Odonatologica 17(3): 263-265 *September 1, 1988*

SHORT COMMUNICATIONS

DESCRIPTION OF THE FEMALE OF *CASTORAESCHNA DECURVATA* DUNKLE & COOK (ANISOPTERA: AESHNIDAE)

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Received February 25, 1988 / Accepted March 18, 1988

The female of *C. decurvata* is found to be similar in non-sexual features to the male. The known flight season is 24 Oct. to 9 Jan.

INTRODUCTION

Two of the previously unknown females of *Castoraeschna decurvata* Dunkle & Cook were found among unworked material in the Florida State Collection of Arthropods (FSCA). These females correspond almost exactly in non-sexual features to the description of the males given in DUNKLE & COOK (1984), and differences between the sexes of this species are discussed below. A male collected after the type series is also compared with the original description.

MATERIAL

Although the term "Allotype" has no official standing in the Code of Zoological Nomenclature, it is used here as a convenient designation for the first described female of *Castoraeschna decurvata*. Allotype female: Argentina, Cordoba Province, Cordoba, 18 Dec. 1948, collector unknown. Second female: same data but 24 Oct. 1948. Both females are deposited in the FSCA. Male: Argentina, Cordoba Prov., 25 km SSW Alta Gracia, 2300 ft, 9 Jan. 1984, collector Radclyffe B. Roberts, in the author's collection.

DESCRIPTION

The 1984 male differs from the 15 males of the type series in the following minor ways: Occiput green instead of brown (brown apparently post-mortem discoloration), one anal loop has 9 instead of 10 cells, abdominal segment 1

brown with a green posterior ring (not described for types), cerci 6.0 instead of 7.0 mm long.

The allotype female differs from the type males as follows: Hindwing subtriangles 2-celled instead of 1-celled; 15-17 cells in anal loops instead of 10-13; abdomen tapers in both dorsal and lateral views from segment 1 to 6, then widens to segment 9; abdominal spots larger than in males, and green anterodorsal spots present on segment 7; cerci 1.0 mm long; blunt, and yellow. The ovipositor is typical of the genus (CALVERT, 1956). The styli are 1.0 mm long, thus as long as either the cerci or abdominal segment 10. The lateral gonapophyses are tipped with small pencils of pale setae, and the basal plates are rectangular in ventrolateral view. The pale epiproct has a mid-dorsal carina, and the underside of segment 10 bears numerous pointed black denticles. Measurements are: Total length 77.0 mm, abdomen 57.0, hindwing 48.0.

The second female is like the allotype but is a little larger and has a few more wing veins than the allotype and the type males: Total length 80.0 mm, abdomen 59.0, hindwing 52.0; 6 cubito-anal crossveins in one hindwing; anal loops with 16-17 cells; 4 bridge crossveins in one forewing; 21 antenodal crossveins in one forewing; 16-17 postnodals in forewings; 19 postnodals in one hindwing.

DISCUSSION

As predicted by DUNKLE & COOK (1984), *C. decurvata* females have thoracic coloration and wing venation similar to those of males, and key easily to *C. decurvata* in that paper. The flight season of the species is now known to be at least 24 October to 9 January. Its known range is a small area in central Argentina, now extended to a 25 km radius around the type locality of Alta Gracia.

The male abdomen in *Castoraeschna* has better developed armature than that of the female. In *C. decurvata,* males have a mid-dorsal row of denticles on tergites 3 to 7, and a transverse row of denticles posteriorly on tergites 3 to 10. In females, only vestigial posterior denticles are present on tergites 6 to 8. Males have longitudinal lateral bands of spiniform setae, the individual setae directed posteroventrally, on tergites 4 or 5 to 10. Females lack these setae. CALVERT (1956) mentions these setae in males of several species of *Castoraeschna,* and they are present in all males of the genus which I have seen. A limited survey of odonate taxa indicates that such setae and their sexual dimorphism are well developed in Aeshnidae generally. The setae are also well developed in Cordulegastridae, and present but less developed in Neopetaliidae, Synthemistinae, Chlorocyphidae, and Pseudostigmatidae. The function of these setae is perhaps to assist the female in locating the accessory genitalia of the male during mating in much the same way that the auricles of male Anisoptera are presumed to function. That is, probing by the female's abdomen along the side of the male abdomen is hindered

by the setal bands and auricles, whereas probing along the midventral line of the male abdomen is not hindered. Possibly the lateral setal bands could be used for cleaning the wings, but this is not likely, since it is not clear why males should require cleaner wings than females. The taxonomic occurrence and the function of the setal bands demands a full scale study.

ACKNOWLEDGEMENTS

I thank GEORGE and JUANDA BICK for bringing the female specimens of *C. decurvata* to my attention, and for critiquing the manuscript. I also thank MICHAEL MAY for the gift of the male.

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