

PARAGUAY BIODIVERSIDAD

PARAGUAY BIODIVERSITY

PARAGUAY BIODIVERSITÄT



Dracaena paraguayensis Amaral, 1950

foto: O. Rodriguez

Parachartergus smithii (de Saussure, 1854), a new record of social wasp from Paraguay (Hymenoptera: Vespidae: Polistinae)

Bolivar R. Garcete-Barrett*, Ulf Drechsel** & James M. Carpenter***

Abstract: *Parachartergus smithii* (de Saussure), a widespread neotropical species of social wasp, is recorded from Paraguay for the first time.

Resumen: *Parachartergus smithii* (de Saussure), una especie neotropical de avispa social ampliamente distribuida, es reportada por primera vez de Paraguay.

Zusammenfassung: *Parachartergus smithii* (de Saussure), eine in der Neotropis weit verbreitete soziale Wespenart wird zum ersten Male aus Paraguay gemeldet.

Key words: Vespidae, faunistics, neotropical region, *Parachartergus*

Introduction

The genus *Parachartergus* R. von Ihering, 1913, contains 17 species (Cooper 2000) of medium-sized and robust-bodied social wasps, distributed through the main tropical forested biomes along the Neotropical region. It belongs to the group of genera characterized by bearing a curved bristle on the third labial palpomere. Among them, *Parachartergus* species are readily recognized by the 6:3 (maxillary:labial) palp formula, the very strong occipital and pronotal carinae, the mesepisternum devoid of either dorsal groove or scrobal furrow (Richards, 1978), and the first tergum broadly attached to the rest of the metasoma (Garcete-Barrett, 1999). The basic architecture of the nests of *Parachartergus* is a series of horizontal pedicellate combs, laterally attached to a vertical substrate and covered by an independent envelope with the entrance opening on its lower end (Wenzel 1998).

The most recent and useful taxonomic work on *Parachartergus* are the revision of the *apicalis* group by Willink (1959), the revision of the whole genus by Richards (1978), subsequent syno-

* Facultad de Ciencias Exactas y Naturales, Universidad Nacional de Asunción, Casilla de Correo 1039, Campus Universitario UNA, 2160 CDP, Central XI, San Lorenzo, Paraguay (bolosphex@gmail.com)

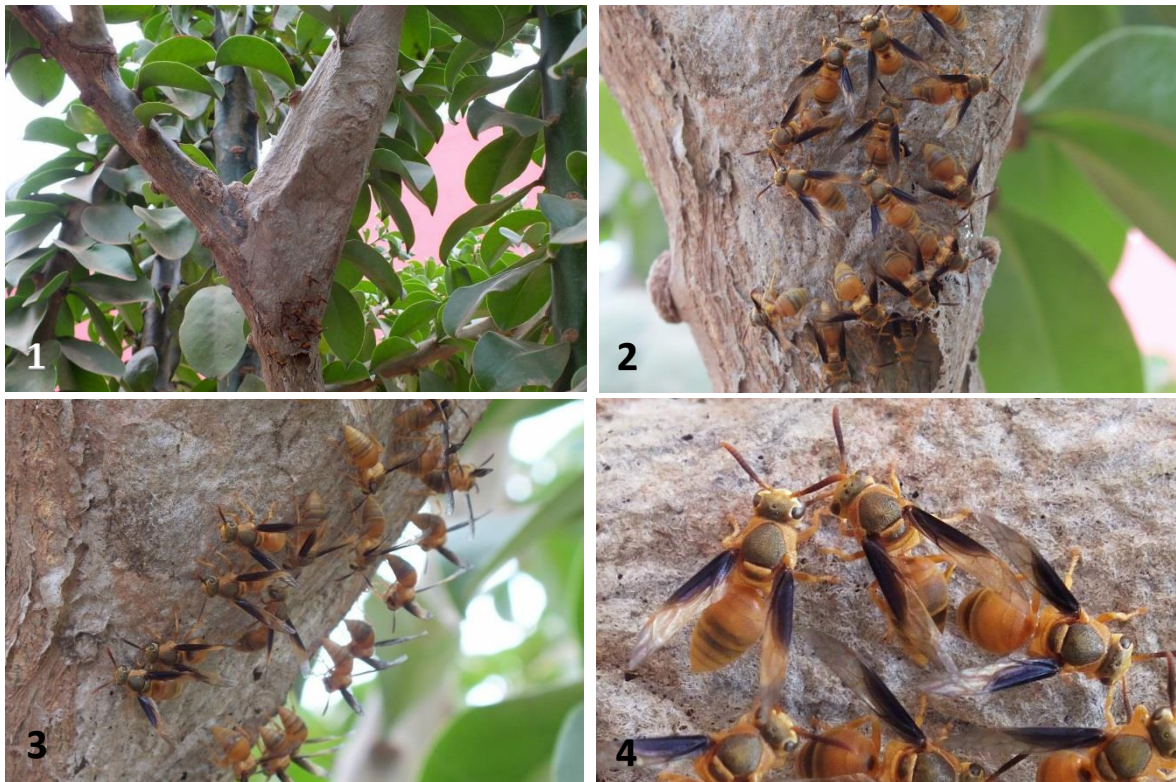
** Gral. Aquino 694, Asunción, Paraguay (ulfdrechsel@hotmail.com)

*** American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024, United States of America (carpente@amnh.org)

nymies and corrections by Carpenter (1999), and the description of a new species and the recognition of three species groups by Cooper (2000). Eight species belong to the quite homogeneous *apicalis* group: they are completely black, very aggressive wasps, with whitish-tipped wings, and build whitish, flask-shaped and transversely corrugated nests. The other two groups accommodate nine smaller, much less aggressive and more variably colored wasps which build simpler and more discrete nests. Both groups (*colobopterus* and *fulgidipennis*) are differentiated by structural details of vertex and propodeum (Cooper, 2000).

Paraguay has a fauna of 67 species of social wasps (Garcete-Barrett 1999; Garcete-Barrett 2001). *Parachartergus pseudapicalis* Willink, 1959, a member of the *apicalis* group, known from the Paraná basin and isolated and doubtful records from Bolivia, was the only species of the genus recorded from Paraguay up to now, based on scattered records restricted to the department of Alto Paraná. Recently, the second author found a nest of *P. smithii* in the northern area of eastern Paraguay, expanding the known southern limit of this widely distributed species, and increasing the Paraguayan list of social wasps to 68 species.

Parachartergus smithii (de Saussure)



Figs. 1-4: *P. smithii*; 1) nest attached to the stem of *Pereskia grandifolia*; 2-4) wasps crowding on the nest's surface when they feel threatened.

P. smithii is a member of the *colobopterus* group, which can be recognized by the relatively short parastigma, well separated posterior ocelli (1.25–1.5 times an ocellar diameter), vertex with or without a shining area adjacent to the posterior ocelli, propodeum abruptly declivous posteriorly and strongly projecting laterally, and aedeagus with moderately developed dorsal projection and weakly developed ventral process (Cooper 2000). Within the group, *P. colobopterus* and *P. smithii* are very similar in color (body mostly yellow to testaceous with a few black areas and clear wings with blackish costal region and yellowish pterostigma) and structure (propodeum with wide sparsely punctured central area and tergum I half as long as wide). *Parachartergus smithii* bears a slightly raised and shining area close to the posterior ocelli (a feature shared with *P. wagneri*), while *P. colobopterus* lacks it (Richards, 1978).

The present record is based on an active nest observed and photographed by the second author in the department of Amambay, road to Bella Vista, S 22° 41' W 56° 18', 25. I. 2013.

As presently understood, *P. smithii* is probably the most widely distributed species of the genus, being recorded from Central America, the Guianas, the Amazonian area of Ecuador, Peru and Brazil, and Central Brazil. The Paraguayan record extends the known distribution of the species southwards into the southern limits of the Cerrado biome. Just a detailed study on populations along the whole distribution range of the species could determine if we are dealing with a single species or with a species complex, as already was the case with *Parachartergus apicalis* and *Parachartergus fraternus* when revised by Willink (1959).

Acknowledgements

The second author wishes to thank Carlos Valiente for logistic support and help with field work.

References

- CARPENTER, J.M. 1999. Taxonomic notes on paper wasps. *American Museum Novitates* 3259: 1-44.
- COOPER, M. 2000. A new species of *Parachartergus* R. von Ihering (Hym., Vespidae, Polistinae) with a key to the members of the *fulgidipennis* group and notes. *Entomologist's Monthly Magazine* 136: 121-126.
- GARCETE-BARRET, B.R. 1999. Guía ilustrada de las avispas sociales del Paraguay (Hymenoptera: Vespidae: Polistinae). The Natural History Museum, London, 44pp.
- GARCETE-BARRET, B.R. 2001. Seis nuevos registros de avispas sociales para el Paraguay (Hymenoptera: Vespidae: Polistinae). *Boletín del Museo Nacional de Historia Natural del Paraguay* 13: 46-49.

RICHARDS, O.W. 1978. The social wasps of the Americas excluding the Vespinae. British Museum (Natural History), London. 580 pp.

WENZEL, J.W. 1998. A generic key to the nests of hornets, yellowjackets and paper wasps worldwide (Vespidae: Vespinae: Polistinae). *American Museum Novitates* 3224: 1-39.

WILLINK, A. 1959. Las especies afines a "*Parachartergus apicalis*" (F.) (Hymenoptera: Vespidae: Polybiinae). *Acta Zoológica Lilloana* 52: 263-292.

