

# LIVING WORLD

Journal of the Trinidad and Tobago  
Field Naturalists' Club

[admin@ttfnc.org](mailto:admin@ttfnc.org)

ISSN 1029-3299



## **A New Subfamily of Wasps Recorded for Trinidad, West Indies (Hymenoptera: Crabronidae: Astatinae)**

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Hook, A.W. 2012. A New Subfamily of Wasps Recorded for Trinidad, West Indies (Hymenoptera: Crabronidae: Astatinae). *Living World, Journal of The Trinidad and Tobago Field Naturalists' Club*, 2012, 73.

## A New Subfamily of Wasps Recorded for Trinidad, West Indies (Hymenoptera: Crabronidae: Astatinae)

The 120 known species of Crabronidae represent a substantial component of the aculeate Hymenoptera of Trinidad, West Indies (Starr and Hook 2003). This worldwide family of solitary wasps is divided into eight subfamilies (Pulawski 2006), of which four are recorded from Trinidad. My purpose here is to report the first record of a fifth subfamily, Astatinae, for the Trinidad fauna.

On 19 July, 2011 at about noon, I noticed a black wasp perched on the ground near what appeared to be a fresh tumulus, the soil around the entrance of a burrow. This wasp perched near the tumulus for several moments before I collected her. The location was near the beginning of a trail/dirt road into secondary forest in the Caura Valley (10.684N, 61.378W) of the Northern Range.

The specimen is an all-black female *Astata* sp. *Astata*, with 80 species worldwide (Pulawski 2006), is the largest of the four known genera of Astatinae. Of the 10 species known from South America, only *A. lugens* Taschenberg and *A. gigas* Taschenberg are entirely black (Parker 1968b; Amarante 2002). The Trinidad wasp matches both of these in some characters, but differs significantly in some others. For example, the forewings in *A. gigas* are uniformly dark brown-violaceous, while in *A. lugens* the forewing is clear except for a light brown band in the area of the marginal cell. While the forewings of the Trinidad *Astata* are mostly dark brown-violaceous, they are lighter toward the distal margin (outside of the cellular area), and the basal cell is mostly clear with some coloring at the distal margin. *A. gigas* has the abdominal sterna clothed with long, thick, posteriorly-directed setae, while in *A. lugens* sternum II is densely clothed with off-white setae; the Trinidad species has only sternum II clothed with relatively sparse long, white setae. *A. gigas* has a striate propodeal enclosure, while in *A. lugens* the propodeal enclosure is reticulostriate with reticules open and irregular, which agrees with the Trinidad *Astata*. All three species have the median clypeal lobe truncate and upturned at the apex.

Parker (1964) also revised *Astata* from Mexico and Central America. In this region, as well, only two all-black species are known (*A. stangei* Parker and *A. bakeri* Parker), neither of which matches the Trinidad *Astata*. Parker (1968a) recognized two Caribbean species, but both have colored abdomens and differ significantly in other characters.

Accordingly, the Trinidad *Astata* does not match any known Neotropical species and appears to be an undescribed species. *Astata* are known to dig multicellular ground nests that are provisioned with adult and imma-

ture Hemiptera: Heteroptera, particularly Pentatomidae (Evans 1957).

It is rather surprising that this wasp should have gone unnoticed up until now, as Trinidad has had substantial collecting efforts directed towards crabronid wasps, most notably by Desmond Vesey-FitzGerald and Edward McC. Callan in the first half of the 20<sup>th</sup> century. I, myself, have collected wasps in Trinidad almost yearly since 1995, without finding the present species before.

### ACKNOWLEDGEMENTS

My work in Trinidad has been hosted by C.K. Starr, Department of Life Sciences, University of the West Indies. The Wildlife Section of the Forestry Division, St. Joseph, Trinidad issued collecting and export permits. The *Astata* specimen (specimen no. 00003575) is housed in the University of Texas Insect Collection.

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