

Some new *Odonata* from West Africa

by ELLIOT C. G. PINHEY.

The author is indebted to P. AGUESSE for the opportunity of examining a collection of *Odonata* collected in Sierra Leone and Ivory Coast, including the following interesting species.

PLATYCNEMIS (CHARPENTIER) BURMEISTER, 1839.

The single species submitted appears to be closest to *sikassoensis* (MARTIN, 1912) and may, in fact, as AGUESSE suggests, be a new species. It would appear to the author, however, that a revision of the continental african species is necessary before new species can be safely described. A preliminary description is, therefore, given, herewith.

Platycnemis spec. prope *sikassoensis* (MARTIN, 1912).

Male. Labium whitish, labrum and genae pale yellow, anteclypeus darker. Postclypeus, frons and vertex black; a rectangular blue ocular spot outside and just posterior to antennal base, narrowly linked (in another example not linked) to a blue kite-shaped patch on the outer side of the ocellar area, and this second blue quadrilateral itself narrowly linked across back of occiput to the two equivalent patches on the other side of the head.

Prothorax orange diffusely marked with black; synthorax black on mesepisternum with narrow orange antehumeral stripe incomplete and tapering at its upper end and a fine dot at the dorsal end. Side of synthorax mainly deep orange, with a very irregular black band across part of the mesinfraepisternum and

most of the lower half of the mesepimeron; a black line on second lateral suture and a streak on metepimeron. Legs deep orange, the tibiae only slightly flattened and expanded by a narrow ridge.

Abdominal segments 1-2 deep yellow with diffuse brown shading becoming black on distal third of segment 2; segment 3-7 black with fine yellow basal annulus and a trace of a yellowish lateral dot near distal end. Segment 8-10 black, 10 with faint yellowish annulus in distal half. Superior appendage yellow, shorter than the dark brown inferior appendage, and having a black ventral, subbasal, blunt-ended, stump-like process, directed slightly posteriad. Inferior appendage with a dorso-basal tooth directed into the tergite of segment 10.

Wings hyaline, pterostigma a black parallelogram with whitish edge. Forewing with 10-11 Px.

Abdomen 27 mm, hindwing 15 mm.

Female. Lips and genae as in male; postclypeus brown, with two black distal dots. A black band entirely across frontal zone. Antenna not all blackish, the basal segment mainly white. Vertex and occipital region orange-brown, with a curved black line before a small triangular yellow postocular spot.

Prothorax mainly yellowish with black lateral band. Posterior lobe convexly rounded, the posterior margin slightly excurved but laterally developed into sharp angular prominence, which returns to the side of the prothorax in a right-angled bend. At the ventral ends of the branches from the mid-dorsal synthoracic carina a slight black depression, evidently a male gripping surface. Synthorax rather similar to male, but the antehumeral stripe yellower, slightly broader and complete, not severed before dorsal end. Side of synthorax yellowish with black markings very like the male. Legs yellowish with traces of black on posterior surfaces of hind femora. Abdomen marked very like the male; segment 10 ochreous with black dorsal stripe. Cerci broad, conical, shorter than segment 10.

Pterostigma rhomboidal in forewing, a parallelogram in hindwing, dark grey in the centre rather than black.

Abdomen 18 mm, hindwing 22 mm.

SIERRA LEONE: Kamabai, 2-VI-63.

PSEUDAGRION SELYS, 1876.

Three species of this genus are of particular interest, one of them a new species.

***Pseudagrion aguessei*, spec. nov.**

A species closest to *P. makabusiensis* PINHEY, 1950, in build and markings.

Holotype ♂ (mature). Labium whitish; labrum, genae, epistome, frons, vertex, antennae black, the ocellar region and occiput with bronze sheen: large postocular spots can be only faintly discerned under the darkened surface.

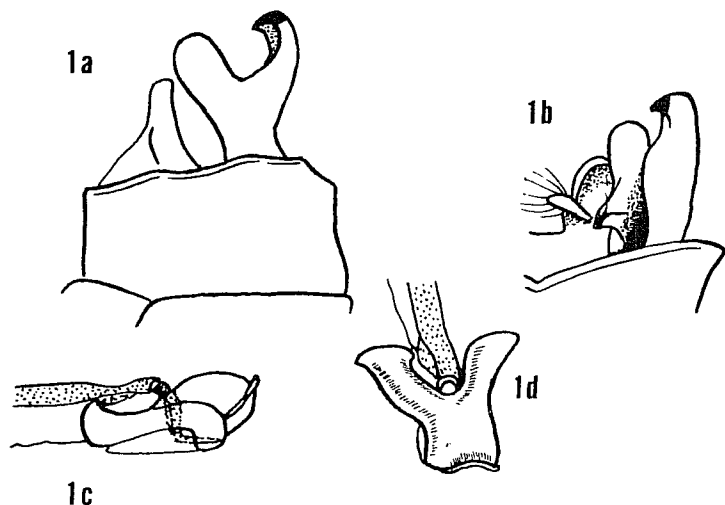


FIG. 1. — *Pseudagrion aguessei*, spec. nov. *a-b*: Anal appendages from right and left appendages from above. *c-d*: Penaeal lobe in lateral and ventral views.

Prothorax black, with white pruinosity. Synthorax black to well below humeral suture with slender, white-pruinose antehumeral stripes (as in *P. kersteni* (GERSTAECKER, 1869), but narrower). Side of synthorax greenish but obscured by pruinosity; a black streak on upper third of first lateral suture and a complete stripe on second suture. Femora and tibiae black, but pruinose, tibiae and tarsi ochreous.

Abdomen slender, black on all segments, with bronze sheen on most segments and white pruinosity at base. Anal appendages (fig. 1, *a-b*) black, the superior shorter than segment 10, broadly forked, the upper branch curved inwards to an apical hook, the lower branch broader and at its basal end developed into a prominent inner tooth. Inferior appendage normal, horizontal. Penaeal lobe with well developed funnels (fig. 1, *c-d*).

Venation blackish; pterostigma elongate, black. Forewing with 11-12 Px. Ac at or just before end of petiole.

Abdomen 28 mm, hindwing 20 mm.

A mature male *P. makabusiensis* PINHEY lacks the pruinosity on the antehumeral stripe, although there may be mere traces at either end of the green stripe at times. The tibiae and tarsi are darker brown. Segments 8-9 of the abdomen are deep blue. The superior anal appendage has a smaller gap between the branches than in the new species, the lower branch tapers distally and, in sideview, is more angled out from the stem of the main, upper branch. In dorsal view there is slightly more of a flange on the lower branch leading to the basal tooth. Inferior slightly upturned.

SIERRA LEONE: 1 ♂ Kamabai, 2-VI-63. Type ♂ in Paris Museum.

***Pseudagrion flavipes* SJÖSTEDT, 1899.**

Pseudagrion flavipes SJÖSTEDT, 1899, *Bih. Svenska Vetensk Akad. Handl.* 25 (4): 59-61 (Cameroons).

A single male from Sierra Leone differs in some distinctive features from Cameroons examples and appears to represent a new subspecies.

***Pseudagrion flavipes leonensis*, subsp. nov.**

Holotype ♂ (mature). Labium pale yellowish, genae pale greenish. Labrum black with fine yellow anterior border. Rest of face and head black; antennae brown; triangular orange postocular spots.

Prothorax brown with black median band and orange lateral spot. Synthorax black to below humeral suture, with complete orange antehumeral stripe, broader than half the mesepisternum but sharply constricted before dorsal end. Sides of synthorax orange to yellow at ventral end; a minute black mark at dorsal

end of first lateral suture, a dot at one third from dorsal end; and, on second suture, a black stripe. Legs ochreous, with black spot at the knees.

Abdominal segment 1 yellow with divided brown dorsal stripe; segments 2-7 with broad black dorsal band, segment 2 with short yellowish mid-dorsal line; segments 8-9 blue, 8 with black lateral triangle at distal end, 9 mainly black in distal half, segment 10 all black. Anal appendages black, of « kersteni » form, as in typical *flavipes* Sjöstedt. Peneal lobe with well developed funnels.

Venation black, pterostigma short, dark red, pale at edges. Forewing with 13 Px.

Abdomen 35 mm, hindwing 22 mm.

SIERRA LEONE: Holotype male collected between Firawa and Koinadugu, 14 May 1963.

Typical *flavipes* differs in the following respects: labrum with broader orange anterior border; frons with orange dorsal spot. Prothorax blacker. Antehumeral stripe widely severed before dorsal end. Femora with a black lateral streak. Segments 8-9 of the abdomen blue with continuous black sublateral stripe.

Holotype in Paris Museum.

***Pseudagrion sjöstedti wittei* FRASER, 1949.**

Pseudagrion wittei FRASER, 1949, *Mission de Witte*, 61, *Inst. Parc. nat. Congo Belge*: 7, ff. (Congo).

In another paper (with Press) the present author will indicate that *wittei* FRASER is a form or race of *sjöstedti* FÖRSTER (1906).

One male from Bouaké, Ivory Coast, differs in colour from typical *wittei* and may represent another form of this species. However, with such a variable species it seems inappropriate to give a new name on a single example.

The head is more or less typical, mainly red, the back of the vertex black; postocular spots large, green.

Synthorax black to below humeral suture, with yellow instead of red antehumeral stripes. These stripes, as in *wittei*, are broader than half the mesepisternum at their ventral end but sharply narrowed before dorsal end. Side of thorax with black stripes on upper half of first and second lateral sutures, and coated with white pruinosity. Legs yellowish, with femora black posteriorly.

In other respects this male agrees with *wittei* but it is larger than average: abdomen 33 mm, hindwing 21.5 mm.

IVORY COAST: One male collected in Bamoro primeval forest, 15 km North of Bouaké, 13 August, 1963.

NEODYTHEMIS KARSCH, 1889.

A new species from Sierra Leone is closest to this genus but differs venationally from typical members of this genus.

***Neodythemis scalarum*, spec. nov.**

Holotype ♂ (mature). Lips and face greenish yellow, labrum with black anterior border. Frons and vesicle steely blue, this blue continuing down sides and front of frons. Occipital triangle glossy black.

Prothorax blackish with yellow spots on anterior lobe and some lateral white pruinosity. Synthorax black on mesepisternum, this black continued with green sheen down sides almost to first lateral suture, with two yellow antehumeral stripes: a very narrow stripe against the black median carina and a broad stripe against humeral suture, broader than half the mesepisternum at ventral end but very narrow dorsally; also a small yellow dorsal dot in the greenish black of the mesepimeron. Rest of sides greenish yellow with a black spot behind the spiracle and a black stripe

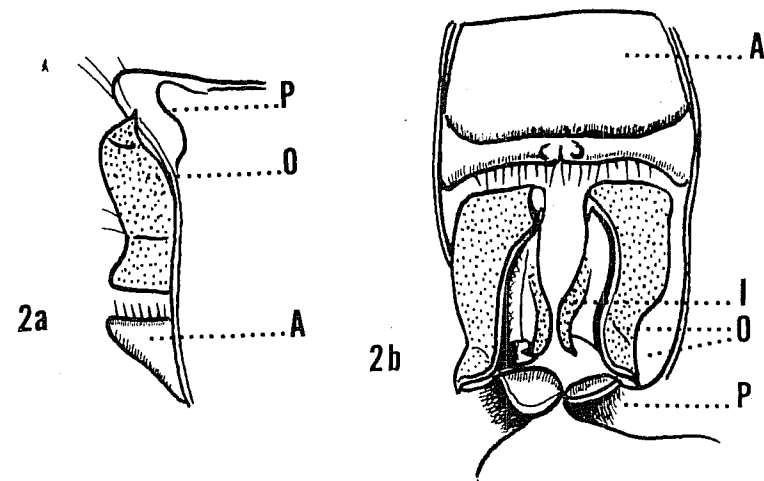


FIG. 2. — *Neodythemis scalarum*, spec. nov., accessory genitalia, a. from right, b. ventral view. A. anterior lamina, I. inner hook of hamule, O. outer hook of hamule, P. posterior lobe.

on upper three quarters on the second lateral suture. Base of legs and femora pale yellowish with broad black external band on femora. Fore tibia and tarsus black, the other tibiae and tarsi paler, brownish.

Abdominal segments 1-2 black dorsally, yellow laterally, with a bulbous mid-dorsal band on segment 2; segments 3-7 black dorsally and laterally, with discontinuous yellow lateral line severed at transverse carinae. Segments 8-10 and anal appendages black. Superior appendage with acute apex and with slight ventral tubercles before the ventral subapical swelling. Abdomen ventrally with discontinuous yellow stripe. Accessory appendages (figure 2, *a-b*) with short posterior lobe; outer hamule broad, curved at the apex and, in lateral view, obscuring the inner hamular hooks.

Venation black, pterostigma dark brown, rectangular; forewing with 13-14 Ax, 9 Px: 3 Bsq: triangle broken on upper edge; discoidal field starting with one row for four cells, then two rows, expanding again before nodal level. There is an abnormally high number of Cuq: 3-4 in forewing, 4 in hindwing.

Anal loop very short, only about 2-3 cells. All triangles free.

Abdomen (without appendages) 22 mm, hindwing 26 mm, pterostigma 3 mm.

In certain respects this is not a true *Neodythemis* Karsch (1889): the triangle and hypertriangle are free instead of being crossed on the hindwing; there are too many Cuq; and the anal loop is too short. It seems undesirable to erect a new genus for a solitary male which in other respects is adequately classified as a *Neodythemis* but if more examples could be obtained a decision could then be made. In the high incidence of bridge and cubital crossveins this male is decidedly more primitive than known members of this genus.

SIERRA LEONE: Holotype ♂ Bandakarafoia 15 May 1963, in Paris Museum. Named « *scalarum* » from the ladder-like cubital space with its extra crossveins.

N. gorillae PINHEY (1960) also has 3 Bsq, but is otherwise typical and differs in many other respects, such as a black labrum and labial band and broad lateral stripes on thorax.

N. africanum FRASER (1954) differs in similar respects. The other recorded continental african species, *N. fitzgeraldi* PINHEY (1961) is again typical of the genus. The malgassian species have more black on the thorax among other differences, and this black is more irregular.

ORTHETRUM NEWMAN (1833).

Orthetrum sagitta RIS, 1915.

Orthetrum sagitta RIS, 1915, *Ann. Mag. nat. Hist.*, **15**: 216; LONGFIELD, 1955, *Publ. cult. Cia. Diamantes Angola*, **27**: 47, ff.

One ♂, two ♀♀, Sierra Leone, between Makeni and Freetown, 4-VI-63.

Male. Thoracic markings prominent. Abdomen swollen at base, slender on remaining segments. Pale blue pruinosity on abdomen only. Accessory genitalia (fig. 3) very like *O. microstigma* RIS (1911). Venation all black. Pterostigma brown, between black veins. Radial supplement entirely one row.

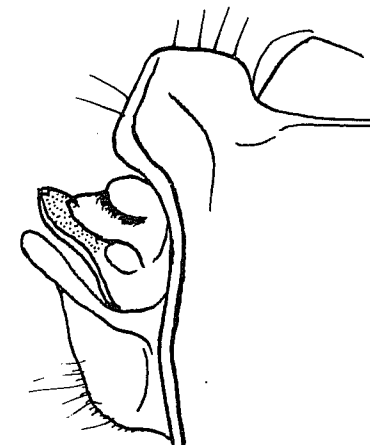


FIG. 3. — *Orthetrum sagitta* RIS, accessory genitalia, from right.

Abdomen 27 mm, hindwing 28,5 mm, pterostigma 3 mm.

From the accessory genitalia it would appear that this is probably a distinct species and not a subspecies of *O. africanum* (SELYS, 1887).

AETHIOTHEMIS RIS, 1908.

One highly colourful female from Senegal almost certainly represents a new species but without a corresponding male it is inadvisable to give it a name. Other species of this genus have

been founded on females and it is now difficult to define these species and assign the correct males.

This female has the general facies of a species in the *solitaria* group. Lips and face pale ochreous, frons and vertex pale greenish; frons with narrowish black basal line.

Synthorax greenish yellow, with black stripe on and slightly above humeral suture; a black dash on upper end of second lateral suture. Legs black, femora and tibiae with yellowish white posterior stripe, forefemur mainly pale yellow. Tarsi black.

Abdomen yellowish with black dorsal stripe and lateral carinal stripe: the dorsal stripe narrow at base, broadening considerably to segment 10; lateral stripe narrow, starting at segment 3, broadening on segments 9-10, so that the yellow areas on segments 9-10 become a short band and a spot, respectively. Cerci black, acute at apex, longer than segment 10. Vulvar scale bifid.

Wings all deep amber with broad ferruginous apices, the apical colouring extending back to the proximal end of the pterostigma, which is creamy brown between black veins; diffuse rufous patches at and just beyond nodal level, one on each wing. Venation mainly yellow, costa, radials and hindmargin brown. Forewing with 10 Ax, 6 Px. Triangles all free, in forewing narrow, the basal edge slightly oblique; ti in forewing of 3 cells; ht free; discoidal field starts two rows (or 3 cells at triangle), expanding before nodus. Cu₂ very curved. No extra Cuq. Anal loop only extending slightly beyond triangle in hindwing. One row Rspl.

Abdomen 21.5 mm, hindwing 24 mm, pterostigma nearly 3 mm.

This species is much more deeply coloured on the wings than in recorded species.

SENEGAL: The one female was collected at Tabi (Casamance), Lisière forest, 12 November 1961.

Limnetothemis erythra PINHEY.

Limnetothemis erythra (manuscript name, description of genus and species with Press).

SIERRA LEONE: One male from Makeni, 3 June, 1963, differs from the type in being pruinosed.

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