ISSN 0373-5680 *Rev. Soc. Entomol. Argent.* 64(3): 141-145, 2005

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

SGANGA, Julieta V.

Laboratorio de Entomología, Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires. C1428EHA, Buenos Aires, Argentina; e-mail: jsganga@bg.fcen.uba.ar

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

The disected parts of the specimens were cleared in NaOH 10%, neutralized with phenol, dyed 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 readly 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, 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 º 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 exserted (Figs. 1-2). Internal sclerite long and slender, sinuous in lateral view.

Female (Figs. 4-7)
Length of forewing. 5.2 mm.

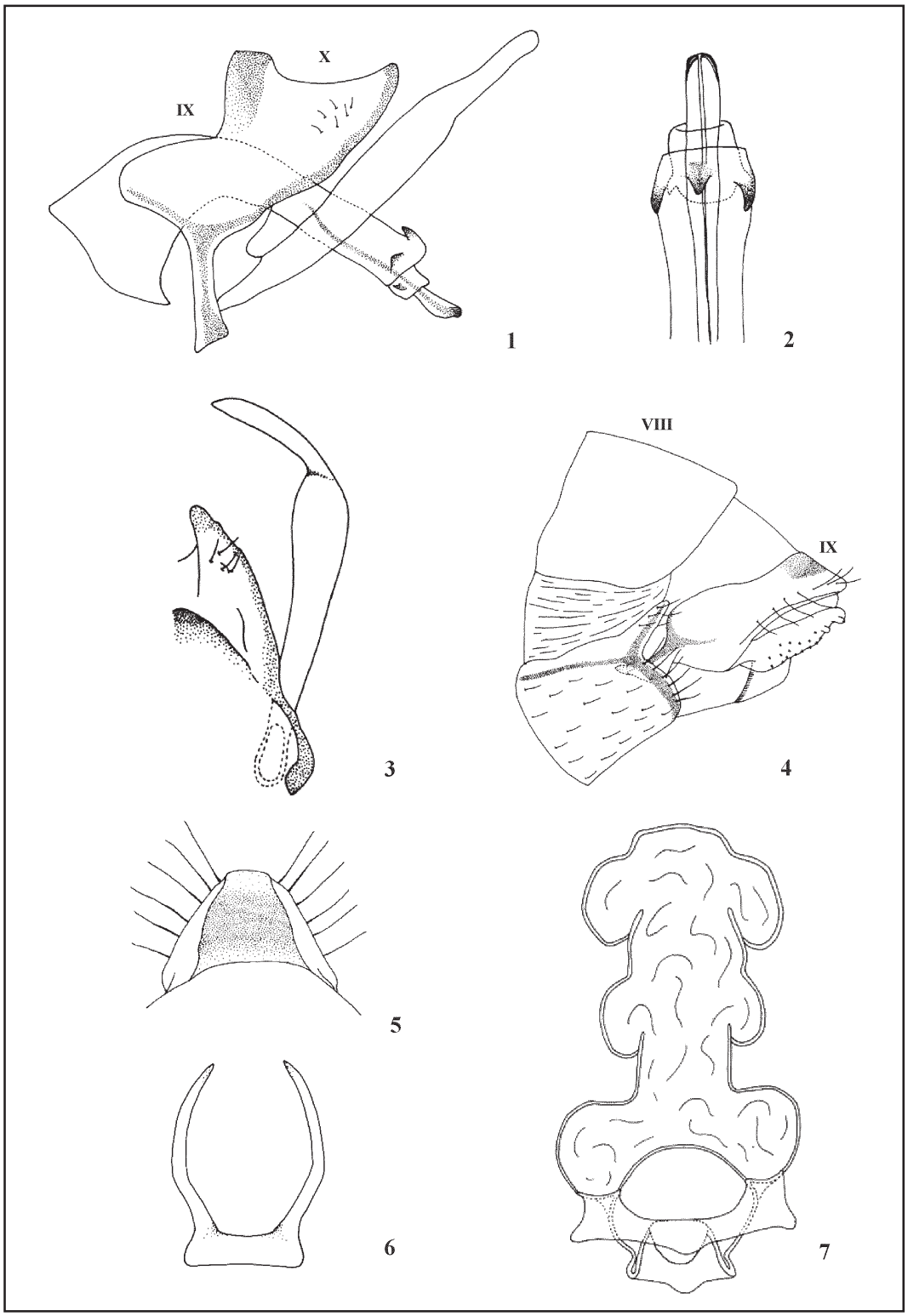
Eighth sternum formed by two trapezoidal sclerites, with the posterior margin straight, the medial-posterior angle rounded, and the lateral-posterior one enlarged; with short setae covering the surface of the sternum, and longer setae along the posterior margin (Fig. 4). Ninth tergite, in dorsal view, 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*.

ACKNOWLEDGEMENTS

I warmly thank Dr. Elisa Angrisano (Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires) for her helpful comments on the manuscript and for her endless patience, and Dr. Axel Bachmann (Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires) for his comments on the manuscript.



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.

LITERATURE CITED

1. BLAHNIK, R. 1995. New species of *Smicridea* (subgenus *Smicridea*) from Costa Rica, with a revision of the *fasciatella* complex (Trichoptera: Hydropsychidae). *J. N. Am. Benthol. Soc.* 14 (1): 84-107.
2. BOTOSANEANU, L. 1990. Results of a trichopterological (Insecta: Trichoptera) travel to the Lesser Antilles in 1989. *Bull. Inst. Roy. Sci. Nat. Belgique,* Entom 60: 39-48.
3. BOTOSANEANU, L. 1994. Les Trichoptères de la Guadeloupe. *Ann. Soc. Entom. France* (NS) 30: 33-54.
4. FLINT, O. S. 1964. The caddisflies (Trichoptera) of Puerto Rico. *Univ. Puerto Rico,* Agr Exper Stat, Techn Paper 40: 1-80.
5. FLINT, O. S. 1968a. The caddisflies of Jamaica (Trichoptera). *Bull. Inst. Jamaica,* Sci Ser 19: 1-68.
6. FLINT, O. S. 1968b. Bredin- Archbold-Smithsonian Biological Survey of Dominica, 9. The Trichoptera (Caddisflies) of the Lesser Antilles. *Proc. U S Nat. Mus.* 125 (3665): 1-86.
7. FLINT, O. S. 1972. Studies of Neotropical caddisflies XIV: on a collection from northern Argentina. *Proc. Biol. Soc. Wash.* 85: 223-248.
8. FLINT, O. S. 1973. A replacement name for *Smicridea (R.) minima* Flint (Trichoptera: Hydropsychidae). *Proc. Biol. Soc. Wash.* 75:219.
9. FLINT, O. S. 1974. Studies of Neotropical caddisflies, XVII: The genus *Smicridea* from North and Central America (Trichoptera, Hydropsychidae). *Smith. Contr. Zool.* 167: 1-65.
10. FLINT, O. S. 1978. Studies of Neotropical caddisflies, XXII: Hydropsychidae of the Amazon basin (Trichoptera). *Amazoniana* 6:373-421.
11. FLINT, O. S. 1980. Studies of Neotropical caddisflies, XXVI: new species from Argentina (Trichoptera). *Rev. Soc. Entomol. Arg.* 39: 137-142.
12. FLINT, O. S. 1981. Studies of Neotropical caddisflies, XXVIII. The Trichoptera of the Río Limón basin, Venezuela. *Smith. Contr. Zool.* 330: 1-60.
13. FLINT, O. S. 1982. Trichoptera of the Area Platense. *Biol. Acuát.* 2:1-70.
14. FLINT, O. S. 1983. Studies of Neotropical caddisflies, XXXIII: new species from austral South America (Trichoptera). *Smith. Contr. Zool.* 377: 1-100.
15. FLINT, O. S. 1989. Studies of Neotropical caddisflies, XXXIX: the genus *Smicridea* in the Chilean Subregion (Trichoptera: Hydropsychidae*). Smith. Contr. Zool.* 472: 1-45.
16. FLINT, O. S. & D. G. DENNING. 1989. Studies of Neotropical caddisflies, XL: new species of *Smicridea* (*Smicridea*) from Middle America and the West Indies (Trichoptera: Hydropsychidae). *Proc. Biol. Soc. Wash.* 102 (2): 418-433.
17. FLINT, O. S. Jr., R. W. HOLZENTHAL & S. C. HARRIS. 1999. *Catalog of the Neotropical Caddisflies* (*Insecta: Trichoptera*). Ohio Biol. Survey, Columbus, Ohio.
18. HOLZENTHAL, R. W. & R. J. BLAHNIK. 1995. New species of *Smicridea (Rhyacophylax)* (Trichoptera: Hydropsychidae), from Costa Rica. *Entom. News* 106: 213-223.
19. KUMANSKI, K. P. 1987. On the Caddisflies (Trichoptera) of Cuba. *Acta Zool Bulgarica* 34: 3-35.
20. NAVÁS, R. P. L. 1920. Insectos Sudamericanos (1ª, 2ª y 3ª serie). *An. Soc. Cient. Arg.* 90: 33-72.
21. SCHEFTER, P. W. 1996. Phylogenetic relationships among subfamily groups in the Hydropsychidae (Trichoptera) with diagnoses of the Smicrideinae, *new status*, and the Hydropsychinae. *J. N. Am. Benthol. Soc.* 15 (4): 615-633.

Recibido: 25-XI-2004
Aceptado: 24-XI-2005