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SHORT COMMUNICATIONS

SANTOSIA MARSHALLI GEN. NOV., SPEC. NOV. – A NEW GENUS AND SPECIES OF CORDULIINAE FROM BRAZIL (ANISOPTERA: CORDULIIDAE)

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The new sp. is described and illustrated from a single ♂ (Nova Friburgo, Hotel Fazenda São João, Pico do Morro São João, Rio de Janeiro, alt. 1820 m, 10-III-1990), deposited in Museu Nacional, Rio de Janeiro. It fits well in the subfamily and is separated from other Brazilian genera by: sectors of arculus separated at origin in all wings, superior appendages diverging distally, and synthorax with metallic blue reflections. A key to Brazilian Corduliinae is presented.

INTRODUCTION

The Corduliidae are poorly represented in the neotropical region, in both number of species and number of individuals, with only 7 genera and 26 species. Nine species belong to the subfamily Corduliinae and 17 are in the subfamily Gomphomacromiinae. The genus *Neocordulia* is the most representative in Brazil, with 6 species, followed by *Aeschnosoma* with 4 species, *Dorocordulia* with 2 species and *Paracordulia* with 1 species.

Dorocordulia is a genus of nearctic distribution and its existence in Brazil is a little doubtful: this doubt can be resolved if we analyse the problem with respect to two aspects already suggested by SANTOS (1968). That author, in a note on *D. errans* Calvert, reaffirmed that although nearctic and neotropical fauna and flora had a contact through the Panama isthmus before the Paleocene and after the Pliocene, there are no indications of faunal interaction in the Odonata at that time. Otherwise the faunal exchange occurred after the Pliocene until now, without geographical discontinuity.

SANTOS (1968) suggested two hypotheses: (1) *D. errans* could be a survivor of a migration at the time of the pre-paleocene continental union, in which case

it would represent the only known example of this kind in the Odonata, or (2) a new genus should be created for *D. errans*.

DE MARMELS (1988) described *D. vagans* from Venezuela, which differs from *D. errans* by having (1) an external subapical tooth on the superior appendage, (2) the arculus nearer the second antenodal, and (3) the nodus in a considerably more distal position. The differences described by GEIJSKES (1970) between the neotropical and nearctical species lead us to accept provisionally Santos' second hypothesis; however, a more detailed study on this problem is conducted at the moment by Professor A.B.M. Machado.

The scarcity of Corduliinae in South America may be due to the fact that most of the species fly at dawn, though the specimen of this new genus was collected during the day.

KEY TO THE BRAZILIAN CORDULIINAE GENERA

1a Supratriangle without cross veins; triangles traversed or not traversed; with 1 cubito-anal cross vein in fore wing and 1 or 2 cross veins in hind wing; M3 and M4 not undulate 2

b Supratriangle with cross veins; all triangles traversed, with 2 or 3 cells; 2 or more cubito-anal cross veins in fore and hind wings; M3 and M4 undulate ..... ***Aeschnosoma***

2a Triangles of fore and hind wings not traversed; 1 cubito-anal cross vein in fore and hind wings; anal loop elongate, slightly truncate at distal end; 2 rows of cells in discoidal field in fore wing; distal end of anal loop at level of middle fork of M; anal area of hind wing with 2 or 3 rows of cells ..... ***Dorocordulia***

b Triangle in fore wing traversed but in hind wing not traversed 3

3a Sectors of arculus in hind wing connected for some distance; nodus of fore wing at ⅗ length of wing; 10-11 antenodal cross veins in fore wing; distal end of anal loop slightly truncate; superior anal appendage longer than inferior anal appendage, curved inward .... ***Paracordulia***

b Sectors of arculus separated at origin in fore and hind wings; nodus in fore wing at ⅔ length of wing; 8 antenodal cross veins in fore wing; distal end anal loop not truncate; superior anal appendage ¼ longer than inferior anal appendage, diverging apically ..... ***Santosia gen. nov.***

SANTOSIA GEN. NOV.

The position of the new genus in the subfamily is supported by the following structural features: triangle of fore wings traversed; subtriangles with 3 cells; triangles of hind wings near to arculus; sectors of arculus diverging at origin.

Description. – Triangles of fore wings traversed with 2 cells, in hind wings not traversed; M4 and Cu1 of fore wings converging distally; M3 and M4 in fore wings not undulate; sectors of arculus of fore wings diverging at origin; 7th-10th abdominal segments swollen; anterior lamina small, 1 cubito-anal cross vein in fore and hind wings. We consider this new genus most closely allied to *Paracordulia* Martin.

Type species: *Santosia marshalli* gen. n., sp. n.

SANTOSIA MARSHALLI SPEC. NOV.

Figures 1-11

Material. – **Holotype** ♂: Nova Friburgo, Hotel Fazenda São João, Pico do Morro São João, Rio de Janeiro, alt. 1820 m, 11:00 h, 10-III-1990, J.M. Costa & S.A. Marshall leg., deposited in Museu Nacional, Rio de Janeiro.

MALE **(holotype)**. – Large (52 mm), dark brown.

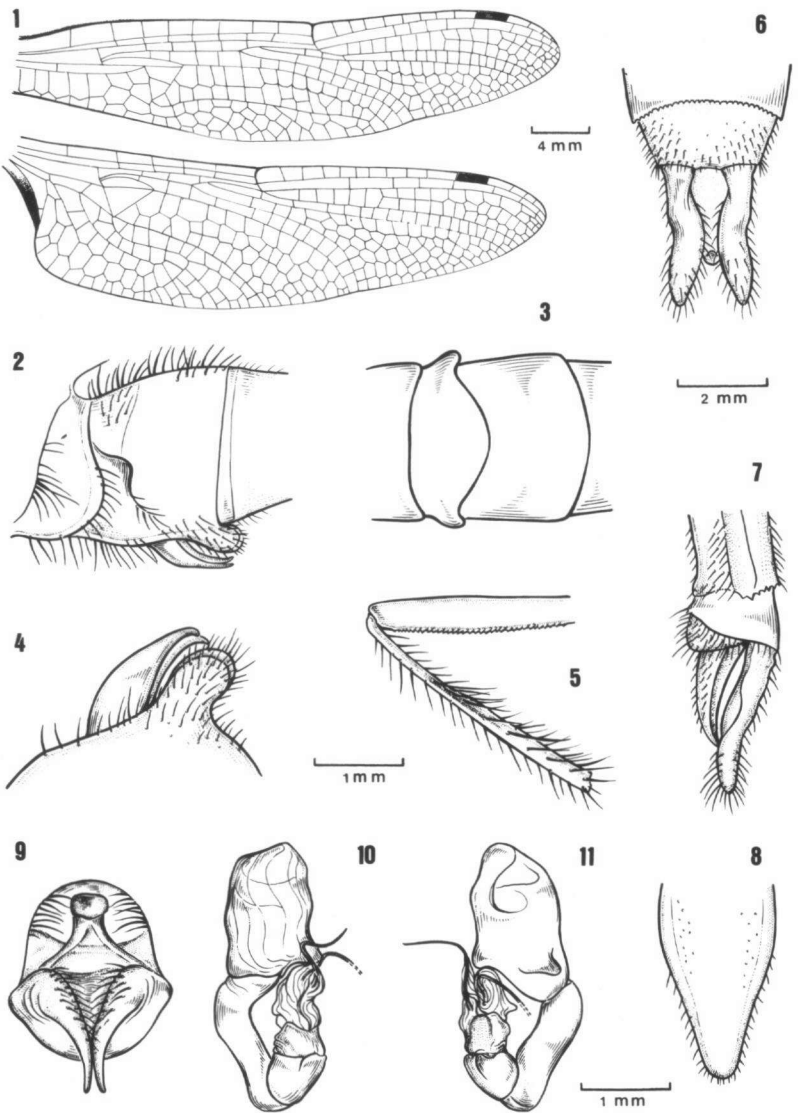
Vertex dark brown with metallic blue luster; frons ferrugineous with metallic blue luster; top of frons with 2 tubercules, separated by a deep, central furrow; postclypeus, anteclypeus, labrum and labium with a blue luster; occipital triangle large.

Synthorax dark metallic, coxa and trochanter brownish; second pair of tibiae with keels (Fig. 5).

Fore wings 37 mm long, 11 mm wide (Fig. 1), hind wings 35 mm long, 10 mm wide; venation with dense net-work of cross veins; distal end of anal area angulated; triangle of fore wing traversed but that of hind wing not traversed; pterostigma small, 3 mm long, 1 mm wide; costal side of fore wing triangles straight; subtriangles of fore wings with 3 cells; triangles of hind wings near arculus; sectors of arculus diverging at origin in fore and hind wings; supratriangles in fore and hind wings not traversed; 1 cell between distal end of anal loop and hind margin of wing; basilar space in fore and hind wings free; 1 cubito--anal cross vein (Cu-a) in fore wing, 2 in hind wing; M3 and M4 not undulate; discoidal field of fore wing parallel sided, slightly narrowed to the distal end with 2 rows of cells, in the median region two columns with 3 cells; MSPL with 6 cells in fore and hind wings; RSPL with 8 cells in fore and hind wings; anal area beginning with 1 cell, totalling 18 cells until distal end of anal loop; arculus proximal to second antenodal in all wings; 8 antenodals in fore wings, 5 in right hind wing and 6 in left hind wing; 7 postnodals in left fore wing and 8 in right fore wing; 8 postnodals in left hind wing and 9 in right hind wing; anal loop elongate, not truncated, with 2 rows of cells, 2 cells in the base of anal loop and 4 in the end; distal end of anal loop at level of middle fork of M; membranule blackish to darkbrown, extended beyond anal triangle, anal triangle with 2 cells; proximal side of anal triangle ½ of costal side; 2 accessory bridges in left fore wing; IR2 beginning at distal end of pterostigma in all wings.

Abdomen dark brown with metallic luster on first abdominal segments, 2 first segments swollen, 7-10 dilated; superior anal appendages as long as segments 9+10 (Fig. 7) with tips divergent (Fig. 6), without basal tooth; inferior anal appendage triangular (Fig. 8), with tip rounded, about ¾ length of superior anal appendage. Genitalia of 2nd segment with small anterior lamina not visible laterally; hamules with rectangular slender endpoint not parallel to the ventral carina of the genital fossa; (Figs 4, 9) genital lobe rounded (Fig. 4), auricles small, rounded (Figs 2, 3); penis as in Figures 10 and 11.

FEMALE – unknown.



Figs 1-11. *Santosia marshalli* gen. n., sp. n., holotype ♂: (1) right fore and hind wings; – (2) 1st and 2nd abdominal segments; – (3) auricles; – (4) hamules; – (5) middle tibia; – (6) superior appendages, dorsal view; – (7) anal appendages, lateral view; – (8) inferior appendage; – (9) hamules; – (10-11) penis, lateral view.

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