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A New Milliped of the Genus *Colactis* from Mexico (Chordeumida, Lysiopetalidae)

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Crested millipeds of the family Lysiopetalidae are primarily Holarctic in distribution, most of the known genera occurring in southern Europe, Asia Minor, and the United States. Although in the excellent treatment of the American forms by Loomis (1937) there were described a considerable number of species from the southwestern states, only a very few are known from Mexico. It is therefore of interest to add another member of the family to the known diplopod fauna of that country. The occurrence of this species in Durango also is significant in providing a substantial southward extension of the range of the family as well as of the genus *Colactis*.

The specimen upon which this paper is based was discovered among unworked material in the collection of the American Museum of Natural History, and I would like to express my appreciation to Dr. Willis J. Gertsch for permission to study the millipeds under his charge.

COLACTIS LOOMIS

Colactis LOOMIS, 1937, Proc. U. S. Natl. Mus., vol. 84, p. 120 (generotype, *C. saxetana* Loomis).

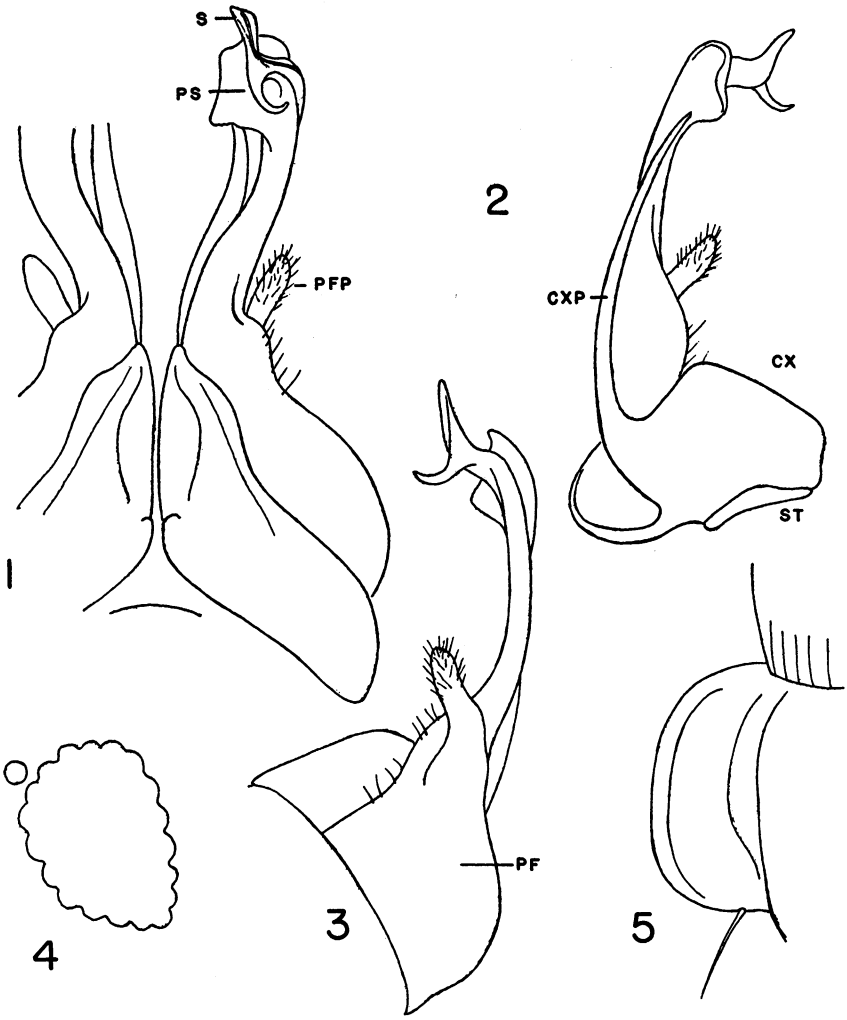
Colactis loomisi, new species [1]

Figures 1–5

TYPE: Adult male from Providencia (7700 feet), State of Durango, Mexico; collected by G. M. Bradt on August 24, 1947.

DIAGNOSIS: This form is similar to *C. quadrata* Loomis, to which it runs out in Loomis's key, but differs in size, number of ocelli, shape of

[1] Named for Mr. H. F. Loomis, to whom students of American Diplopoda are indebted for his painstaking and invaluable studies of several difficult milliped groups.



FIGS. 1–5. *Colactis loomisi.* 1. Gonopods of male, caudal aspect. 2. Left gonopod, mesial aspect. 3. Left gonopod, lateral aspect. 4. Outline of eye cluster and organ of Tomösvary. 5. Outline of poriferous carina near middle of body, seen from above. *Abbreviations:* CX, coxa; CXP, coxal process; PF, prefemur; PFP, prefemoral process; PS, parsolenomerite; S, solenomerite; ST, sternite.

the poriferous carinae, and in several respects as regards the male genitalia.

DESCRIPTION: Male, 35 mm. long and 2.9 mm. wide, with 60 segments.

Eye cluster subquadrate, with about 42 ocelli in seven rows counting

downward from the front of the head, organ of Tomösvary at the ends of the second and third rows, about the size of an ocellus.

Segment 1 with 10 crests as usual, these subparallel and not occupying the front half of the segment.

Transition to full number of primary crests occurs on segment 16.

Sculpture of the segments corresponds exactly to Loomis's detailed description of *C. quadrata.*

Poriferous carinae as seen in dorsal aspect with both the anterior and posterior corners broadly rounded off instead of definitely angular as in *quadrata* (fig. 5).

Gonopods as represented in figures 1–3. Differences from the genitalia of *quadrata* obtain in the larger, arcuate parsolenomerite and much smaller coxal plate which does not exceed the prefemoral process as in *quadrata.*

RELATIONSHIPS: Judged from the general similarity in most respects, this form may eventually prove to be only subspecifically related to *quadrata.* At the present, however, considerable distance intervenes between the known populations of *quadrata* in Arizona and *loomisi* in Durango, and use of the binomial seems justifiable until the existence of intermediate populations is demonstrated.

NOTES ON MALE GENITALIA

Loomis's very thorough revision of the American species of Lysiopetalidae leaves but one thing to be desired, that being a consideration of the comparative morphology of the gonopods. I have endeavored, after examination of specimens of several genera as well as published illustrations, to establish some homologies and suggest a tentative terminology for the parts of these important appendages.

In the Lysiopetalidae apparently only a single pair of legs of the seventh segment is modified into gonopods. These are more or less separate from each other, being connected only by a small, strongly chitinized transverse band, which I assume to represent the sternite of the segment. Each of the gonopods is divided by more or less readily perceptible sutures into several parts, a differentiation that is carried to the greatest extreme in the American genus *Abacion* (= *Spirostrephon* of traditional usage) and that is but moderately developed in *Colactis* and the other genera of the Sonoran region. Attached to the sternite is a rather thin, oblong or subtriangular piece which is distally drawn out into a long slender process. I propose to regard this part as representing the coxa. Distad to the coxal plate is a somewhat larger and more globose element bearing at its distal end a small upright setose process; this portion may

be considered the prefemur. It is generally well set off from the coxite, and much less so from the remainder of the appendage.

The prefemur generally bears a process of variable size and shape. In *Colactis* it is rather short, clavate, and setose; the corresponding development in *Abacion,* on the other hand, is much longer and more robust, generally with serrate edges or a series of denticles. This process serves very well as a reference point in the interpretation of the morphology of gonopods in different genera.

Distad of the prefemur is a slender trunk of variable length which may be considered as the femur. It is rarely if ever modified or ornamented. In certain genera, mostly the western groups, there is no articulation between the femur and the terminal parts of the gonopod, but in the genera of eastern United States and Europe a conspicuous joint is to be found. The distalmost elements of the lysiopetaloid gonopod are (1) a more or less spatulate lamina representing the tibiotarsus, and (2) a distinct solenomerite arising at the base of the tibiotarsal blade and quite distinct from it. The solenomerite itself is provided with one or more accessory processes, for which Verhoeff's term "parsolenomerite" may be adopted. Again the simplest developments are to be seen in the Sonoran genera, in which but a single parsolenomerite occurs, in contrast to the more complicated homologs of *Abacion* and *Delophon.* In the latter genera the tibiotarsal blade attains its greatest size and maximum utility as a protective shield.

It is planned to present a more exhaustive discussion of the male genitalia in a forthcoming revision of the genus *Abacion.*