*, vol. ii, pp. 281, 285.

The full synonymy of this species contains many specific names and the names of many authors. Recently Racovitza has remarked that, although it is considered cosmopolitan, little attention has been paid to the question of its local variations. He gives some comparative figures to illustrate this point of view and promises a further study.

Specimens sent from the Indian Museum are labelled as having been taken at "Kurseong, 5,000 feet, E. Himalayas, 15-vii-07." Though partial desiccation unfits them for elaborate research, the dissection of a male shows its close agreement with the figures of that sex as drawn by Professor Sars. The fifth and sixth joints of the first gnathopods are crowded with spines and spinules. A slight variation may consist in the fact that the sixth joint is attached close to the outer margin of the fifth, not subcentrally to its apex as in the figure by Sars. The proportions of the second antennae, the upper lip without hairs on the margin, the masculine apparatus of the first and second pleopods, and the shape of the telsonic segment correspond fully with what is shown in the *Crustacea of Norway*.

*Porcellionides asiaticus* (Uljanin).

1875. *Porcellio asiaticus*, Uljanin, *Crustacea of Turkestan*, p. 15, pl. 3, figs. 11-22.  
 1879. *Mctoponorthus asiaticus*, Budde-Lund, *Prospectus Isopodum terrestrium*, p. 4.  
 1885. „ *orientalis* (*partim?*), Budde-Lund, *Isopoda terrestria*, p. 162.

Uljanin in 1875 describes and figures *Porcellio asiaticus* and *P. orientalis* as two quite distinct species, the largest male of the former measuring  $14 \times 6.5$  mm., of the latter  $13 \times 8$  mm. Budde-Lund, without noticing the difference in breadth, unites the two species as merely colour varieties. In his earlier work he adopts the specific name *asiaticus*, but in 1885 he makes this a synonym of *orientalis*, although the other species has precedence both in Uljanin's text and plates.

The specimens which I refer to *P. asiaticus* were obtained by Dr. Annandale at Lucknow, under date 22-1-08.

## Gen. EXALLONISCUS, nov.

Body finely tuberculate, not adapted for conglobation. Eyes wanting. Second antennae short, flagellum three-jointed. Mandibles with four or five stout teeth divided between the cutting edge and its accessory plate; adjacent to the latter is a border fringed with spinules and setules, a feathered seta (at least on one of the mandibles) projecting between this border and the brush of setae on a short peduncle which represents the molar. First maxilla with two short feathered setae occupying the apex of the inner plate, the outer plate being surmounted by smooth spines only seven in number, the distal part of its outer margin setulose. The second maxillae with inner apical lobe much broader than the outer and showing a group of adpressed setae, only the tips of which project from its distal margin. Maxillipeds not very broad, the masticatory plate quadrate, its truncate distal border finely fringed, the palp carrying on the inner margin of its penultimate joint an apically feathered process similar to the somewhat larger terminal joint. The limbs of the peraeon have many spines with multifid apices. The first and second pleopods of the male are in near agreement with those in *Alloniscus*, Dana (judging by *A. pigmentatus*, Budde-Lund); the fifth pair have the gill-cover remarkably acute at the apex. Telsonic segment broad with obtuse apex. Outer ramus of uropods much projecting, longer than the stout peduncle, on the inner border of which the narrow inner ramus is attached, scarcely reaching half the length of the outer ramus.

In 1908 Budde-Lund, in the account of *Alloniscus brevis* (Voeltzkow's *Reise in Ostafrika*, vol. ii, p. 298), incidentally expresses the opinion that *A. coecus*, Dollfus, probably does not belong to the genus *Alloniscus*, at least in his limitation of it. That view is

most likely correct, if all the structural features described above have been rightly observed. Both pairs of maxillae appear to offer distinctive characters, and others may perhaps be drawn from the first antennae and the lower lip, but in regard to these my dissections do not enable me to put forward trustworthy evidence. The name of the genus refers to the removal of its type species from the home in which M. Dollfus had placed it.

*Exalloniscus coecus* (Dollfus).

(Plate xii, A.)

1898. *Alloniscus coecus*, Dollfus, in Weber's *Zool. Ergebn. einer Reise in Niederl. Ost-Indien*, vol. iv, p. 375, pl. xv, fig. 22, in text 22 a, b.

Dollfus gives the following description:—"Body broadly oval, little convex, a little depressed, covered with fine granulations, more accentuated anteriorly. Cephalon: frontal line sinuous, with a feeble median process and very oblique subacute lateral lobes. Prosepistome flat. Eyes none. Second antennae short, flagellum of three subequal joints. Peraeon: first segment with hind margin straight. Pleon, Telson—Lateral processes of the segments 3—5 rather broad, depressed. Pleotelson triangular with subobtuse apex, sides a little sinuous. Uropods: base equalling the length of the pleotelson, inner branches small but reaching beyond the pleotelson. Outer branches? Colour: white." The specimens were taken by Prof. M. Weber at Java and Sumatra. Lines indicating the natural size of specimen figured are  $5 \times 2$  mm., not consistent with the description, body broadly oval. Dr. Annandale's specimens from Maddathorai, Travancore, measured about  $5 \times 3$  mm. Perhaps a true representation lies between my figure a little too broad and that by M. Dollfus rather too narrow. That they are concerned with the same species can scarcely be doubted.