

XVIII ON SOME LITHOBIODEA  
(CHILOPODA) FROM INDIA

By F. SILVESTRI (*Portici, Italy*).

Among the Chilopoda kindly sent me for examination by the Director of the Zoological Survey of India, there are a few species of Lithobioidea which I describe in this note, together with a species of Henicopidae that was collected at Trichinopoli and is considered the type of a new genus.

Only three species of Lithobiidae from India (including Burma) and the Malay Peninsula have been described up to date, viz. *Lithobius* (s. s.) *hardwickei*, Newp., from Singapore, *Lithobius* (s. s.) *feae*, Poc., and *Lithobius* (*Archilithobius*) *birmanicus*, Poc., both from Burma.

The specimens examined by me are referred to *L. feae*, Poc., to three new species and to a new variety.

The fauna of India appears very poor in Lithobiidae as in all tropical countries, but it is possible that careful collecting in temperate zones in the north will discover many other species.

In the few known species the small number of the ocelli of each eye is noticeable, and also the relatively small number of the joints of the antennae.

Fam. LITHOBIIDAE.

*Lithobius* (s. s.) *feae*, Poc.

*Ann. Mus. Genova*, X, p. 408 (1891).

Corpus supra fulvo-latericum, subtus fulvo-testaceum, pedibus maxillaribus fulvo-ferrugineis, pedibus testaceis articulis 2-4 macula nonnulla atro-violacea variegatis.

Caput subaeque longum atque latum; oculi ocellis magnitudine et dispositione vide fig. I, 12; antennae breves, 20-articulatae, articulis elongatis, omnibus breviter et sat dense setosis, articulo decimo fere duplo longiore quam latiore, articulo ultimo c. 2/3 longiore quam latiore (in exemplo alio antenna altera rigenerata brevior, 12-articulata, articulis a quarto brevioribus, articulo ultimo parum longiore quam latiore).

Pedes maxillares (fig. I, 11) subcoxarum margine antico lato, subrecte truncato dentibus 8 - 9 + 8 - 9 (vel 8 + 10).

Lamina dorsualis 6<sup>a</sup> angulis posticis parum productis et rotundatis, laminae dorsuales 9, 11, et 13 angulis posticis gradatim magis

productis et acutis, lamina dorsualis 15 longa, aliquantum longior quam latior, postice sinuata.

Pedes primi paris spinis  $\frac{0, 0, 3, 0, 1}{0, 0, 1, 3, 2}$ , octavi paris  $\frac{0, 0, 3, 2, 1}{0, 0, 1, 3, 2}$ , paris decimi quarti  $\frac{1, 0, 3, 1, 1}{0, 1, 3, 3, 2}$ , paris ultimi  $\frac{1, 0, 3, 1, 0}{0, 1, 3, 3, 2}$ , subcoxis pedum 13-15 calcare laterali auctis, pedes 13-15 ab articulo tertio facie interna poris numerosis glandularibus instructis, ungue terminali (fig. I, 13) unguicula laterali interna (vel postica) sat longa et seta spiniformi laterali infera externa (vel antica) brevi, in pedibus 14-15 minima aucta.

Pori subcoxales 6, 7, 7, 6-7, 8, 7, 7 (6).

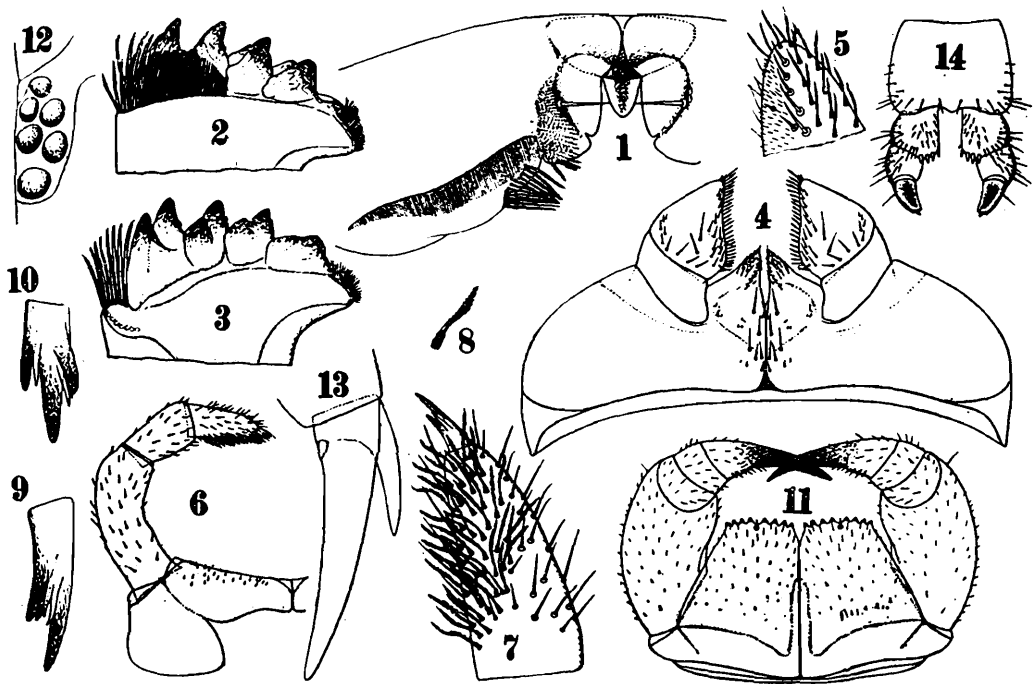


FIG. I.—*Lithobius* (s. s.) *feae*: 1. Labrum (parum magis quam dimidia pars); 2. mandibulae dexteræ apex subtus inspectus; 3. idem supra inspectus; 4. maxillae primi paris; 5. earundem lobi interni apex; 6. maxillae secundi paris; 7. earumdem articulus tertius cum ungue terminali; 8. seta ejusdem articuli; 9. maxillarum secundi paris unguis terminalis lateraliter inspectus; 10. idem pronus; 11. pedes maxillares; 12. oculus laevus; O. ocelli; T. Tömösvaryi organum; 13. pedum paris ultimi pars apicalis; 14. *Lithobius feae* v. *percalcarata*; feminae appendices genitales.

Appendices genitales ungue integro, calcarium utrimque quatuor, quorum internum perparvum est.

Long. corp. mm. 17, lat. 2.5; long. antennarum 6.6, pedum paris primi 3, decimi 4, ultimo 10.

*Immaturus*. Pori subcoxales subrotundi 5, 6, 6, 5. Long. mm. 15.

*Habitat*.—Rotung, alt. 1,300 ft. (Abor Exp.), under stones; Kobo, alt. 400 ft. (Abor Exp.), under bark.

*Observatio*.—Exempla a me ad *Lith. feae*, Poc., relata ab exemplo typico differunt pedum maxillarum dentium numero majore, antennis semper 20-articulatis, statura parum minore.

**Lithobius (s. s.) feae, Poc. var. percalcarata, nov.**

Pedes primi paris spinis  $\frac{0, 0, 3, 1}{0, 0, 1, 2}$ , decimi paris  $\frac{0, 0, 3, 2, 2}{0, 0, 2, 3, 2}$ , decimi quarti paris  $\frac{1, 0, 3, 1, 1}{0, 1, 3, 3, 2}$ , vel  $\frac{1, 0, 3, 2, 0}{0, 1, 3, 3, 1}$ .

Pori subcoxales 6, 7, 8, 7-6, 8, 8, 7, subcoxis pedum paris 14 et 15 supra et lateraliter spina armatis.

Genitalia femineorum (fig. I, 14) unguis trilobus, calcaria utrimque 4-5, quorum internum parvum spiniforme est.

Long. corp. mm. 17, lat. 2.5, long. antennarum 6, pedum paris primi 3, decimi 4, pedum paris decimi quarti 8.6.

*Habitat.*—Renging, 2,150 ft. (Abor Exp.), in rotten wood; Janakmukh, alt. 600 ft. (Abor Exp.), under bark; Soom to Birch Hill (Darjiling dist.), 5,000-6,000 ft.

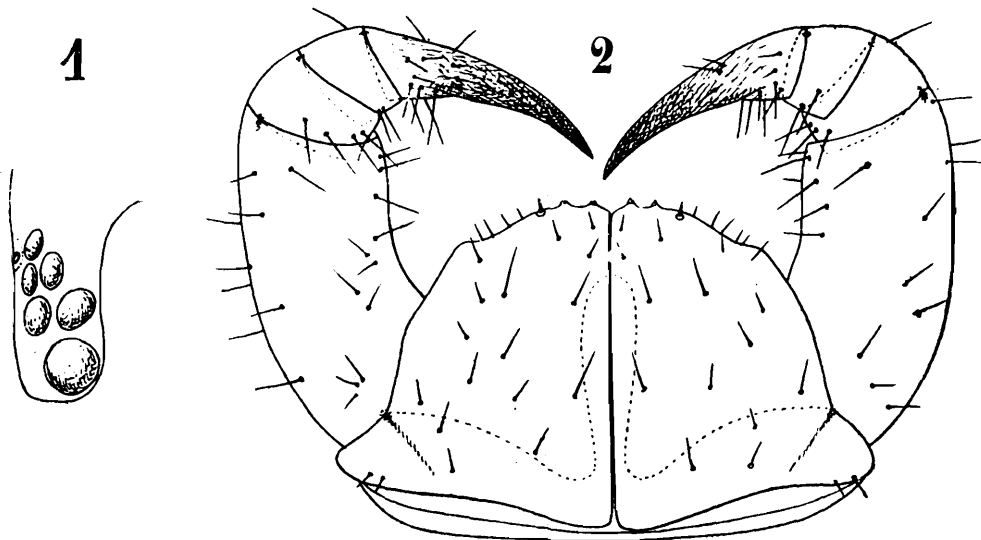


FIG. II.—*Lithobius (s. s.) kempī*: 1. Oculus laevus: 2. pedes maxillares.

*Juvenes.* Kobo, 400 ft. (Abor Exp.), in rotten wood, exempla duo, long. corp. 13.

Antennae 20-articulatae. Pedes maxillares dentibus 6+6; pori subcoxales 3, 5, 5, 4-4, 5, 6, 5; genitalium femineorum unguis trilobus, calcaria utrimque 4.

*Observatio.*—Variatio haec ab exemplis formae typicae genitalium femineorum ungue trilobo et calcaribus magis numerosis vel robustioribus distincta est.

**Lithobius (s. s.) kempī, sp. nov.**

Corpus testaceum ventre et pedibus parum pallidioribus.

Caput paullum longius quam latius, lateribus anticis aliquantum convergentibus; oculi ocellis 6, magnitudine et dispositione vide fig. II, 1; antennae 19-articulatae (altera certe haud integra 17-articulata), articulis elongatis, parce et breviter setosis, articulo decimo parum magis quam duplo longiore quam latiore, articulo ultimo tenui, circa quadruplo longiore quam latiore.

Pedes maxillares (fig. II, 2) antice lati, margine aliquantum convexo medio parum sinuato, dentibus 2+2.

Laminae dorsuales 6, 7, 8 angulis posticis haud productis, laminae dorsuales 9, 11, 13 angulis posticis triangularibus, acutis, retrorsum bene productis; lamina dorsualis 15 paullum latior quam longior, postice vix sinuata.

Pedes primi paris calcaribus  $\frac{0, 0, 1, 1, 1}{0, 0, 0, 1, 1}$ , paris decimi  $\frac{0, 0, 1, 2, 2}{0, 0, 2, 2, 2}$ , paris decimi quarti  $\frac{0, 0, 3, 1, 0}{0, 1, 2, 1, 0}$ , paris decimi quinti  $\frac{0, 0, 3, 0, 0}{0, 1, 2, 1, 0}$ , ungue terminali unguicula interna sat longa et unguicula externa infera minima aucto, poris glandularibus parce numerosis ab articulo quarto incipientibus.

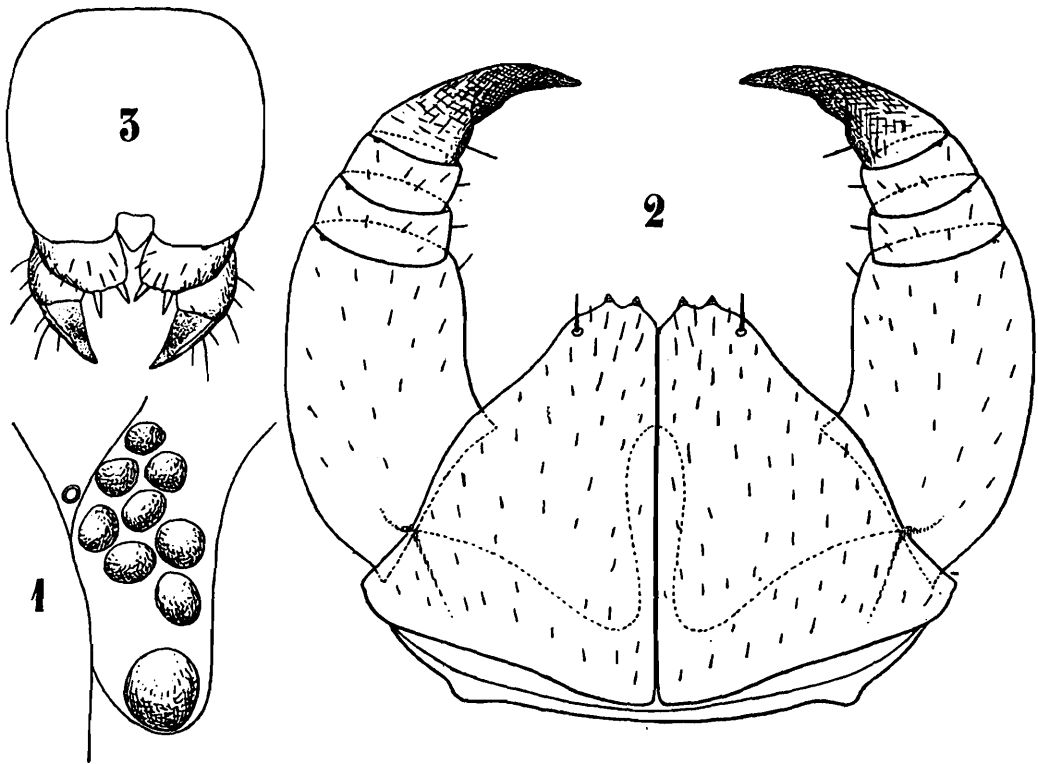


FIG. III.—*Lithobius (Archilithobius) tactus*: 1. Oculus laevus; 2. pedes maxillares; 3. feminae appendices genitales.

Pori coxales 4, 4, 4, 4.

Appendices genitales ungue distincte bilobato, lobo minore dentiformi externo, calcaribus utriusque duobus robustis.

Long. corp. mm. 16, lat. 2, long. antennarum 6, pedum paris primi 3, paris decimi 4·3, paris ultimi 6·7.

Mas ignotus.

*Habitat.*—Rotung 1,400 ft. (Abor Exp.).

*Observatio.*—Species haec, quae honoris causa Clarissimo Mr. S. W. Kemp dicata est, a *Lithobius feae*, Poc. pedum maxillarum dentium, subcoxarum 12–15 pororum et calcarium appendicium genitalium numero praesertim facile distinguenda est.

**Lithobius (Archilithobius) tactus**, sp. nov.

Corpus subtestaceum totum.

Caput paullum latius quam longius lateribus anticis aliquantum convergentibus; oculi ocellis 9 compositi magnitudine et dispositione vide fig. III, 1; antennae 20-articulatae, articulis parum elongatis, setis numerosis brevibus instructis, articulo decimo *c.* 1/3 longiore quam latiore, articulo ultimo *c.* duplo longiore quam latiore.

Pedes maxillares (fig. III, 2) subcoxis antice angustatis, margine antico medio angulatim sinuato dentibus 2+2 et seta brevi praemarginali externa instructo.

Laminae dorsuales angulis posticis subrectis vel rotundatis, lamina dorsualis 15 aliquantum longiore quam latiore, lateribus postice aliquantum convergentibus, margine postico subrecto.

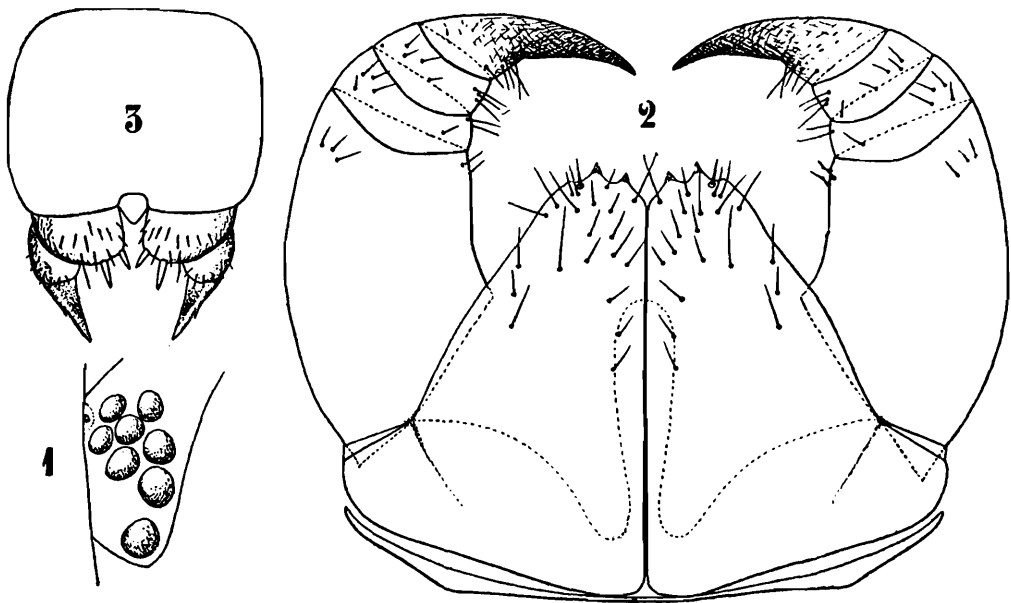


FIG. IV.—*Lithobius (Archilithobius) erraticulus*: 1. Oculus laevus; 2. pedes maxillares; 3. feminae appendices genitales.

Pedes primi paris  $\frac{0, 0, 1, 2, 2}{0, 0, 2, 3, 2}$ , decimi paris  $\frac{0, 0, 3, 2, 2}{0, 0, 3, 3, 2}$ , decimi quarti  $\frac{1, 0, 3, 1, 1}{0, 1, 3, 3, 2}$ , paris ultimi  $\frac{1, 0, 3, 1, 0}{0, 1, 3, 2, 1}$ , subcoxis pedum 12 et 13 etiam spina dorsuali instructis; pedes paris 14 et 15 ab articulo quarto interne poris glandularibus numerosis instructi, pedes paris ultimi ungue terminali unguicula interna brevi et unguicula externa minima instructi.

Pori subcoxales 3, 5, 5, 5, parvi et rotundi.

Appendices genitales feminae (fig. III, 3) breves ungue integro ad basim externe incisione spiniformi instructo, calcaribus utrimque duobus.

Long. corp. mm. 13, lat. 1·8, long. antennarum 4, pedum paris primi 2, decimi 2·6, ultimi 4·10.

*Habitat.*—Specimina duo vidi ex loco haud certo probabiliter ex N. Bengal cum *Mecistocephalo spisso*, Wood et *Iulidis* collecta. Var. Exemplum alium ad eandem speciem refero ex Katihar [Purneah distr., N. Bengal (Bihar)], quod ab exemplis typicis oculi ocellis 10 et poris subcoxalibus 4, 5, 5 tantum differt.

*Observatio.*—Species haec a procedente magnitudine, ocellorum et pororum subcoxalium numero, genitalium femineorum appendicibus brevioribus facile distinguenda est.

**Lithobius (Archilithobius) erraticulus, sp. nov.**

Corpus testaceum totum.

Caput aequum longum atque latum; oculi ocellis 8, magnitudine et dispositione vide fig. IV, 1; antennae breves, 20-articu-

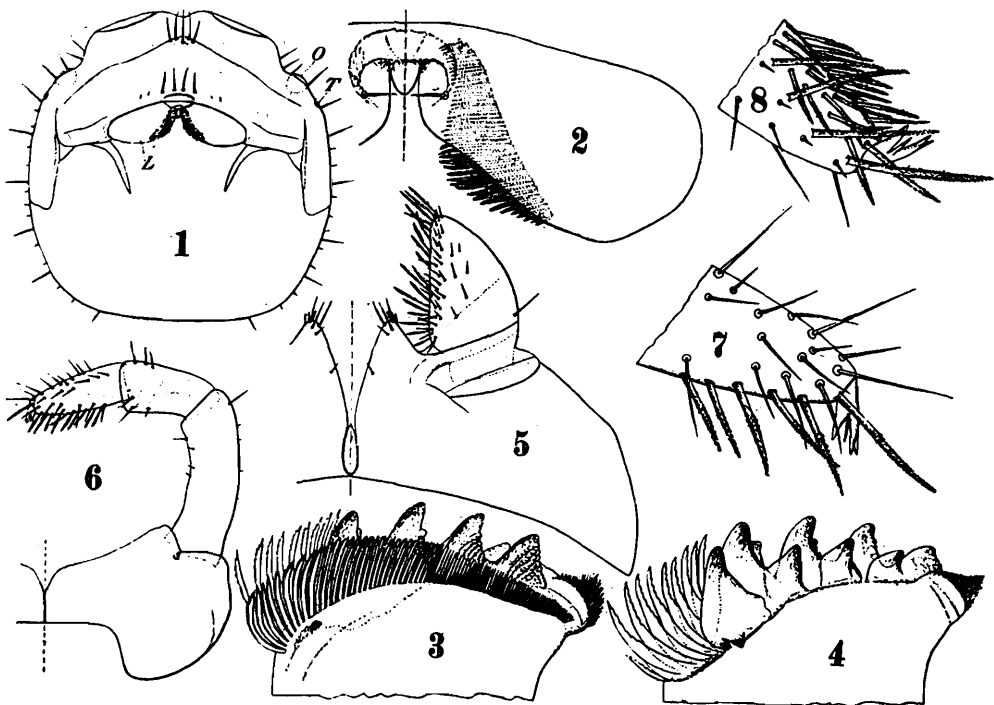


FIG. V.—*Triporobius newtoni*: 1. Caput supinum appendicibus ablatis; 2. labrum (parum magis quam dimidia pars); *O.* oculus; *L.* labrum; *T.* organum Tömösväryi; 3. mandibulae dexterae apex subtus inspectus; 4. idem supra inspectus; 5. maxillae primi paris; 6. maxillae secundi paris; 7. ejusdem pars apicalis subtus inspecta; 8. eadem supra inspecta.

latae, articulis parum elongatis, setis sat numerosis brevibus instructis, articulo decimo fere  $\frac{1}{3}$  longiore quam latiore, articulo ultimo tenui,  $c. \frac{2}{3}$  longiore quam latiore.

Pedes maxillares (fig. IV, 2) subcoxis antice angustatis, margine antico medio angulatim sinuato, dentibus 2+2 et seta sublaterali externa longa aucto.

Laminae dorsuales omnes angulis posticis plus minusve rotundatis; lamina dorsualis 15 subaeque longa atque lata, margine postico paullum sinuato.

Pedes omnes tarso biarticulato, primi paris calcaribus  $\frac{0, 0, 0, 1, 1}{0, 0, 1, 2, 1}$ , decimi paris  $\frac{0, 0, 2, 1, 1}{0, 0, 2, 2, 2}$ , decimi quarti  $\frac{1, 0, 3, 1, 0}{0, 1, 3, 2, 1}$ , paris ultimi  $\frac{1, 0, 3, 2, 0}{0, 1, 3, 2, 1}$ , subcoxis pedum 12-13 etiam calcare supero instructis, pedes paris 14 et 15 ab articulo quarto interne poris glandularibus numerosis instructi, ungue terminali unguicula interna brevi et unguicula externa infera minima.

Pori subcoxae 2, 3, 3, 3 parvi et rotundi.

Genitalium femineorum (fig. IV, 3) unguis longus attenuatus, externe ad basim parva incisione dentiformi affectus, calcaria utrimque duo.

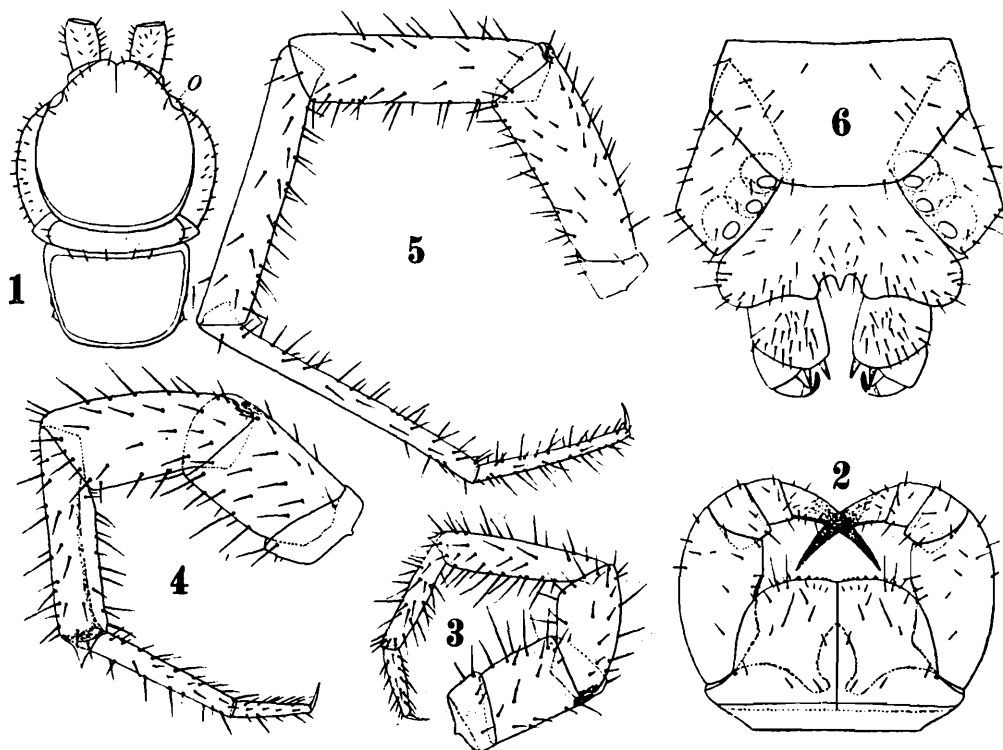


FIG. VI.—*Triporobius newtoni*: 1. Caput et trunci segmenta 1<sup>um</sup> et 2<sup>um</sup> prona; 2. pedes maxillares; 3. pes paris primi; 4. pes paris decimi; 5. pes paris ultimi; 6. feminae segmentum ultimum pediferum et segmentum genitale supina.

Long. corp. mm. 11, lat. 1.5, long. antennarum 3.5, pedum paris primi 1.30, decimi 2, ultimi 3.7.

Mas immaturus poris subcoxalibus 2, 2, 3, 2.

*Habitat*.—Chitral (N.W. Frontier Province, 5,000 ft., G. M. Giles legit).

*Observatio*.—Species haec a *L. (A.) birmanicus*, Poc. ocellorum numero et genitalium femineorum ungue integro saltem distincta est.

Fam. HENICOPIDAE.

Gen. *Triporobius*, nov.

Caput (fig. V, 1 et VI, 1) contractum laminam basalem fere omnino obtegens, lamina cephalica aliquantum longiore quam

latiore antice media longitudinaliter sulcata. Oculi ocello singulo magno compositi; Tomosvaryi organum marginale parum pone oculos situm. Antennae breves, articulis elongatis, in specie typica 17-articulatae. Labrum (fig. V, 2) profunde unidentatum; mandibulae, maxillae primi et secundi paris vide fig. V, 3-8.

Pedes maxillares (fig. VI, 2) subcoxis longis et latis, antice tantum lateraliter paullum excisis, mediis paullum sinuatis, dentibus 5+5 sat parvis armatis, ungue terminali longo acuto.

Tergita 9, 11 et 13 angulis posticis gradatim parum magis acutis, tergitem 15 subaeque longum atque latum, margine postico vix sinuato.

Stigmata in segmentis pediferis 1, 3, 5, 8, 10, 12 et 14 sita.

Pedes (fig. VI, 3-5) omnes, ungue incluso, 8-articulati, setosi, spinis destituti, parium 1-13 articuli quinti apice antice in processum sat longum triangularem acutum productum, ungue terminali utrimque ad basim unguicula brevi aucto.

Pori subcoxales in segmentis pediferis 13, 14 et 15 sistentes et in pede singulo 3 adsunt rotundi, sat magni.

Appendices genitales (fig. VI, 6), ungue incluso, 4-articulatae. ungue simplici, articulo primo calcaribus duobus.

Pori anales quo magni.

Mas ignotus.

*Observatio.*—Genus hoc a genere *Paralamyctes*, Poc. pedibus paris 12<sup>i</sup> poris subcoxalibus destitutis facile distinguendum est.

### ***Triporobius newtoni*, sp. nov.**

Corpus subtestaceum pedibus maxillaribus fulvo ferrugineis, pedibus ambulatoriis testaceis, tarso fulvo-ferrugineo.

Characteres ceteri in generis descriptione et in figuris manifesti.

Long. corp. mm. 17, lat. 2, long. antennarum 7, pedum paris primi 3.4, decimi 4.6, ultimi 8.9.

*Habitat.*—Exempla duo vidi ad Trichinopoli a Cl. Newton, cui species grato animo dico, collecto et mihi donata.