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## A review of the Afrotropical genus *Dogonia* Oldroyd, 1970, with new synonymy (Diptera: Asilidae: Stenopogoninae)

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### ABSTRACT

The genus *Dogonia* Oldroyd, 1970, one of eight Afrotropical genera of Stenopogoninae possessing setose anatergites, is revised. *D. nigra* Oldroyd, 1970 is synonymised with *D. saegeri* Oldroyd, 1970 and *D. saegeri* is redescribed with illustrations of both the male and female genitalia being presented. This monotypic genus is confined to the Garamba National Park in the Democratic Republic of the Congo.

KEY WORDS: Asilidae, Stenopogoninae, *Dogonia*, Afrotropical, Congo, revision, new synonymy.

### INTRODUCTION

The genus *Dogonia* Oldroyd, 1970, described for two species from the Democratic Republic of the Congo (DRC), is confined to the afrotropics and has drawn little comment since its description. At the time of description, Oldroyd, noting that *Dogonia* species have ‘the metanotal callosities hairy’ (i.e. the anatergites setose), nonetheless compared the genus to *Scylaticus* Loew, 1858, *Cyrtopogon* Loew, 1847 (Afrotropical species now incorporated in *Afroholopogon* Londt, 1994) and *Saropogon* Loew, 1847 (which belongs to another subfamily), genera that lack setose anatergites. While superficially similar in appearance to these genera the setose anatergites more closely link *Dogonia* with others in the subfamily that possess this character. Londt (1983, 1994) used the presence or absence of setose anatergites to key Afrotropical Stenopogoninae into two major divisions. That key has been subsequently updated by Dikow and Londt (2000) to include all eight genera that possess setose anatergites—*Anasillomos* Londt, 1983; *Daspletis* Loew, 1858; *Diocobroma* Hull, 1962; *Dogonia*; *Microstylum* Macquart, 1838; *Ontomyia* Dikow & Londt, 2000; *Oratostylum* Ricardo, 1925; and *Remotomyia* Londt, 1983. While most of these genera have been revised in fairly recent times, two still require modern revision—the highly speciose and widely distributed genus *Microstylum*, with some 80 named Afrotropical species, and *Dogonia* with its two named species.

On a recent study tour I was able to assemble all the known specimens of *Dogonia*, and this short paper presents my findings. I am not aware of any hitherto unrecorded specimens.

The brief taxonomic history of *Dogonia* may be summarised as follows:

Oldroyd (1970) – Described the genus, including two species, *saegeri* (type of the genus) and *nigra*, both from the Garamba National Park in the DRC.

Oldroyd (1980) – Catalogued the genus listing its two species.

Londt (1983) – Commented on the genus and included it in a key to the Afrotropical Stenopogoninae with setose anatergites.

Londt (1994) – Included the genus in a key to all the genera of Afrotropical Stenopogoninae.

Dikow and Londt (2000) – Updated that part of Londt’s (1994) key to Afrotropical Stenopogoninae possessing setose anatergites to include a new genus.

## MATERIAL AND METHODS

The only specimens known are those studied by Oldroyd (1970), which he listed as all being housed in the 'Institut des Parcs Nationaux (du Congo), Brussels' (IPNC). This material is now distributed between two Belgian institutions: the Musée Royal de l'Afrique Centrale (or Koninklijk Museum voor Midden-Afrika), Tervuren (MRAC), and the Institute Royal des Sciences Naturelles de Belgique (or Koninklijk Belgisch Instituut voor Natuurwetenschappen), Brussels (IRSB).

It is strange that Oldroyd, having stated that all the types were in the IPCN, appears to have studied the material in two batches—the MRAC specimens were identified in 1965, while those housed at the IRSB were given slightly different identification labels in 1966. It is also clear that these two institutions, while using similar orange card, independently attached their own type labels to specimens (probably after acquiring their allocations of material from the IPCN) as the wording (i.e. Holotypus / Paratypus or Paratype) is consistently different.

A standard format has been employed when recording label information. Data are reproduced exactly as they appear on labels, each label being demarcated by the use of single inverted commas, and each line of data separated by a spaced slash (/). Square brackets are used to add useful information, like coordinates, or comment. When a specific locality could not be traced, the name is followed by [?].

Final illustrations of terminalia were prepared from pencil drawings and do not depict setae that are not considered to have diagnostic value. Measurements were taken as follows: both eye and face width is measured at maximum head width level, viewing the head anteriorly; wing length is measured from humeral crossvein to tip, breadth at its maximum level.

## TAXONOMY

Genus *Dogonia* Oldroyd, 1970

*Dogonia* Oldroyd, 1970: 269. Type species: *Dogonia saegeri* Oldroyd, 1970, by original designation.

Oldroyd (1970: 269) has provided a good description of *Dogonia* (the name being derived from the locality Mt Ndogo). The genus is easily identified using the key published by Londt (1994), which was partly updated by Dikow and Londt (2000). *Dogonia* is easily separated from most of the other Afrotropical Stenopogoninae by its

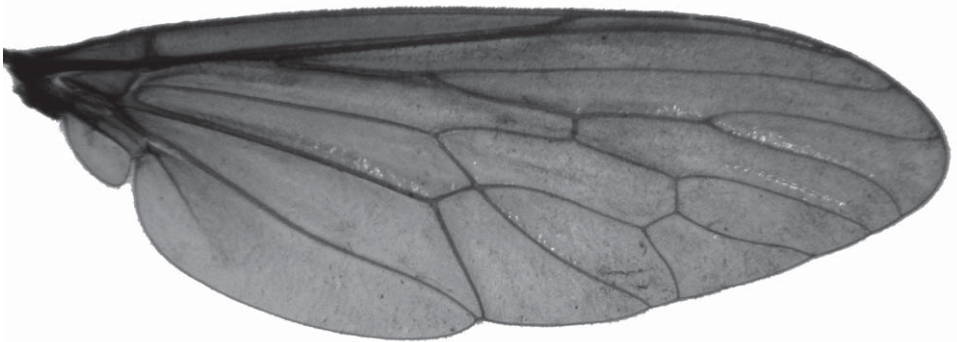


Fig. 1. Right wing of *Dogonia saegeri* Oldroyd, ♀ paratype, Akam, DRC.

possession of setose anatergites, a character found in only eight of 41 described genera. In addition, *Dogonia* has a well-developed antennal style (which clearly separates it from *Microstylum* and *Daspletis*) leaving it in a small group of six genera that possess setose anatergites and a well-developed antennal style. *Dogonia* appears most similar to *Diocobroma* as only these two genera have slender occipital setae (others have obvious macrosetae as well as fine setae). These two genera can be separated from each other using various features such as antennal form (i.e. scape and pedicel almost equal in length in *Dogonia*; scape clearly longer than pedicel in *Diocobroma*), and male terminalia form (e.g. hypandrium is about as long as epandrial lobes in *Dogonia*; hypandrium is less than half the length of epandrial lobes in *Diocobroma*).

*Dogonia saegeri* Oldroyd, 1970

Figs 1–8

*Dogonia saegeri* Oldroyd, 1970: 269–270, figs 42 (head in lateral view and detail of antenna), 43 (♂ terminalia), 44 (head in anterior view).

*Dogonia nigra* Oldroyd, 1970: 270–271, fig. 41 (♂ terminalia). **Syn. n.**

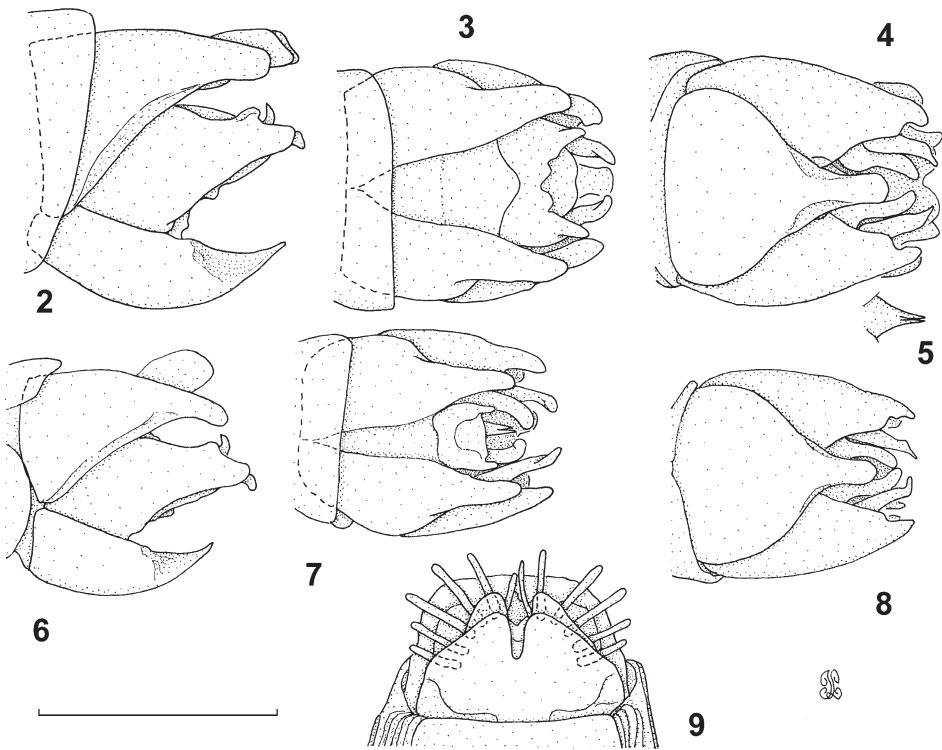
Oldroyd (1970) provided reasonable descriptions of both *saegeri* and *nigra*. He distinguished *nigra* from *saegeri* ‘by its black colour, and by the different shape of the male terminalia’. However, even a superficial look at the material shows that there is considerable variation in colour. For example, four of the specimens (including the type of *nigra*) have abdomens that could be described as ‘black’ while the other four are somewhat ‘orange’. Additionally, Oldroyd did not excise and macerate the male terminalia, but merely produced somewhat diagrammatic illustrations of them (fig. 41 – *nigra*, and fig. 43 – *saegeri*) based on the dry structures. Having now removed the terminalia and macerated them in potassium hydroxide I can report that the unique *nigra* holotype is essentially similar to the males of *saegeri*. I need to record that I find it difficult to interpret Oldroyd’s fig. 41 as the macerated structures bear little resemblance to the published diagram. In view of my findings, I confidently synonymise *nigra* with *saegeri*. This action effectively makes *Dogonia* a monotypic genus.

The following brief redescription, which should be read in conjunction with Oldroyd’s descriptions, is based on the examination of all the available material and highlights some of the variation seen. Unfortunately, most of the specimens are not in particularly good condition and all have parts that are either broken or missing.

Description:

**Head:** Dark red-brown, gold-silver pruinose, but weakly so on face below antennal sockets. Antennal scape only slightly longer than pedicel, style well-developed with terminal spine. Face slightly protruding in ventral half; mystax shiny whitish with a few black setae laterally [1 ♀ entirely whitish], covering facial tubercle. Occipital macrosetae absent, fine setae whitish. Eye:face width ratio 1.03–1.17:1 (mean 1.12, i.e. eye slightly wider than face). Palpus 2-segmented, proboscis elongate and not markedly broader basally.

**Thorax:** Mesonotum dark red-brown with lateral parts, including postpronotal and postalar lobes, commonly orange-brown to orange [some individuals mostly dark red-brown laterally]; gold-silver pruinose especially laterally; macrosetae poorly developed, black, general setation predominantly black except on postpronotal and postalar lobes



Figs 2–9. *Dogonia saegeri* Oldroyd, Mt Ndogo, DRC: (2–8) ♂ terminalia: (2–5) paratype: (2) lateral, (3) dorsal, (4) ventral, (5) detail of aedeagus; (6–8) *D. nigra* Oldroyd, holotype: (6) lateral, (7) dorsal, (8) ventral; (9) ♀ terminalia, paratype. Scale line = 1 mm.

where setae are yellowish. Pleura patchy dark red-brown and orange-brown [intensity of orange-brown areas is variable], setae fairly sparse and usually yellowish except for katatergal setae which are long, predominantly black in males and yellowish in females. Anatergal setae longish, yellowish. Scutellum dark red-brown with fine black setae. Legs: Ranging from prothoracic legs orange-brown, metathoracic legs brown-orange, mesothoracic legs intermediate to all legs dark red-brown [i.e. intensity of colour is variable]; macrosetae black, fine setulae pale yellowish. Halteres usually yellowish to pale orange [may be slightly brownish]. Wing (Fig. 1): Fairly uniformly dark brown to blackish stained, but may be slightly weaker stained in central parts of distal cells enclosed by costal vein; uniformly blackish microtrichose. Smallest wing 7.4×3.8 mm (*nigra* holotype), largest 10.7×4.5 mm (a ♀ paratype), mean 9.3×3.9 mm.

**Abdomen:** Terga range from orange through to black, largely shiny apruinose but T1–7 silvery pruinose laterally (extent of pruinescence gradually diminishing posteriorly), discal macrosetae not evident, general tergal setation black, mostly laterally situated [variation in degree of development is evident and some specimens have some yellowish setae as well]. Sterna similarly variable in colour, but apruinose and usually almost entirely asetose. Membranes binding terga with sterna blackish. Genitalia usually slightly darker in colour than more anteriorly situated segments.

Male terminalia (Figs 2–8): Epandrium in lateral view similar in length to hypandrium, and gonocoxite projecting beyond levels attained by either epandrium or hypandrium. Epandrium in dorsal view deeply incised medially, the two lobes just touching proximally. Proctiger bilobed and fairly broad in dorsal view. Gonocoxite subtriangular in lateral view with small dorsodistal lobe-like projection and finger-like dorsomedial projection that largely hidden from view, but more easily seen when viewing genitalia dorsally or ventrally. Gonostylus also finger-like but with upturned, somewhat pointed tip. Hypandrium subtriangular when viewed ventrally; tip somewhat ridged ventromedially and with narrowly rounded apex. Aedeagus proximally bulbous, prongs small, converging to acutely pointed tip.

Female terminalia (Fig. 9): Epigynium unremarkable. Hypogynium broader than long, medially incised to almost half its length. Acanthophorites each bearing six variously developed macrosetae.

Material examined: DRC: ♂ **holotype** (of *saegeri*), 'HOLOTYPUS' [orange], 'Congo belge, P.N.G. [Garamba National Park, 04°10'N:29°30'E] / Miss. H. De Saeger / AKAM [?], 24-III-1950 / Réc. H. De Saeger. 327', '*Dogonia / saegeri* [sic] Oldroyd / H. Oldroyd det., 1965 / HOLOTYPUS' (MRAC); 1 ♀ **paratype**, 'Para- / type' [orange], 'Congo belge, P.N.G. / Miss. H. De Saeger / AKAM, 24-III-1950 / Réc. H. De Saeger. 327', '*Dogonia / saegeri* Oldroyd / det. H. Oldroyd 1966 / PARATYPE' (IRSB); 1 ♂ 2 ♀ **paratypes**, 'PARATYPUS' [orange], 'Congo belge, P.N.G. / Miss. H. De Saeger / Mt. Ndogo [?], 15.III.1950 / Réc. H. De Saeger. 305', '*Dogonia / saegeri* Oldroyd / H. Oldroyd det., 1965 / PARATYPE' (MRAC); 1 ♀ **paratype**, 'Para- / type' [orange], 'Congo belge, P.N.G. / Miss. H. De Saeger / Mt. Ndogo, 15.III.1950 / Réc. H. De Saeger. 305', '*Dogonia / saegeri* Oldroyd / det. H. Oldroyd 1966 / PARATYPE' (IRSB); 1 ♀ **paratype**, 'Para- / type' [orange], 'Congo Belge, P.N.G. / Miss. H. De Saeger / II/fe/18 [?], 31-III-1952 / H. De Saeger. 3262', '*Dogonia / saegeri* Oldroyd / det. H. Oldroyd 1966 / PARATYPE' (IRSB); ♂ **holotype** (of *nigra*), 'HOLOTYPUS' [orange], 'Congo belge, P.N.G. [Garamba National Park] / Miss. H. De Saeger / I/a/1 [?], 13-III-1950 / Réc. H. De Saeger. 301', '*Dogonia / nigra* Oldroyd / H. Oldroyd det., 1965 / HOLOTYPUS' (MRAC).

Note: While The Garamba National Park (G.N.P.) is to be found in gazetteers, I have not been able to locate the precise positions of either Akam or Mt Ndogo within this park. Two specimens do not possess locality information other than 'P.G.N.' but instead have codes (i.e. II/fe/18 and I/a/1 respectively) that I am unable to decipher.

## DISCUSSION

### Taxonomy

While *Dogonia* remains a rather unique and now monotypic genus within the Afro-tropical stenopogonine fauna, it is easy to recognise and can be identified using existing keys. Londt (1983) indicated that *Dogonia* and *Diocobroma* could be separated using the eye to face width ratio saying that this was  $>1.3$  for *Dogonia* and  $<1.1$  for *Diocobroma*. Now with the actual specimens of *Dogonia* being available for measurement (Londt's measurement was based on Oldroyd's fig. 44), it is found that Oldroyd's illustration is not accurate and that the distinction noted by Londt (1983) does not exist. The average eye:face width ratio for *Dogonia* is actually close to 1.1 and so is similar to *Diocobroma*. While this facial character is of little value, the form of the male genitalia is so different that no confusion between these two genera is possible. It is clear that the individual variation seen in specimens, especially with respect to leg and abdominal coloration, is fairly significant. It is possible that individuals are somewhat orange in colour on emergence and become increasingly dark with time until they are almost entirely black. This variation, combined with the fact that Oldroyd was not in the habit of macerating genitalia, resulted in his mistaken belief that there were two species in the sample collected by Dr De Saeger.



### *Phenology and biology*

The eight known specimens were collected in the second half of March (1950 and 1952). The Garamba National Park is in the extreme north-eastern part of the DRC, a few degrees north of the equator, and March would be considered to be within the season of spring.

Nothing has been recorded regarding the biology of *Dogonia*. However, being stenopogonine asilids these flies probably perch on vegetation and visit sandy soil in order to lay eggs in shallow scrapes. The generally dark colour is reminiscent of species that live in shaded areas, possibly along the margins, or under the canopies of forests.

### ACKNOWLEDGEMENTS

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