

A SPECIES OF *HEBESTATIS* (ARANEAE, CTENIZIDAE) FROM COSTA RICA

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ABSTRACT

Hebestatis lanthanus (Araneae, Ctenizidae) is described from Costa Rica. This is the first species added to the genus since its description in 1903 and the first record for the family in Costa Rica.

INTRODUCTION

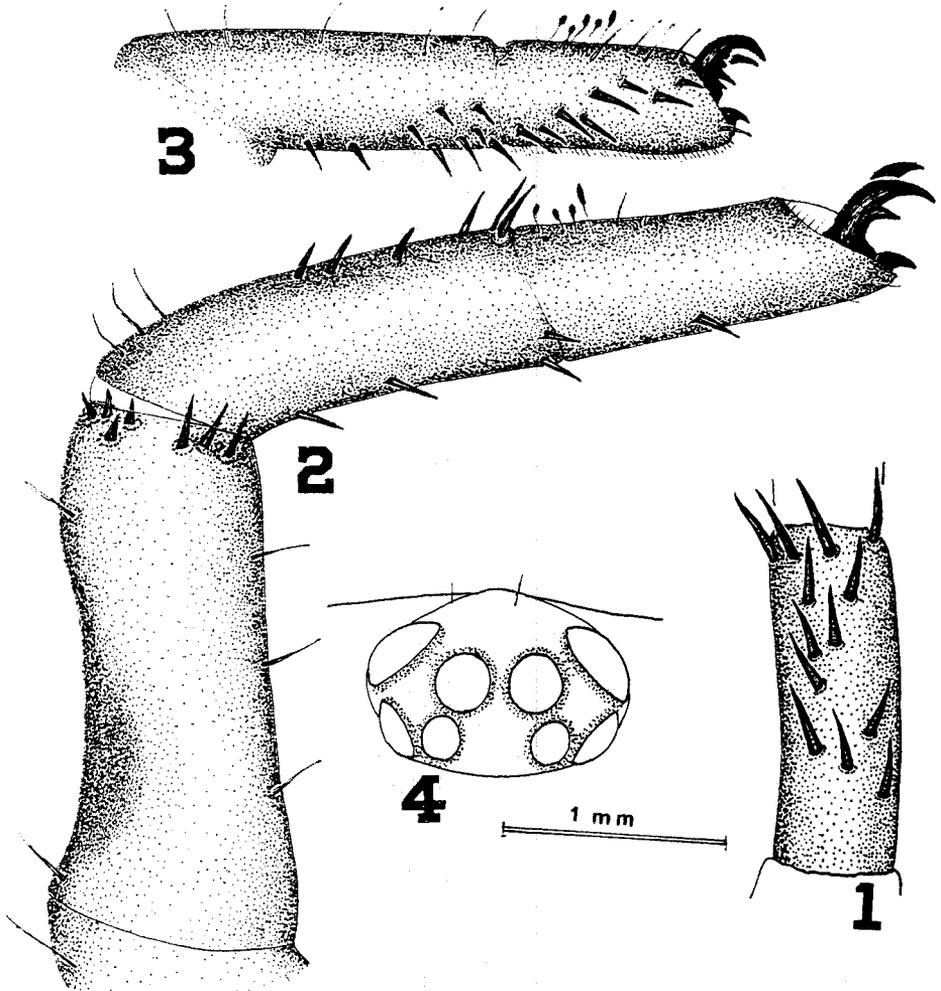
Among the mygalomorph spiders, only the Theraphosidae, Dipluridae, Idiopidae (*Neocteniza*) and Barychelidae are known from Costa Rica (Valerio 1986; Zúñiga 1980). Although some theraphosids and diplurids are locally abundant, long years of collecting have yielded few specimens of the remaining families. The family Ctenizidae, very diversified in the subtropics, is represented in the Central American region only by the genus *Ummidia* (Bonnet 1957; Brignoli 1983), with no published records from Costa Rica (several specimens from the Museo de Zoología, Universidad de Costa Rica collection, have been sent to N. Platnick for study). I here report the discovery of a new species of the small genus *Hebestatis* Simon, previously known only from the type-species from California.

Genus *Hebestatis* Simon 1903

The genus was established by Simon based on specimens from California that he had previously described as *Cyclocosmia theveneti* (Simon 1891); no additional species has been described since (Brignoli 1983). It is closely allied to the American genus *Ummidia* and to the Indo-Australian genus *Conothele* sharing with both an excavation or depression on the dorsum of tibia III (Fig. 2). It is easily distinguished from *Ummidia* by the absence of notches in trochanters I and II and from *Conothele* by the presence of several sharp denticles (rather than a short one) on the paired claws of tarsi I and II (Fig. 3).

The species here described shares with *Hebestatis theveneti* (Simon), besides the generic features, the eye configuration: compact group with anterior row procurved, PLE smaller than ALE, and PME smaller than ALE (Fig. 4), and the U-shaped thoracic furrow.

The Costa Rican species can be distinguished from the type-species by their small size (carapace length 3.7 to 7.2 mm, vs. 102 mm in *H. theveneti*) and the ovoid abdomen (posteriorly truncate in *H. theveneti*).



Figs. 1-4.—*Hebestatis lanthanus*, male: 1, third metatarsus, dorsal view; 2, third leg, retrolateral view; 3, second metatarsus and tarsus, retrolateral view; 4, ocular area, dorsal view.

Hebestatis lanthanus, new species

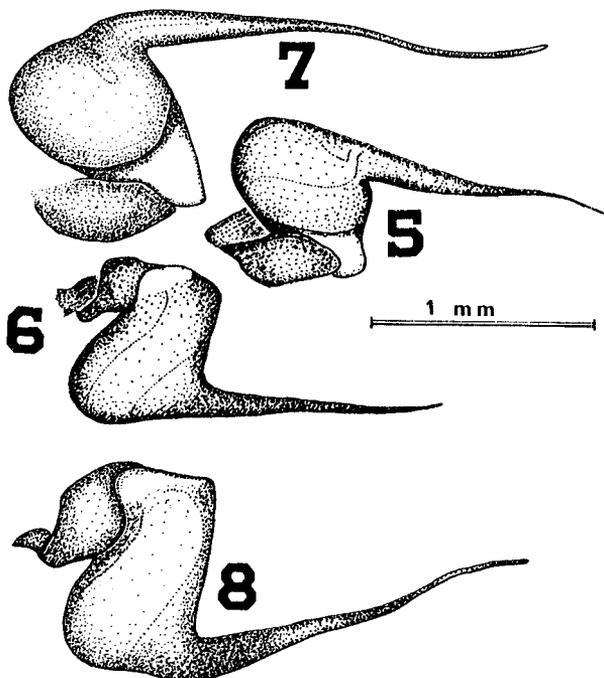
Figs. 1-9

Types.—Male holotype from Ciudad Universitario Rodrigo Facio (Universidad de Costa Rica main campus, 9°57'N 84°04'W), San José Province, collected on April 1981 by R. Aymerich. Female allotype from the same locality, both deposited in the Museo de Zoología, Universidad de Costa Rica. A male and female paratypes deposited in the American Museum of Natural History.

Etymology.—The Greek root indicates surprise that this species has not been discovered before, even though it was found in an area where intensive collecting has been done for many years.

Diagnosis.—Metatarsus III with a row of four strong dorsal spines along distal edge (Fig. 1), tibia I of male with large ventral spines.

Male.—Body glabrous, legs with a conspicuous set of spines on metatarsus and tibia III dorsally (Figs. 1, 2) and a lateral series of spines on tarsi and metatarsi I-



Figs. 5-8.—*Hebestatis lanthanus*, right bulb: 5, Holotype, retrolateral view; 6, Holotype, prolateral view; 7, variation, retrolateral view; 8, variation, prolateral view.

III (Fig. 3), tibia I and II with many (typically more than 20) large spines in ventral view. Weak pad of short hairs on tarsi and distal fourth of metatarsi I and II. Palp and leg tarsi with clavate hairs dorsally (Fig. 3). Paired claws of tarsi with 2-4 denticles (Fig. 3), sometimes only one sharp denticle on those of tarsi III and IV (Fig. 2). Embolus short and straight (Figs. 5-6), sometimes slightly bent (Figs. 7-8). ALE almost touching PLE and AME (Fig. 4). Labium with 6-15 cuspules, sternum lacking cuspules. Carapace shining black; palps, sternum, lungs and genital area light tan; metatarsi and tarsi light brown, remaining leg segments black; abdomen dull black with contrasting white dorsum (white lacking in some individuals). Lengths in mm of 7 specimens, ranges (average in parenthesis): carapace 5.2-6.5 (5.9), sternum 3.1-3.8 (3.5), labium 0.7-0.9 (0.8), abdomen 4.1-6.5, palp 10.3-11.2 (10.6), leg I 12.3-17.4 (15.3), leg II 10.3-15.2 (13.1), leg III 10.3-14.7 (12.6), leg IV 12.2-17.1 (14.9). Bulb total 1.8-2.7 (2.2), embolus 1.2-2.0 (1.9). Carapace width 5.3-6.9 (6.1).

Female.—Similar in coloration to male, except for lighter carapace. Carapace conspicuously narrower than in male. Tibiae lacking ventral spines. Femura III and IV greatly swollen (diameter of tarsi 0.5 mm, diameter of femur 2.7 mm). Adaptations for digging: rastellum consisting of a protuberance bearing many flattened setae, strong flattened setae on both lateral faces of legs I and II (on prolateral face of leg I: 19 on tarsus, 25 on metatarsus and 30 on tibia).

Measurements of allotype.—Carapace length 6.8, carapace width 5.9, sternum length 4.0, labium 0.9, abdomen length 7.1, palp 8.8, leg I 12.1, leg II 10.7, leg III 9.0, leg IV 11.5. Two separated spermathecae with spherical heads and sinuous stalks, covered by ovoid spermathecal glands (Fig. 9).

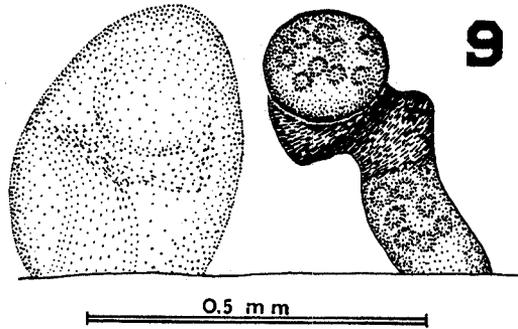


Fig. 9.—*Hebestatis lanthanus*, female genitalia, dorsal view (right spermathecal gland removed).

Distribution.—All localities are in the Central Valley, in Costa Rica, except La Selva, Sarapiquí (a Caribbean lowland site).

Natural history.—The species inhabits the densely populated areas of San José, where it is probably associated with patches of relict forest in a Premontane moist formation. Females inhabit silk-lined tubes, about 10 cm deep. Males wander in May and June.

Specimens examined.—COSTA RICA: *San José Province*, Granadilla, Curridabat, 1 male, 2 females; Barrio La Granja, San Pedro de Montes de Oca, 1 male; San Antonio de Escazú, 1 male; Desampapados, 1 male; Alajuelita, 1 female; *Heredia Province*, Heredia centro, 1 male; La Selva, Sarapiquí, one male.

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LITERATURE CITED

- Brignoli, P. M. 1983. A Catalogue of the Araneae, Described Between 1940 and 1981. Manchester University Press, Great Britain. 755 pp.
- Bonnet, P. 1957. Bibliographia Araneorum. Toulouse, vol. 2, pp. 1-2123.
- Simon, E. 1891. Liste des espèces de la famille des Aviculariides qui habitent l'Amerique du Nord. Act. Soc. Linnean Bordeaux, 44:307-339.
- Simon, E. 1903. Descriptions d'Arachnides nouveaux. Ann. Soc. entomol. Beligique, 47:21-39.
- Valerio, C. E. 1986. Mygalomorph spiders in the Barychelidae (Araneae) from Costa Rica. J. Arachnol., 14:93-99.
- Zúñiga-Vega, C. M. 1980. Lista anotada de especies de arañas de Costa Rica. Brenesia, 18:301-352.

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