

**A DESCRIPTION OF THE FEMALE OF *NESCIOTHEMIS NIGERIENSIS*
GAMBLES, 1966 (ANISOPTERA: LIBELLULIDAE)**

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The female of *Nesciothemis nigeriensis*, a species hitherto known only from a single male, is described and compared with the females of the other species where this sex is known. Reference is also made to the relationship of the genus with Pinhey's *Limnetothemis*.

Nesciothemis nigeriensis Gambles. Female (allotype)

Head.-Labium and labrum black (the latter with two small pale yellow spots at the base); anteclypeus and lower half of postclypeus dark ochreous brown, upper half yellow; frons mostly dark brown, shading into metallic black above, but basal part of dorsum nearest to vertex yellow; anterior half of vertex metallic black, posterior half yellow; occiput dark brown; eyes dark brown in life, but paler after death.

Thorax.-Deep chocolate brown with a conspicuous cream-yellow central longitudinal stripe running from front of prothorax to posterior extremity of pterothorax; faintly indicated narrow brownish yellow antehumeral, mesepimeral, and metepimeral stripes; metastigma black; legs black.

Abdomen.-Moderately slender, of uniform width for most of its length, pale brown with a large circular yellowish spot covering posterior half of segment 1 and anterior half segment 2, and a narrower oval longitudinal spot on the posterior half of this segment; anterior margins of 3 and 4 yellowish; median, transverse, and lateral carinae black, but otherwise no black marks on abdomen apart from a few adventitious lines which are probably *post mortem*; small foliations on segment 8; ventral surface of abdomen lightly pruinosed with

whitish; appendages black, 1.48 x 0.24 mm, cylindrical for three-fifths of their length, then tapering to a spine-like point; vulvar scale thickened and prominent at the margin, with a shallow notch in the centre.

Wings hyaline, with main veins blackish brown and crossveins varying from blackish to yellowish brown; a yellow streak in the groove of the costa; nodal

formula $\frac{8 \ 13 \ 12 \ 9}{9 \ 10 \ 9 \ 9}$; two Rspl cells doubled in left fore and right hindwing,

three in the others; pterostigma pale yellowish brown framed in dark brown veins, 4.4 x 0.9 mm in all wings.

Length of abdomen (excluding appendages) 29 mm. Hindwing 34 mm. Collected beside Samaru Lake, Zaria, Nigeria, September 5, 1971.

Another specimen, rather damaged and lacking the left hindwing, was sent for dissection. This had exactly the same pattern and colour on the head and thorax, but the pale markings on the first and second abdominal segments were very

much less obvious. Nodal formula $\frac{8 \ 13 \ 12 \ 9}{- \ - \ 10 \ 9}$: five Rspl cells doubled in fore-

wings, three in hind; pterostigma 4.35 x 0.8 mm in forewings, 4.6 x 0.9 mm in hind.

The female of *nigeriensis* can be distinguished from those of *farinosa* and *minor*, both of which occur fairly commonly in N.Nigeria, chiefly by the dark colour of the pterothorax, which in the other two is very much paler, although dark enough at the edges of the pale central stripe for this to stand out conspicuously. The bicoloured dorsum of the frons and of the vertex distinguish it not only from these two species but also from the more closely related *fitzgeraldi* (East African), which however resembles *nigeriensis* in the dark-coloured sides to the thorax. The other three species have darkish lateral stripes on the dorsal surface of the abdomen, festoon-shaped and similar in pattern to those of *Orthe-trum cancellatum*, though less pronounced, but these are absent in *N.nigeriensis*.

The border of the vulvar scale is thickened and somewhat prominent in both *nigeriensis* and *fitzgeraldi*, whereas in *farinosa* and *minor* it is plain and flat.

The appendages are slightly more tapered in *nigeriensis* than in *farinosa* and *minor*, where they end a little more abruptly. The paratype of *fitzgeraldi* in the British Museum (the only specimen examined) has the appendages missing, so these could not be compared.

The four species of *Nesciothemis* referred to above are the only ones whose females are known. However, PINHEY (1971) has recently described a fifth, *N.pujoli*, from two males taken in the Central African Republic, closest to *farinosa*. He also places his genus *Limnetothemis* in synonymy, thereby making

his *L.erythra* a sixth species of *Nesciothemis* (PINHEY, 1966). The females of neither *pujoli* nor *erythra* are known. Although the males of the six species can be arranged as a series grading from the dark and comparatively broad-bodied *farinosa* to *erythra* with its slender red abdomen, they still fall into two distinct groups. If it is desired to separate them into two subgenera, the name *Limneto-themis* Pinhey would be available for the one which includes *erythra* (type-species), *nigeriensis*, and *fitzgeraldi*.

The allotype of *N.nigeriensis*, together with the holotype, is in my own collection, and will be bequeathed to the British Museum.

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REFERENCES

- PARR, M.J. & M. PARR, 1972. The occurrence of the apparently rare Libellulid dragonfly, *Nesciothemis nigeriensis* Gambles, in Zaria, Nigeria. *Odonatologica* 1 (4): 257-261.
PINHEY, E.C.G., 1966. Odonata. Expl. Parc. natn. Garamba, Miss. H. de Saeger 45: 1-114.
PINHEY, E.C.G., 1971. Odonata collected in République Centre-Africaine by R. Pujol. *Arnoldia* (Rhodesia) 5 (18): 1-16.