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A REVIEW OF THE STATUS OF *SCOLOPOCRYPTOPS FERRUGINEUS GUACHARENSIS* (CHILOPODA: SCOLOPENDROMORPHA: SCOLOPOCRYPTOPIDAE) FROM VENEZUELA

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Abstract: *Scolopocryptops guacharensis* new status for *Scolopocryptops ferrugineus guacharensis* is revised through morphological analysis of museum specimens as well as specimens recently collected in Cueva del Guacharo and from other three caves in Venezuela. *Scolopocryptops guacharensis* is related to *Scolopocryptops ferrugineus*, but differs from it mainly by the dental plate of the forcipular coxosternum, paramedian sutures of the tergites, tibial spurs of the legs, and length and hairiness of the last leg (23rd).
Key words: Chilopoda, Scolopocryptopinae, *Scolopocryptops ferrugineus*, *Scolopocryptops guacharensis*, taxonomy, caves, Venezuela, Neotropics.

Revisión del estatus de *Scolopocryptops ferrugineus guacharensis* (Chilopoda: Scolopendromorpha: Scolopocryptopidae), de Venezuela.

Resumen: El estatus de *Scolopocryptops guacharensis* es elevado al nivel de especie, a partir de *Scolopocryptops ferrugineus guacharensis,* como consecuencia de la revisión a través de análisis morfológico de especímenes del museo así como de otro material recientemente colectado en Cueva del Guácharo y otras tres cuevas de Venezuela. *Scolopocryptops guachaensis* es una especie próxima a *Scolopocryptos ferrugineus*, y difiere principalmente por la placa dental del coxosternum forcipular, las suturas paramedianas de los tergitos, las tibias de las patas y la longitud y pilosidad del último par de patas (23º).
Palabras clave: Chilopoda, Scolopocryptopinae, *Scolopocryptops ferrugineus*, *Scolopocryptops guacharensis*, taxonomía, cavernas, Venezuela, Neotrópico.

Introduction

Scolopocryptopids are centipedes with 23 pairs of legs on the trunk segments and without ocelli in the cephalic plate. The family is one of the dominant groups of the scolopendromorph fauna of the New World (Shelley, 2000), with three subfamilies: Newportiinae, Kethopinae, and Scolopocryptopinae (Shelley, 2002). The last named subfamily is currently composed by two genera: *Dinocryptops* Crabill, 1953 and *Scolopocryptops* Newport, 1845. Both genera have a primary New World distribution, but in both genera there are some species distributed along the Western Pacific Rim (Shelley, 1997).

In Venezuela the genus *Scolopocryptops* is represented by two species, *Scolopocryptops melanostomus* (Newport, 1845) and *Scolopocryptops ferrugineus* (Linné, 1762) with the nominal subspecies and another, *Scolopocryptops ferrugineus guacharensis* (Manfredi, 1957). There is also one species of the genus *Dinocryptops*, *Dinocryptops miersii* (Newport, 1845), widespread in South America. *Scolopocryptops ferrugineus* and *S. melanostomus* are distributed in almost all the Neotropical region, mainly in Antilles and north and northwest of South America. *Scolopocryptops ferrugineus guacharensis* is known only to the type locality. The type series was collected in the Cueva del Guacharo, Caripe, state of Monagas, northeastern Venezuela (Manfredi, 1957).

In this paper the subspecies is revised and its raising to specific status is proposed.

Material and Methods

The review was based upon the morphological analysis of 23 museum specimens, and material freshly collected in four caves from Venezuela by members of the Arachnology Laboratory of Museu Nacional/UFRJ. The localities are Cueva del Guacharo, Caripe, state of Monagas, Cueva Cruxent Graciliano, Cueva del Bunceo, and Cueva Alfredo Jahn, state of Miranda. Specimens were examined with a dissecting microscope. Illustrations were prepared with the aid of a camera lucida. The acronyms of institutions are listed below:

MBSVE – Museo de Biología de la Sociedad Venezolana de Espeleología, Caracas, Venezuela.

MCNLS – Museo de Ciencias Naturales de La Fundación La Salle, Caracas, Venezuela.

MNRJ – Museu Nacional / UFRJ, Rio de Janeiro, Brazil.

Systematic Accounts

Scolopocryptops guacharensis Manfredi, 1957 **new status**
Scolopocryptops ferrugineus guacharensis Manfredi, 1957: 176; Bücherl, 1974: 129.

MATERIAL EXAMINED: VENEZUELA, **Monagas**, Caripe, Cueva del Guacharo (end of the Humbolt gallery), MBSVE 0244, 1 ex.; MBSVE 0570, 1 ex.; MBSVE 0126, 1 ex.; Monagas, Cueva del Guacharo, MBSVE, 3 ex., 05-I-1975; MNRJ, 1 ex., XII-2002, Giupponi, A.P.L. & Pérez, A.;

MBSVE, 1 ex., 12-IV-1965, Linares, O.; MBSVE, 1 ex., 20-III-1971, Linares, O., MBSVE 0121, 1 ex., MBSVE 0006, 1 ex., 11-V-1959; MBSVE, 1 ex., V-1967, Linares, O.; MBSVE 0033 and 0286, 2 ex., 9-IV-1964; MBSVE, 1 ex., 25-V-1968; MBSVE, 1 ex., 20-III-1971; MBSVE 0297, 1 ex., 30-VII-1972, F. Enrech.

Material examined for comparison: *Scolopocryptops ferrugineus*, **VENEZUELA**, **Miranda**, Cueva Cruxent Graciliano, MBSVE, 1 ex., 17-VII-1966; Cueva del Bunceo, MBSVE, 2 ex., 26-XII-1965, Wilmer, P. L. R; Cueva Alfredo Jahn, MBSVE, 0126, 1 ex., 25-IV-1966, Linares, O.; Cueva Alfredo Jahn, MBSVE 0113, 1 ex., R. Sforzina; Cueva Alfredo Jahn, MHNLS, 1 ex., XII-2002, Giupponi, A.P.L. & Pérez, A.

DIAGNOSIS: *Scolopocryptops* with body light orange brown and legs pale yellow; cephalic plate, tergites and sternites smooth and with fine punctuations; antennae with 2 (1/2) articles lacking hairs; anterior margin of the forcipular coxosternum convex; dental plates formed by two external and two internal teeth on each side, between the external and internal teeth of each side there is a space slightly shorter than the width of the two internal teeth taken together; the external teeth are blunt or sharp and the straight internal teeth; paramedian sutures stretching from the 8th (or 9th) to 20th tergite; sternites smooth and without furrows; coxopleural appendices of average length, parallel to each other and pointed; legs 1st to 19th with two tibial spurs, 20th with one and 21st, 22nd and 23rd without tibial spurs. Legs 1st to 21st with one tarsal spur and 22nd and 23rd without tarsal spur.

REDESCRIPTION:

Length: 29 mm – 71 mm, without including antennae and anal legs.

Color *(in alcohol):* light orange brown. Antennae and legs light yellow.

Cephalic plate (Fig 1): smooth, with fine punctuations in the anterior portion and without depressions.

Antennae (Fig 1): with 17 antennomeres, the first two ones with flat and shiny surface (mainly in the dorsal face of the articles). There are little red, thick bristles spread over the surface of the articles. The dorsal half of the third like the two first. From the 4th on they are covered with shorter yellowish bristles, without any flat and shiny surface.

Forcipular coxosternum (Fig 2): with punctuations, anterior margin slightly convex. In some specimens along the margin there are yellow bristles that accompany all the anterior width. On each side of the anterior area, two light depressions appear in form of furrows that accompany the lateral of the forcipular coxosternum. A network of transversal furrows is present in the medium anterior portion of the coxosternum. Prefemur of the forcipular coxosternum with internal appendix, whose apex forms a blunt point.

Dental plates with two external and two internal teeth. The internal teeth are shot, rounded and partially fused, with anterior margin straight. The external teeth with sharp or blunt point. There is a space between the external tooth and the internal that is shorter than the two internal teeth taken together. Sometimes the space has the same width as the sum of the two internal teeth (Fig 2).

Tergites: smooth; first tergite with anterior semicircular pit, sometimes covered by the cephalic plate. With short paramedian sutures in the posterior border of tergites 4th (or 5th) to the 7th (or 9th), from the 8th (or 9th) to the 20th with complete paramedian sutures. Lateral keels from the 8th (or 9th) to the 21st tergite. Last tergite without sutures, keels or depressions, presenting only a membranous line that separates the tergite and the coxopleura.

Sternites: smooth, without furrows or depressions. Last sternite (Fig 4) with shallow median depression, with posterior margin slightly concave or almost straight.

Coxopleura (Fig 3): with porous field reaching almost the whole area of the coxopleura, except the area dorsal posterior and the depression formed by the furrow. In the dorsal posterior border of the coxopleura there is a sclerotized projection with blunt point. Coxopleural appendices average sized, parallel to each other and pointed.

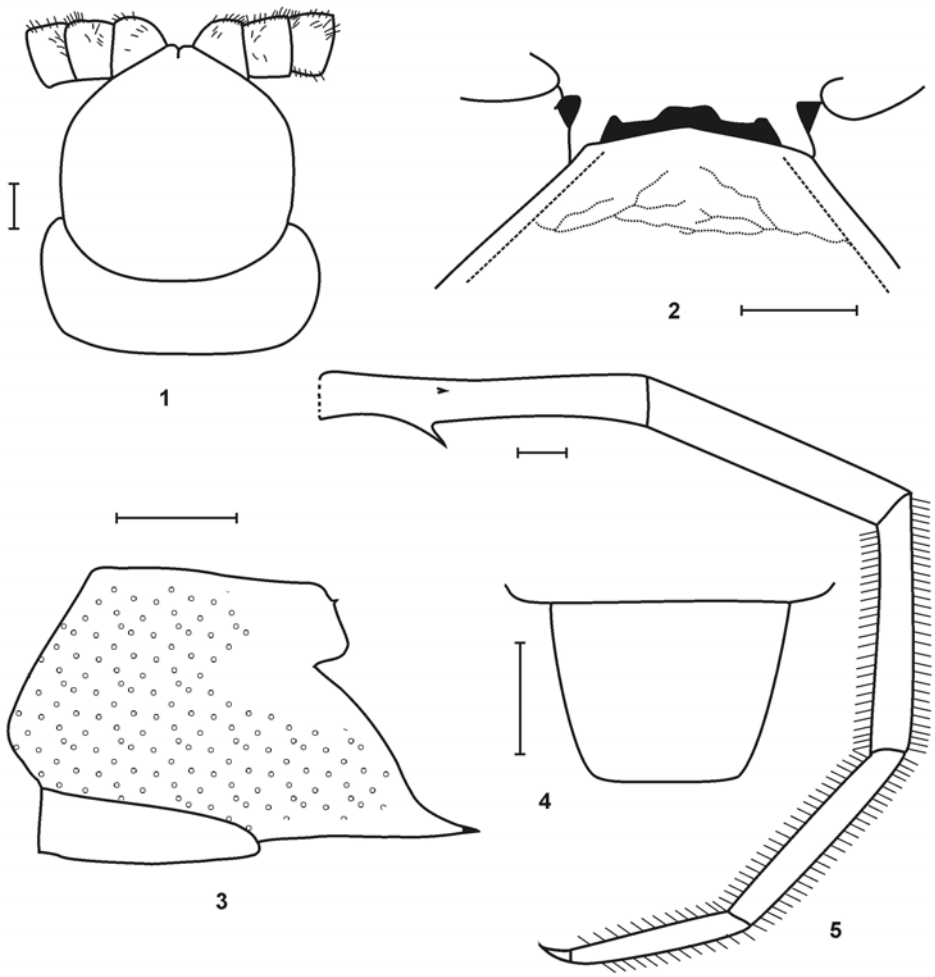
Legs: 1st to 19th legs with two tibial spurs, 20th and 21st with one , 22nd and 23rd without tibial spurs. Legs 1st to 21st with one tarsal spur; 22nd and 23rd without tarsal spur. The spurs of the legs are big and strong. Anal legs (Fig 5) long, with prefemur and femur smooth; tibia and tarsus hairy. Prefemur of the anal legs with large ventral spine and reduced laterodorsal spine.

TYPE LOCALITY: Cueva del Guacharo, Caripe, Monagas, Venezuela.

DISTRIBUTION: This species is endemic from Cueva del Guacharo, state of Monagas.

Discussion

Scolopocryptops guacharensis is easily set apart from the related *S. ferrugineus* by characters of the dental plate, the paramedian sutures, length of the last leg and tibial spurs of the legs. The dental plate of the *Scolopocryptops guacharensis* is formed by two external and internal teeth. The internal teeth are partially fused, with anterior margin straight and the external teeth with sharp or blunt margin. The space between the external tooth and the internal is at least more or less as wide as the sum of the two internal teeth. In *S. ferrugineus*, the dental plates are formed by two external and internal teeth, sometimes merged or separated by a cleft. The space between the external and internal teeth is much shorter than the sum of the two internal teeth. The complete paramedian sutures of *S. guacharensis* reaching from the 8th (or 9th) to the 20th tergite. In *S. ferrugineus* the complete paramedian sutures vary from 5th, 6th, 7th, 8th, 9th, 10th to 18th, 19th, 20th, 21st tergites. On the legs 1st to 19th of *S. guacharensis* there are two tibial spurs, in related species from Venezuela, on the legs 1st to 20th there are two tibial spurs. The last legs of *S. guacharensis* are long when compared with length of the specimen. The prefemur and femur of the last leg are smooth and tibia and tarsus are hairy. In related species, the last legs are long but as long as in *S. guacharensis*. The last legs of the related species from Venezuela are totally smooth. *Scolopocryptops guacharensis* is endemic from the Cueva del Guacharo, but *S. ferrugineus* was not found there. It was collected in other three caves of the state of Miranda (new records) and recorded from Rancho Grande, state of Aragua (Bücherl, 1950, 1974) and Colonia Tovar, same state (Brölemann, 1898).



Figs 1-5. *Scolopocryptops guacharensis* from Cueva del Guacharo (MBSVE). **1**. Cephalic plate, dorsal view; **2**. Dental plate of the forcipular coxosternum, ventral view; **3**. Coxopleura, lateral view; **4**. Last sternite, ventral view; **5**. Right anal leg, retrolateral view. Scale bars = 1 mm.

For the original description of the subspecies, the author had only one specimen, although she cites that the same subspecies or some related form was sighted in the Cueva Alfredo Jahn (Miranda State). The traditional subspecies concept relates to adjacent (parapatric) populations with a hybridization zone in between, which does not apply in this case. It seems that older authors who worked on Scolopendromorpha used the subspecies concept in a much loser way, that is, when the morphological gap is large, they call them two separate species, when the gap is subtle, they call them two subspecies.

What seems to happen in this case is that we have a widespread species *S. ferrugineus* and a strongly endemic species, restricted to a single cave, *S. guacharensis*. Also suggestive is the fact that *S. guacharensis* has not been collected outside the cave and shows some degree of depigmentation (which granted it the nickname "escolopendra rosada" among the Venezuelan biospeleologists) and length of the last leg, which could be troglomorphisms.

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