A NEW GENUS AND THREE NEW SPECIES OF CHILOPODS.

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Heretofore no Scolopendridæ of the sub-family Cryptopinæ have been reported from the Pacific States, and in consequence the author's present announcement of the finding of two new species belonging to this group in California will be of interest to myriapodists. Of these two species one belongs to the genus *Theatops*, making the third known from the United States, while the other represents a new genus, in some respects intermediate between *Cryptops* and *Theatops*. But two mature specimens of the latter species being in the collection, no detailed examination of the mouth parts has been possible, and accordingly a complete description of the genus is not now presented. Its general relationships will be understood from the diagnosis assigned in the analysis.

The new *Lithobius* here described belongs to that group in which the coxal pores are arranged in several series (*Bothropolys*). Its nearest relative, as seen from the key to the American species, is *Lithobius xanti* (Wood), which is found in California and Oregon, itself coming from the Wahsatch Mountains, Utah.

Analysis of the Genera of Cryptopinæ.

a_1.—Last dorsal plate not enlarged; anal legs but little crassate.
  b_1.—Ocelli present, single, . . . EREMOPS Bollman. 1.
  b_2.—Ocelli absent or indistinct.
    c_1.—First and second tarsal joints of anal legs toothed below; claw of anal legs unarmed; last pleuræ free, without processes; anal and genital segment very short, without a dorsal scutum, CRYPTOPS Leach. 2.
    c_2.—First and second tarsal joints of anal legs unarmed below; claw of anal legs armed with two spines; last pleuræ not exposed laterally, with strong processes posteriorly; anal and genital segment not shortened, dorsal scutum present, ANETHOPS gen. nov. 3.
a_2.—Last dorsal plate twice as long as the preceding; anal legs strongly crassate, ... THEATOPS Newport. 4.

Anethops occidentalis gen. et spec. nov.

Brown or fulvous brown, the feet paler; head punctate with moderately small punctæ, suboval, the posterior margin rounded; basal plate exposed; dorsal scuta lightly punctate, impressed with two deep marginal sulci, and upon the middle portion with six sulci, the two outermost and the two innermost indistinct, the intermediate ones deep; ventral scuta densely minutely punctate, each plate, excepting the three anterior and the three posterior, with a cruciform impression, the longitudinal sulcus wide and much deeper. Antennæ rather long, swollen at base, attenuated distally; articles 17, mostly rather short; densely clothed with short stiff bristles which become very short on the distal joints. Prosternal margin without teeth or spines, glabrous; coxal tooth small, black, acute. Legs sparsely aculeate distally; the first tarsal joint, excepting in the last pair, armed beneath with one spine and above with two, the second tarsal joint armed beneath with a spine, claws of all legs armed at base with two spines, tibiæ not armed. Anal legs scarcely swollen, not shortened, the third and the fourth joints not armed with teeth or spines. Last ventral plate wide, covering the pleuræ laterally, scarcely converging caudad, the posterior border widely sinuate; last pleuræ narrow, with conspicuous processes posteriorly, each ending in a stout, acute black point.

Length 33.5 mm., width 3 mm.; length of antennæ not quite 7 mm.

Habitat.—San Gabriel Canyon, Los Angeles county, Cal.

The type specimens were collected May 25, 1901, by Mr. Charles E. Hutchinson.

Etymology.—Genus: Greek ἄ, privative, ἦθος, character, and ὤψ, eye.

Key to American Species of Theatops.

a_1.—Femora of anal legs unarmed; none of the tibial or tarsal joints armed above; all tarsal joints armed beneath except the last two; processes of last pleuræ unarmed with spines, *posticus* (Say). 1.

a_2.—Femora of anal legs armed with one or two spines at the superior interior angle; tibiæ, except the last three, armed above; tarsal joints, except in last two pairs, armed above and beneath (first tarsal joint of first legs not armed beneath); processes of last pleuræ unarmed with spines, *spinicaudus* (Wood). 2.

a_3.—Femora and tibiæ of anal legs armed with a single spine at the inferior angle; tibiæ, except of anal legs, unarmed; first tarsal joint, except in last pairs, armed above and below with one spine, second joint armed beneath; processes of last pleuræ with a stout spine, . . *californiensis*, sp. nov. 3.

1. Theatops posticus (Say).

Cryptops postica Say (1821).
Theatops postica Newport (1844).
Opisthemega postica Wood (1862).
Opisthemega crassipes Meinert (1886).
Theatops crassipes Bollman (1888).

Habitat.—Eastern United States, south of Virginia, Indiana and Illinois.

2. Theatops spinicaudus (Wood).

Opisthemega spinicauda Wood (1862).
Theatops spinicaudus Bollman (1888).

Habitat.—Acapulco, Mex., and southwestern United States, extending northeast through Tennessee to Pennsylvania.

3. Theatops californiensis spec. nov.

Brown, feet and antennæ yellowish; head sparsely punctate, suboval, posteriorly truncate; dorsal scuta sublightly, sparsely punctate, deeply bisulcate, first plate triangularly impressed anteriorly; ventral plates sparsely lightly punctate. Articles of the antennæ 17, terminal articles densely shortly hirsute, median and basal joints sparsely shortly hirsute. Prosternal teeth 3–3, large, short; coxal tooth large, stout, obtuse. None of the tibiæ armed either beneath or above; first joint of tarsus, except in ultimate and penult pairs, armed below and above with one spine, the second tarsal joint armed beneath. Anal legs much crassate, contiguous, moderately short, claw long, strong, superior internal margin carinate; femur armed on the inferior interior margin with a single, rather stout tooth; tibia armed similarly to femur. Last ventral plate long, wide, the sides scarcely sinuate, strongly converging posteriorly, the posterior angles rounded, posterior border gently sinuate; last pleuræ wide, subsmooth, posteriorly widely sinuate, processes armed with a stout spine or tooth.

Length 41–46 mm.; width 4 mm.; length of anal legs 7–8 mm.

Habitat.—Near Quincy, Cal.

Found at a mining claim, altitude 3,500 feet, by Mr. Edward Garner.

Key to American Species of Lithobius, having the Coxal Pores in several series (Bothropolys).

a_1.—Posterior angles of none of the dorsal plates produced.

b_1.—Prosternal teeth 9–9; spines of first legs 2, 3, 1, of anal 1, 3, 2, 1; length 25–29 mm. *bipunctatus* (Wood). 1.

b_2.—Prosternal teeth 6–6; spines of first legs 2, 3, 2, of anal 1, 4, 3, 1–1, 4, 3, 2; length 18 mm., *monticola* Stuxberg. 2.

a_2.—Posterior angles of the 9th, 11th and 13th dorsal plates produced.

b_1.—Spines of first legs 2, 2, 1–2, 3, 1, of penult 1, 3, 3, 2; middle lobe of claw of genital forceps much longest, pointed; inner lobe much reduced; basal spines 3–3; antennæ long, ... *xanti* (Wood). 3.

b_2.—Spines of the first legs 2, 3, 2, of the penult 1, 3, 3, 1; middle lobe of claw of genital forceps not much longest, short and blunt, inner lobe subequal to outer, not reduced; basal spines 2–2, antennæ short, *permundus* sp. nov. 4.

a_2. —Posterior angles of 6th, 7th, 9th, 11th and 13th dorsal plates produced; prosternal teeth 7–7 to 9–9; spines of first legs 2, 3, 1–2, 3, 2, of anal 1, 3, 2, 1–1, 3, 3, 2, *multidentatus* Newport. 5.

1. Lithobius bipunctatus (Wood).

Bothropolys bipunctatus Wood (1863).
Lithobius bipunctatus Stuxberg (1877).

Habitat.—"West of Rocky Mountains" (Wood); Salt Lake, Utah, and Uintah counties, Utah (author).

2. Lithobius monticola Stuxberg.

Lithobius monticola Stuxberg (1875).

Habitat.—Sierra Nevada Mountains (*seq.* Stuxberg).

3. Lithobius xanti (Wood).

Bothropolys xanti Wood (1863).
Lithobius rugosus Meinert.
Lithobius xanti Stuxberg (1877).

Habitat.—California and Oregon (Wood, Bollman, author).

4. Lithobius permundus spec. nov.

Lithobius xanti Chamberlin, Proc. U. S. N. Museum, Vol. XXIV, p. 24 (1901).

Body robust, polished; head but little wider than long, sparsely punctate, especially anteriorly, sparsely pilose; dorsal scuta nearly glabrous except at margins, weakly furrowed, the furrows in part

more or less converging anteriorly or parallel, not raised into rugæ; ferruginous, the head and the last dorsal and ventral plates usually darker, coloration of head deeper immediately caudad to the frontal suture. Antennæ rather short, pilose; articles 20–23, large, decreasing in size from first to last. Ocelli on each side in an oblong to narrowly oval patch, 16–25 in number, arranged in 3–5 longitudinal series. Prosternal teeth 7–7 to 9–9, black, uniform. Spines of first legs 2, 3, 2, of penult 1, 3, 3, 1 with 2 claws, of anal 1, 3, 2, 1 with the claw single; coxæ of the last two pairs of legs armed beneath and also laterally with a stout spine. Coxal pores usually of several sizes, numerous (often 25 and over), arranged in 2–4 series. Claw of genital forceps of female tripartite, the middle lobe a little longest, the lateral subequal, all short and blunt; basal spines 2–2, moderately stout, the outer pair longer and stouter than the inner.

Length 19–27 mm.; width 2–3 mm; length of anal legs 8–11 mm.; length of antennæ 8–11.5 mm.

Juvenis.—Specimens 13–15 mm. long measure 1.5 mm. in width; length of anal legs 4.5 mm.; length of antennæ 5 mm. Color brown. Ocelli 10–15 in 2–3 series. Prosternal teeth 5–5 to 7–7. Spines of the first and penult pairs of legs normal, those of the anal pair normal or 1, 3, 2, 0. Coxal pores 6–12 in 2–3 series.

Habitat.—Along the middle and lower courses of canyon streams throughout the greater extent of the Wahsatch Mountains, Utah.

Etymology.—Latin *permundus*, very elegant.

5. Lithobius multidentatus Newport.

Lithobius multidentatus Newport (1845); *id.* Gervais (1847).
Bothropolys nobilis Wood (1863).
Bothropolys multidentatus Wood (1865).
Lithobius multidentatus Stuxberg (1877).

Habitat.—Eastern United States, south from Missouri, Illinois Michigan and Pennsylvania (*seq.* Wood, Bollman *et al.*).