

AMERICAN MUSEUM NOVITATES

PUBLISHED BY THE AMERICAN MUSEUM OF NATURAL HISTORY
CITY OF NEW YORK AUGUST 4, 1952 NUMBER 1583

A NEW RICINULID FROM CHIAPAS, MEXICO (ARACHNOIDEA, RICINULEI)

BY CLARENCE J. AND MARIE L. GOODNIGHT¹

The ricinulids represent a group of arachnids that has been but infrequently collected in the New World tropics. In Mexico only three species have been previously reported. Bolívar described two species from Mexican caves, and Chamberlin and Ivie described one from a cave in Yucatan.

During the summer of 1950, we had the opportunity of collecting arachnids on the Volcan Tacaná above Tapachula in the state of Chiapas. This area proved to be rich in species of all different types of arachnids, including a new species of ricinulid.

The field work was made possible by a grant from the Penrose Fund of the American Philosophical Society. The certain identification of the species was made possible through the kindness of Dr. E. Chapin of the United States National Museum who lent us an example of *Cryptocellus barberi* Ewing for study.

ORDER RICINULEI

RICINOIDIDAE

Cryptocellus spinotibialis, new species

Figures 1-10

Carapace slightly longer than wide (2 by 2.3 mm.), narrow and truncated in front (1.1 mm.), widened slightly towards the rear (1.6 mm.), with the widest portion in the center (2 mm.), posterior corners rounded. Carapace covered with small hairs, which are arranged in whorls around a central depression, and two short curved lateral depressions. Small tubercles are arranged on the lateral and posterior margins.

¹ Department of Biological Sciences, Purdue University, West Lafayette, Indiana.

Cucullus 1.2 mm. long by 1.7 mm. wide, truncated behind at its juncture with the carapace, thickly covered with hairs and small tubercles.

Chelicerae hidden within the cavity covered by the cucullus. Movable finger larger, armed with nine teeth of varying sizes. Large tooth preceded by three small basal teeth. Fixed finger with the end abruptly angled, with five teeth, the distal tooth being slightly larger. Distal segment at the base of the claws with many long, heavy hairs.

Abdomen longer than wide (4.4 mm. by 2.7 mm.), entire surface covered with small hairs. The 12 tergites arranged in rows of three's as indicated in the illustration. There are three pairs of small lateral depressions on the median tergites; one pair is located on each of the last three. Postabdomen consisting of three segments: first, 0.3 mm. long; second, 0.2; and third, 0.1. Ventrally the second segment has numerous tubercles and four obtuse projections. The two basal segments are clothed with hairs.

Parts of the venter arranged as in figure 2. Coxa I with a posterior row of small tubercles, coxa II with a few, coxa III also with a few, anterior tubercles. All coxa clothed with small hairs. Maxillary lobes of the coxa with tubercles. Venter of abdomen with three broad plates which correspond to the three posterior large rows of tergites. The anteriormost plate, corresponding to the first tergite, is very small and bears tubercles. It is grooved in such a way that the coxa of the fourth leg covers most of it. Three pairs of lateral grooves are present on the three main sternites.

Palpus: coxa, 0.4 mm. long; trochanter I, 0.4; trochanter II, 0.4; femur, 1.2; and tarsus, 1.8. Total length, 4.2 mm. Clothed throughout with hairs, a few tubercles on the trochanter and the distal portion of the last segment. Distal segment with two small terminal claws, the smaller one with a row of minute teeth.

Legs clothed throughout with hairs and tubercles, second leg large, with a small spine on either side of the tibia. Tarsal segments 1-5-4-5. Tarsus of second leg^{*} as in figure 9, with the fifth segment equal in length to the third and fourth together.

Entire animal a deep reddish brown. Depressions separating the tergites of the abdomen light brown.

TYPE LOCALITY: Female holotype and female paratypes from Finca Guatimoc, collected at an altitude between 4000 and 5000

MEASUREMENTS OF LEGS

	I	II	III	IV
Coxa	0.7 mm.	1.2 mm.	1.0 mm.	0.9 mm.
Trochanter I	0.5	0.8	0.6	0.5
Trochanter II			0.5	0.5
Femur	1.5	2.2	1.8	1.9
Patella	0.7	1.1	0.7	0.7
Tibia	1.2	2.0	1.0	1.1
Basitarsus	1.3	1.9	1.3	1.4
Tarsus	0.5	1.9	1.0	1.0
Total	6.4 mm.	11.1 mm.	7.9 mm.	8.0 mm.

feet on August 8 and August 12, 1950, by C. and M. Goodnight. Finca Guatimoc is located on the south slope of the Volcan Tacaná about 20 miles north of Tapachula, near the town of Cacahuatan, Chiapas.

VARIATION: In the collections made, two forms were taken. Some of these were identical with the holotype, while others demonstrated some distinctive variations. The chief differences were in the coloration and tuberculation. In those forms differing from the holotype, the color was much lighter, being yellowish brown. Further, the tuberculations covered the entire body, including the venter and coxae, the abdominal tergites, and the entire carapace. These tuberculations are more concentrated in the median and lateral depressions of the carapace and around the margins. There were some minor differences in size relationships. These can be seen from the following data:

Cephalothorax	
Length	1.8 mm.
Width at posterior end	1.7
Width at anterior end	1.0
Abdomen	
Length	3.7
Width at widest part	2.7
Cucullus	
Length	0.8
Width	1.3

MEASUREMENTS OF LEGS

	I	II	III	IV
Coxa	0.7 mm.	0.9 mm.	0.7 mm.	0.7 mm.
Trochanter I	0.3	0.5	0.6	0.5
Trochanter II			0.5	0.5
Femur	1.1	2.1	1.4	1.5
Patella	0.5	0.9	0.7	0.6

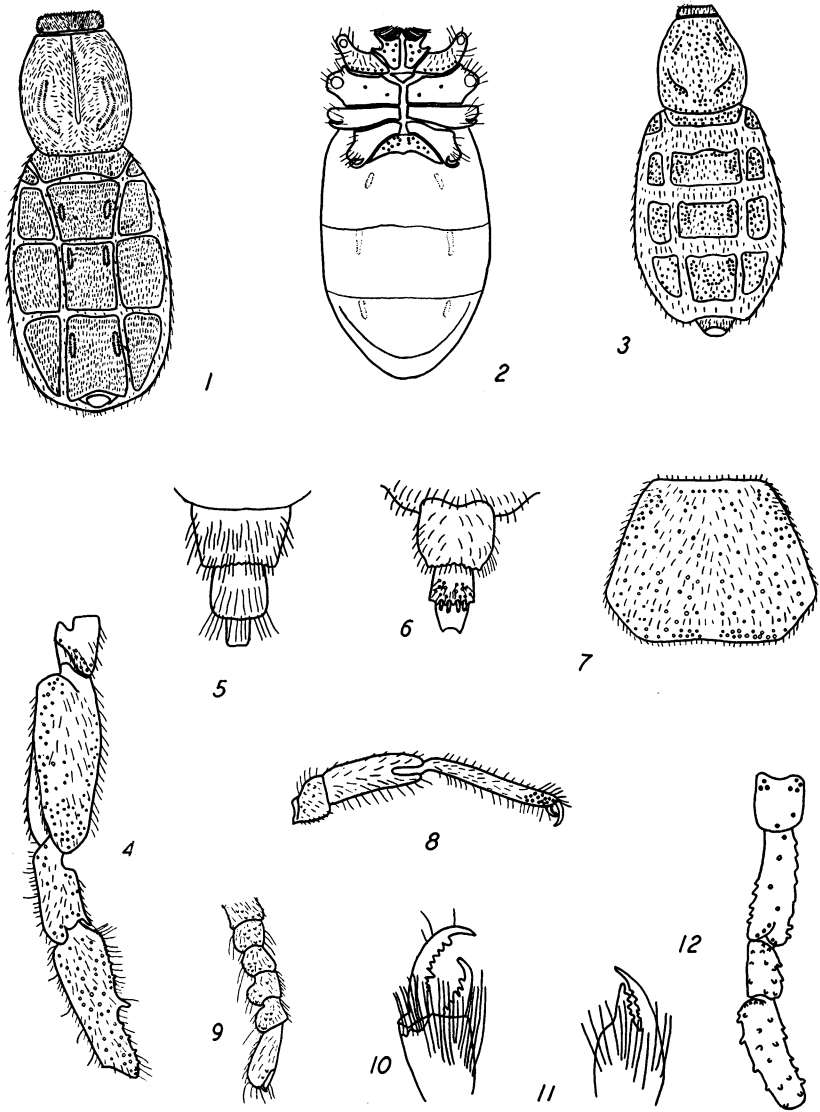
Tibia	0.9	1.7	0.9	0.9
Basitarsus	1.1	1.7	1.0	0.9
Tarsus	0.5	1.8	0.8	0.8
Total	<u>5.1 mm.</u>	<u>9.6 mm.</u>	<u>6.6 mm.</u>	<u>6.4 mm.</u>

Palpus: coxa, 0.3 mm. long; trochanter I, 0.3; trochanter II, 0.3; femur, 1; and tarsus, 1.5. Total length, 3.1 mm.

Owing to the fact that these animals are identical in all essentials and were collected together, we feel that the lighter forms probably represent a subadult stage. It appears that all the specimens studied were females, as they lacked the copulatory device of the tarsus of the third leg.

RELATIONSHIPS: This species shows affinities to *C. barberi* Ewing. A study of the type of the latter showed certain definite differences. *C. spinotibialis* is a much larger form, being 6.7 mm. long in contrast to the 2.8 mm. of *C. barberi*. *C. barberi* is without the tibial spine of the second leg, and the cheliceral teeth differ markedly as is illustrated.

ECOLOGICAL RELATIONSHIPS: These interesting animals were not found at the lower altitudes on Volcan Tacaná. The specimens collected were all found above 4000 feet, in all cases under rotting logs in the coffee-growing areas. Of interest was the fact that their appearance was apparently coincident with the beginning of the heavy rains following the moderately dry period of late July. The heavy rains of this volcanic area saturated the vegetation and the soil. Although the original tropical vegetation has long since been removed, there is a good cover of coffee trees and shading legumes. Thus the habitat remains relatively undisturbed for such moisture-loving, ground-dwelling arachnids. In all, seven specimens were collected. Three, including the holotype, were dark red; three were yellowish brown; and one was immature. The holotype and four of the paratypes are in the collection of the American Museum of Natural History; two paratypes are in the collection of Dr. A. Petrunkevitch of Yale University.



FIGS. 1-10. *Cryptocellus spinotibialis*, new species. 1. Dorsal view of female holotype. 2. Ventral view of female holotype. 3. Dorsal view of female paratype. 4. Retrolateral view of trochanter, femur, patella, and tibia of left second leg of female holotype. 5. Dorsal view of postabdomen of female paratype. 6. Ventral view of postabdomen of female paratype. 7. Dorsal view of cucullus of female holotype. 8. Retrolateral view of right palpus of female holotype. 9. Second tarsus of female holotype. 10. Frontal view of left chelicera of female holotype.

FIGS. 11-12. *Cryptocellus barberi* Ewing. 11. Frontal view of right chelicera of female type. 12. Retrolateral view of trochanter, femur, patella, and tibia of second leg of female type.

