

EDITORIAL

THREE NEW TAXA OF NEOTROPICAL LARRINAE
(HYM., SPHECIDAE) AND A NEW PREY RECORD

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ABSTRACT

Sanaviron marthae, a new genus and species of the New World tribe Bothynostethini, is described in both sexes. A new species of *Willinkiella* is described and the first prey record for the Scapheutini given.

INTRODUCTION

The new taxa described here are members of an interesting relict group of small, New World wasps, only one of whose genera contains more than a very few species. Since these wasps are rarely collected, information on their biology is correspondingly scarce.

Menke (1968) first reviewed this group, describing several new taxa and dividing the genera between the subtribes Bothynostethina (with *Bothynostethus* and *Willinkiella*) and Scapheutina (with *Scapheutes* and *Bohartella*) of the tribe Bothynostethini, which he placed in the large and diverse subfamily Larrinae. Later (1976) he raised both subtribes to full tribal rank, modifying his earlier key. The characters of *Sanaviron*, here described, place the genus unambiguously in the Bothynostethini. More recently Menke & Vardy (1980) published keys to the species of *Scapheutes* and described a new species of *Bohartella*.

The present paper was prompted by the discovery in the Museum National d'Histoire Naturelle, Paris, of a single female of an undescribed genus from the Argentine Chaco belonging to this group. Three subsequent visits by different entomologists to the area where the specimen was collected have failed to produce further representatives of

the genus. However, two further specimens, including a male, were later found in Paris. A second species of *Willinkiella* has also come to notice, and the first prey record for *Bohartella* has recently become available.

Abbreviations

BMNH, London British Museum (Natural History), London.

MNHN, Paris Muséum National d'Histoire Naturelle, Paris.

CR Clypeal ratio: clypeal length divided by the distance between the posterior ocelli.

IR Interocular ratio: interocular width at the level of the ocelli, divided by the distance between the posterior ocelli.

ER Eye ratio: eye length divided by the distance between the posterior ocelli.

HR Head ratio: head width divided by the distance between the posterior ocelli.

BOTHYNOSTETHINI Menke, 1976

Key to Genera

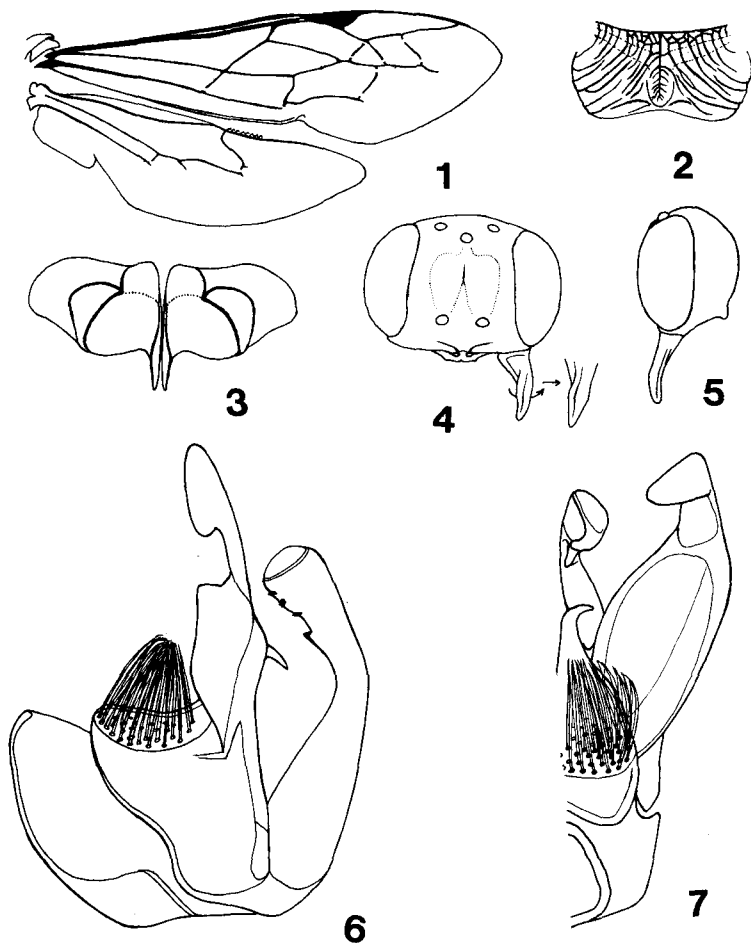
- 1 Second submarginal cell of forewing anteriorly truncate or sessile (fig. 1); dorsum of metapostnotum-propodeum almost entirely covered by strong carinae radiating from its base (fig. 2)..... **Sanaviron** gen.n.
- Second submarginal cell of forewing distinctly petiolate; dorsum of metapostnotum-propodeum smooth except for sculpture at base and in median furrow..... 2
- 2 Metapostnotum-propodeum with a transverse sub-basal furrow crossed by few (c.6-12) carinae, posterodorsal face with network of large carinae; inner orbits more or less strongly convergent downwards..... *Bothynostethus* Kohl
- Metapostnotum-propodeum with a transverse basal furrow crossed by many (c.20) carinae, posterodorsal face with only a short, central carina; inner orbits slightly divergent downwards..... *Willinkiella* Menke

Note: The notch in the lower edge of the mandible, used by Menke (1976: 351) to characterise *Bothynostethus*, is not present in all species.

Sanaviron gen.n.

Body robust, 6-7 mm long. Head broad (fig. 4, 5); inner orbits straight, slightly divergent downwards; eye facets slightly larger near antennal sockets in female, equal in male; ocelli perfect, hind pair widely separated; frons with a broadly-raised central area bisected by a shallow, vertical groove. Antennal sockets almost touching clypeus, about as far from each other as from orbits (slightly further apart in male); antennae short, rather thick, segments successively shorter and broader towards apex in male, placoids absent; occipital carina distinct, strongest below, but ending well short of hypostomal carina; female genal area with strong tubercle (fig. 5); mandible robust, external margin entire, inner margin angulate (figs 4, 5); mouthparts elongate. Pronotum laterally very strongly compressed, so that most of its lobe faces forwards; hind margin of propleuron in both sexes with a strongly carinate, transverse, pre-apical ridge, forming a tubercle in its outer third. All mesoscutal longitudinal grooves vestigial to absent; lateral scutellar pits wide and very deep; mesopleuron very strongly swollen, with a broad forward-facing surface in same plane as pronotal side; episternal sulcus strong, continued downwards as a short omalulus in direction of acetabular carina but not reaching it; postspiracular carina absent, acetabular carina weak, scrobe deep; mesopleural suture with many small, irregular, transverse carinae; metapleural suture with few, large, regular carinae. Junction of propodeal dorsal and lateral faces very strongly swollen (fig. 2); metapostnotum with a median fovea containing a carina, and with a transverse sub-basal sulcus crossed by carinae which radiate across whole propodeal dorsum. Posterior declivity mainly transversely rugose, lateral face with rugae at edges, giving way to coarse but shallow punctures in centre. Humeral plate abnormally large, equal in size to tegula, which is itself larger

than in all other members of tribe. Wings hyaline, slightly infuscate around stigma, which is dark and rather broad. Forewing (fig. 1) marginal cell long, narrow, pointed on wing margin; veins 1r-m and 2r-m meet RS separately or together, but do not fuse earlier to form a petiolate submarginal cell II; submarginal cells II and III equal on M; submarginal cell III equal in width anteriorly and posteriorly; 2r-m joins middle of marginal cell; 1m-cu is prefurcal or interstitial; 2m-cu is received by submarginal cell II; Cu-a interstitial with M; hindwing Cu-a prefurcal. Female anterior coxa flattened, triangular below, with a sharp, erect, anterior tooth. Male anterior coxa deeply excavated in its inner half (fig. 3). Male trochanter also deeply, but simply, excavated in its inner half. Tibia II with single apical spur; tibiae II and III with many short, strong spines postero-laterally, tibia III with also several blunt teeth. Femur III of female with a truncate apex delimited by a carina on upper and ventral sides only, apex merging with other sides in a smooth curve. Plantulae



Figs 1-7. - *Sanaviron marthae*. 1, ♀ right wings; 2, ♀ propodeal dorsum; 3, ♂ anterior coxae, ventral view; 4, ♀ face, front view and mandible, antero-lateral; 5, ♀ face, profile; 6-7, ♂ genitalia, right half, lateral and ventral views.

absent. Gaster sessile; tergite I with a strong lateral carina, II with a weaker one. Male sternite VIII without projections, volsella not greatly reduced. Genitalia as in figs 6, 7.

Type-species: *Sanaviron marthae* sp.n.

Sanaviron marthae sp.n.

Female. Body length 7.0 mm. Black, except as follows: yellow are: a transverse band, narrower medially, on pronotal collar; a band around posterior edge of pronotal lobe; an anterior (sometimes also a posterior) spot on tegula; anterior spot on humeral plate; pre-apical bands of irregular width on tergites I-IV, a median spot on V; a very small posterolateral spot on sternite II, sometimes also on III; a spot beneath apex of femora I & II, and all tibiae on outer side. Redbrown are: mandible, palpi, tips of antennal segments I, II and last; most of all tibiae, and all tarsi.

Clypeus short, its anterior margin projecting and medially deeply incised parallel to the edge, forming double margin (fig. 4). Lower margin with lobe bearing 4 very small teeth, middle pair separated by a notch; upper margin with a pair of strong tubercles. Antenna with 12 segments; segment I an almost straight-sided cone about twice as long as broad, punctate; II rotund, about as long as broad; III longer than II and cone-shaped; succeeding segments becoming shorter, broader and more parallel-sided until penultimate which is about quadrate; last segment as long as IV but rounded at apex. Head densely covered with medium punctures (coarser on vertex). Pronotal collar not carinate, slightly depressed medially. Punctures on thoracic dorsum medium, moderately dense; smaller and more dense on posterior mesoscutum and postscutellum. Mesopleuron moderately finely and densely punctate. Metapleuron shining, with very fine, rather sparse punctures, the upper and anteroventral pits connected by a foveate groove. Anterior basitarsus with 6-7 rake spines, about as long as basitarsal width. Tergites I-V with fine, dense punctures except a very narrow, polished apical band on each, and with a fairly distinct gradulus; tergite VI with large, dense punctures. Most sternites covered with fine, dense punctures (except apical bands, as on tergites), but on sternite II, which is slightly swollen, only anteriorly and laterally; remainder with coarser, much sparser punctures, general surface microreticulate. Body generally covered with rather short, silvery hair, densest on face, scutellum and postscutellum. Tergite V with a thin, pre-apical band of erect setae. Tergite VI with flattened, triangular, apically rounded pygidial area delimited by a carina and densely covered with bristles. Sternites simple, II with a few pre-apical setae, longer than on tergite V, becoming more numerous on succeeding sternites until V. Sternite VI densely covered, especially apically, with short and medium setae.

Male. As female except: body only 6.0 mm long; also yellow are most of mandible and underside of scape, legs entirely from last one-third of femora I and II onwards. Tergite V lacks a yellow spot. Redbrown markings also differ as follows: only mandibular apex redbrown; whole antenna below and most of its apical segments redbrown.

Less of clypeal margin double-margined, upper straight and sharp, lower much less projecting but with median tubercle. Antenna 13-segmented, segment I shorter and more rotund, III as long as II; III onwards broader and shorter until penultimate, which is strongly transverse; last segment about as long as broad, its apex rounded and dorso-ventrally flattened, with upper side partly polished. Anterior basitarsus with only 4-5 rake spines, which are slightly shorter than in female. Tergite VI also with fine, dense punctures, and VII has large, dense punctures instead of VI. Sternite II similar to others. Pilosity generally denser, especially on face. Also tergite VI has a band of pre-apical setae. Tergite VII similar to VI of female but more broadly rounded-truncate. Pre-apical setae found also on sternite VI. Sternite VII polished, with a few apical hairs. Genitalia figs 6-7.

Etymology. Sanaviron is the name of an extinct tribe of Indians which inhabited the type locality; as a genus-level name the gender of *Sanaviron* is masculine. The species is named after my wife, in recognition of her considerable help on collecting trips.

Note: Sanaviron marthae is a small, robust, black-and-yellow wasp which resembles various other bees and wasps (especially the sphecid genus *Oxybelus*) occurring in the same limited area at the heart of the southern part of the Chaco region, which part comprises most of the low-lying parts of north-central Argentina. The region is already known to have a large number of endemic forms, and supports a strongly xerophytic vegetation interspersed with seasonal swamps and a few, occasionally very salty, streams.

The habits of *S. marthae* are as yet unknown. However, at least one of its close relatives, *Bothynostethus distinctus* Fox, preys on beetles (Chrysomelidae). The malar tubercles in female *Sanaviron* may be an adaptation for carrying similar prey. *B. distinctus* nests in soil, and a female *Bohartella* (of the closely related tribe Scapheutini) has been taken with soil adhering to its pygidium. These facts, together with the presence of a tarsal rake in *Sanaviron*, suggest that it too nests in soil.

Material examined: Holotype ♀, ARGENTINA: Santiago del Estero, Bords du Rio Salado, env[irons] Icaño, November 1909. (*E.R. Wagner*) (MNHN, Paris).

Paratypes. ARGENTINA: Santiago del Estero: ♀, environs d'Icano, Guarda Escolta [= Guardia Escolta, 82 k. S.E. Icaño], 1909 (*E.R. Wagner*) (BMNH, London); ♂ (both hind legs missing) Barancas, 1909 (*E.R. Wagner*) (MNHN, Paris).

TAXONOMIC POSITION AND RELATIONSHIPS

Sanaviron possesses all the characters used to distinguish the Bothynostethini from the Scapheutini: male antennae without placoids; occipital carina not joining hypostomal; mouthparts elongate; post-spiracular carina absent; acetabular carina weaker; plantulae absent; metapostnotum with transverse sub-basal sulcus; 1m-cu of forewing prefurcal or interstitial; 2r-m joins middle of marginal cell, which is pointed on wing-margin; hindwing cu-a prefurcal; male sternite VIII without projections, volsella not greatly reduced.

Sanaviron resembles *Bothynostethus* as follows: external margin of mandible entire; junction of dorsal and lateral faces of propodeum strongly swollen.

It resembles *Willinkiella* as follows: inner orbits slightly divergent downwards; eye facets slightly larger near antennal sockets; mouthparts elongate; acetabular carina weak; tergite II with lateral carina; black and yellow markings.

It differs from both genera (i.e. the Bothynostethini) in the following characters which, together with those already given in the key, modify the tribal definition given by Menke (1976): male antenna becoming gradually thicker towards apex; inner mandibular margin angulate (not distinctly notched or toothed); female with genal tubercle and sharp anterior tooth on fore coxa.

Some of the characters mentioned by Menke (1976) are omitted from the above account because they have since proved too variable.

WILKINKIELLA Menke

Willinkiella Menke, 1968. Type species: *Willinkiella argentina* Menke 1968, by original designation [= *Pisonopsis argentina* Schrottky, 1909] = *Willinkiella argentina* (Schrottky, 1909).

Hitherto *Willinkiella* was thought to be a monobasic genus containing only a single, widely distributed but uncommon species. Two males from Brazil, exhibiting differences in tone and pattern of the yellow markings, immediately suggested a species distinct from *argentina*, and small but constant structural differences were eventually found when the two Brazilian males were compared with a wide range of males from Argentina.

The discovery of a second species of *Willinkiella* is interesting in that the situation appears to parallel that in *Bohartella*: one species so far known only from a relatively small area north-west of São Paulo, and a second species much more widely distributed.

Willinkiella brasiliensis sp.n.

Body length 8–9 mm. CR 1.40–1.44, IR 2.81–2.90, ER 3.50–3.87, HR 5.67–5.94. Body black (dark mahogany on the gaster). Yellow (of a darker shade than in *argentina*) are: mandibular base, faint pair of spots on clypeus (one specimen only), part of scape, dorsal band on pronotum; femur I below, tibia I, distal spot below femur II (one specimen only), proximal part of tibia II; on gaster: narrow broken, pre-apical band on tergite I, broad, irregular band on tergite II, most of apical half of tergite III, tergite IV onwards entirely except for small, central indentation of black on each. Sternites II, III and IV with lateral traces of pre-apical bands. Remainder of antenna, mandible and legs red-brown to black. All venation including stigma pale brown, marginal cell no darker than other cells.

KEY TO SPECIES OF *WILLINKIELLA* (based on males)

- 1 Scutellum and postscutellum entirely black. Tergite I with narrow, broken, pre-apical yellow band; tergite II with broad, irregular apical band, subsequent tergites with yellow bands of increasing width. Stigma of forewing pale brown, marginal cell no darker than others. CR 1.40–1.44, IR 2.81–2.90, ER 3.50–3.87, HR 5.67–5.94. Known only from small area north-west of São Paulo, east Brazil. ***brasiliensis*** sp.nov.
- Raised parts of scutellum and postscutellum yellow. A broad yellow band on tergite I, tergite II mainly or entirely black, remaining tergites with narrow yellow bands. Stigma of forewing dark brown, marginal cell distinctly more infuscate than other cells. CR 1.64–1.81, IR 3.21–3.43, ER 4.43–4.93, HR 6.57–7.21. Widely distributed in north-west Argentina.....*argentina* (Schrottky)

Material examined:

W. brasiliensis. Holotype ♂, BRAZIL: Campinas, iii.1924 (*Williams*) (Bishop Museum, Honolulu). Paratype ♂, BRAZIL: Araraquara, 10.iii.1927 (*Seitz*) (Senckenberg Museum, Frankfurt-am-Main).

W. argentina. 28 ♂♂, 7 ♀♀, ARGENTINA: provinces of Catamarca, Cordoba, Jujuy, La Rioja, Salta and Tucuman (Instituto Miguel Lillo, Tucuman and BMNH, London).

SCAPHEUTINI Menke, 1976

BOHARTELLA Menke

Bohartella Menke, 1968. Type-species: *Bohartella scapheutoides* Menke 1968, by original designation.

Since Menke and Vardy (1980) published on the genus *Bohartella*, a further six females of *B. scapheutoides* Menke have been collected by Mr M. Cooper. One of these was captured with its grasshopper prey, an immature acridine, while another specimen has red earth on the pygidium and on the truncate apex of the hind femora. Three specimens are from ECUADOR: Morona-Santiago, Cord. de Cutucu, 6 k east of Macas, 14–30.v.1981 and three (including that with prey) from BOLIVIA: Santa Cruz, Puerto Grether, 12–22.ix.1981.

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