

# INSECTA MUNDI

A Journal of World Insect Systematics

---

**0059**

A new genus and species of Brachynemurini from Venezuela  
(Neuroptera: Myrmeleontidae)

Robert B. Miller  
12304 Alpha Lane  
Redding, CA 96003

Date of Issue: December 5, 2008

Robert B. Miller

A new genus and species of Brachynemurini from Venezuela  
(Neuroptera: Myrmeleontidae)

*Insecta Mundi* 0059: 1-5

**Published in 2008 by**

Center for Systematic Entomology, Inc.

P. O. Box 141874

Gainesville, FL 32614-1874 U. S. A.

<http://www.centerforsystematicentomology.org/>

**Insecta Mundi** is a journal primarily devoted to insect systematics, but articles can be published on any non-marine arthropod taxon. Manuscripts considered for publication include, but are not limited to, systematic or taxonomic studies, revisions, nomenclatural changes, faunal studies, book reviews, phylogenetic analyses, biological or behavioral studies, etc. **Insecta Mundi** is widely distributed, and referenced or abstracted by several sources including the Zoological Record, CAB Abstracts, etc.

As of 2007, **Insecta Mundi** is published irregularly throughout the year, not as quarterly issues. As manuscripts are completed they are published and given an individual number. Manuscripts must be peer reviewed prior to submission, after which they are again reviewed by the editorial board to insure quality. One author of each submitted manuscript must be a current member of the Center for Systematic Entomology.

**Managing editor:** Paul E. Skelley, e-mail: [insectamundi@gmail.com](mailto:insectamundi@gmail.com)

**Production editor:** Michael C. Thomas, e-mail: [insectamundi@gmail.com](mailto:insectamundi@gmail.com)

**Editorial board:** J. H. Frank, M. J. Paulsen

**Printed copies deposited in libraries of:**

CSIRO, Canberra, ACT, Australia

Museu de Zoologia, São Paulo, Brazil

Agriculture and Agrifood Canada, Ottawa, Ontario, Canada

The Natural History Museum, London, England

Muzeum I Instytut Zoologii Pan, Warsaw, Poland

National Taiwan University, Taipei, Taiwan

California Academy of Sciences, San Francisco, CA, USA

Florida Department of Agriculture and Consumer Services, Gainesville, FL, USA

Field Museum of Natural History, Chicago, IL, USA

National Museum of Natural History, Smithsonian Institution, Washington, DC, USA

**Electronic copies in PDF format:**

Printed CD mailed to all members at end of year.

Florida Center for Library Automation: [purl.fcla.edu/fcla/insectamundi](http://purl.fcla.edu/fcla/insectamundi)

University of Nebraska-Lincoln, Digital Commons: <http://digitalcommons.unl.edu/insectamundi/>

**Author instructions** available on the *Insecta Mundi* page at:

<http://www.centerforsystematicentomology.org/insectamundi/>

Printed Copy ISSN 0749-6737

On-Line ISSN 1942-1354

CD-ROM ISSN 1942-1362

**A new genus and species of Brachynemurini from Venezuela  
(Neuroptera: Myrmeleontidae)**

Robert B. Miller  
12304 Alpha Lane  
Redding, CA 96003

**Abstract.** *Stangeleon longipalpus* Miller, new genus and species, is described and illustrated from Venezuela and compared with other genera of the Brachynemurini (Neuroptera: Myrmeleontidae).

**Resumen.** Se describe e ilustra *Stangeleon longipalpus* Miller, n. gen., n. sp., de Venezuela (Neuroptera, Myrmeleontidae, Brachynemurini).

**Introduction**

Examination of material collected by Miller and Stange in 1988 in Venezuela revealed a genus of Brachynemurini not included in Stange (1994). This genus is remarkable in the modification of the pretarsal claws and tarsus and in having antennal calli.

***Stangeleon* Miller, new genus**  
(Figure 1-13)

**Type species.** *Stangeleon longipalpus* Miller, n. sp., here designated.

**Diagnosis.** This genus differs from all others in the Brachynemurini by the possession of four autapomorphies. The distal tarsomere is short and greatly enlarged and flattened, with a patch of enlarged setae for engaging with the pretarsal claws (Fig. 6). The male antenna has many calli on flagellomeres VII to XXIV (Fig. 2, 3). The alary membrane of the hind wing of the male has a series of small, black pegs along posterior margin between pilula axillaris and the metanotum (Fig. 4). Also, the male genitalia are distinctive (Fig. 8).

**Description. Adult.** Greatest eye width much less than interocular distance; antennal sockets widely separated, distance between them about 1.7 times socket width; frons without setae; antenna same length in both sexes; fore femur without clavate setae or setal comb; fore femoral sense hair at least three-fourths as long as femur; tibial spurs present; pretarsal claws capable of closing upon distal tarsomere which is enlarged with patch of specialized setae (Fig. 6); pretarsal claws longer than hind basitarsus and about equal to length of distal tarsomere, about same length as tibial spurs; mesonotum without blade-like setae; scutelli with well developed white setae posteriorly; hind wing (Fig. 1) shorter than fore wing, in repose apices nearly coincide; pilula axillaris well developed; alary membrane of hind wing of male (Fig. 4) with series of small, black pegs along posterior margin between pilula axillaris and metanotum; weak anterior Banksian line in both wings; fore wing costal area simple; hind wing vein CuA bends to posterior margin at or before medial fork, only 1 or 2 crossveins between CuA and posterior fork of MP2 (Fig. 1); posterior area of hind wing less than twice as high as corresponding area of fore wing; posterior area of hind wing narrower than presectoral area before radial sector; fore wing vein CuP + 1A only runs along posterior fork of CuA for a short distance, interconnected by about 4 cross veins; hind wing CuA runs along posterior fork of medial for a short distance; radial sector originates a little basad of medial fork in hind wing, about 3-4 presectoral cross veins; postventral lobe of male ectoproct well developed, about 8 times as long as median diameter (Fig. 7); sternite IX much wider than long, not produced medially; male genitalia highly modified (Fig. 8), gonarcus broadly expanded, plate-like laterally with lateral tooth; mediuncus separated from gonarcus, arched, bifurcate ventrally, with 4 large setae laterally; paramere hatchet-shaped posteriorly. Female terminalia (Fig. 9) lacking pregenital plate, stout setae on anterior and posterior gonapophysis and ectopocets; posterior gonapophysis about 5 times longer than median di-



**Figure 1-4.** *Stangeleon longipalpus* Miller, adult male. 1) Dorsal habitus. 2) Head and pronotum. 3) Right antenna. 4) Alary membrane of hind wing showing black pegs.

ameter, somewhat swollen posteriorly, bearing about six well developed setae that are longer than gonapophysis (Fig. 8).

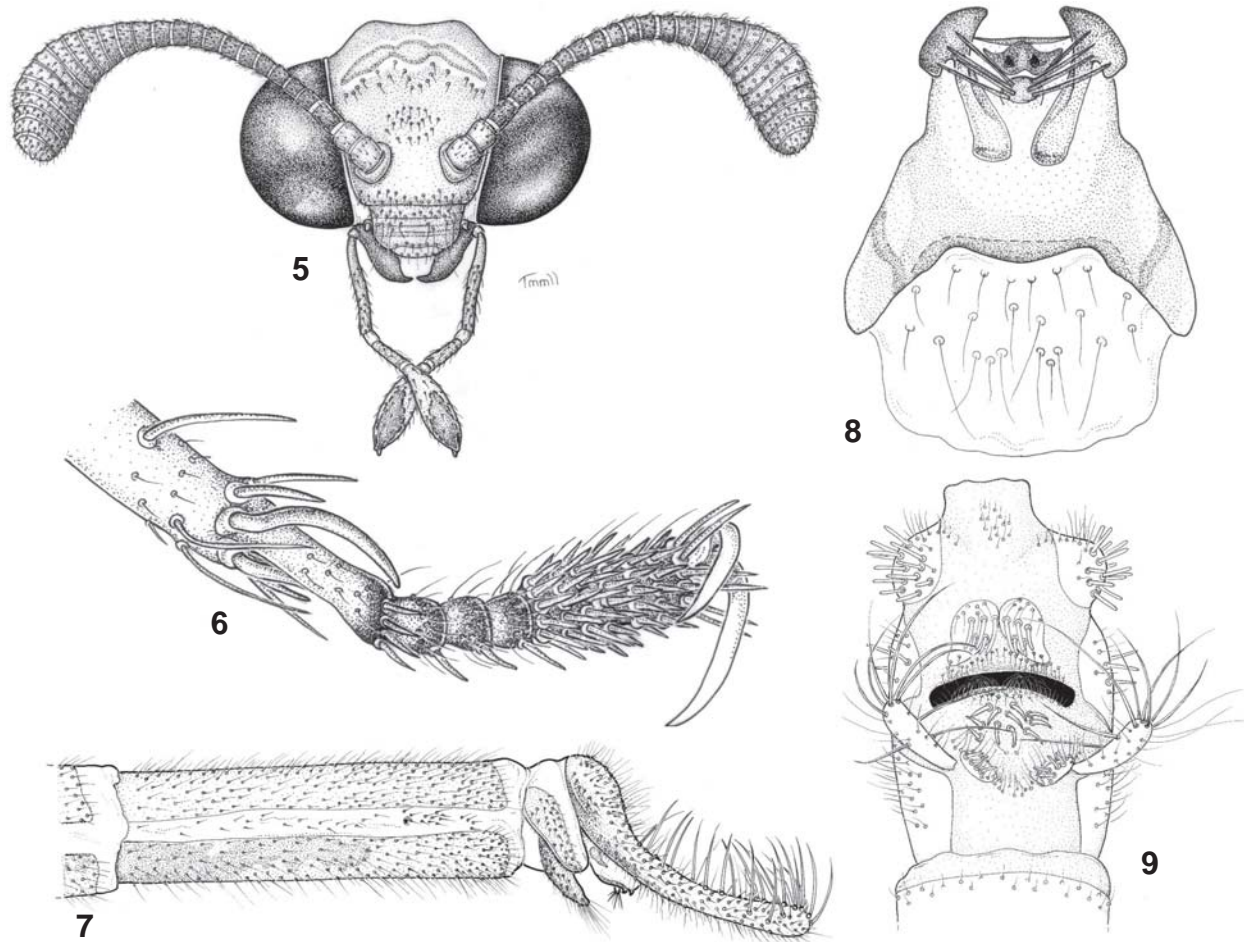
**Larva.** Mandible as long as head capsule viewed ventrally (Fig. 12), distance between basal and distal teeth equal to that between base of mandible and basal tooth; head capsule (Fig. 11) about twice as wide as long (measured dorsally); dorsal and ventral surface of head capsule with dolichasters, with some simple short setae ventrally; mesothoracic spiracle borne on tubercle that is longer than its basal width; abdominal tergites without thickened setae or thread-like setae; abdominal spiracles enlarged; sternite VIII (Fig. 13) with submedian teeth whose length are equal to basal widths.

**Discussion.** *Stangeleon* is not closely related to other genera of the tribe in that it has highly modified pretarsal claws, calli on the male antenna, and black pegs along the posterior margin of the alary membrane of the male. Also, the male genitalia are distinctive. The larva has the widest head capsule known so far in the tribe (Stange and Miller 1990). The hind wing vein CuA bends to posterior margin at or before medial fork, only 1 or 2 cross veins between CuA and posterior fork of MP2, which is found in many genera of the Brachynemurini. These genera differ from *Stangeleon* either by having clavate setae or elongate white setae on the fore femur, shorter fore femoral sense hair or shorter male postventral lobe. The genus is named in honor of Lionel A. Stange, noted neuropterist.

#### ***Stangeleon longipalpus* Miller, new species**

**Holotype male.** Rio Orituco, 15 km south of Calabozo, Guarico, Venezuela, 27.II.1988, Miller and Stange (FSCA).

**Diagnosis.** This straw colored species is easily identified by the elongate labial palps (Fig. 5), which are only duplicated in the tribe by the North American species *Scotoleon longipalpis* (Hagen) and *Scotoleon deflexus* Adams. Since this genus has only one species, the diagnostic characters (modified tarsi, calli on



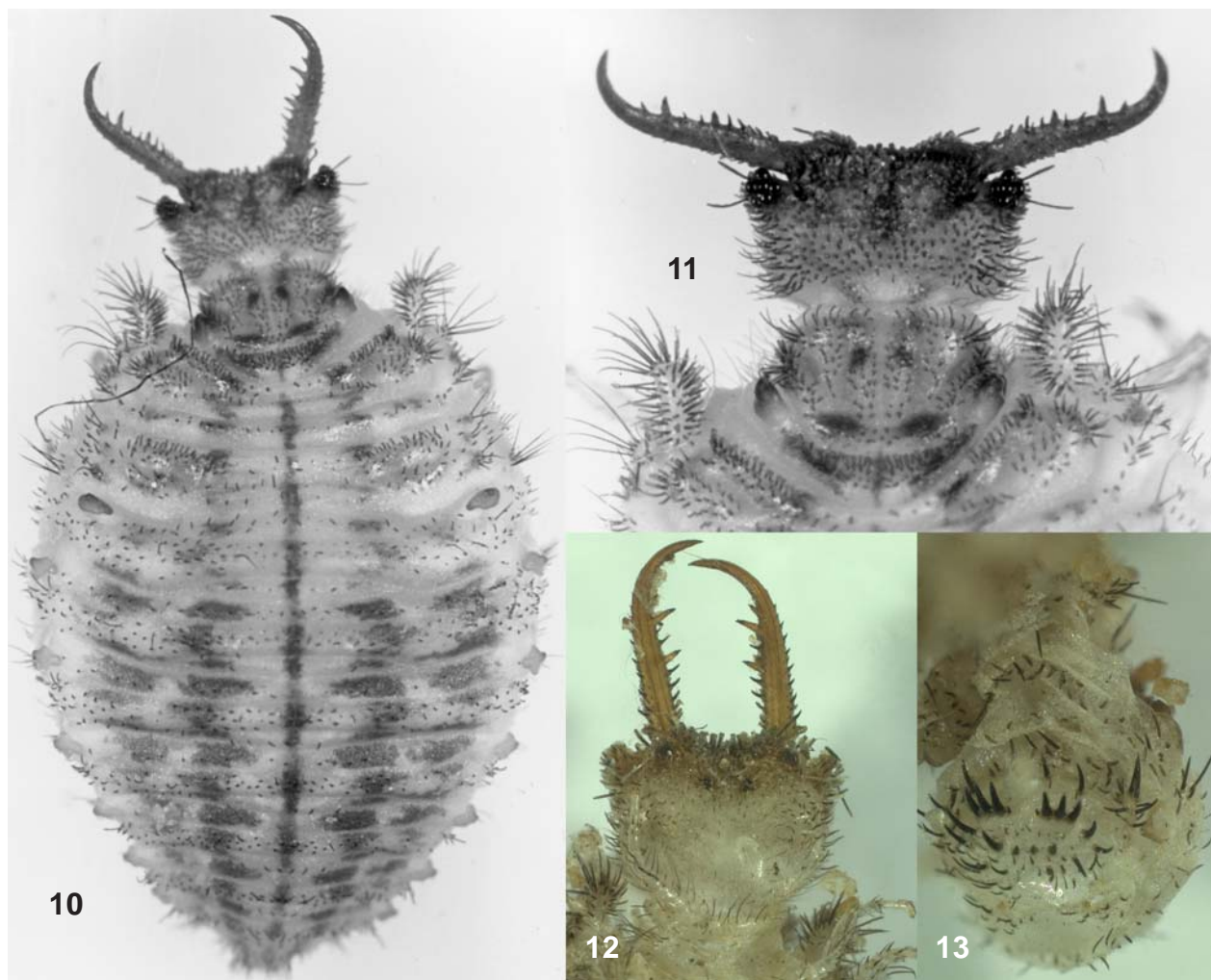
**Figure 5-9.** *Stangeleon longipalpus* Miller. **5)** Front view of head of female. **6)** Hind tarsus. **7)** Posterior part of male abdomen. **8)** Male genitalia. **9)** Expanded ventral of female terminalia.

the antennae, male genitalia and specialized peg-like setae on hind wing alary membrane) of the genus also serve to distinguish the species. The larva is distinctive in having an extremely wide head capsule (about twice as wide as long in dorsal view).

**Holotype male.** Length from head to eighth abdominal segment 32 mm. Length of fore wing 17 mm, width 4 mm at widest point; hind wing length 15 mm, width 3.5 mm at widest point.

General coloration straw colored. Head (Fig. 2) with anterior area of vertex brown; middle row of vertex with a complete, distinct dark brown line extending between ocular rims; posterior row of vertex pale straw with dark setal bases. Face, petioles and labrum pale straw colored. Antenna mottled with dark brown with pale straw color on posterior side; brown calli (Fig. 3) on flagellomeres 7 to 24, with rims of dark setae on flagellomeres 7 to 18. Pronotum pale straw colored with scattered dark setal bases bearing pale setae. Prescutum similar to pronotum, except for dark brown areas anteriorly, with pale areas between. Mesoscutellum pale straw colored; mesoscutum pale medially with lateral one-third dark brown above forewing base. Metascutellum pale straw colored at center with dark median line, darkened in area of hind wing base. Abdomen with tergite I straw colored with median brown spot and median black line, with light brown areas at setal bases. Tergite II straw colored with anterior lateral dark areas and median black line; tergite III straw colored with small dark median spot near posterior margin. Tergite IV straw colored with median dark brown spot at anterior and posterior margins. Tergites V, VI and VII mottled with light brown with submedian pale areas on posterior margins; sternite II with median dark Y-mark on light brown background; sternites III to IX light brown; postventral lobes straw colored with the inner ventral lateral surface with dark markings one half length of lobes. Fore coxa with two diagonal





**Figure 10-13.** *Stangeleon longipalpus* Miller, third instar larva. **10)** Dorsal view (reared, specimen became holotype male). **11)** Head with mandibles spread, dorsal view (reared, specimen became holotype male). **12)** Head of cast skin in ventral view. **13)** Sternite VIII of cast skin from cocoon.

markings on outer lateral face; distal one half of fore femur marked in dark brown; fore tibia pale straw colored; mid coxa with outer lateral brown markings; mid femur with two wide brown stripes on straw colored background running length-wise on inner lateral surface; mid tibia pale straw; hind coxa mostly pale brown with some darker brown areas posteriorly; hind femur and tibia all pale straw colored. Wings straw colored with some dark brown veins and crossveins and small series of dark brown spots along subcostal area of fore wing.

**Chaetotaxy** as follows: head with small simple setae; pronotum with short to long pale setae; prescutum with pair of coarse white setae pointing anteriorly; mesoscutellum with several white setae on posterior margin; abdomen with long, simple light brown setae; postventral lobe and ectoproct as in Fig. 7, with dark setae near posterior margin. Legs with long white stiff simple setae, except for black specialized setae on tarsomeres 2, 3, 4, and 5.

**Structure** as follows: Greatest ocular width shorter than interocular distance (Fig. 5); antenna strongly clavate, with 26 flagellomeres; labial palpus elongate, distal palpomere about as long as interocular distance; pronotum about twice as long as wide; pilula axillaris moderately developed; all legs about same length; pretarsal claws, basitarsus and distal tarsomere about same length and slightly shorter than tibial spurs; abdomen much longer than wings; postventral lobe of ectoproct about eight times longer than wide; male genitalia as in Fig. 8.

**Female.** Similar to male, but without calli on antennae or black peg-like setae on alary membrane; pilula axillaris absent; abdomen much longer than wings; terminalia as in Fig. 9.

**Larva.** (Fig. 10-13) Length of head, thorax and abdomen about 7.7 mm. Head 1.6 mm wide; abdomen 4.8 mm wide. Coloration with mandibles brown; head light brown with body straw colored with brown markings as in Fig. 10; ventral head capsule clear without markings. Mandibles are about as long as the head capsule viewed ventrally with the middle tooth closer to the distal tooth than the basal tooth. Distance from basal tooth to distal tooth about equal to distance of basal tooth to mandibular base. Head capsule is twice as wide as long (dorsal view) or three-fourths as long as wide (ventrally), with many dolichasters dorsally and some simple setae ventrally. Palpi are shorter than width of mandibular base. Ocelli are all black (indicating diurnal feeding) and are protected by two or three stout guard setae. Abdomen without scoli, but with raised spiracles which are about as wide as long; eighth sternite with many stout digging setae and sublateral teeth which are about as long as wide (Fig. 13).

**Paratypes.** 2 females, 1 male, Rio Orituco, 15 km. south of Calabozo, Guarico, Venezuela, 27.II.1988, R. Miller and L. Stange (FSCA).

**Biology.** *Stangeleon longipalpus* larvae were found in an elevated area near a river. The larval habitat was small mounds of fine sand with bushes underlain with bare soil and scattered leaves. The author was drawn to the site when he saw scattered dead, crumpled ants on the surface. Shade provided by the bushes helped to keep the soil temperatures reduced. The soil was subject to periodical wetting and drying due to rain. This caused some compaction of the soil. Each larva was living in a small area of surface soil only a little larger than its body and waiting for prey such as ants to walk overhead. Blowing the soil with an aspirator removed enough sand to reveal the larvae. These larvae are slow moving when exposed, walking or digging very slowly. Only the head moves fast when grasping prey. Evidently they feed mostly during the day because the ocelli are all black, which is usually correlated to diurnal feeding. Cocoons are about 5.5 mm in diameter and are made close to the surface. Adults were collected at night and early in the morning. Like the co-existing *Venezueleon guarica* Stange adults, they sat on grass stems during the day and were reluctant to move or fly when disturbed, not even flying when a net was placed over them. The grassy area along the river where the adults were night collected was undulant and when individuals were seen by lantern light they were chased down. This species, unlike many antlions, flies away from light and must be chased down at night. They are not fast flyers. The capture of only three individuals, during many hours of collecting by two people, indicates the relative rarity of this species.

### Acknowledgments

Thanks are due to Susan Trammel for the line drawings, Dr. Paul Skelley for assistance with the Auto-Montage photographs and Drs. Charles C. Porter and Lionel A. Stange for critical review of the manuscript.

### Literature Cited

- Stange, L. A. 1994.** Reclassification of the New World antlion genera formerly included in the tribe Brachynemurini. *Insecta Mundi* 8: 67-119.
- Stange, L. A., and R. B. Miller. 1990.** Classification of the Myrmeleontidae based on larvae. p. 151-169. *In*: M. W. Mansell and H. Aspöck (eds.). *Advances in Neuropterology. Proceedings of the Third International Symposium on Neuropterology* (Berg en Dal, Kruger National Park, R.S.A.). Department of Agricultural Development; Pretoria, R.S.A. 298 p.

**Received October 21, 2008; accepted November 26, 2008.**

