

A NEW SPECIES OF *ORTHETRUM* (ODONATA) FROM SOUTHERN AFRICA

by

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Novos taxa entomológicos, publicados como suplemento à *Revista de Entomologia de Moçambique*, destinam-se à publicação de descrições de novos taxa de Entomologia, principalmente dos territórios de África ao sul do Sahara.

Novos taxa entomológicos constituem uma publicação seriada, incluindo artigos curtos, que são publicados logo que os manuscritos são recebidos.

As condições de composição, impressão e publicação de artigos a incluir em *Novos taxa entomológicos* são iguais às referentes à *Revista de Entomologia de Moçambique*.

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Novos taxa entomológicos, published as a supplement of the *Revista de Entomologia de Moçambique*, is devoted to the publication of the descriptions of new entomological taxa mainly of those species found in Africa south of the Sahara.

Novos taxa entomológicos will be a series of publications, without a definite date of release, and will include short articles published as soon as the manuscripts are received.

The conditions for the composition, printing and publication of the articles in *Novos taxa entomológicos* will be the same as those used in the *Revista de Entomologia de Moçambique*.

In my paper on the dragonfly fauna of Zululand (BALINSKY 1961) I have mentioned capturing a specimen of an apparently new species of *Orthetrum* near *icteromelas* Ris. During a recent expedition to the Okavango swamps in Bechuanaland I have been successful in collecting further specimens obviously belonging to the same species. This species is now described.

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ORTHETRUM ROBUSTUM spec. nov.

A moderately large species, with long somewhat smoky wings, with a narrow abdomen strongly constricted at the 3rd segment, with blue pinnosity largely restricted to the abdomen.

Labium with the middle lobe completely or almost completely black, with yellow lateral lobes. Labrum yellow in some specimens with a small triangular dark mark at upper middle. Clypeus, anteclypeus, frons and genae greenish yellow without any conspicuous dark markings. Vertex and occipital triangle dark brown. Lateral parts of occiput, behind the compound eyes, yellow with two horizontal dark stripes on each side. Vertex with two conical pointed tubercles between the ocelli.

Prothorax with posterior lobe large, almost vertical, yellowish with a black margin and long hairs along the edge. Thorax dark brown with an indistinct pattern, the most conspicuous part of which is a slightly curved antehumeral stripe along the middle of the mesepisternum; the stripe does not reach the upper end of the mesepisternum. Fainter dark markings present at the upper end of the 1st lateral suture, behind the metastigma and at the antero-ventral end of the mesepimeron.

Pruinosity on the thorax, if present at all, is very faint. Legs black with light brown stripes along the dorsal edges of the femora.

Wings distinctly smoky, especially towards the ends tapering to rather narrow tips. The venation is black except for a light brown stripe along the costa and for the subcostal antenodal crossveins, which are light coloured at least along the ridges. Pterostigma long but narrow, light brown. Membranule light brown; no amber spot at base of wings. The venation along the front edges of the wings is conspicuously broad. A. h. cross veins 12-14. R_3 is strongly bisinuate. Between R_3 and $Rspl$ two rows of cells, upper row 10-13 cells, lower row 4-7 cells.

Abdomen very strongly inflated dorsoventrally at the base and constricted at 3rd segment (fig. 1 c). Posterior to constriction the abdomen is slender, fusiform, distinctly triangular in cross section. In male the length of the abdomen together with anal appendages by 0.5-1.0 mm shorter than the hind wings. Segments 2-9 strongly pruinose on dorsal surface. Ventral surface with only limited pruinosity, light brown with dark spots distally; the light colour spreads over the lateral edge in the posterior segments, where the pattern is not obscured by pruinosity. Anal appendages black.

The accessory genitalia of the 2nd abdominal segment (fig. 1 a, b) bear a distinct similarity to those of *O. icteromelas* Ris. Anterior lamina inflated at base but flattened distally. The inflated proximal part bears a number of short strong spines. There are some small spines also at the tip of the lamina. The outer branch of the hamule is particularly similar to that of *O. icteromelas*, it is broad, strongly sclerotized, inclined in a posterior direction, truncated distally; the sclerotized and thickened distal edge placed almost transversely and forming a rounded tip at its inner end. The inner branch of the hamule placed further backwards than in *O. icteromelas*; it overlaps the inner tip of the outer branch. The inner branch of the hamule ends in a very strongly sclerotized but blunt tip, which slants backwards and curves slightly outwards. The incision between the inner and outer branch of the hamule is very narrow, scarcely $\frac{1}{6}$ of the breadth of the outer branch. Genital lobes broad and rounded.

Penis of a structure typical of C. LONGFIELD'S «machadoi group» (LONGFIELD 1955) (fig. 1 d, e). The glans of the penis ends in two distinct knobs which partially overlap the bases of the alae. The alae are elongated, unbranched, broadened laterally at the base, and again towards the tips. The morphologically ventral surface of the penis bears a long flagella.

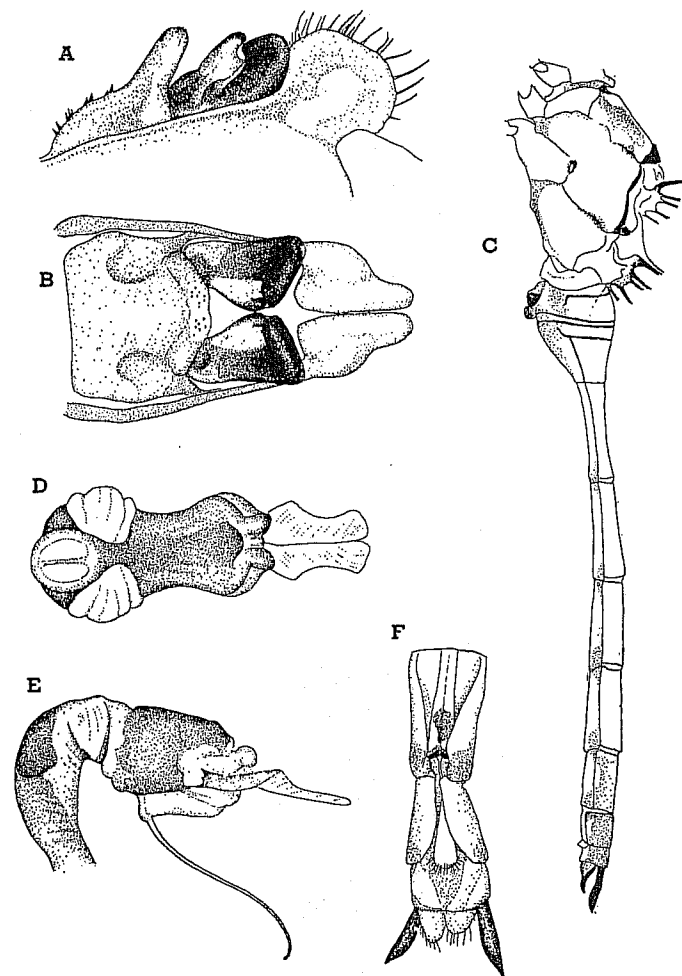


Fig. 1 — *Orthetrum robustum* spec. nov.

- a, accessory genitalia of ♂, view from right side × 25.
 b, same, ventral view × 25 (spines on anterior lamina not shown in this drawing).
 c, thorax and abdomen of ♂, view from left side × 3.
 d, penis, ventral view × 50.
 e, same, lateral view × 50.
 f, posterior abdominal segments of ♀, ventral view × 7.

In the female the black markings on the labium and on the thorax (except for the antehumeral stripes) are somewhat reduced. The light brown on the femora is more extended, not only is there a stripe on the dorsal edge, but parts of the lateral surfaces of the femora are brown instead of black. There are small amber spots at the bases of all four wings in the allotype female. The abdomen is slightly longer than the hind wings, inflated dorso-ventrally at the base, but somewhat less constricted at the 3rd segment than in the male. The abdomen is brown with black spots at the proximal and distal ends of the segments. Anal appendages black.

The abdomen in the allotype female is unfortunately slightly distorted by lateral compression and the vulvar scale is not completely visible. As far as one can judge, the posterior edges of the vulvar scale are simple, straight, converging at a blunt angle and without any conspicuous sculpture.

The following measurements refer to specimens from Ngamiland:

	Hind wing length	Abdomen length	Pterostigma	
			Length	Width
♂ ♂	33-36 mm	32-35 mm	3.5-3.7 mm	0.6-0.7 mm
♀	34 mm	34.5 mm	3.8 mm	0.6 mm

Holotype: ♂ Ngamiland Game Reserve, Bechuanaland, 29-XII-1963.

Allotype: ♀ captured in copula with the holotype ♂.

Holotype and allotype will be placed in the Transvaal Museum.

Paratypes in the author's collection: 1 ♂ Richards Bay, Natal, 24-XII-1957 (mentioned as *O. sp.* near *icteromelas* in BALINSKY 1961). 3 ♂♂ Ngamiland Game Reserve, Bechuanaland, 30-XII-1963. 1 paratype ♂ from Ngamiland Game Reserve, 30-XII-1963 (coll. BALINSKY) in Zoological Res. Institute and Museum Alexander Koenig, Bonn, Germany.

1 ♂ Mababe Flats 8-15-VI-1930 (coll. Kalahari Expedition) in Transvaal Museum coincides with the holotype in all essential characters (in the accessory genitalia in particular) but is slightly smaller (H. w. 32 mm) and has a shorter pterostigma (3.1 mm). The specimen from Richards Bay is larger (H. w. 38 mm, abd. 37 mm, pterostigma 4.6 mm) than the specimens from Bechuanaland, but is otherwise obviously conspecific.

Two ♀♀ collected by myself on the Ngamiland expedition apparently belong to the same species.

Whilst the structure of the penis and the hamules place *O. robustum* spec. nov. close to *O. icteromelas* Ris, the larger size, the broader venation, the less distinct black pattern on the thorax and the position of the inner branch of the hamule in respect of the outer branch are sufficient for easy recognition of the two species.

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