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Colactoides grandis, n. gen., n. sp., a new callipodoid milliped from Chihuahua (Schizopetalidae: Tynommatinae: Colactidini)

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ABSTRACT

Colactoides grandis, n. gen., n. sp., is described from a male and female collected along the Urique River, Chihuahua, Mexico, probably within Parque Nacional Barranca del Cobre. The third component of the schizopetalid tribe Colactidini, *Colactoides* is characterized by large body size, large gonopods that project well beyond the exoskeleton, and inflated 6th and 7th segments in the male. The gonopod structure resembles that in *Colactis*, but the coxal process is absent, and a setose, dactyliform projection arises from the lateral surface of the telopodite proximal to midlength. This structure appears to be homologous to the setose, dactyliform, terminal projection on the coxal process of *Colactis*. The disribution of the Colactidini is extended southward to southern Sinaloa, with the collection of a female from east of Mazatlan.

INTRODUCTION

In western United States and northwestern Mexico, the diplopod order Callipodida is comprised of three tribes in the subfamily Tynommatinae, family Schizopetalidae: Colactidini, Diactidini, and Tynommatini (Shelley 1996). The Colactidini is the most widespread and occupies three separate areas, the largest of which extends from eastcentral Utah and California east of the Sierra Nevada to

western Chihuahua, northwestern Durango, and an unknown distance of Sinaloa. It is comprised of two genera, *Colactis* and *Heptium*, both authored by Loomis (1937), with four and two species, respectively. While recently sorting milliped samples at the California Academy of Sciences (CAS), I discovered a large-bodied colactidinine from Chihuahua that clearly represents a third tribal genus. The gonopodal configuration is similar to that of *Colactis*, but the structures are much larger, extend well beyond the exoskeletal margin and are clearly visible *in situ*, and lack separate coxal processes. In *Colactis*, the coxal process possesses a setose, dactyliform, terminal projection; in the new form, such a structure arises from the lateral margin of the telopodite proximal to midlength. Because of this similarity with *Colactis*, I propose the new genus, *Colactoides*, which requires a modified tribal diagnosis and a new generic key.

I thank Charles. E. Griswold for the opportunity to examine unsorted CAS millipeds.

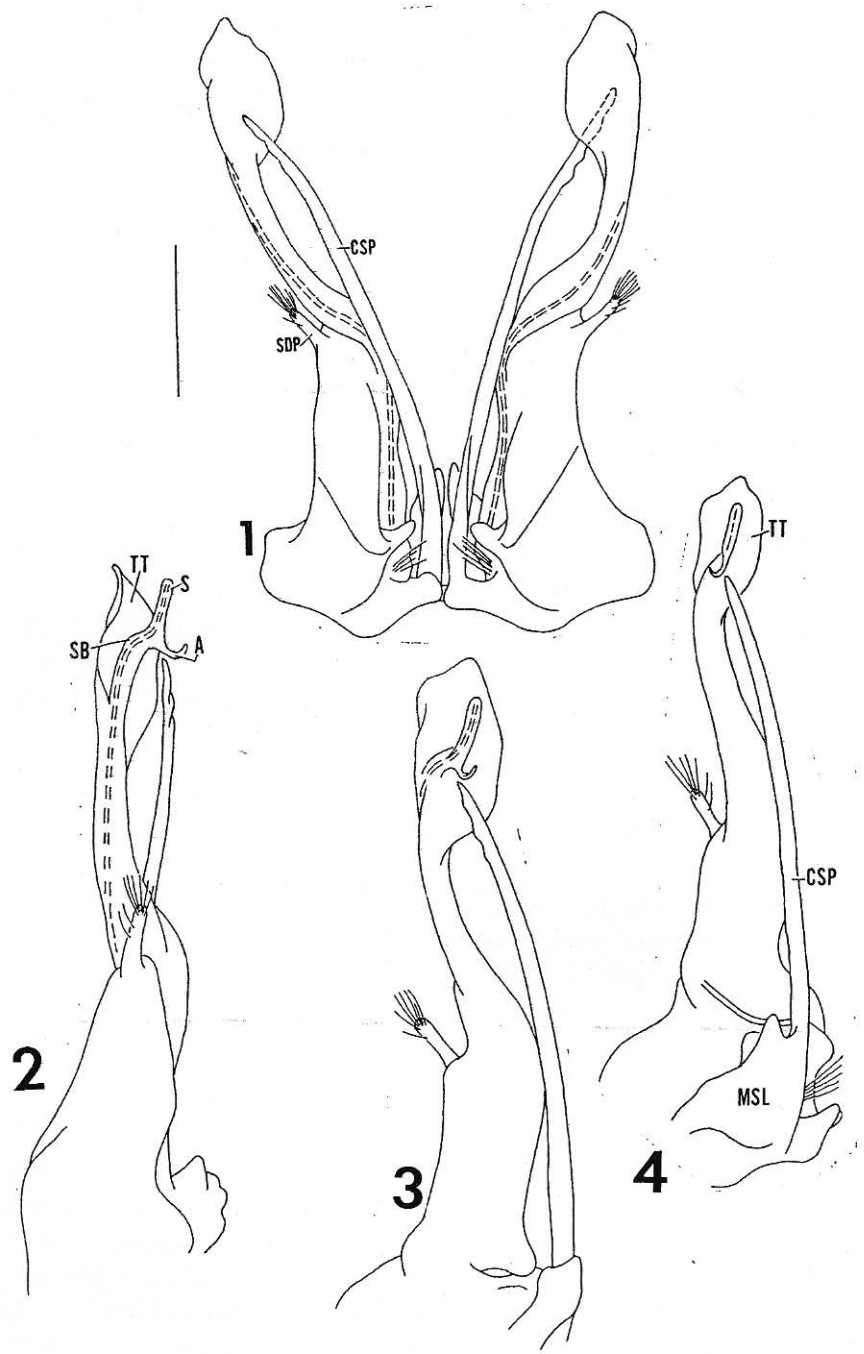
TRIBE COLACTIDINI

Colactidini Hoffman, 1980:121. Shelley, 1996:30-31.

Diagnosis. Moderate-size to large Tynommatinae with uniformly brownish-gray coloration; inner primary crests on segments 3-5 subparallel; transition to full complement of dorsal carinae occurring on segments 16-19; 7th male legs subequal to or much shorter than 6th; 6th and 7th segments of males either inflated or not, gonopodal aperture conspicuous or inconspicuous.

Gonopods either minute, barely extending beyond exoskeletal margin, barely detectable in situ, and closely appressed to 7th legs, or large, extending well beyond exoskeletal margin, clearly visible *in situ*, and well segregated from 7th legs; sternum medially reduced, without anterior sternal plates and flagella, with variably large medial sternal laminae directed ventrad and oriented perpendicular to coxae, laminae with or without variably long caudal sternal processes extending for varying distances along telopodite stem; coxae narrowly segregated in midline; coxal process present or absent, arising from lateral coxal surface when present, with variably long, apically setose, dactyliform to subovoid terminal projection, when absent, telopodite with apically setose, dactyliform projection on lateral margin proximal to midlength; telopodite arising from caudal side of coxa, without prefemoral process, with or without aforementioned lateral projection proximal to midlength, divided distad into two coaxial projections, solenomere branch located laterad to tibiotarsus, redivided, process 'A' present.

Distribution. The three general areas occupied by members of this tribe were defined by Shelley (1996, figs. 22, 76). The new genus occurs within the inner-most/easternmost region, which now extends nearly the entire length of Sinaloa because of the first definite record from this province, a small-bodied female in the



Figs. 1-4. *Colactoides grandis*, holotype. 1, gonopods and sternum, caudal view. 2, left gonopod, lateral view. 3, the same, anterior view. 4, the same, medial view. A, process 'A'; CSP, caudal sternal process; MSL, medial sternal lamina; S, solenomere; SB, solenomere branch; SDP, setose dactyliform projection; TT, tibiotarsus. Scale line = 1.00 mm.

CAS from Copala, a community on highway 40 east of Mazatlan. Other new, small, female colactidinines at the CAS were taken at Bahia Kino and 15-20 km (9.4-12.5 mi) E Baviacora, Sonora. These individuals are assigned to *Colactis tiburona* Chamberlin, the only callipodid species known from this part of Mexico; their localities are incorporated into fig. 5 herein.

Components. *Colactis* Loomis, *Heptium* Loomis, *Colactoides*, new genus.

Remarks. I take this opportunity to correct an important error in my previous revision (Shelley 1996). The "lateral sternal lamina" described in the tribal account and the generic diagnoses of both *Colactis* and *Heptium*, and labeled "LSL" in figure 4 of that publication, is really medial; the "coxal process" ("CP") is lateral. The captions for figs. 4, 6, 8, 10, 12, 14, 16, 19, and 21 correctly state that these are medial views, but the sternal laminae are mislabeled as being lateral. The discrepancy between this orientation and my terminology and labeling escaped my attention previously. The structure is correctly referenced as "medial sternal lamina" herein and labeled "MSL" in figs. 1-4.

KEY TO GENERA OF THE COLACTIDINI

1. 7th male legs much shorter than 6th, with glabrous, sclerotizied, spiniform projection arising from distomedial corner of coxae. . . . . *Heptium* Loomis
– 7th male legs subequal in size to adjacent legs, without spiniform coxal projection 2

2. Gonopods minute, barely extending beyond exoskeletal margin and barely detectable *in situ*, with laminate, apically setose and dactyliform, coxal process . . . . . *Colactis* Loomis
– Gonopods large, extending well beyond exoskeletal margin and clearly visible *in situ*, without separate coxal process, with apically setose, dactyliform projection arising from telopodite proximal to midlength. . . . . *Colactoides*, new genus

Colactoides, new genus

Type species. *Colactoides grandis*, new species.

Diagnosis. Transition to full number of dorsal crests on segment 19; 6th and 7th segments of male noticeably inflated; 7th male legs subequal to 6th, podomeres of normal proportions; gonopods large and conspicuous, extending well beyond exoskeletal margin; medial sternal lamina conspicuous, moderatly laminate, with long, flagellate, caudal sternal process extending to just beyond level of telopodal division point; coxal process absent; telopodite without prefemoral process, with lateral, apically setose, dactyliform projection proximal to midlength, tibiotarsus expanded and laminate, extending beyond level of distal extremity of solenomere and obscuring latter in caudal view; process `**A**' uncinate and inconspicuous, much shorter than solenomere, without marginal spur.

Distribution. Known only from southwestern Chihuahua, an unknown distance south of, but in the general vicinity of, the record of *Colactis tiburona* from Creel (Fig. 5).

Remarks. With the same general gonopod plan, aside from the absence of the coxal process and the presence of the setose, dactyliform projection on the lateral surface of the telopodite, *Colactoides* is clearly a derivative of *Colactis*. Its species closely resembles the most geographically proximate species of *Colactis*, *C. tiburona* (Chamberlin), occurring in the same general area of Chihuahua. They share the same general telopodal configuration and the long caudal sternal process, which extends distad to the level of the division point. The telopodal projection is similar in configuration to the apically setose, dactyliform, terminal projection on the coxal process in *Colactis* in general and *C. tiburona* specifically, which is also on the lateral side of the telopodite. Concordance in these attributes strongly suggests that the structures are homologous, as if the coxal process fused basally with the telopodite, leaving its projection arising from the lateral telopodal surface.

The degree of isolation required for generic distinction and its proximity to *Colactis*, as represented by the record from Creel, suggest that *Colactoides* has a restricted distribution and likely occupies a secluded gorge or cliff face in this topographically rugged area. Its discovery suggests that other new schizopetalids await discovery in remote areas of northern Mexico, particularly in the Sierra Madre Occidental.

Colactoides grandis, new species
Figs. 1-4

Type specimens. Male holotype and female paratype (CAS) collected by R. E. Stecker, 4-10 May 1991, along the Urique River ca. 5 mi (8 km) SW Tejaban, Chihuahua, Mexico. Tejeban is not shown on maps available to me, but the Urique River is prominent in the southwestern corner of Chihuahua near the borders of Sonora and Sinaloa. The type locality is probably within Parque Nacional Barranca del Cobre.

Diagnosis. With the characters of the genus, the most immediately obvious being the large size of the body, the inflated 7th segment, and the long gonopods that extend well beyond the exoskeletal margin (Figs. 1-4).

Variation. The male has 70 segments and measures approximately 64.4 mm in length and 40 mm in width. The female is considerably shorter and smaller, possessing only 57 segments and measuring about 40.1 mm in length and 3.0 mm in width.

Distribution. Known only from the type locality (Fig. 5).

Remarks. The specific name denotes the large body-size of this milliped, the largest representative of both the tribe Colactidini and the subfamily Tynommatinae.

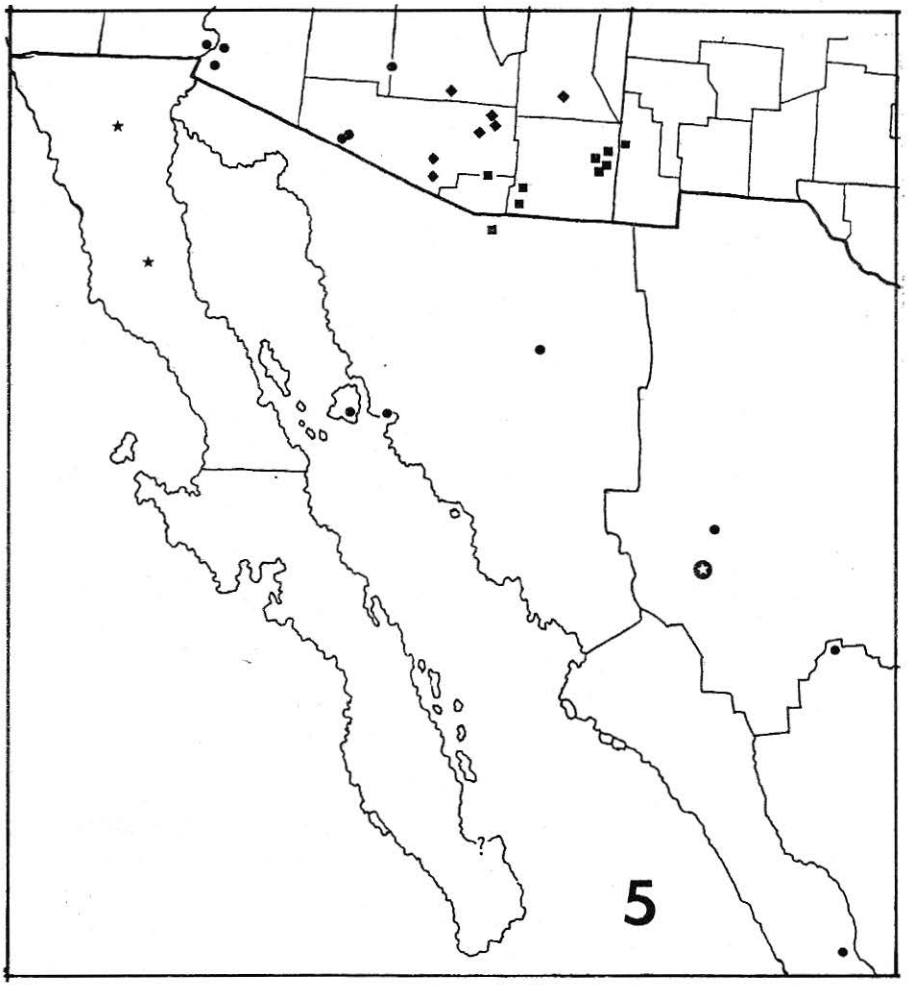


Fig. 5. Distribution of the Colactidini in northcentral Mexico and adjacent United States, showing the eastern and southern parts of Baja California. Dots, *Colactis tiburona*; squares, *C. quadrata* Loomis; stars, *C. protenta* Loomis; diamonds, *C. utorum* (Chamberlin); question mark, *Colactis* sp.; star in dot, *Colactoides grandis*.

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