

NOTES ON THE NORTH AMERICAN LITHOBIIDÆ AND SCUTIGERIDÆ.

By CHARLES H. BOLLMAN.

In examining the collection of myriapods belonging to the museum of the Indiana University, I have found a number of species new to science. On account of the confused condition of our North American myriopoda, I have deemed it best to introduce a description of the known species embraced in the same collection, as well as the description of those species supposed to be new to science.

The types of the new species have been deposited in the United States National Museum.

Family A.—LITHOBIIDÆ.

Genus I.—LITHOBIUS Leach.

The following key is only for the species in the present paper. The last legs of *juventus* being lost, I have not included it. In counting the spines I have also included the claw.

* Posterior angles of none of the dorsal plates produced.

- a. Penultimate pair of feet armed with three spines; coxal pores in a single series, round.
- b. Anal pair of feet armed with one spine.
- c. Posterior coxæ unarmed.
- d. Prosternal teeth 4-8; joints of the antennæ 20-23.
- e. Joints of the last pair of legs not provided with or produced into knots.
- f. First pair of feet armed with 0, 1, 1 spines; claw of the female genitalia bipartite..... KOCHII, 1.
- ff. Spines of the first pair of feet 1, 3, 2; claw of the female genitalia tripartite,..... MINNESOTA sp. nov., 2.
- fff. Spines of the first pair of feet 2, 2, 2-2, 3, 2; claw of the female genitalia whole,..... BILABIATUS, 3.
- ee. Third and fourth joints produced into knots; spines of the first pair of feet 2, 3, 2; claw of the female genitalia tripartite, TUBER, sp. nov., 4.
- dd. Prosternal teeth 10-12; joints of the antennæ 24-29; spines of the first pair of feet 2, 3, 1-3, 3, 2; claw of the female genitalia whole; color yellow-brown,..... PRORIDENS, sp. nov., 5.
- cc. Coxæ armed with a single spine; prosternal teeth 4; joints of the antennæ 20; spines of the first pair of feet, 1, 2, 1-1, 3, 2; claw of the female genitalia tripartite,..... PULLUS sp. nov. 6.
- bb. Anal feet armed with two spines; prosternal teeth 4; joints of the antennæ 20; ocelli 18-25; spines of the first pair of feet 1, 3, 1; claw of the female genitalia tripartite,..... TRILOBUS sp. nov., 7.
- bbb. Anal feet armed with three spines; coxæ with an indistinct spine; prosternal teeth 4; joints of antennæ 20-31; spines of the first pair of feet 2, 3, 2; claw of the female genitalia tripartite.....
CARDINALIS sp. nov., 8.

- ** Posterior angles of 9, 11, 13 dorsal plates produced.
- a. Anal pair of feet armed with one spine; penultimate with two.
- b. Coxæ unarmed; coxal pores in a single series.
- c. Antennæ 20-jointed; prosternal teeth 6; ocelli 25,.....HOWEII, sp. nov., 9.
- cc. Antennæ more than 30-jointed; claw of the female genitalia tripartite.
- d. Coxal pores round 7, 7, 6, 5; antennæ 31-jointed; ocelli, 27...AZTECUS, 10.
- dd. Coxal pores transverse 6, 6, 6, 4-9, 10, 9, 6; joints of antennæ 33-43; ocelli 23-48,.....FORFICATUS, 11.
- bb. Coxæ armed with a single robust spine; coxal pores multiseriate; prosternal teeth 15-20; joints of antennæ 20, long,.....XANTI, 12.
- aa. Anal and penultimate feet each armed with two spines; coxæ unarmed; joints of the antennæ 20; prosternal teeth 4,.....POLITUS, 13.
- *** Posterior angles of the 7, 9, 11, 13 dorsal plates produced.
- a. Anal feet armed with one spine; coxæ unarmed; coxal pores in a single series.
- b. Penultimate pair of feet armed in the two spines; joints of antennæ 31-38; prosternal teeth 12-14; coxal pores 7, 7, 6, 5, 10, 10, 10, 9 transverse; spines of the first pair of feet 2, 2, 1, 3, 3, 2,....MORDAX, 14.
- bb. Penultimate pair of feet armed with three spines; joints of antennæ 26-30; prosternal teeth 8; coxal pores 4, 4, 5, 2, 4, 5, 4, round; spines of the first pair of feet 1, 3, 2, 2, 3, 2,.....CLARUS, 15.
- **** Posterior angles of the 6, 7, 9, 11, 13 dorsal plates produced.
- a. Anal feet with a single spine; coxæ armed; coxal pores multiseriate; joints of antennæ 19-23; prosternal teeth 14-18; spines of the first pair of feet 2, 3, 1-2, 3, 2,.....MULTIDENTATUS, 17.

Subgenus *Archilithobius* Stuxberg.

1. *Lithobius kochii* Stuxberg.

Lithobius kochii Stuxberg, Äfver. Kongl. Vetens.-Akad. Förhandl., 63, 1875.
(*Saucelito, Cal.*)

To this species I refer a specimen from Ukiah, Cal., which has lost the antennæ and nearly all the feet. It has 11 ocelli, arranged in 5 series, prosternal teeth 4, small; coxal pores 3, 4, 4, 3, small and round; color fulvous.

.2. *Lithobius minnesotæ*, sp. nov.

Brown, head darkest, feet and ventral laminæ not much paler; tip of antennæ and prehensorial feet rufous.

Slender, smooth; very sparsely pilose. Head subcordate, wider than long (3, 5: 3), smooth, very sparsely hirsute.

Antennæ short, joints 20, mostly long; the last long and sharp, densely hirsute.

Ocelli 13, arranged in 6 series.

Prosternal teeth 4, small and indistinct.

Coxal pores 4, 5, 5, 4, rather small, round.

Spines of the first pair of feet 1, 3, 2; penultimate 1, 3, 3, 1; last pair 1, 3, 2, 1.

Posterior pair of feet moderately long and slightly swollen.

Claw of the female genitalia moderately wide, tripartite, the middle lobe much longer; spines robust, subequal.

Length of body 16^{mm}; last pair of legs 5^{mm}.

Habitat.—Fort Snelling, Minnesota.

This species is described from one specimen collected by Mr. Walter D. Howe. It is related to *Lithobius pullus*, but is distinguished by its larger size, the joints of the antennæ, the coxal pores, and a few points about the claw of the female genitalia.

3. *Lithobius bilabiatus* Wood.

Lithobius bilabiatus Wood, Proc. Acad. Nat. Sci., Phil., 130, 1867. (*Rock Island, Ill.*)

Brown, head darkest, feet and ventral laminae paler, the tip of antennæ rufous.

Somewhat robust, smooth, a little roughened posteriorly; sparsely hirsute, ventral laminae sometimes almost densely hirsute posteriorly. Head large, obovate, of nearly equal length and breadth, nearly smooth, sparsely pilose.

Antennæ short, joints 20-23, mostly long, densely hirsute.

Ocelli distinct, 11-20, arranged in 5-7 series.

Prosternal teeth 4-8, moderately large and stout.

Coxal pores 3, 4, 4, 3-4, 5, 5, 4 round; sometimes the depression is shallow and the pores indistinct.

Spines of the first pair of feet 2, 2, 2-2, 3, 2; penultimate 1, 3, 3, 1-1, 3, 3, 3; last pair 1, 3, 2, 0-1, 3, 3, 1.

Posterior feet rather short, moderately swollen.

Claw of the female genitalia large and stout, whole; spines short and strong, the inner shortest.

Length of body 12-18^{mm}; last pair of legs 5-6^{mm}.

Habitat.—Illinois (Rock Island), Indiana (Bloomington), Michigan (Ludington, N. B. Pierce).

I have examined a large number of specimens of this species from Bloomington, Ind., and one from Ludington, Michigan.

4. *Lithobius tuber*, sp. nov.

Lithobius bilabiatus Wood, Proc. Acad. Nat. Sci. Phila., 130, 1867. (*Rock Island, Illinois, in part; not type.*)

Brown, head and antennæ darkest, tip of latter rufous, feet and ventral plates pale.

Robust, moderately smooth; dorsal plates sparsely pilose; ventral more densely pilose posteriorly.

Head large, obovate, wider than long (3, 5 : 3), moderately smooth, sparsely pilose.

Antennæ moderate, joints 20, mostly long and stout, moderately pilose.

Ocelli 11-13, arranged in 5 or 6 series.

Prosternal teeth 4-6, small.

Coxal pores 4, 4, 5, 5-4, 5, 5, 4, large and round.

Spines of the first pair of feet 2, 3, 2; penultimate ♂ 1, 3, 3, 1, ♀ 1, 3, 3, 2; last pair ♂ 1, 3, 2, 0, ♀ 1, 3 (4), 2, 0.

The last pair of legs moderate, swollen, the inner side provided with peculiar knobs in both male and female; male, the end of the third

joints produced into a short, blunt lobe, which is surmounted with 4 spines, the basal third of the fourth joint produced into a large, flat, outward curving lobe, about 3^{mm} long, the end with a row of bristles, the end of the same joint produced into a small, sharp, outward pointing lobe; female, the end of third joint swollen, pilose, also two large spines, base of fourth joint produced into a cylindrical lobe, directed forwards, pilose, a little shorter than in the male, the end of the same joint swollen on the inner side.

Claw of the female genitalia wide, tripartite; spines stout, subequal. Length of body 10–15^{mm}; last pair of legs 4–5^{mm}.

Habitat.—Bloomington, Ind., and Rock Island, Ill.

The above description was taken from a male and female from the former locality. I have also sent a male to the collection of Dr. Anton Stuxberg, of Goteborg, Sweden, under the name of *L. bilabiatus*. Dr. Wood, in his description of *Lithobius bilabiatus*, has included two species. I have restricted *bilabiatus* to the one having the ordinary type of hind legs, the other I have described as a new species—*Lithobius tuber*.

5. *Lithobius proridens*, sp. nov.

Yellow-brown; antennæ, feet, and ventral laminae pale.

Slender, smooth, sparsely pilose; ventral laminae more densely pilose posteriorly.

Head obcordate, of about equal length and breadth (3: 2.5), smooth, sparsely pilose.

Antennæ moderate, joints 24–29, short; rather densely pilose.

Ocelli sometimes indistinct and irregular, 8–15, arranged in 4–6 series.

Prosternal teeth 10–12, small, not crowded together.

Coxal pores 3, 4, 4, 3–4, 6, 5, 5 large and round.

Spines of the first pair of feet 2, 3, 1–3, 3, 2; penultimate 1, 3, 3, 1–1, 3, 3, 2; last pair 1, 3, 3, 1–1, 3, 3, 2.

Posterior pair of feet long, not swollen.

Claw of the female genitalia long and slender, whole; spines moderate, subequal.

Length of body 10–12^{mm}; last pair of legs 4–5^{mm}.

Habitat.—Bloomington, Ind.

This species is common under leaves, &c.

The following is the description of a specimen 5^{mm} long.

Antennæ short, joints 21. Prosternal teeth 10.

Ocelli distinct, 1, 2, 1. Coxal pores 1, 1, 1, 1.

Spines of the first pair of legs 2, 3, 1; penultimate 1, 3, 3, 1; last pair 1, 3, 3, 1.

6. *Lithobius pullus*, sp. nov.

Brown; head darkest, feet and ventral laminae pale; tip of antennæ and prehensorial feet chestnut.

Rather robust, smooth; sparsely hirsute, more densely beneath.

Head obcordate, longer than wide (7:6); moderately smooth; sparsely pilose.

Antennæ short, joints 20, not as short as in the preceding; the last joint long and sharp.

Ocelli moderate, 10-12, in 5 series.

Prosternal teeth 4, small and indistinct.

Coxal pores 2, 2, 2, 2-3, 4, 3, 3, moderately large and round.

Spines of the first pair of feet 1, 2, 1-1, 3, 2; penultimate 1, 3, 3, 1-1, 3, 3, 2; last pair 1, 3, 3, 0-1, 3, 3, 1.

Posterior pair of feet rather short, not swollen.

Claw of the female genitalia tripartite, the middle lobe by far longer than the others, which are small and indistinct; spines short and robust, the inner shortest.

Length of body 9-11^{mm}; last pair of legs 3^{mm}.

Habitat.—Bloomington, Ind.

I have over a dozen specimens of this species.

7. *Lithobius trilobus*, sp. nov.

Brown; head and the last 3-4 segments darkest; feet and ventral laminae gray-brown; tip of antennæ and prehensorial feet chestnut.

Rather slender, but wide and thin, moderately smooth; sparsely pilose, the ventral laminae more densely.

Head obcordate, a little longer than wide (6.5:6.2); nearly smooth; sparsely pilose.

Antennæ short, joints 20, mostly short, the last moderately long and blunt; densely pilose.

Ocelli 18-25, arranged in 7-8 series.

Prosternal teeth 4, small and indistinct.

Coxal pores 3, 4, 4, 3-4, 5, 5, 4, large and round.

First pair of feet armed with 1, 3, 1 spines; penultimate 1, 3, 1, 0-1, 3, 2, 1; last pair 1, 3, 1, 0.

Posterior pair of feet moderately long, not swollen; in the male the fifth joint is produced into a short lobe on the inner side.

Claw of the female genitalia wide, tripartite, the middle lobe not much longer than the others; spines rather short and stout.

Length of body 10-12^{mm}; last pair of legs 3.5^{mm}.

Habitat.—Bloomington, Ind.

This species is described from a number of specimens.

It is easily distinguished from the preceding by the claw of the female genitalia and by the greater number of ocelli.

8. *Lithobius cardinalis*, sp. nov.

Brown; head, tip of antennæ, and last pair of legs chestnut; ventral laminae and feet light.

Slender, smooth; sparsely pilose.

Head large, subcircular, wider than long (7:6); sparsely pilose.

Antennæ short, joints 20-31, rather short and thick; densely pilose. Ocelli distinct, 9-10, in 4-6 series.

Prosternal teeth 4, small and indistinct.

Coxal pores 2, 2, 3, 2-2, 4, 3, 2, round.

Spines of the first pair of feet 2, 3, 2; penultimate 1, 3, 3, 1; last pair 1, 3, 3, 1-1, 3, 3, 2.

Posterior pair of feet moderate, not swollen. Claw of the female genitalia wide, tripartite, the middle lobe not much longer; spines short and robust, the inner shortest.

Length of body 6-9^{mm}; last pair of legs 2-2.5^{mm}.

Habitat.—Bloomington, Indiana.

This species is common; I have taken it mostly under boards laid on a heavy growth of grass in the spring.

Subgenus *Lithobius* Stuxberg.

9. *Lithobius howei*, sp. nov.

Brown; head chestnut, antennæ very dark, feet and ventral laminae pale.

Robust, not smooth, more so posteriorly; sparsely pilose.

Head large, subquadrate, a little wider than long; sparsely pilose.

Antennæ short, joints 20, mostly long; densely pilose.

Ocelli distinct, 25, arranged in 7, very oblique series.

Prosternal teeth 6, small.

Coxal pores 5, 5, 6, 5, large and oval.

Spines of the first pair of feet 2, 3, 2; penultimate lost; last pair 1, 3, 3, 1.

Last pair of feet rather long.

Length of body 15^{mm}; last pair of legs 7^{mm}.

Habitat.—Fort Snelling, Minn. (Walter D. Howe.)

This species is described from one made in a rather bad condition, collected by my friend and fellow-student Mr. Walter D. Howe, after whom the species is named.

10. *Lithobius* ? *aztecus* Humbert & Saussure.

Lithobius aztecus Humbert & Saussure, Rev. & Mag. Zool., 2^e ser., xxi, 156, 1869.

Brown; scuta margined posteriorly with dark; head and antennæ dark; prehensorial feet and tip of antennæ rufus; feet and ventral laminae very pale.

Robust, not smooth, more so posteriorly; sparsely pilose.

Head large, subquadrate, a little wider than long (4.5: 4); nearly smooth, sparsely punctate; a few hairs scattered over the surface.

Antennæ moderate, joints 31, rather densely pilose.

Ocelli 27, arranged in 8 series, rather crowded together.

Prosternal teeth 12, the inner very small, the rest of an even size.

Coxal pores 7, 7, 6, 5, round and small.

Spines of the first pair of feet, 2, 3, 2; penultimate, 1, 3, 3, 2; last pair 1, 3, 3, 2.

Last pair of feet moderately long and swollen.

Claw of the female genitalia not wide, indistinct tripartite, the middle lobe much longer; spines slender, the inner shortest.

Length of body, 15^{mm}; last pair of legs 9^{mm}.

Habitat.—Ukiah, Cal. (J. H. Burke), and Mexico.

This species is described from one female, from the former locality, which has the antennæ and posterior legs broken off. Having only a short description of *aztecus*, I do not feel sure of my identification, although it agrees with it as far as it goes.

11. *Lithobius forficatus* Linnaeus.

Scolopendra forficata Linnaeus, Syst. Nat. Ed. x, I, 638, 1758.

Lithobius forficatus Leach, Edinb., Encycl., vii, 408, 1815.

Brown, of varying shades; feet and ventral laminae paler; tip of antennæ rufus.

Robust, not smooth; a little hirsute, especially posteriorly, and along the edges of the dorsal laminae.

Head large, subquadrate, much wider than long (8: 5.5), rough, punctate, especially the frontal plate.

Antennæ long, joints 33-43, mostly short, densely hirsute.

Ocelli distinct or not, 23-48, arranged in 6-8 series.

Prosternal teeth moderate, 8-12.

Coxal pores 6, 6, 6, 4-9, 10, 9, 6, transverse or round in younger specimens.

Spines of the first pair of feet, 2, 3, 2; penultimate, 1, 3, 3, 2; last pair 1, 3, 3, 2.

Posterior feet long, not much inflated.

Claw of the female genitalia trilobed, the middle lobe much longer; spines short, robust, the inner shortest.

Length of body, 18-28^{mm}; last pair of feet 10^{mm}.

Habitat.—Eastern United States.

I have examined about a dozen specimens of this species from Ludington, Mich., and one from Bloomington, Ind. One female has the claw of the genitalia four-lobed—having two divisions on the inner side of the middle lobe.

The following is a description of a young specimen:

Antennæ 32 jointed.

Ocelli 14, in 6 series.

Prosternal teeth 6-10.

Coxal pores 3, 3, 3, 3, round.

Spines of the first pair of feet, 2, 3, 2; penultimate 1, 3, 3, 1; last pair, 1, 3, 2, 0.

Length of body, 11^{mm}; last pair of feet 4^{mm}.

12. *Lithobius xanti* Wood.

Lithobius xanti Wood, Journ., Acad. Nat. Sci., Phila., 15, 1863.

Fulvous, feet, antennæ and ventral plates pale, head dark.

Robust, not smooth; sparsely pilose above, the ventral plate, densely pilose posteriorly.

Head moderate, obovate, not much wider than long (5.3 : 5); smooth, sparsely pilose.

Antennæ long, joints 20, all long.

Ocelli 12-15, arranged in 6 or 7 series.

Prosternal teeth 15-20, small, not coaduate on the inner side.

Coxal pores numerous, arranged in 3-5 series.

Spines of the first pair of feet 2, 3, 1; penultimate (1), 1, 3, 3, 2; last pair (1), 1, 3, 2, 0, or (1), 1, 3, 2, 1.

Last pair of feet long, slender, not swollen.

Claw of the female genitalia long, wide, tripartite, the middle lobe long, the inner very small; spines, 3 on each side, long, slender, and wavy.

Length of body 20-25^{mm}; last pair of legs 9-11^{mm}.

Habitat.—California and Oregon.

I have examined a number of specimens of this species from Ukiah, Cal., collected by Mr. J. H. Burke.

13. *Lithobius politus* McNeill.

Lithobius politus McNeill (MSS.).

Brown; head, antennæ and edges of dorsal plates dark; feet and ventral plates paler.

Robust, smooth pilose.

Head moderate, obovate, of about equal length and breadth; sparsely pilose.

Antennæ short, joints 20, mostly long.

Ocelli 15-18, arranged in 6 or 7 series.

Prosternal teeth 4, small.

Coxal pores 3, 4, 4, 3-5, 6, 6, 6, round.

Spines of the first pair of feet 1, 3, 2; penultimate 1, 3, 3, 1; last pair 1, 3, 2, 1.

Last pair of feet moderate, scarcely swollen.

Claw of female genitalia short, wide, tripartite, the middle lobe not much longer; spines short and thick, subequal, the outer sometimes indistinct, notched on the inner side.

Length of body 8-11^{mm}; last pair of legs 3-4^{mm}.

Habitat.—Dublin and Bloomington, Ind., and Ludington, Mich.

I have examined the types of this species from Dublin, Ind., besides a number of specimens from Ludington, Mich., and one female from Bloomington, Ind. The one from the latter place is larger; the coxal pores are also more numerous and of a larger size.

Subgenus *Neolithobius* Stuxberg.**14. *Lithobius mordax* Koch.***Lithobius mordax* Koch., Die Myriapodengattung *Lithobius*, 34, 1862.

Brown, ventral laminae, feet and tip of antennae light; prehensorial feet bright chestnut.

Robust, not smooth, more so posteriorly.

Head subcordate, slightly longer than wide; punctate.

Antennae long, joints 31-38, mostly small; densely pilose.

Ocelli numerous, 34-50, in 7-10 series.

Prosternal teeth 12-14, stout, conic, not crowded much together.

Coxal pores 7, 7, 6, 5-10, 10, 10, 9, large, nearly all transverse.

First pair of feet armed with 2, 2, 1-3, 3, 2 spines; penultimate 1, 3, 3, 2; last pair 1, 3, 3, 1 or 1, 3, 3, 2.

Posterior feet rather long, scarcely inflated.

Claw of the female genitalia large, trilobed, the middle one by far the largest; spines rather long and slender, the inner shortest.

Length of body 20-26^{mm}; last pair of legs 10-11^{mm}.

Habitat.—Indiana, Kansas, Louisiana, Mississippi, and Florida.

I have examined specimens of this species from Bloomington, Ind., and Pensacola, Fla. Those from the latter locality have the coxal pores more numerous, the spines of the first pair of feet less, and a lighter coloration. One specimen 18^{mm} long, from the same place, has the ocelli 25 in number.

15. *Lithobius clarus* McNeill.*Lithobius clarus* McNeill (MSS.).

Yellowish-brown; edges of scuta darker, antennae dark, tip rufus; ventral laminae and feet somewhat paler.

Rather slender, scarcely robust, smooth.

Head obcordate, length and breadth equal; a little rough.

Antennae moderately long, joints 26-30, becoming shorter towards the end, not densely pilose.

Ocelli moderate, 20-27, in 5-7 series.

Prosternal teeth 8, short, evenly separated.

Coxal pores few, 4, 4, 5, 3-4, 5, 5, 4, round.

Spines of first pair of feet 1, 3, 2-2, 3, 2; penultimate 1, 3, 3, 2; last pair 1, 3, 3, 1-1, 3, 3, 2.

Last pair of feet long, not inflated.

Claw of female genitalia broad, trilobed, the middle lobe about 1½ as long again as the others; spines moderately long and slender, the inner shortest.

Length of body 15^{mm}; last pair of feet 6^{mm}.

Habitat.—Pensacola, Fla.

The above description is taken from part of the type specimens. The following is a description of a young specimen:

Yellow; slender. Joints of antennae 28.

Ocelli few, 13, arranged in 5 series.

Prosternal teeth 8.

Coxal pores 4, 4, 4, 3.

Spines of first pair of feet 1, 2, 1; penultimate 1, 3, 3, 2; last pair 1, 3, 3, 1.

Length of body 11^{mm}; last pair of feet 4, 5^{mm}.

16. *Lithobius juvenus*, sp. nov.

Brown; head and antennæ dark, tip of latter fulvous, feet and ventral plates pale.

Slender, not smooth; sparsely pilose.

Head large, subcircular, of nearly equal length and breadth, nearly smooth; sparsely pilose.

Antennæ moderately long, joints 31, short; rather densely pilose.

Ocelli 10, arranged in 4 series.

Prosternal teeth 4, small.

Coxal pores 4, 4, 4, 3, round.

Spines of the first pair of feet (?) 1, 3, 2; penultimate 1, 3, 3, 1; last 1, 3, 3, 1.

Last pair of feet moderate, not swollen.

Claw of the female genitalia wide, short, tripartite, middle lobe longest; spines long and slender, subequal.

Length of body 9^{mm}; last pair of legs 3.5^{mm}.

Habitat.—Bloomington, Ind.

At first this species might be taken for the young of *mordax*. I have no young specimens of the latter on hand, but judging from Dr. Meindert's description of a specimen 15.5^{mm} long, it can easily be separated by the number of prosternal teeth (4 instead of 10), by the spines of the first pair of legs (1, 3, 2 instead of 2, 1, 1) and by the number of ocelli.

Subgenus *Eulithobius* Stuxberg.

17. *Lithobius multidentatus* Newport.

Lithobius multidentatus Newport, Trans. Linn. Soc., xix, 365, 1845.

Brown; varying from a deep mahogany to rather a light yellowish-brown; ventral laminae and feet paler; tip of antennæ, mouth parts and the last few joints of the hind legs rufus.

Rather strongly or moderately robust; not smooth, more so posteriorly.

Head subobcordate, wider than long (6:5), somewhat rough.

Antennæ short, joints 19-23, mostly long.

Ocelli numerous, 27-35, arranged in 7-8 series.

Prosternal teeth 14-18, rather short, stout, conic, not crowded together.

Coxal pores numerous, large and small, arranged in 3-5 series.

First pair of feet armed with 2, 3, 1-2, 3, 2 spines; penultimate 1, 3, 3, 1-1, 3, 3, 2; last pair 1, 3, 2, 1-1, 3, 3, 2.

Last pair of feet long, not swollen.

Claw of the female genitalia wide, tripartite; spines moderately long and stout, subequal, point of the inner sometimes curved inwards.

Length of body 25^{mm}; posterior legs 10^{mm}.

Habitat.—Eastern United States.

I have examined numerous specimens of this species from Bloomington, Ind., and Ludington, Mich.

Specimens 12^{mm} long differ from the adult as follows:

Violet-brown; head bright chestnut; antennæ and posterior legs lighter.

Antennæ moderate, joints 20, moderately long.

Ocelli 16-17, arranged in 6 series.

Coxal pores arranged in 2 or 3 series.

Length of last pair of legs 5^{mm}.

Specimens 10^{mm} long differ from the above in having 13 ocelli, arranged in 6 series; coxal pores in 1 or 2 series, and the spines of the first pair of feet 2, 3, 1; length of last pair of legs 3^{mm}, while those 5^{mm} long have the ocelli 8, in 5 series; coxal pores 2, 2, 2, 2, in 1 series; spines of the first pair of feet 1, 2, 1; length of last pair of legs 2^{mm}.

Family B.—SCUTIGERIDÆ Gervais.

Genus II.—SCUTIGERA Lamarek.

18. *Scutigera forceps* (Rafinesque).

Selista forceps Rafinesque, Annals of Nature, 7, 1820.

Scutigera forceps Meinert, Proc. Amer. Philos. Soc., Phila., 171, 1855.

Light brown, dorsal plates with three black stripes, the outer more or less broken, a greenish spot on the posterior border of each plate on each side of the median line; antennæ and tarsi brown, patella and tibia with two bluish bands, those of the last pair of legs dark, almost violet.

Robust, dorsal plates with obscure tubercles, spines numerous, arranged in almost regular series.

Cephalic plate large posteriorly, a moderate sulcus, not much impressed, margins not strongly elevated, moderately smooth, wider than long (6:5).

Antennæ rather slender, exceeding the length of body.

Dorsal plates moderately marginate, outer margin very sparsely spinulose, posterior margin strongly rounded, deeply excised in the middle, spines more numerous than on the outer margin.

Last dorsal plate narrow, with two indistinct transverse sulcations, sides rounded, not converging much, posterior margin obscurely excised.

All the stomata, except the first, of nearly equal length, first about 4 times in length of the dorsal plate.

Feet moderately carinated, spines rather numerous.

Last pair of feet a little more than twice as long as body, slender; tibia somewhat clavate, armed with two long, unequal spines.

Forceps of the female moderately short, sparsely pilose, on the inner side of the first joint a brush-like bunch of hair; the first joint longer than last (4:3).

Length of body 20-25^{mm}; last pair of legs 40-55^{mm}.

Habitat.—Eastern United States.

I have examined specimens of this species from Bloomington and New Harmony, Ind. *Scutigera linceei*, the only other species recorded from the United States, is much smaller and differs in color.

North American species of *Lithobiidae* and *Scutigeridae*.

The following is a list of the North and Central American species of *Lithobiidae* and *Scutigeridae* known to date.

I have used the following letters for the different Zoo-Geographical regions as given in the Report U. S. Entomol. Comm., No. 3:

B = Boreal (Canadian) Province.

E = Eastern (Atlantic) Province (n = north; s = south).

W = West Indian or Antillean.

C = Central Province.

P = Western (Pacific) Province.

C A = Central American.

Family A.—LITHOBIIDÆ.

Genus I.—HENICOPS Newport.

1. *Henicops fulvicornis* (Meinert). E n.

Genus II.—LITHOBIUS Leach.

Subgenus *Archilithobius* Stuxberg.

2. *Lithobius cardinalis* Bollman. E n.
3. *Lithobius pullus* Bollman. E n.
4. *Lithobius trilobus* Bollman. E n.
5. *Lithobius bilabiatus* Wood. E n.
6. *Lithobius tuber* Bollman. E n.
7. *Lithobius minnesota* Bollman. E n.
8. *Lithobius paradoxus* Stuxberg. P.
9. *Lithobius obesus* Stuxberg. P.
10. *Lithobius kochii* Stuxberg. P.
11. *Lithobius jowensis* Meinert. E n.
12. *Lithobius exiguus* Meinert. E n.
13. *Lithobius lundii* Meinert. E n.
14. *Lithobius toltecus* Humb. & Sauss. C A.
15. *Lithobius pusio* Stuxberg. P.
16. *Lithobius proridens* Bollman. E n.
17. *Lithobius monticola* Stuxberg. P.
18. *Lithobius bipunctatus* (Wood). P.

Subgenus *Hemilithobius* Stuxberg.

19. *Lithobius eucneris* Stuxberg. E.
 20. *Lithobius cantabrigensis* Meinert. E n.

Subgenus *Pseudolithobius* Stuxberg.

21. *Lithobius megaloporus* Stuxberg. P.

Subgenus *Lithobius* Stuxberg.

22. *Lithobius mexicanus* Perbosc. C A.
 23. *Lithobius pinctorum* Harger. P.
 24. *Lithobius howei* Bollman. E n.
 25. *Lithobius paucidens* Wood. P.
 26. *Lithobius mysticus* Humb. & Sauss. C A.
 27. *Lithobius aztecus* Humb. & Sauss. C A, P.
 28. *Lithobius forficatus* (Linnaeus). B, E n, E s.
 29. *Lithobius aureus* McNeill. E s.
 30. *Lithobius politus* McNeill. E n.
 31. *Lithobius saussurei* Stuxberg. C A.
 32. *Lithobius planus* Newport. (?) B
 33. *Lithobius xanti* (Wood). P.

Subgenus *Ncolithobius* Stuxberg.

34. *Lithobius transmarinus* Koch. E s.
 35. *Lithobius juvenis* Bollman: E n.
 36. *Lithobius latzeli* Meinert. E n.
 37. *Lithobius mordax* Koch. E n, E s.
 38. *Lithobius vorax* Meinert. E s.
 39. *Lithobius clarus* McNeill. E s.

Subgenus *Eulithobius* Stuxberg.

40. *Lithobius multidentatus* Newport. E n.

Family B.—SCUTIGERIDÆ Gervais.

Genus III.—SCUTIGERA Lamarek.

41. *Scutigera forceps* (Rafinesque). E n, E s.
 42. *Scutigera mexicana* (Humb. & Sauss). C A.
 43. *Scutigera linecci* (Wood). E s.
 44. *Scutigera elegans* Gervais. W.
 45. *Scutigera guildingii* (Newport). W.
 46. *Scutigera occidentalis* Meinert. C A.

INDIANA UNIVERSITY,

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