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THREE UNDESCRIBED ODONATA TAXA FROM AFRICA

by  
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This paper records a new species of *Elattonaura* Cowley, a new subspecies of *Gomphidia quarrei* (Schouteden) and a new subspecies of *Eleuthemis buettikoferi* Ris.

It has been evident for some time that the taxon recorded from Central Africa as *Elattonaura frenulata* (Hagen) is not conspecific with true *frenulata* of the Cape Province and it is now described as *Elattonaura tropicalis* spec. nov.

***Elattonaura tropicalis* spec. nov. (fig. 1)**

The type series of this undescribed species is from the Victoria Falls except one paratype ♂ from Katambora, further up the Zambezi River, but the species is widespread in Central and tropical Africa.

It differs from the Cape Province *E. frenulata* (Hagen) in the blacker labrum, in having pruinosity, in the ♂ superior appendage and prothallus and in the ♀ prothoracic stylets. In size they are slightly larger than Cape specimens from Ceres:—

♂, ♀ *frenulata* (Ceres), abdomen 21-22 mm, hindwing 17-18 mm.

♂, ♀ *tropicalis* (Victoria Falls), abdomen 24-27 mm, hindwing 17-18,5 mm.

Comparisons of the other features will include *E. glauca* (Selys):—

*Pruinosity in male*

Like *E. glauca*, *tropicalis* has bluish pruinosity on head and thorax, whereas in *frenulata* this is lacking, the thorax remaining black. This is confirmed by Balinsky who has collected it in the Cape.

*Superior appendage*

In *E. glauca*, the base is very broad, the blade bearing a long, curved acute tooth, surmounted posteriorly by a smaller hooked tooth. In *E. frenulata*, there is a single acute tooth, the base is very broad, well curved. There is a dorso-lateral notch near the base of the fold. *E. tropicalis* is like *frenulata* but the base is less broad and the dorsal fold has no basal notch.

*Prothallus*

In *glauca* the head bears an angular terminal segment and a sub-apical lateral, bifid branch. In *glauca* and *frenulata* there are minute setae on the stalk below the chitinised stem, as shown by Barnard (1937: 205). In *frenulata* the head has a more

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pronounced bifurcation of the branches. In the new species, *tropicalis*, the prophallus is very dissimilar. The apical lobe is very short, unbranched and has an ovoid tumour which can be clearly seen in ventral view.

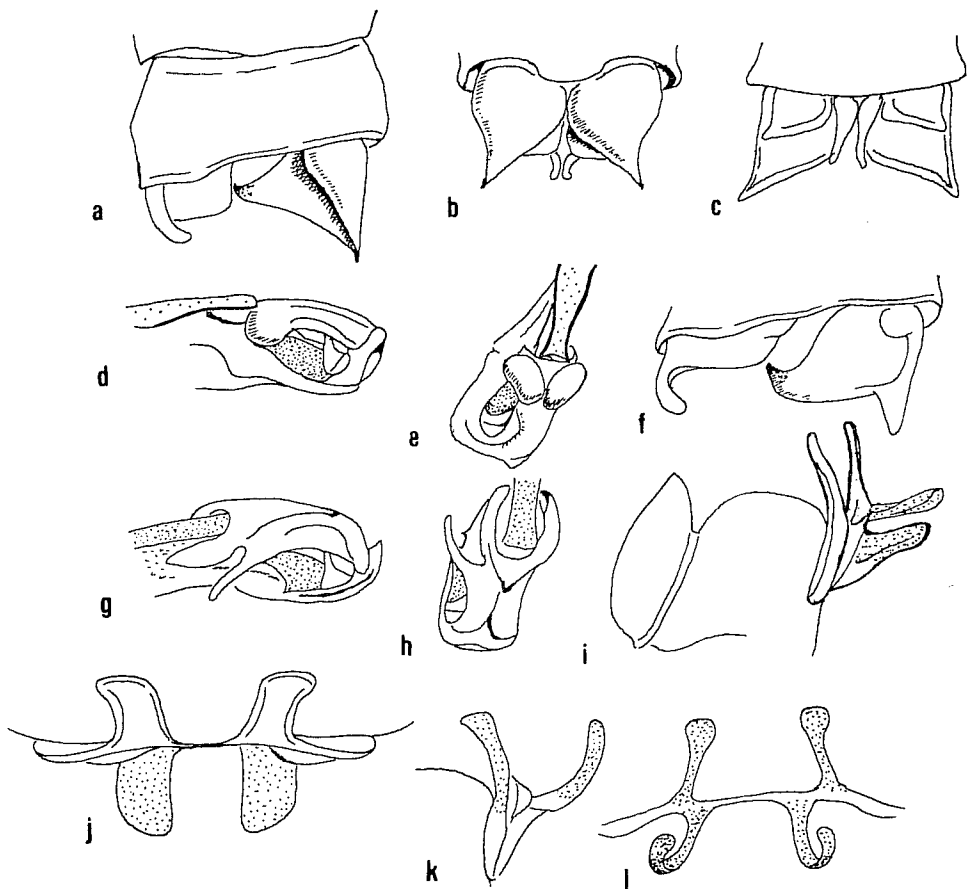


Fig. 1 *E. attonaura*

*E. tropicalis* spec. nov. (holotype) a — c, anal appendages of male from left, dorsal view and ventral view; d — e, prophallus from right and ventral view; i — j, prothoracic stylets of female (allotype), from left in situ and dorsal view.

*E. frenulata* (Hagen) (Ceres, Cape Province) f, anal appendages of male from left; g — h, prophallus from right and ventral view; k — l, prothoracic stylets of female, from left and dorsal view.

#### Prothoracic stylets

In *glauca* the anterior stylets are broad, usually not darkened, the posterior ones are also broad but darkened, depressed and the two are well inturned towards one another. In *frenulata* both pairs are darkened at maturity. The anterior and posterior pair are long and slender, the posterior ones curved upwards and not markedly inturned. In *tropicalis* both pairs are short and broad, the posterior pair dark, depressed, not strongly inturned. The anterior pair in the type series are not darkened.

#### Description

Holotype ♂. Face ferruginous, labrum very broadly black on basal two-thirds; postclypeus, frons and vertex black, coated with bluish white pruinosity except on the occiput. Synthorax black dorsally and down the sides as far as the first lateral suture; mesepisterna almost all coated with bluish white pruinosity. A broad, pruinose black band on metepimeron. Legs black, coated with whitish pruinosity. Venation black, pterostigma brown, between black veins, almost a parallelogram.

Forewings with 13 Px, hindwings with 11 Px.

Abdomen mainly blackish brown, with thin pruinosity on basal segments; incomplete yellow basal annuli on segments 3-7.

Anal appendages brown to black.

Abdomen 25 mm, hindwing 17 mm.

Allotype ♀. Labrum yellow with a black basal dot, postclypeus brown, frons pinkish in front, black dorsally; vertex pinkish with black transverse band. Synthorax black to first lateral suture, with two pale antehumeral stripes, a slender inner one and broad outer one; a black stripe on second suture. Legs ochreous with black outer stripes. Pterostigma greyer than in male. Forewings with 13 Px.

Abdomen with narrow black dorsal band enclosing a fine pale median dorsal line, widened on segments 8-9, absent on segment 10.

Abdomen 26 mm, hindwing 18 mm.

A series from Zambia, Katanga and Malawi differ slightly from *tropicalis* in greater size, the labrum entirely black, the prothoracic stylets are all dark. They are, however, similar in superior appendage, prophallus and the shape of the stylets.

♂♀ *tropicalis* (Zambia), abdomen 30-34 mm, hindwing 20-22,5 mm.

Of the type series (leg. Pinhey) the holotype and allotype (both Victoria Falls, February 1957), 13 paratype males and 1 paratype ♀ are in the National Museum, Bulawayo; 1 paratype ♂ will be in the British Museum (Natural History).

The dates are: Victoria Falls, Jan. 1956, Feb. 1957, Sept. 1957, Dec. 1964; Katambora, Zambezi River, July 1957, Sept. 1957.

#### Habitat

On banks of well shaded streams and rivers.

#### Geographical distribution

Zambezi River; and a larger form, probably a distinct subspecies, from Zambia, Malawi, Congo (Kinshasa), Uganda. Not yet seen from Moçambique although it probably occurs in that territory.

#### *Gomphidia quarrei confinii* subsp. nov. (fig. 2)

This taxon was first recorded from the Eastern Districts (Inyamadzi River) of Rhodesia, and later from Espungabera just over the border. Hence the subspecific name, after the frontier of Rhodesia and Moçambique. It is very similar to *G. quarrei* (Schouteden) but is much more black on head, thorax, abdomen and the superior anal appendages of the male. In particular the synthorax has only a short broad, fusiform green inner antehumeral stripe and a very incomplete outer antehumeral, unlike nominotypical *quarrei*. The femora are mainly black, instead of mainly green. The wing costal edge is darker and there are stronger traces of brown at the wing bases. The superior appendage is slightly more slender, with a more conspicuous ventral groove but the prophallus and other accessory genitalia are similar.

#### Description

Holotype ♂ (Espungabera). Face yellowish green; labrum with black basal and marginal lines and central vertical stripe; epistome with black lateral spots and basal

line. Fons above broadly black at base, extending to crest. Vertex black with yellow stripe on vesicle; occipital plate with greenish central spot.

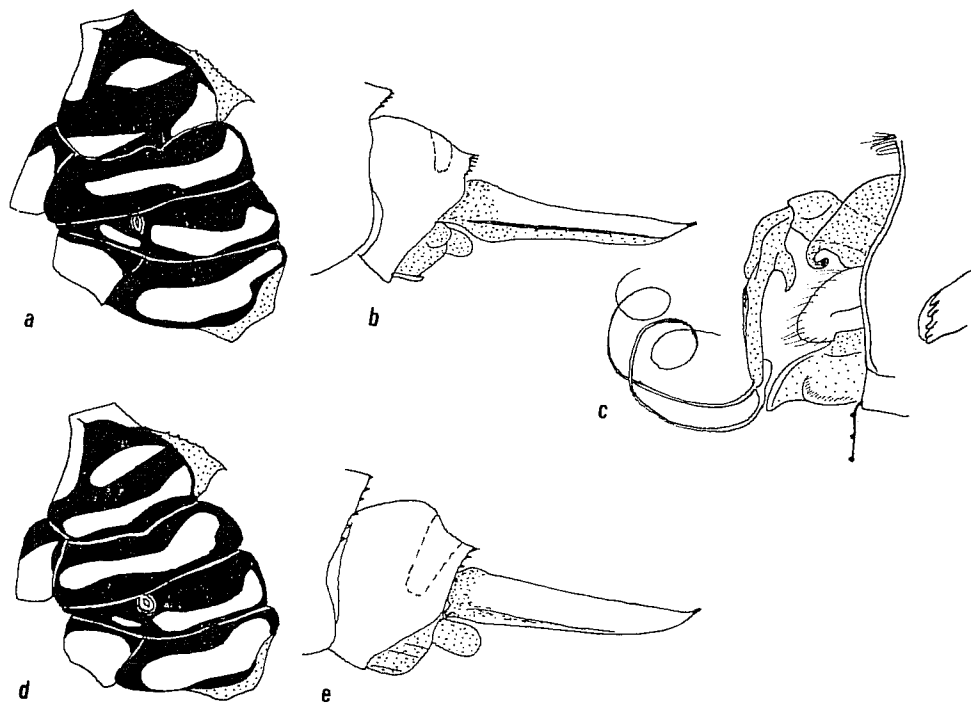


Fig. 2 *Gomphidia quarrei* (Schouteden)  
subsp. *confinii* (holotype) a, thorax; b, anal appendages; c, accessory genitalia including prophallus, all from left.  
subsp. *quarrei* (Lubumbashi) a, thorax; b, anal appendages, from left.

Synthorax dark brown with yellow collar, short fusiform green inner antehumeral stripe, broken outer stripe; side black with greenish yellow stripe on each plate. Legs blackish with only traces of yellow, except the fore femur greenish yellow on outer surface. Venation and pterostigma blackish brown. Forewing with 18-19 Ax, 8 Px, 6 subpterostigmatal cells. Abdomen mainly black; auricles more strongly toothed apically than in typical *quarrei*; segments 3-7 with yellow basal spots, 8 with small ventro-basal spot; segment 10 with dorso-distal spot. Superior appendage yellow, black at base and ventrally and with a stronger ventral groove. Prophallus with corpus slender, forming a doubled carina surmounted proximally by a raised ridge over a hollow space; below base of corpus there is a strong hook. Flagella well developed. Abdomen 44 mm, hindwing 35 mm, pterostigma 5 mm. Paratype (Inyamadzi River) very similar.

#### Habits

The genus favours streams and rivers, generally settling on branches and twigs of overhanging trees, or on reeds or in clearings. Like *Ictinogomphus ferox* they take short flights up or down stream. Sometimes found on twigs at some distance from the water.

Department of Agriculture, Salisbury:— Paratype, Inyamadzi R., 31 Dec. 1948 (Whellan).

National Museum, Bulawayo:— Holotype, Busi R., Espungabera, Jan. 1966 (Pinhey).

#### Distribution

Rhodesia — Moçambique border.

#### *Eleuthemis buettikoferi quadrigutta* subsp. nov.

Only two females have so far been found by S. Holland on a Prince Edward School expedition but no male. The vulvar lips do not differ from those of the nominotypical *buettikoferi* female so that in all probability this taxon is a southern subspecies rather than a distinct species.

#### Description

Holotype ♀. Posterior lobe of labium black, lateral lobes yellow with sagittal black central macula; labrum black with short orange basal bar. Face, frons and vertex yellow with traces of greenish grey suffusion; vertex basally blue-black. Occipital triangle black with yellow posterior spot; orbits posteriorly black with yellow fasciae.

Thorax pale brown; a broad bronze-brown band on mesepisternum. A black dorsal spot on mesepimeron; a complete black lateral band above first lateral suture; suffused band on second suture, projecting upwards near dorsal end; a central band on metepimeron. Femora ochreous internally, black externally; tibiae and tarsi black.

Wings very faintly fumose; no amber markings but all apices with distinct deep brown fasciae as far as the outer third of the black pterostigmata. Venation dark brown. Forewing on left with 10 Ax, plus two costal and one subcostal cross-veins, 6 Px; on right with 10 Ax, plus one subcostal and one costal cross-veins.

Abdomen ochreous with black lateral and transverse carinae and broad rectangular black fasciae on segments 1-7; 8 black with pale dorsal carina and baso-lateral spot; segments 9-10 black. Cerci dark brown, slender.

Abdomen 20,5 mm, hindwing 29 mm, pterostigma 3 mm.

Paratype ♀ essentially similar, the antenodal cross-veins of the forewing being 10 (left), 9½ (right).

Holotype ♀ and paratype ♀ in National Museum, Bulawayo. Locality: Haroni River, below Chimanimani Mountains, Melsetter, Rhodesia, near Moçambique border, Sept. 1967 (Simon Holland).

This new subspecies is larger than the average size for typical *buettikoferi* and the brown apical wing fasciae are distinctive. In the type-species these fasciae are absent in the female or only a trace shows in the forewing; in the male there is always a fascia on the forewing but not on the hindwing.

#### Habits

The new taxon has not been seen in life by the author. Nominotypical *E. buettikoferi* settles on twigs near shaded banks of moderately fast flowing streams or even large rivers.

Not yet recorded from Moçambique, but probably extends over the nearby border on the same river system.

*Geographical distribution*

Only known from the above type locality.

The subspecies *buettikoferi* is found locally on the middle Zambezi River in N. W. Zambia, in Tanzania, Uganda, Southern Nigeria and westwards to Sierra Leone. The type ♂ *buettikoferi buettikoferi* is in Leyden Museum.

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