

in length from the small basal tooth. Trichobothria apparently as recorded for *S. silvaticus* Chickering (1941). Three claws throughout also as recorded for *S. silvaticus*. Fourth tibia with a moderately well developed ventral brush; remnants of ventral brush on fourth metatarsus. All legs with much long yellow hair.

Abdomen: Longer than wide in ratio of about 3 : 1; widest at beginning of last fourth but sides nearly parallel from base to that point; somewhat flattened in last fourth, nearly cylindrical elsewhere. With a prominent anal tubercle having a somewhat bulbous base and conical distal part. Six spinnerets as usual in the genus. Colulus also normal to the genus. Tracheal spiracle a short distance anterior to the colulus, surrounded by stiff hairs. Holotype without a dorsal tubercle but some paratypes show a moderately well developed one similar to that noted in *S. zeteki* sp. nov.

Epigynum: Somewhat resembles that of *S. canaliculatus* F. Cambridge but quite distinct from it, nevertheless; the two main lobes nearly parallel; anterior ends more curved with openings more medial in position (Fig. 3).

Color in alcohol: Yellowish ground color of various shades with under parts all lighter. Legs, especially third and fourth, much streaked and and spotted dorsally with light reddish brown. Abdomen much streaked with light reddish brown dorsally. Carapace with reddish brown streaks in ocular area; immediately behind PME and dorsal to LE are patches of rich dark reddish brown.

Type locality: Female holotype from Canal Zone Biological Area, C. Z., August, 1950. Several female paratypes from the same region, July-August, 1950; Canal Zone Experiment Station, C. Z., July-August, 1950; Madden Dam Forest, C. Z., July, 1950.

LITERATURE CITED

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THREE NEW COSMETIDS (ARACHNIDA: OPILIONES) FROM WESTERN MEXICO

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During August of 1947, we had the opportunity to visit the area of San Blas, Nayarit in western Mexico. Mr. Borys Malkin accompanied us on this trip.

San Blas is located directly on the seacoast. Back of the town were numerous mangrove swamps, and beyond these plantations of oil palms. Much of the original vegetation was of the tropical deciduous forest type. Cultivation had resulted in the destruction of much of this forest. Col-

lections were made in the immediate vicinity of San Blas and along the road to the neighboring village of La Libertad.

Among the opiliones collected were three species of the family Cosmetidae which proved to be new. As was to be expected, all are related to other forms from this general area of western Mexico. All holotypes and paratypes are deposited in the collection of the American Museum of Natural History, New York.

Cynorta blasi, n. sp. (Fig. 1.)

Male holotype: Total length of body, 6.1 mm. Cephalothorax, 2.1 mm. Width of body at widest portion, 5.1 mm.

Dorsal scute smooth except for the median paired tubercles of the third area and the scattered granulations over the entire surface. Cephalothorax with several small projections at the anterior lateral margin. Each free tergite with a row of small granulations. Anal operculum with scattered small tuberculations. Each free sternite with a transverse row of tuberculations; coxae with scattered hairs and low granulations, the third coxa with two rows of teeth, one of which is anterior in position, the other posterior.

Legs with scattered hairs and a few low tubercles on the femora, patellae, and tibiae; third and fourth femora straight, not enlarged. Fourth metatarsus with six or seven widely spaced spines along the retro-lateral margin. Tarsal segments: 6-12-7-7. Distitarsus of first tarsus with three segments, of second, also with three. Basitarsus of first tarsus very slightly enlarged.

LENGTH OF LEGS (mm)

	I	II	III	IV
Trochanter.....	0.6	0.7	0.7	0.9
Femur.....	2.5	4.6	3.9	5.7
Patella.....	1.0	1.3	1.2	1.2
Tibia.....	1.6	3.3	2.3	4.6
Metatarsus.....	2.4	4.1	3.3	4.5
Tarsus.....	1.6	3.7	2.0	2.1
Total.....	9.7	17.7	13.4	19.0

Palpus: Trochanter, 0.6 mm long; femur, 1.0; patella, 0.9; tibia, 1.2; and tarsus, 0.6. Total length, 4.3 mm. Palpus characteristically flattened, clothed with hairs. Femur with a ventral row of teeth.

Chelicera normal, not enlarged, with a few tuberculations in the apical region.

Entire body of animal dark reddish brown, with a conspicuous white pattern on the dorsum as in figure 1. Details of the white flecking vary in different individuals, but all have the transverse white line on the posterior portion of the third area and the lateral white markings on the anterior part of the abdomen and cephalothorax. Appendages are somewhat lighter and mottled.

Female: Total length of body, 6.4 mm. Cephalothorax, 2.1 mm. Width of body at widest portion, 5 mm.

Female similar to male in appearance, but lacking the spines on the fourth metatarsus and the slight enlargement of the basitarsus of the first tarsus.

Type locality: Male holotype and male and female paratypes from San Blas, Nayarit. They were very abundant in the region of the beach. These were collected on August 6, 1947.

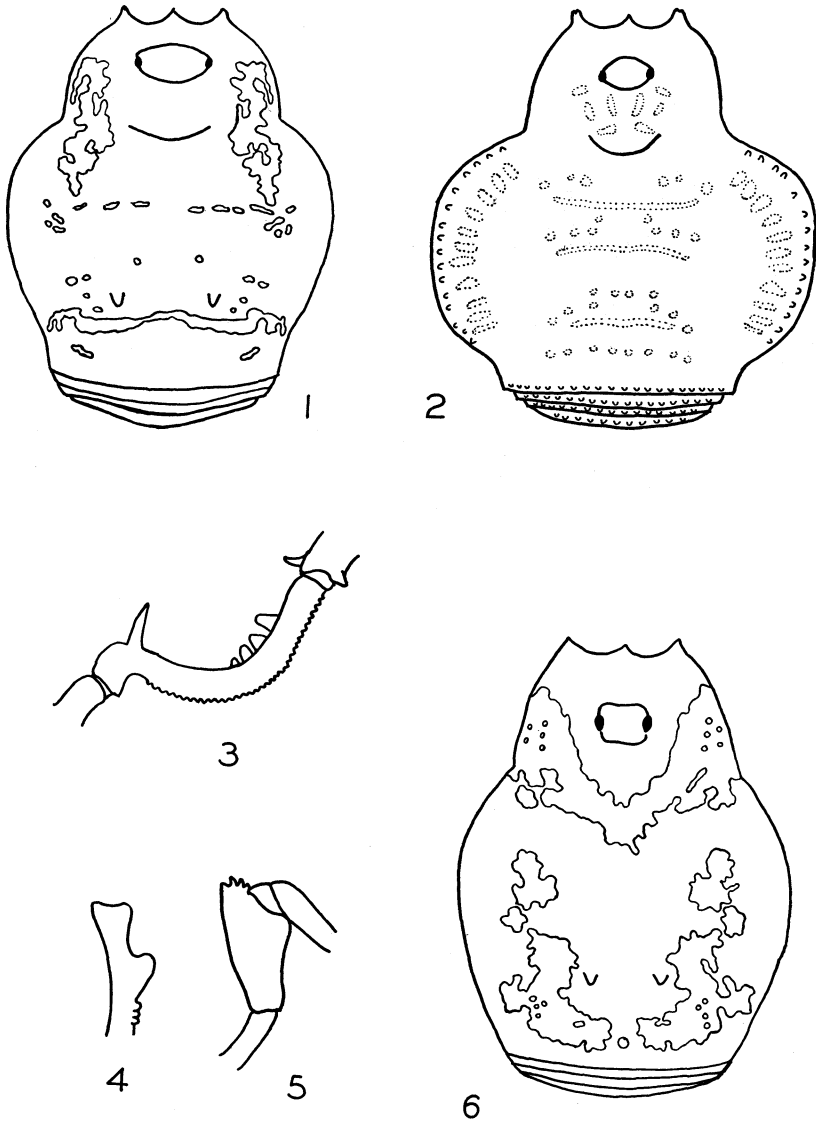


FIG. 1. *Cynorta blasi*, dorsal view of male holotype.
 FIG. 2. *Vonones malkini*, dorsal view of male holotype.
 FIG. 3. *Vonones malkini*, dorsal view of femur of right fourth leg of male holotype.
 FIG. 4. *Cynorta palmarum*, lateral view of proximal portion of metatarsus of fourth leg of male holotype.
 FIG. 5. *Cynorta palmarum*, lateral view of patella of fourth leg of male holotype.
 FIG. 6. *Cynorta palmarum*, dorsal view of male holotype.

Relationships: *C. blasi* n. sp. is related to *C. cardenasi* Goodnight and Goodnight from Acapulco, Guerrero. This form differs in the arrangement of the dorsal color pattern; it lacks the white V between the cephalothorax and abdomen. In addition, *C. blasi* lacks the dorsal spine of the fourth coxa.

Cynorta palmarum, n. sp. (Figs. 4, 5, 6).

Male holotype: Total length of body, 6.9 mm. Cephalothorax, 2.3 mm. Width of body at widest portion, 5.9 mm.

Entire dorsum including free tergites smooth, third area with a pair of very low spines, remaining areas without median armature. Anal operculum and free sternites with only a few minute granulations; coxae with scattered hairs and granulations. These granulations are somewhat larger on the first and second coxae. The fourth coxa with a small, dorsal apical projection.

Trochanters, femora, and patellae of legs smooth. Tibiae with small tuberculations which are more or less arranged in rows. Metatarsi smooth except for the fourth which has a few tuberculations. Except for its distal portion which is slightly curved and enlarged, the fourth femur is straight; the third femur is straight for its entire length. Fourth patella with a prolateral enlargement upon which are located several small spines. Proximal portion of fourth metatarsus with a prominent prolateral elevation which is conical in shape. Tarsal segments: 6-10-7-7. Distitarsus of first tarsus with three segments, of second, also with three.

LENGTH OF LEGS (mm)

	I	II	III	IV
Trochanter.....	0.7	1.5	0.9	1.1
Femur.....	3.3	7.2	5.4	8.2
Patella.....	1.1	1.6	1.4	2.5
Tibia.....	2.3	6.0	3.6	9.1
Metatarsus.....	3.3	6.2	4.6	4.5
Tarsus.....	2.0	4.4	2.0	1.9
Total.....	12.7	26.9	17.9	27.3

Palpus: Trochanter, 0.6 mm long; femur, 1.4; patella, 1.2; tibia, 1.9; and tarsus, 1. Total length, 6.1 mm. Palpus characteristically flattened, clothed with scattered hairs.

Chelicera normal, with scattered hairs, smooth except for a few small tuberculations on the dorsal portion of the proximal segment.

Dorsum dark reddish brown, with an elaborate white pattern (Fig. 6). Venter, palpus, and chelicera dark brown, mottled with lighter. Legs somewhat lighter brown in color.

Female: Total length of body, 6.3 mm. Cephalothorax, 1.8 mm. Width of body at widest portion, 5.6 mm.

Female similar in appearance to the male, but lacking the enlargements of the fourth leg. A few possessed tubercles on the first area, and some varied slightly in the pattern of the dorsum from that illustrated.

Type locality: Male holotype and male and female paratypes from San Blas, Nayarit, collected on August 6, 1947.

Relationships: Like *C. blasi*, this species is related to *C. cardenasi* Goodnight and Goodnight. It differs in the arrangement of the white

markings on the dorsum and more important in the possession of an unusual "hook" on the metatarsus and the enlargement of the patella of the fourth leg.

Vonones malkini, n. sp. (Figs. 2, 3)

Male holotype: Total length of body, 6 mm. Cephalothorax, 2 mm. Width of body at widest portion, 5.4 mm.

Dorsum smooth except for a few small granulations. Rows of low tubercles present along the lateral margin of the abdominal scute, along the posterior edge of the fifth area, and across each free tergite. Anterior lateral margin of the cephalothorax with several small spines. Anal operculum and free sternites with only a few very low tubercles. Coxae with scattered hairs and a few low tubercles. Third coxa with an anterior and posterior row of teeth; fourth coxa widely expanded, with a dorsal posterior projection.

Legs clothed throughout with hairs; first to third legs smooth. Third and fourth femora curved, but not greatly enlarged. Fourth leg armed as follows: Trochanter with two spines at the apical portion, one pro-lateral, the other retrolateral; femur abruptly curved with a row of four or five spines on the ventral surface of the proximal half, distal portion with a large spine on the retrolateral margin; patella, tibia, and meta-tarsus with low tuberculations. Tarsal segments: 5-8-6-6. Distitarsus of first tarsus with three segments, of second, also with three. Basitarsus of first tarsus somewhat enlarged.

LENGTH OF LEGS (mm)

	I	II	III	IV
Trochanter.....	0.5	0.6	0.7	0.8
Femur.....	2.4	4.6	3.7	3.7
Patella.....	1.0	1.2	1.3	1.5
Tibia.....	1.7	3.4	2.2	3.6
Metatarsus.....	2.6	4.1	3.3	5.6
Tarsus.....	1.7	3.3	1.8	1.8
Total.....	9.9	17.2	13.0	17.0

Palpus: Trochanter, 0.4 mm long; femur, 1.2; patella, 0.9; tibia, 1.2; and tarsus, 0.4. Total length, 4.1 mm. Palpus characteristically flattened, with scattered hairs. Smooth except for a ventral row of teeth on the femur.

Chelicera not enlarged, smooth except for some low tuberculations on the proximal segment.

Entire animal dark reddish brown, somewhat mottled with lighter brown, but without white markings. Legs somewhat lighter than the body.

Female: Total length of body, 5.6 mm. Cephalothorax, 1.8 mm. Width of body at widest portion, 6.2 mm.

Similar to male in appearance, but lacking the spines of the fourth leg and the enlargement of the basitarsus of the first tarsus.

Type locality: Male holotype and male and female paratypes from San Blas, Nayarit. Collected on August 6, 1947.

Relationships: *V. malkini* n. sp. is related to *V. mexicana* (Banks) (= *Keonones mexicana* (Banks)); but this species lacks the rough granulations characteristic of *V. mexicana* and has the heavy spines on the femur of the fourth leg.