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## A new species of *Smicridea* from Argentina (Trichoptera: Hydropsychidae)

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### Una especie nueva de *Smicridea* de la Argentina (Trichoptera: Hydropsychidae)

■ **RESUMEN.** Se describen el macho y la hembra de una especie nueva de *Smicridea* (*Rhyacophylax*) Müller (Hydropsychidae: Smicrideinae), recolectados cerca del Parque Nacional El Palmar, provincia de Entre Ríos, Argentina. Los machos se caracterizan por la presencia de tres puntas en el ápice del falo, una dorsal y dos laterales, y dos ganchos internos. La hembras se distinguen fácilmente por las características de la vagina y de la placa interna.

**PALABRAS CLAVE.** Hydropsychidae. *Smicridea*. Especie nueva. Neotropical.

■ **ABSTRACT.** The male and the female of a new species of *Smicridea* (*Rhyacophylax*) Müller (Hydropsychidae: Smicrideinae) collected near by El Palmar National Park, Entre Ríos Province, Argentina, are described. The males of this species are characterized by the presence of three points at the apex of the phallus, one dorsal and two lateral, and two lateral internal hooks. The females are easily distinguished by the characteristics of the vagina and the internal plate.

**KEY WORDS.** Hydropsychidae. *Smicridea*. New species. Neotropical.

#### INTRODUCTION

*Smicridea* McLachlan is the only genus of Smicrideinae present in the Neotropical region (Scheffer, 1996), where it is both abundant and diverse.

The species of this genus are grouped in two subgenera, *Smicridea* (*Smicridea*) McLachlan and *Smicridea* (*Rhyacophylax*) Müller, which are found from southwestern United States, through Central and South America and the Antillean islands (Flint *et al.*, 1999).

The adults of both subgenera may be distinguished by their wing venation, tibial formula (Flint, 1974), and the presence of two pairs of pheromonal glands in the abdominal segments VI and VII of *Smicridea* (*Smicridea*), that are absent in the abdomen of *Smicridea* (*Rhyacophylax*) (Flint & Denning, 1989).

In Argentina, the knowledge of the diversity of *Smicridea* is due almost exclusively, to the work of Flint (1972, 1973, 1978, 1980, 1982, 1983, 1989), who has described 25 of the 33 species of

the genus recorded from this country. Twenty three of these 33 species, belong to the subgenus *S.* (*Rhyacophylax*), and 10 to the subgenus *S.* (*Smicridea*). The species of both subgenera extend their distribution from the Jujuy Province (in the north of Argentina) to the Chubut Province (in Patagonia) (Table 1).

The knowledge of the females of *Smicridea* is poor. Only the females of 52 of the 171 Neotropical species of the genus have been described (Flint, 1964, 1968a y b, 1974, 1981, 1989; Kumanski, 1987; Botosaneanu, 1990, 1994; Blahnik, 1995; Holzenthal & Blahnik, 1995), about a third of the total. From Argentina, the females of *Smicridea* (*Smicridea*) *annulicornis* (Blanchard), *Smicridea* (*Smicridea*) *anticura* Flint, *Smicridea* (*Smicridea*) *decora* (Navás), *Smicridea* (*Smicridea*) *frequens* (Navás), *Smicridea* (*Smicridea*) *mucronata* Flint, *Smicridea* (*Rhyacophylax*) *murina* McLachlan, and *Smicridea* (*Smicridea*) *pucara* Flint have been described.

**Table 1.** Distribution of the species of *Smicridea* recorded from Argentina.

Species	Distribution
<i>S. (S.) annulicornis</i>	Argentina (Chubut, Neuquén and Río Negro Provinces); Chile.
<i>S. (S.) anticura</i>	Argentina (Río Negro Province); Chile.
<i>S. (R.) appendiculata</i>	Argentina (Misiones and Santa Fe Provinces); Brasil.
<i>S. (R.) argentina</i>	Argentina (Chaco, Entre Ríos, Formosa and Santa Fé Provinces); Paraguay; Peru.
<i>S. (S.) aterrima</i>	Argentina (Misiones Province).
<i>S. (R.) atrobasis</i>	Argentina (Entre Ríos and Misiones Provinces); Brasil; Uruguay.
<i>S. (R.) chicoana</i>	Argentina (Salta and Jujuy Provinces).
<i>S. (R.) coronata</i>	Argentina (Córdoba, Corrientes, Entre Ríos and Misiones Provinces); Brasil; Paraguay.
<i>S. (S.) decora</i>	Argentina (Chubut, Neuquén and Río Negro Provinces); Chile.
<i>S. (R.) dentifera</i>	Argentina (Entre Ríos and Misiones Provinces); Uruguay.
<i>S. (R.) discalis</i>	Argentina (Misiones Province).
<i>S. (R.) forcipata</i>	Argentina (Misiones Province).
<i>S. (S.) frequens</i>	Argentina (Chubut, Neuquén and Río Negro Provinces); Chile.
<i>S. (R.) iguazu</i>	Argentina (Misiones Province); Brasil.
<i>S. (R.) mesembrina</i>	Argentina (Buenos Aires, Catamarca, Córdoba, Entre Ríos, Salta and Tucumán Provinces); Bolivia.
<i>S. (R.) minuscula</i>	Argentina (Misiones Province); Paraguay.
<i>S. (S.) mucronata</i>	Argentina (Neuquén Province); Chile.
<i>S. (R.) murina</i>	Argentina (Mendoza, Neuquén, Río Negro and Salta Provinces); Bolivia; Chile; Colombia; Costa Rica; Ecuador; Nicaragua; Panama; Peru; Venezuela.
<i>S. (R.) nanda</i>	Argentina (Misiones Province).
<i>S. (S.) nigerrima</i>	Argentina (Catamarca, Salta and Tucumán Provinces).
<i>S. (S.) olivacea</i>	Argentina (Catamarca and Salta Provinces).
<i>S. (R.) pallidivittata</i>	Argentina (Misiones Province).
<i>S. (R.) pampeana</i>	Argentina (Buenos Aires Province).
<i>S. (S.) paranensis</i>	Argentina (Misiones Province); Paraguay.
<i>S. (R.) peruana</i>	Argentina (Northwest); Peru.
<i>S. (R.) piraya</i>	Argentina (Misiones Province); Brasil.
<i>S. (S.) pucara</i>	Argentina (Neuquén Province); Chile.
<i>S. (R.) spinulosa</i>	Argentina (Corrientes, Entre Ríos and Misiones Provinces).
<i>S. (R.) unguiculata</i>	Argentina (Misiones Province); Brasil; Paraguay.
<i>S. (R.) vermiculata</i>	Argentina (Misiones Province); Brasil; Paraguay.
<i>S. (R.) vilela</i>	Argentina (Corrientes and Entre Ríos Provinces); Brasil.
<i>S. (R.) voluta</i>	Argentina (Entre Ríos Province); Brasil; Peru.
<i>S. (R.) weidneri</i>	Argentina (Misiones Province); Brasil.

## MATERIAL AND METHODS

The males and females of the new species were collected with a net in the marginal vegetation of El Palmar Stream, near El Palmar National Park, Entre Ríos Province, Argentina, and preserved in alcohol.

The dissected parts of the specimens were cleared in NaOH 10%, neutralized with phenol,

died with acid fuchsine when necessary, and mounted in glycerin or Fauré media for microscopical observations.

The types of the new species are deposited at the Museo Argentino de Ciencias Naturales, Buenos Aires.

## RESULTS

*Smicridea (Rhyacophylax) palmar* sp.nov.  
(Figs. 1-7)

**Etymology.** Named for the place where the specimens were collected.

**Type Material.** Male holotype and 8 paratypes (6 males and 2 females): Argentina, Entre Ríos, arroyo El Palmar, Ruta Nacional 14, Angrisano col., XI-2003.

**Diagnosis.** This species is readily identified by the structure of the male genitalia. The distal part of the phallus that bears three retrorse points at the apex, one dorsal and two lateral, and two lateral internal hooks, is diagnostic.

### Description

**Male** (Figs. 1-3)

Length of forewing. 4.2 to 5.0 mm.

Coloration of the body dark grayish brown. The specimens preserved in alcohol acquire a dark reddish brown coloration, which contrasts with that of the setal warts and the abdominal sterna that become whitish. Forewing dark brown, with a transverse, subapical, irregular, white band, and two pale maculae, a round one between  $R_4$  and  $R_{5+6}$  and a subrectangular one anterior to  $R_{2+3}$  and the proximal part of  $R_2$ , covering a zone of Sc and  $R_1$ .

Width of eye, in dorsal view, almost half of the interocular distance. Anterolateral process of fifth sternum as long as the segment.

**Genitalia.** Antero-lateral margin of the ninth segment rounded, and produced anteriorly (Fig. 1). Tenth tergite, in lateral view, subtriangular, dorsal margin slightly concave, posterodorsal corner slightly curved and directed dorsally; in dorsal view (Fig. 3), subtriangular, apex pointed and slightly produced. Inferior appendages two segmented, almost parallel-sided, with the basal portion long (almost three times length of apical segment), broadening distally, and the apical portion ending in a point. The basal part of the phallus broadens proximally, forming an angle of about 90° with the distal part, which is tubular and bears three retrorse points at the apex, one dorsal and two lateral (one on either side), and two lateral internal hooks that become basal as the internal sclerite is exerted (Figs. 1-2). Internal sclerite long and slender, sinuous in lateral view.

**Female** (Figs. 4-7)

Length of forewing. 5.2 mm.

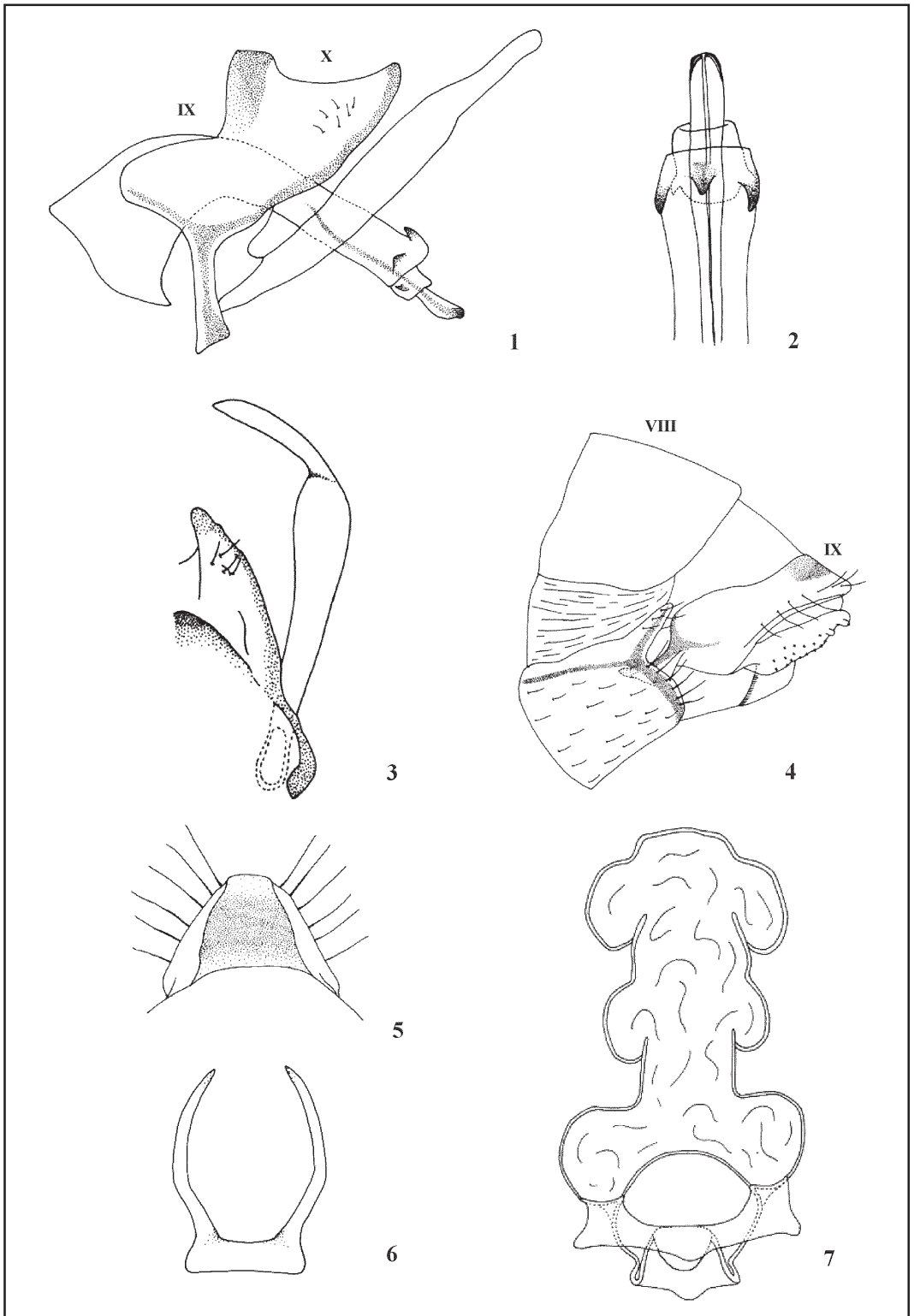
Eighth sternum formed by two trapezoidal sclerites, with the posterior margin straight, the medial-posterior angle rounded, and the lateral-posterior one enlarged; with short setae covering the surface of the sternum, and longer setae along the posterior margin (Fig. 4). Ninth tergite, in dorsal view, with the apex almost straight, and bearing long setae along the lateral margins (Fig. 5). Internal plate, in dorsal-posterior view, U-shaped with the lateral arms arched towards the centre, and the anterior bridge straight, produced laterally (Fig. 6). Vagina complex, as in figure 7.

**Immature stages.** Unknown.

**Systematic considerations.** On the basis of the structure of the male genitalia, and especially for the presence of three points at the tip of the phallus, *Smicridea (Rhyacophylax) palmar* sp.nov. seems to be related to *Smicridea (Rhyacophylax) argentina* (Navás, 1920). They are easily distinguished by the position of the points, which are dorsal in *S. (R.) argentina*, and one dorsal and two lateral in *Smicridea (Rhyacophylax) palmar* sp. nov., and by the presence of two lateral internal hooks in *Smicridea (Rhyacophylax) palmar* sp. nov. which are absent in *Smicridea (Rhyacophylax) argentina*.

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**Figures. 1-7. *Smicridea (Rhyacophylax) palmar* Sganga sp.nov.** 1-3: male genitalia. 1, lateral view. 2, apex of the phallus, dorsal view. 3, terga IX, X and inferior appendages, dorsal view. 4-7: female genitalia. 4, lateral view. 5, dorsal view. 6, internal plate, postero-dorsal view. 7, vagina, ventral view.

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