

## New records of doryctine wasps (Hymenoptera: Braconidae) from Argentina, with the description of *Shawius diorioi* Martínez sp. nov.

JUAN JOSÉ MARTÍNEZ<sup>1,2</sup>

<sup>1</sup>CONICET, Consejo Nacional de Investigaciones Científicas y Técnicas, Argentina

<sup>2</sup>Departamento de Ciencias Biológicas, Facultad de Ciencias Exactas y Naturales, Universidad Nacional de La Pampa, Santa Rosa, La Pampa, Argentina. E-mail: jjmartinez80@hotmail.com

### Abstract

New distributional records of the genera *Fritziella* Marsh, *Rhoptrocentrus* Marshall and *Shawius* Marsh are reported. *Fritziella plaumanni* Marsh, *Rhoptrocentrus piceus* Marshall and *Shawius braziliensis* Marsh are newly reported from northern Argentina. *Shawius diorioi* Martínez sp. nov. is described and illustrated from central and northern Argentina. The male of *Shawius*, previously unknown, is described and illustrated for the first time. All species were reared from Fabaceae and Celtidaceae infested by wood boring Coleoptera.

**Key words:** *Fritziella*, *Rhoptrocentrus*, *Shawius*, new records, new species

### Introduction

*Fritziella* Marsh and *Shawius* Marsh are two distinctive monotypic doryctine genera described from South America (Marsh 1993). *Fritziella* superficially resembles *Hecabolus* Curtis, but can be identified by the absence of a ventral tooth or tubercule at the base of the hind coxae, and by the hind femora not being swollen. *Shawius* can be easily distinguished from all other doryctine genera in the Neotropical Region by its yellow and swollen parastigma in the fore wing (Marsh, 1997). Currently, both genera are known to occur in Brazil and one or two undescribed species of *Shawius* have been mentioned for Argentina (Marsh, 1993). *Rhoptrocentrus* Marshall includes three current valid species and is known from the Nearctic, Palearctic, Oriental and Australian Regions, but there are no references of the genus for the Neotropical Region (Yu *et al.* 2012).

The relationships of *Fritziella* and *Shawius* with other members of the subfamily Doryctinae are obscure. *Rhoptrocentrus* was included in the subtribe Doryctina within the tribe Doryctini (Belokobylskij 1992), but the tribal and subtribal classifications were questioned based on morphological (Marsh 2002; Belokobylskij *et al.* 2004b) and molecular analyses (Zaldívar-Riverón *et al.* 2008), and currently there is not a widely accepted classification of the subfamily.

In the past two decades, Dr Osvaldo Di Iorio (Universidad de Buenos Aires, Argentina) reared several parasitic wasp species during his studies of Argentine Cerambycidae. Among these specimens I identified the first records of the genera mentioned above for Argentina. The aim of this article is to publish this novel information on the distribution and biology of these poorly known genera of the family Braconidae in the Neotropics, and to describe the second species of the genus *Shawius*, including the male, currently unknown.

### Material and methods

Most specimens examined in this work were reared from branches of Fabaceae and Celtidaceae infested by Cerambycidae and other xylophagous beetles.

Morphological terminology follows Sharkey & Wharton (1997), except surface sculpture terminology which



follows Harris (1979) and the use of the term ‘precoxal sulcus’ as indicated by Wharton (2006) for what traditionally was considered the sternaulus.

Specimens from Argentina in this contribution are housed at Museo Argentino de Ciencias Naturales “Bernardino Rivadavia”, Buenos Aires, Argentina (MACN). They were compared with reference material kindly lent for study from the United States National Museum of Natural History, Smithsonian Institution, Washington D. C., United States of America (USNM).

## Results

### Genus *Fritziella* Marsh

*Fritziella* Marsh 1993: 15.

Type species: *Fritziella plaumanni* Marsh.

**Distribution.** Argentina (Buenos Aires, Salta and Santa Fe) and Brazil (Parana and Santa Catarina).

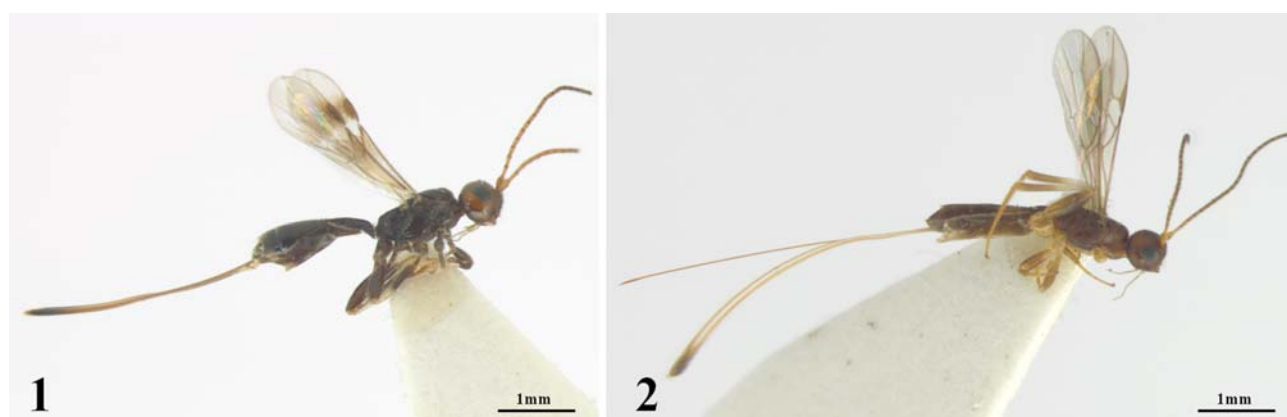
#### *Fritziella plaumanni* Marsh 1993: 15.

(Fig. 1)

**Material examined.** ARGENTINA – eight females, Salta, El Brete, 07-V-1994, from dead branches of *Celtis tala*, Di Iorio col. (MACN); one female, Buenos Aires, Ruta Nacional 2, km 84, 01-XI-1990, from branches of *Enterolobium contortisiliquum*, Di Iorio col. (MACN); one female, Buenos Aires, Pacheco, 21-X-1927, Bridarolli col. (MACN); one female, Santa Fe, VI-1930, Bridarolli col. (MACN). BRAZIL – one female, Nova Teutonia, 27° 11' S 52° 23' W, 300-500 m, XII-1962, Fritz Plaumann col. (USNM); one female, same data except date, 23-XII-1962 (USNM); two males, same data except date, 8-I-1963 (USNM).

**Biology.** The specimens from Salta were reared from branches of *Celtis tala* (Celtidaceae) infested by wood boring Coleoptera. One female from Buenos Aires was reared from branches of *Enterolobium contortisiliquum* (Fabaceae).

**Comments.** The specimens from Brazil examined here are not labelled as paratypes but have the same data mentioned in the original description for the very large type series of 148 specimens from Nova Teutonia, Brazil.



FIGURES 1–2. 1, *Fritziella plaumanni* Marsh; 2, *Rhoptrocentrus piceus* Marshall.

### Genus *Rhoptrocentrus* Marshall

*Rhoptrocentrus* Marshall 1897: 99

Type species: *Rhoptrocentrus piceus* Marshall

**Distribution.** The genus is widely distributed but it has not been recorded in the Afrotropical or Neotropical



Regions (Yu *et al.* 2012). Mostly it is represented by the common and polyphagous species *R. piceus*. Only two additional species are known: *R. cleopatrae* Belokobylskij from Egypt (Belokobylskij 2001) and *R. yarramanensis* Belokobylskij, Iqbal & Austin from Australia (Belokobylskij *et al.* 2004).

### ***Rhoptrocentrus piceus* Marshall, 1897: 99**

(Fig. 2)

The specimens from Argentina studied were compared with reference material from USNM and no significant morphological differences were noticed among them. This polyphagous species, which attacks at least 18 host species (Yu *et al.*, 2012), is widely distributed, especially in the northern hemisphere.

**Material examined.** ARGENTINA: 3 females, Salta, El Brete, 07-V-1994, Di Iorio col., reared from a dead tree of *Celtis tala* (MACN). UNITED STATES OF AMERICA: 1 female, Virginia, Arlington, 09-IX-1932, K. V. Krombein col. (USNM); 1 female, Washington DC, with no further data (USNM); 1 male, Pennsylvania, Carlisle, V-1940, E. J. Udine col, ex. *Hylotrupes bajulus* (USNM).

### **Genus *Shawius* Marsh**

*Shawius* Marsh 1993: 33.

Type species: *Shawius braziliensis* Marsh.

**Distribution.** Argentina (Buenos Aires, La Rioja and Santiago del Estero) and Brazil (Parana and Santa Catarina).

### ***Shawius braziliensis* Marsh 1993: 34.**

(Fig. 3)

**Material examined.** ARGENTINA – three females, Santiago del Estero, Arraga, 19-X-1995, emerged from burned branches of *Cercidium praecox*, Di Iorio col. (ODI). BRAZIL – one female (paratype), Parana, Rondon, 16-IX-1952, Fritz Plaumann col., B. M. 1957-341 (USNM).

**Biology.** The specimens of *S. braziliensis* from Santiago del Estero were reared from branches of *Cercidium praecox* (Fabaceae) infested by wood boring Coleoptera.

### ***Shawius diiorioi* Martinez sp. nov.**

(Figs 4–12)

**Diagnosis.** This species can be easily distinguished from *S. braziliensis* by its mostly smooth vertex and temples with a few shallow striations, the smooth mesoscutal lobes, dorsal surface of the propodeum and basal ¼ of tergum I, and by the darker body colour with center of mesoscutum and apex of metasoma black or blackish.

*Female:* Body length: 7.5–9.3 mm.

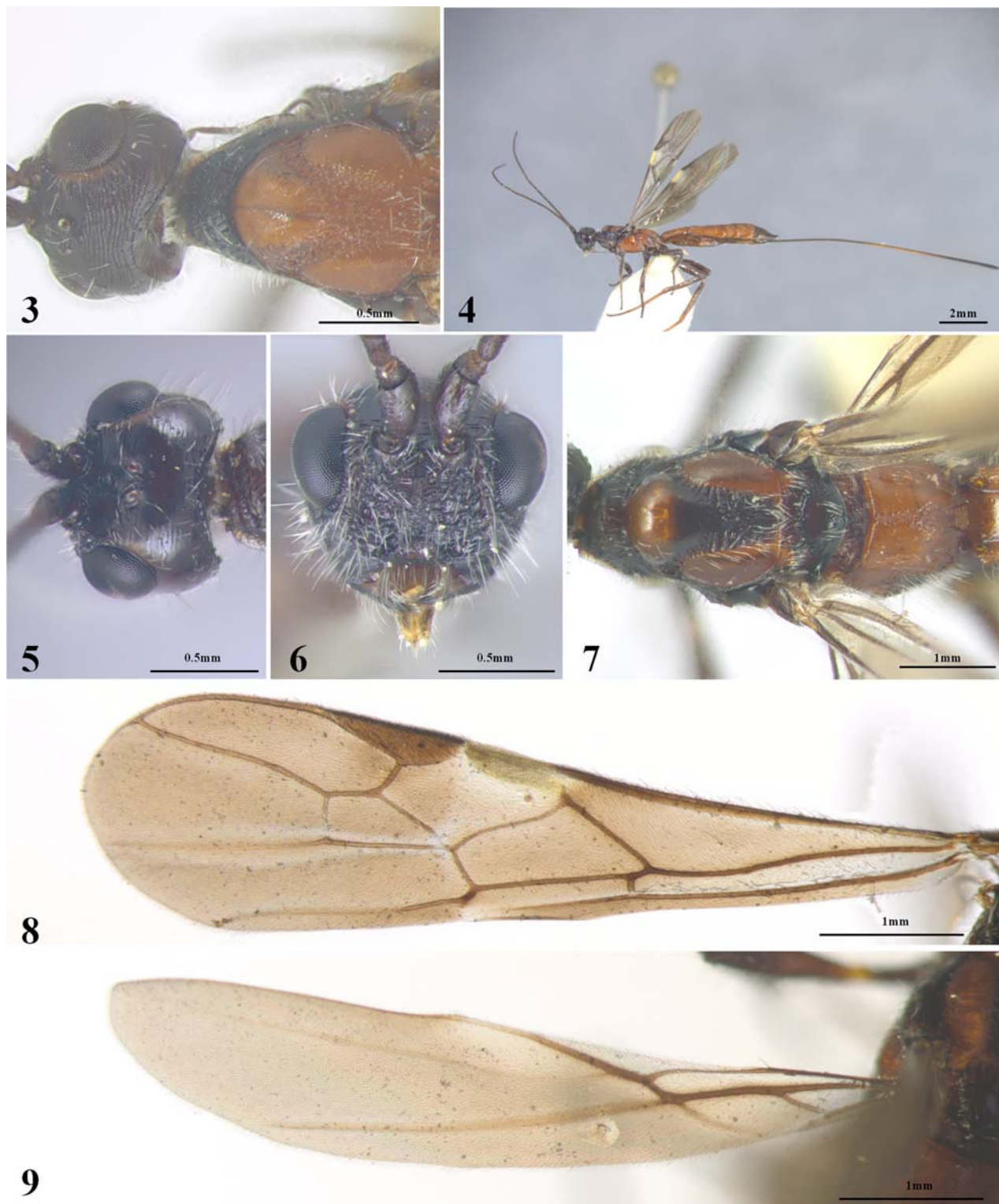
*Colour:* Head, pronotum, propleuron, subalar area, subalar groove, notauli, central area of mesoscutum, scutellum and apex of metasoma black; lateral lobes and anterior area of central lobe of mesoscutum, central and ventral areas of mesopleuron, center of propodeum and most of metasoma reddish. Antennae and legs dark brown with trochantelli, base and apex of tibiae and tarsi lighter. Wings infusate except for the bright and yellow parastigma in the fore wing, veins dark brown.

*Head:* Moderately transverse, about  $0.7 \times$  as long as wide (Fig. 5); with 44–45 antennomeres; oral opening, approximately as long as malar space; eye moderate sized, twice as long as malar space; occipital carina reaching hypostomal carina; face rugose to areolate-rugose (Fig. 7); frons strigate; vertex mostly smooth, with very weak transverse striations (Fig. 6); temple smooth.

*Mesosoma:* More than twice as long as high. Pronotal collar lengthened but slightly shorter than first flagellomere; pronotal groove deep and scrobiculate. Mesoscutum slightly declivous anteriorly; with notauli

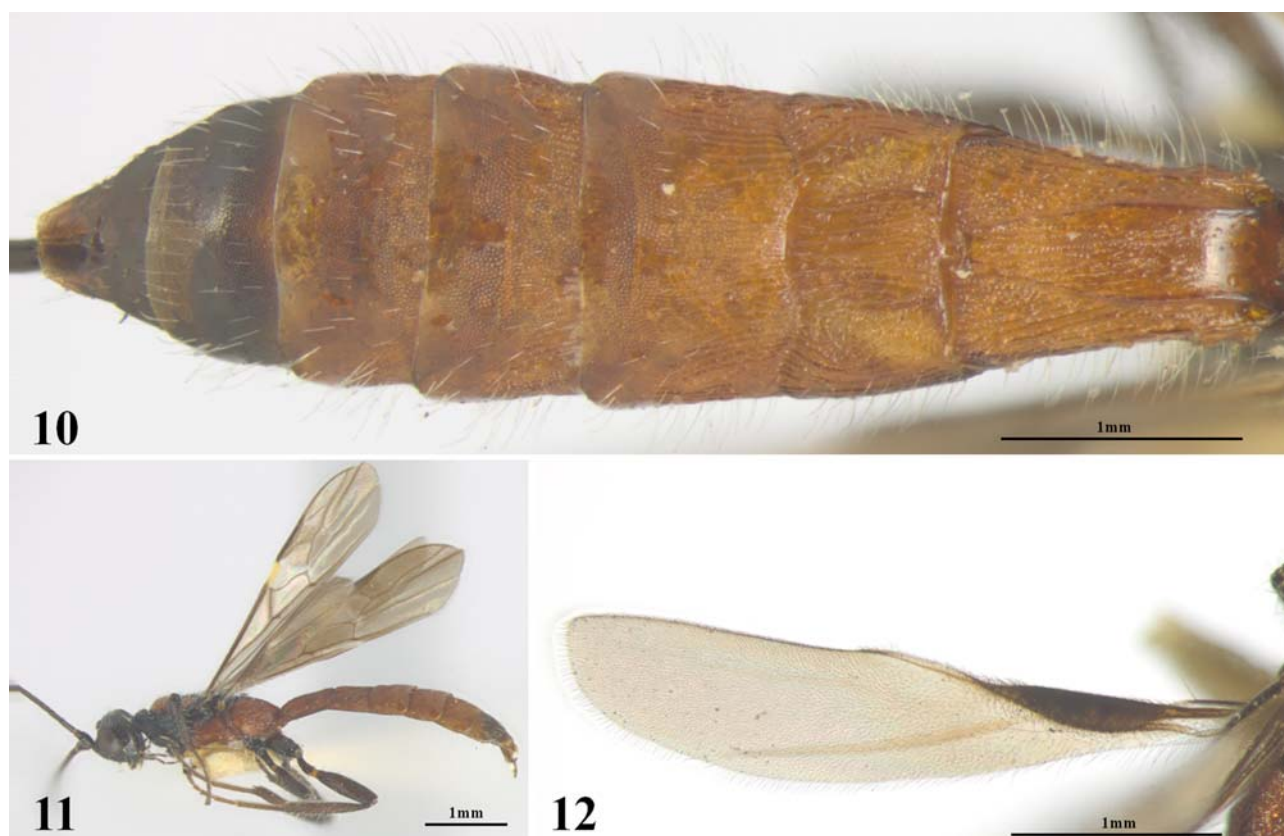


distinct and scrobiculate, obscured posteriorly in a rugose median area, lateral and median lobes of mesoscutum weakly coriaceous to smooth, dorsal surface of median lobe smooth; prescutellar furrow crossed by several carinae; scutellar disc very weakly coriaceous to smooth; propodeum (Fig. 6) with a poorly defined median carina basally, weakly areolate-rugose medially and laterally with two smooth basolateral areas; mesopleuron smooth, subalar groove deep and scrobiculate, precoxal sulcus almost as long as mesopleuron and scrobiculate; metapleuron smooth anteriorly and rugose posteriorly.



**FIGURES 3–9.** *Shawius* spp.; 3, head and mesoscutum of *Shawius braziliensis* Marsh in dorsal view; 4–9 *Shawius dioroi* Martínez sp. nov., 4 habitus of female in lateral view; 5, head in dorsal view; 6, head in anterior view; 7 mesoscutum in dorsal view; 8, fore wing; 9, hind wing.





**FIGURES 10–12.** *Shawius diiorioi* Martínez **sp. nov.**; 10, metasoma of female in dorsal view; 11, habitus of male in lateral view; 12, hind wing of male.

**Legs:** Fore tibia with a row of five to six spines; hind coxa with a distinct basal tooth.

**Wings:** Fore wing (Fig. 8) with parastigma swollen and longer than vein r; 3RS slightly longer than vein r; vein 2cu-a absent, thus first subdiscal cell open at apex; vein (RS+M)b short but distinct; hind wing (Fig. 9) with vein M+CU longer than 1M, vein 1M three times the length of vein r-m, hind wing vein m-cu slightly directed towards wing base.

**Metasoma:** Metasomal tergum I  $1.2\text{--}1.5 \times$  longer than its apical width; striate-rugose, except on basal  $\frac{1}{4}$  which is smooth; with a raised median area delimited by carinae, dorsope distinct; basal sternal plate about one fifth the length of tergum I; terga II and III costate-rugose and separated by a sinuate furrow; remainder of terga costate-rugose basally and coriaceous apically; ovipositor sheaths approximately as long as total body length.

**Male:** The male of *Sahwius diiorioi* (Fig. 11) is similar to female but is distinctly smaller, 5.4–5.6 mm long, has 35–36 antennomeres and a very large and conspicuous pterostigma-like swelling on the hind wing veins (Fig. 12).

**Biology.** This species was reared from dead branches of *Acacia visco* (Fabaceae), *Celtis tala* and *C. spinosa* (Celtidaceae).

**Etymology.** I am very pleased to name this species after Dr Osvaldo Di Iorio, the collector of most of the specimens studied in this work.

**Material examined.** ARGENTINA: *Holotype female* (MACN)—Buenos Aires, Otamendi, 20-IX-1994, Di Iorio col., from dead branches of *Celtis tala* Gill. *Paratypes* (MACN)—one female, same data as holotype; one female and two males, Buenos Aires, Ruta 2 km 83.5, 8-X-1992, Di Iorio col., from dead branches of *Celtis tala* Gill.; one female, Buenos Aires, F.C.G.B. km 26, 20-X-1990, Di Iorio col., from dead branches of *Celtis spinosa* Spr.; one female, La Rioja, Anillaco, 22-III-1998, Di Iorio col., from cut branches of *Acacia visco*.

**Variability.** In the males and one female from La Rioja, the propodeum is almost uniformly areolate-rugose with no clearly defined smooth areas, but the weakly sculptured vertex and colour pattern should suffice to separate them from *S. braziliensis*.



**Comments.** The male of *Shawius* runs to couplet 93 in the key to New World genera of the subfamily Doryctinae (Marsh 1997), which can be modified as follows:

1. Metasomal tergum II with median semi-circular rugose area at base delimited by divergent grooves laterally and transverse sinuate groove apically . . . . . *Leluthia* Cameron
- Tergum II without clearly delimited semicircular area at base . . . . . 94
2. Parastigma of fore wing large and swollen, longer than r and yellow, pterostigma brown, metasomal tergum II without divergent grooves . . . . . *Shawius* Marsh
- Parastigma of fore wing small and brown, shorter than r, metasomal tergum II with a pair of divergent grooves laterally. . . . . *Glyptocolastes* Ashmead

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