Two new species of *Pambolus* Haliday (Hymenoptera: Braconidae: Pambolinae) from Argentina

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Key words: Braconidae; Pambolinae; *Pambolus*; Neotropical; Argentina; new species; partial key.
Two new species of the genus *Pambolus* Haliday, 1836, (*P. leponcei* spec. nov., and *P. pilcomayensis* spec. nov.; Braconidae: Pambolinae) from Argentina are described and illustrated.

Introduction

The genus *Pambolus* Haliday (Hymenoptera: Braconidae) is a rather small and nearly cosmopolitan genus which is particularly diverse in the Neotropics (Whitfield & Wharton, 1997). It has been included either in the subfamily Hormiinae Foerster, 1862 s.l. (e.g., Whitfield & Wharton, 1997) or in a separate subfamily Pambolinae Marshall, 1885 (e.g., van Achterberg, 1995; Braet & van Achterberg, 2003). We prefer to use the latter option because the first results of DNA analyses indicate that the Pambolinae do not belong to the Hormiinae s.s. branch.

Little is known about the biology: Pambolinae have been reared infrequently from beetle-infested wood, but there are some records indicating that larvae of Chrysomelidae are their main host (Shaw & Huddleston, 1991; Zaldivar-Riveron & Quicke, 2002). The hosts of the species described in this paper are unknown. The collecting site is inside the Rio Pilcomayo National Park in northern Argentina in subtropical mesoxerophile oligarchic forest ("monte fuerte"). Both species have been collected during an inventory of leaf litter ants (Leponce et al., 2004).

For identification of the subfamilies of Braconidae, we refer to van Achterberg (1990, 1993, 1997) and Wharton et al. (1997). For the terminology used in this paper, especially for the wing venation, see van Achterberg (1988, 1994). The types are deposited in the collection of the Institut royal des Sciences de Belgique, Brussels (IRSNB).

The EFI photographs have been made with an Olympus motorized stereomicroscope SZX12 with AnalySIS Extended Focal Imaging Software.

Systematics
Subfamily Pambolinae Marshall, 1885

Pambolus Haliday, 1836

Recognition.— Both new species can be differentiated from other Neotropical species

with the following key-section, which should be used in combination with the key by Braet & van Achterberg (2003):

1. Wings nearly wingless (fig. 10) or micropterous (fig. 7) and not reaching apex of metasoma (fig. 5); antenna with 20-23 segments and 1.1-1.4 times as long as body; temples in dorsal view 0.2-0.3 times as long as eye; (subgenus *Pambolus* Haliday, 1836); Argentina [from sifted soil] 1a
- Wings fully developed and minimally reaching apex of metasoma; antenna with 30 segments or more and at least 1.5 times as long as body; temple in dorsal view 0.3-0.5 times as long as eye; (subgenus *Phaenodus* Foerster, 1862) 2

1a. Wings distinctly developed (micropterous: figs 6, 7); propodeum coarsely reticulate (fig. 6); first metasomal tergite moderately widened apically (figs 6, 9) and about 1.3 times longer than its apical width; propodeum blackish (fig. 6); antenna without pale yellowish or ivory band; hind femur distinctly swollen and smooth (fig. 5); notauli crenulate (fig. 6); ovipositor sheath about twice as long as hind tibia (fig. 4); second metasomal tergite costate (fig. 6); mesosoma more than twice as long as high in lateral view (fig. 5); pronotum with strong transverse carina (fig. 5); temples gradually narrowed behind eyes (fig. 6); scapus weakly oblique apically (fig. 2); occipital carina meeting hypostomal carina ventrally ..... ***P. (P.) pilcomayensis*** spec. nov.
- Wings absent except for some short remnants (figs 2, 10); propodeum areolate (fig. 3); first tergite strongly widened apically (figs 3, 12) and about 0.7 times longer than its apical width; propodeum yellowish (fig. 2); antenna with pale yellowish or ivory band subapically (fig. 1); hind femur less swollen and microsculptured (fig. 2); notauli smooth (fig. 3); ovipositor sheath much shorter than hind tibia, about as long as hind basitarsus (fig. 1); second tergite smooth (fig. 3); mesosoma about 1.6 times as long as high in lateral view (fig. 2); pronotum without strong transverse carina (fig. 2); temples strongly narrowed behind eyes (fig. 3); scapus strongly oblique apically (fig. 2); occipital carina reduced ventrally, not meeting occipital carina 1b

1b. Propodeal spine about 2.5 times as long as its maximum width; 15th-20th antennal segments pale yellowish; second and following metasomal tergites dark brown or blackish; third antennal segment about 2.8 times as long as wide; precoxal sulcus smooth; mesoscutum dull and coriaceous; antenna slightly longer than body ..... ***P. (P.) hebes*** Papp, 1996
- Propodeal spine about 3.5 times as long as its maximum width; 14th-22nd antennal segments ivory; second and following0 tergites largely brownish-yellow (fig. 2); third antennal segment about 4.3 times as long as wide; precoxal sulcus widely crenulate (fig. 2); mesoscutum shiny and largely smooth (fig. 3); antenna about 1.4 times as long as body (fig. 1) ..... ***P. (P.) leponcei*** spec. nov.

2. See the key by Braet & van Achterberg (2003).

Pambolus leponcei spec. nov.
(figs 1-3, 10-12)

Material.— Holotype, ♀ (IRSNB), "**Argentina**, Pilcomayo, Estero Catalina, S25º06´32˝.W58º08´45˝, 3-4.x.1999, T10.10.0r1, Winkler 24, ID 00918, Leponce, Roisin & Theunis".

Figs 1-3, *Pambolus leponcei* spec. nov., ♀, holotype. 1, 2, habitus, lateral aspect; 3, body, dorsal aspect.

Holotype, ♀, length of body 1.8 mm, of fore wing 0.2 mm (scale-like, fig. 2), of ovipositor sheath 0.25 mm.

Head.— Antenna 1.4 times as long as body, antenna with 23 segments, third segment 1.1 times as long as fourth segment, length of third, fourth and penultimate segments 4.3, 3.8 and 2.3 times their maximum width, respectively; scapus strongly oblique apically (fig. 2); length of maxillary palp 1.2 times height of head; length of eye 3.6 times temple in dorsal view, temple strongly narrowed behind eye (fig. 3); POL:diameter of ocellus:OOL = 3:2:5; face and clypeus flattened in lateral view; face superficially coriaceous-rugulose; clypeus largely smooth and shiny; frons flat, shiny and with curved striae, also behind stemmaticum; vertex coarsely granulate medio-posteriorly and remainder smooth; temple smooth; malar suture absent; length of malar space 2.3 times basal width of mandible; occipital carina present dorsally and laterally but absent ventrally, not meeting the hypostomal carina.

Mesosoma.— Length of mesosoma 1.6 times its maximum height; pronotum rather coarsely crenulate dorsally and rugulose ventrally; propleuron convex and weakly rugulose; mesopleuron largely smooth except for the widely crenulate precoxal sulcus and some rugulosity dorsally; precoxal sulcus absent posteriorly (fig. 2); metanotum with distinct protuberance medially (fig. 2); metapleural flange medium-sized; metapleuron coarsely reticulate-rugose; mesoscutum shiny and largely smooth, slightly microsculptured posteriorly, flat laterally and between notauli shallowly concave; notauli complete and shallow, with a carina at side of middle lobe of mesoscutum (fig. 3); scutellum smooth and rather convex; scutellar sulcus with one strong carina and two weaker carinae; propodeum with large and long median areola (fig. 3), largely smooth dorsally and reticulate-rugose posteriorly, with transverse rugae inside areola, and lateral spine of propodeum 0.6 times as long as fore basitarsus and 3.5 times as long as its maximum width (fig. 11).

Wings.— Scale-like, reduced, fore wing with some strongly widened veins (fig. 10).

Legs.— Hind coxa punctate, largely smooth; hind femur coriaceous and rather dull (fig. 2); femur, tibia and basitarsus of hind leg 4.2, 9.8 and 7.0 times their width, respectively; length of hind spurs 0.20 and 0.25 times hind basitarsus; apex of hind tibia with rather distinct comb at inner side; setae of legs medium-sized and rather adpressed (fig. 2).

Metasoma.— Length of first tergite 0.7 times its apical width, its surface shiny, with its median area raised and longitudinally striate, laterally weakly obliquely striate (fig. 12); following tergites smooth; second metasomal suture absent; combined length of second and third tergites subequal to their maximum width in dorsal view (fig. 3); length of ovipositor sheath 0.4 times hind tibia.

Colour.— Yellowish-brown; palpi and 14^{th}-22^{nd} antennal segments ivory; scapus, pedicellus, coxae, trochanters, trochantelli, base of hind femur and tegulae pale yellowish; metasoma (except first tergite and apex of third tergite) brownish-yellow; 5^{th}-13^{th} antennal segments and ovipositor sheath dark brown.

Distribution.— Argentina.

Etymology.— Named after one of its collectors: Dr M. Leponce (Brussels).

Figs 4-6, *Pambolus pilcomayensis* spec. nov., ♀, holotype. 1, 2, habitus, lateral aspect; 3, body, dorsal aspect. ▶

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Pambolus pilcomayensis spec. nov.
(figs 4-9)

Material.— Holotype, ♀ (IRSNB), "**Argentina**, Pilcomayo, Estero Catalina, S25º06´32˝.W58º08´45˝, 3-4.x.1999, T10.10.0r1, Winkler 24, ID 00915, Leponce, Roisin & Theunis".

Holotype, ♀, length of body 2.1 mm, of fore wing 1.2 mm (not reaching apex of metasoma, fig. 5), of ovipositor sheath 1.5 mm.

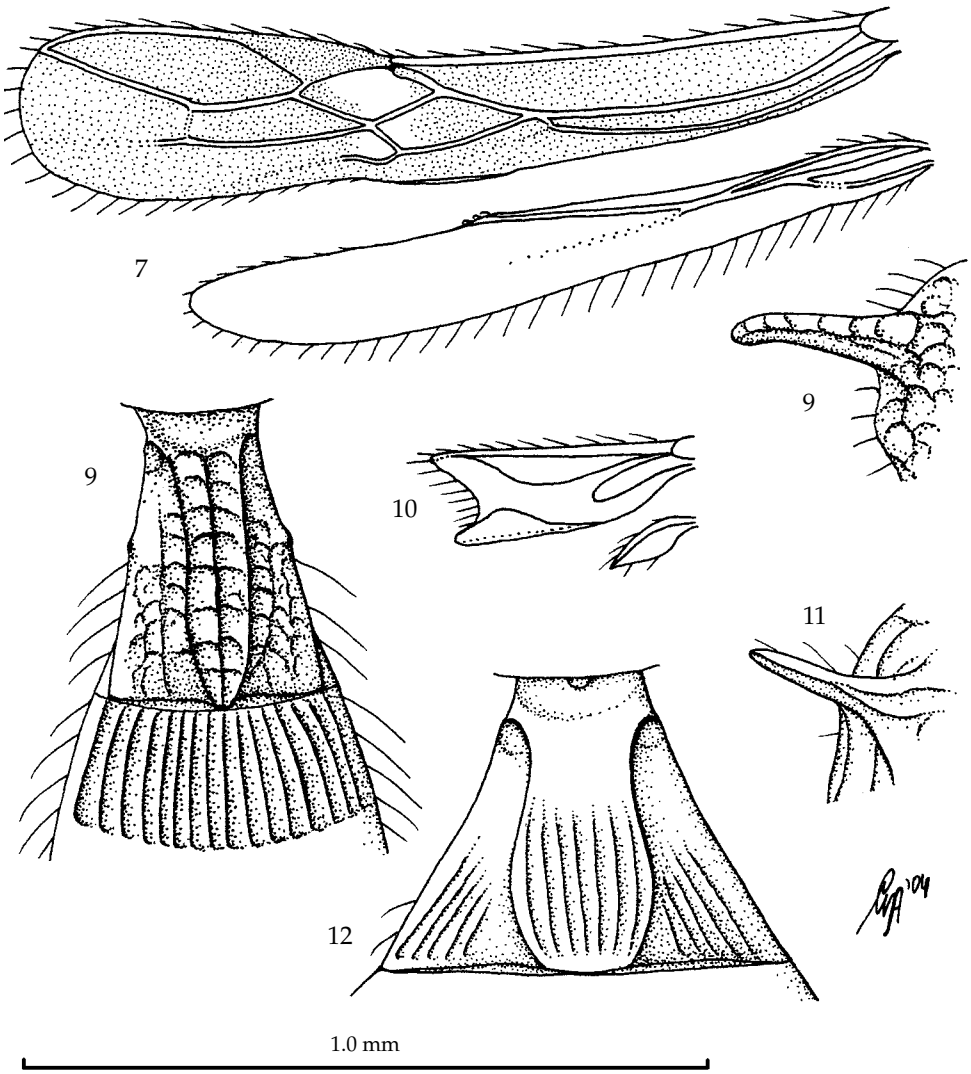
Head.— Antenna 1.2 times as long as body, antenna with 23 segments, third segment 1.1 times as long as fourth segment, length of third, fourth and penultimate segments 3.7, 3.3 and 2.5 times their maximum width, respectively; scapus weakly oblique apically (fig. 5); length of maxillary palp equal to height of head; length of eye 1.5 times temple in dorsal view, temple gradually narrowed behind eye (fig. 6); POL:diameter of ocellus:OOL = 5:4:15; face rather coarsely transversely rugose but medially smooth; clypeus convex and largely smooth; frons flat, shiny, anteriorly irregularly transversely rugose, and posteriorly transversely striate (fig. 6); vertex coarsely transversely striate, shiny; temple smooth; malar suture absent; length of malar space 1.4 times basal width of mandible; occipital carina completely strongly developed and in front finely crenulate and meeting the hypostomal carina.

Mesosoma.— Length of mesosoma 2.4 times its maximum height; pronotum with oblique coarsely crenulate groove, with strong transverse carina dorsally (fig. 5) and remainder coarsely rugose; mesopleuron largely coarsely longitudinally rugose, smooth near precoxal sulcus; precoxal sulcus rather widely crenulate but absent posteriorly (fig. 5); metanotum without distinct protuberance medially (fig. 5); metapleural flange rather short; metapleuron coarsely crenulate; mesoscutum shiny and largely smooth, slightly microsculptured near notauli, slightly convex; notauli complete, wide and coarsely crenulate (fig. 6), with a carina at side of middle lobe of mesoscutum (fig. 6); scutellum smooth and rather convex; scutellar sulcus with one strong carina; propodeum coarsely longitudinally rugose with short transverse carinae and no median areola (fig. 6), largely smooth dorsally and reticulate-rugose posteriorly, with transverse rugae inside areola, and lateral spine of propodeum 1.1 times as long as fore basitarsus and 3 times as long as its maximum width, slender (fig. 8).

Wings.— Fore wing: somewhat shortened (not reaching apex of metasoma) and narrow (fig. 7); r:3-SR:SR1 = 2:8:18; 2-SR:3-SR:r-m = 6:8:2; 3-M present; 1-SR+M straight; cu-a absent; m-cu subinterstitial; first subdiscal cell open (fig. 7). Hind wing: cu-a present; SC+R1 very long (fig. 7).

Legs.— Hind coxa transverse striate dorsally and remainder largely smooth; hind femur smooth, swollen and shiny (fig. 5); femur, tibia and basitarsus of hind leg 3.1, 9.8 and 6.2 times their width, respectively; length of hind spurs 0.2 times hind basitarsus; apex of hind tibia with distinct comb at inner side; setae of legs long and erect (fig. 5).

Metasoma.— Length of first tergite 1.3 times its apical width, tergite moderately widened posteriorly (fig. 9), its surface coarsely reticulate-rugose, shiny, with its median area raised and with 3 longitudinal rugae (fig. 9); second tergite longitudinally costate (figs 6, 9) and following tergites smooth; second metasomal suture absent; combined length of second and third tergites 0.9 times their maximum width in dorsal view (fig. 6); length of ovipositor sheath 1.2 times fore wing and 1.2 times hind tibia.



Figs 7-9, *Pambolus pilcomayensis* spec. nov., ♀, holotype; figs 10-12, *P. leponcei* spec. nov., ♀, holotype. 7, 10, wings; 8, 11, propodeal spine, lateral aspect; 9, 12, first and second metasomal tergits, dorsal aspect. 7, 9: 1.0 x scale-line; 8, 10-12: 1.5 x.

Colour.— Blackish; metasoma (except dark first tergite and yellowish hypopygium) and legs (but trochanters, trochantelli and basal ring of tibiae pale yellowish, tarsi yellowish-brown), metanotum, scutellum, mesopleuron, tegulae and palpi dark brown; antenna brown, but basally somewhat paler than medially; mesoscutum, pronotum, head (but dorsally dark brown) and scapus yellowish-brown; pterostigma rather dark brown; fore wing membrane largely infuscate.

Distribution.— Argentina.

Etymology.— Named after its type-locality.

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