1997. The Journal of Arachnology 25:25:49–52

A NEW SPECIES OF *CRYPSIDROMUS* FROM BELIZE (ARANEAE, MYGALOMORPHAE, THERAPHOSIDAE)

Steven B. Reichling: Division of Ecology and Organismal Biology, The University of Memphis, Memphis, Tennessee 38152, USA

ABSTRACT. A new species of Theraphosidae, ***Crypsidromus gutzkei***, is described (from the male only) from northern Belize. Unique coloration in combination with pedipalps of intermediate length distinguishes *C. gutzkei* from all congeners. Character states proposed as diagnostic for males of *Crypsidromus* Ausserer 1871 and *Metriopelma* Becker 1878 are combined in the male of this new species, supporting the maintenance of *Metriopelma* in the synonymy of *Crypsidromus*.

The theraphosid genus *Crypsidromus* Ausserer 1871 constitutes a taxon characterized by a dividing line of setae on tarsi IV and no tibial spurs on the mature male (Valerio 1980). *Metriopelma* Becker 1878 has often been treated as a synonym of *Crypsidromus* (Simon 1892; Petrunkevitch 1911; Roewer 1942; Gerschman & Schiapelli 1973). Twelve species once considered as *Metriopelma* are thus included with nine other species under *Crypsidromus*. However, Valerio (1982) considered *Metriopelma* a valid taxon diagnosable from *Crypsidromus* by its fused, as opposed to discrete, spermathecae. Raven (1985) argued that the contentious apomorphy of the fused spermathecae rendered *Crypsidromus* without any autapomorphic character, a situation he deemed untenable. Smith (1994) supported Valerio in restoring *Metriopelma* and suggested that the two genera could be distinguished on the basis of spination of the palpal tibia (fewer than four spines on the distal half in *Metriopelma*) and pedipalp length (longer in *Metriopelma*) in addition to spermathecal morphology. Smith cautioned that validation of *Metriopelma* based on pedipalp characteristics would depend on the collection and examination of additional specimens. The male of a new *Crypsidromus* species discovered in northern Belize exhibits a combination of *Metriopelma* and *Crypsidromus* characters which supports Raven's synonymy.

METHODS

All measurements are in mm and were made using a dial caliper, ±0.01 mm. Leg and pedipalp measurements were taken from the left side. Trochanters and coxae were measured from their ventral aspect while all other leg segment measurements were taken dorsally. Description format follows Goloboff (1994). Spination abbreviations follow Prentice (1992). Standard abbreviations are used for ocular descriptions. Coloration was recorded after specimen fixation under full spectrum light using color charts in the Pantone Book of Color (Eisman & Herbert 1990).

Crypsidromus gutzkei new species
Figs. 1–4, Table 1

Type.—Holotype male from Indian Church Village, Orange Walk District, Belize, 0.1 km W of New River Lagoon, 1 October 1995, (S.B. Reichling). Holotype deposited in the American Museum of Natural History, New York.

Etymology.—The specific epithet is a patronym in honor of a superb biologist and the author's scientific mentor, William H.N. Gutzke.

Diagnosis.—*Crypsidromus gutzkei* new species is immediately discernible from most congeners by its unpatterned abdomen, as the genus is notable among New World theraphosids for the number of species exhibiting bold abdominal patterns (Valerio 1980, 1982). The immaculate clothing of bright red setae on the abdomen of the holotype male is generically unique and distinguishes *C. gutzkei* from all Central and South American congeners with unpatterned abdomens. The male of the Mexican *C. breyeri* (Becker 1878), for

Table 1.—Leg measurements for the holotype male of ***Crypsidromus gutzkei*** new species. Measurements are in mm.

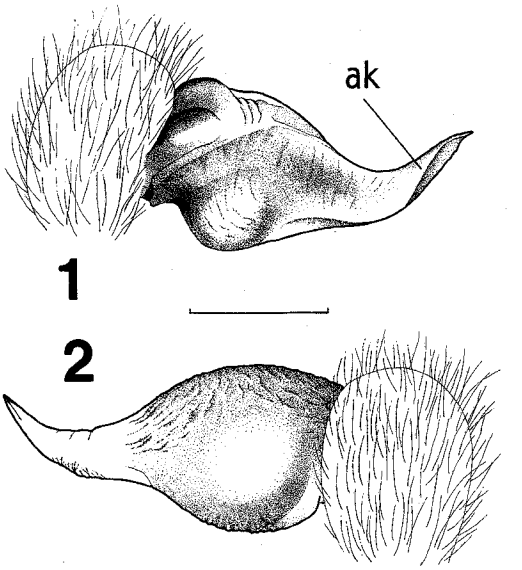
Leg	I	II	III	IV	Palp
Coxa	6.3	4.6	3.8	4.4	3.7
Trochanter	2.2	2.0	1.8	1.7	1.8
Femur	11.3	11.3	10.0	11.6	8.3
Patella	3.8	5.4	4.9	5.0	4.5
Tibia	10.8	8.8	7.8	10.2	7.2
Metatarsus	7.8	7.9	9.0	14.0	
Tarsus	5.9	5.7	5.6	6.3	1.7
Total	48.1	45.7	42.9	53.2	27.2

which the coloration in life is unknown, has longer pedipalps (exceeding tibia I in length, Smith 1994) than *C. gutzkei*.

Crypsidromus gutzkei is further distinguished from regional congeners by its comparatively unmodified palpal embolus. In contrast to other Central American *Crypsidromus* species, including species formerly assigned to *Metriopelma* (Valerio 1980, 1982), the apical division of the palpal embolus of *C. gutzkei* is smoothly curved, as opposed to sharply bent, and the seminal groove lacks a prominent keel. The palpal embolus of *C. gutzkei* is most similar to *C. brevibulbus* Valerio 1980 from Costa Rica. However, *C. brevibulbus* has a caput much wider than long (1.75×, Valerio 1980).

Description.—*Male (holotype):* Length 27.7. Carapace length 12.8, width 10.3, carapace width/length 0.80; chelicerae, width 5.0; both fang furrows with twelve macroteeth; sternum, width 4.5, length 4.4; sigilla at base of coxae I, II, and III, posterior pair largest. Labial cuspules, 130; maxillary cuspules, 208, 200. Leg span, measured from apex of left tarsus I to apex of left tarsus IV, 106.5. Pedipalps extend to just beyond the basal third of tibiae I. Leg and palp segment lengths in Table 1.

Carapace clothed in iridescent pale gold (Pantone 15–0927) pubescence, closely appressed. Dorsal surface of abdomen covered with long paprika-red (Pantone 17–1553) setae; short seal-brown (Pantone 19–1314) pubescence limited to patch of urticating hairs on posterior half of abdomen dorsum; ventral pubescence iron-gray (Pantone 18–1306). Dorsal and lateral surface of legs clothed in iridescent pale gold pubescence with scattered

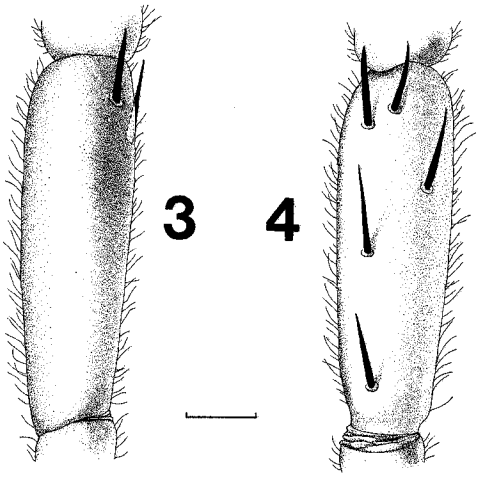


Figures 1, 2.—***Crypsidromus gutzkei*** new species, male holotype. 1, Left palpal organ, retrolateral view, showing apical keel (ak) bordering seminal groove; 2, Left palpal organ, prolateral view, showing gentle curve of embolus. Scale line = 1 mm.

medium-length shale-gray (Pantone 19–3903) setae and sparsely scattered long beeswax-yellow (Pantone 14–0941) setae which grade to seal-brown basally. Ventral surface of legs lighter, with gull-gray (Pantone 17–3802) pubescence and no golden setae.

Fovea recurved. Anterior eye row slightly recurved; AME round, diameter 0.4, separated by 0.2; ALE ovoid, 0.3 × 0.4. Posterior eye row procurved; PME nearly round, diameter 0.2; PLE ovoid, 0.15 × 0.3, separated by 0.7. Caput length 1.6, width 1.2, length/width 1.33. Clypeus absent. Tibial spurs absent. All tarsi fully scopulate. Tarsi IV divided by a line of long, soft setae intermixed with dark, spiniform setae. Extent of metatarsal scopulae: I, complete; II, 0.58; III, 0.24; IV, without scopulae. Palpal bulb length 2.4, width 1.2; simple, uniformly tapering embolus; apical division without prominent bend but with gentle downward curve; keel bordering seminal groove not prominent (Fig. 1); retrolateral surface of middle division concave with several angular changes in plane, prolateral surface convex and smooth; posterior face of basal division discretely inflated (Fig. 2).

Spination: Leg I, metatarsus 2v(1am



Figures 3, 4.—***Crypsidromus gutzkei*** new species, male holotype. 3, Left palpal tibia, dorsal view, showing two megaspines on the apical half; 4, Left palpal tibia, ventral view, showing three megaspines on the apical half. Scale line = 1.5 mm.

1m0.32), tibia 9v(2am 1ar 1ap 1p0.36 1p0.30 1p0.24 2bp); leg II, metatarsus 6v(3am 1p0.53 1r0.37 1p0.26), tibia 11v(2am 1ar 1ap 1r0.60 1m0.59 1p0.46 1m0.40 1r0.40 2bp); leg III, metatarsus 4d(1am 1ap 1m0.50 1p0.50) 12v(3am 1ar 1ap 1ep 1r0.61 1m0.46 1r0.33 2p0.33 1bp), tibia 2d(1r0.45 1br) 5v(2am 1ap 2m0.50); leg IV, metatarsus 3d(1am 1r0.50 1r0.40) 14v(3am 1ar 1ap 2em 1p0.64 1r0.61 1r0.51 1m0.49 1r0.36 1m0.21 1m0.11), tibia 2d(1am 1m0.15) 4v(2am 1p0.69 1p0.29); palp, tibia 2d(1ar 1er) 5v(1am 1ap 1r0.69 1p0.49 1p0.13). Distal half of palpal tibia with five megaspines (Figs. 3, 4).

Female: Unknown.

Distribution.—Known only from the type locality. At present, *C. gutzkei* new species is the only *Crypsidromus* species reported from Belize.

Relationships.—The spination of the palpal tibia in combination with the intermediate length of the pedipalp apparent on the male of *C. gutzkei* suggests that spermathecal morphology may be the only diagnostic character for separation of *Crypsidromus* and *Metriopelma*. Since many *Crypsidromus* species and species formerly assigned to *Metriopelma* are known from very limited material, data describing the range of variation occurring in spermathecal and palpal bulb morphology, and spination, is unavailable. Thus, unless further evidence is offered, *Metriopelma* should remain in the synonymy of *Crypsidromus*.

Natural history.—The holotype was found roaming on a sloped river bank at 2230 h, during a light rain shower. The surrounding area was secondary tropical forest extensively fragmented by small agricultural plots. In light of the intensive research on theraphosid spider ecology that has been underway in the area for over a year, the fact that only one specimen of this new taxon has been encountered suggests that *C. gutzkei* is rare.

Material examined.—The holotype and the following: *Crypsidromus breyeri*: **MEXICO**: Guanajuato (A. Duges) (BMNH).

ACKNOWLEDGMENTS

Financial support was provided by the Memphis Zoological Society Conservation Fund and by a Grant-in-Aid of Research from Sigma Xi, The Scientific Research Society. Field work and collection was conducted with permission from the Belize Ministry of Natural Resources through the courtesy of E. Green, Chief Forest Officer. The manuscript was improved by the insightful comments of T. Prentice and one anonymous reviewer. I am grateful to P. Hillyard, British Museum of Natural History (BMNH) for the loan of specimens, and L. Leibensperger, Museum of Comparative Zoology, Harvard University (MCZ) for supplying crucial references. Illustrations were the work of N. Reichling. I thank the Howells family for their generous hospitality.

LITERATURE CITED

Ausserer, A. 1871. Beitrage zur Kenntnis der Arachniden-Familie der Territelariae Thorell (Mygalidae Autor). Verhandl. K. K. Zool.-Bot. Gesell. Wien, 21:177–224.

Becker, L. 1878. Sur un noveau genre d'Aviculariidae. Ann. Soc. Ent. Belgique, Compt. Rendus, 21:256–257.

Eisman, L. & L. Herbert. 1990. The Pantone Book of Color. Harry N. Abrams, Inc., New York.

Gerschman, B.S. de Pikelin & R.D. Schiapelli. 1973. La subfamilia "Ischnocolinae" (Araneae: Theraphosidae). Rev. Mus. Argentino Cienc. Nat. Ent., 4:43–77.

Goloboff, P.A. 1994. *Linothele cavicola*, a new diplurine spider (Araneae, Dipluridae) from caves in Ecuador. J. Arachnol., 22:70–72.

Petrunkevitch, A. 1911. A Synonymic Index-Catalogue of Spiders of North, Central and South America with all Adjacent Islands. Bull. American Mus. Nat. Hist., 29:1–791.

Prentice, T.R. 1992. A new species of North American tarantula, *Aphonopelma paloma* (Araneae, Mygalomorphae, Theraphosidae). J. Arachnol., 20:189–199.

Raven, R.J. 1985. The spider infraorder Mygalomorphae (Araneae): cladistics and systematics. Bull. American Mus. Nat. Hist., 182:1–175.

Roewer, C.F. 1942. Katalog der Araneae. Bremen, vol. 1, 1040 pp.

Simon, E. 1892. Etudes arachnologiques. 24 memoire. XXXIX. Descriptions d'especes et de genres nouveaux de la famille des Avicullariidae (suite). Ann. Soc. Ent. France, 61:271–284.

Smith, A.M. 1994. Theraphosid Spiders of the New World, vol. 2, Tarantulas of the USA and Mexico. Fitzgerald Publ., London.

Valerio, C.E. 1980. Aranas terafosidas de Costa Rica (Araneae: Theraphosidae). III. *Sphaerobothria*, *Aphonopelma*, *Pterinopelma*, *Citharacanthus*, *Crypsidromus* y *Stichoplastus*. Rev. Biol. Trop., 28:271–296.

Valerio, C.E. 1982. Aranas terafosidas de Costa Rica (Araneae, Theraphosidae). IV. Generos *Metriopelma* y *Cyclosternum*, incluyendo especies de Panama. Brenesia, 19/20:407–423.

Manuscript received 14 November 1995, revised 15 June 1996.