

New Isometopinae (Heteroptera: Miridae) from Africa

Новые Isometopinae (Heteroptera: Miridae) из Африки

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КЛЮЧЕВЫЕ СЛОВА: Heteroptera, Isometopinae, *Myiomma*, *Isometopus*, Африка, новые виды.

ABSTRACT. New species of genera *Myiomma* Put. and *Isometopus* Fieb. from Ethiopia, Uganda and Kenya are described. So far 28 species of the former genus and 29 of the latter have been described from Africa. A morphological analysis of some species of *Myiomma* is given.

РЕЗЮМЕ. Описываются новые виды родов *Myiomma* и *Isometopus* из Эфиопии, Уганды и Кении. До сих пор из Африки было известно 28 видов первого рода и 29 видов — второго. Проведён морфологический анализ для некоторых видов рода *Myiomma*.

Introduction

Myiomma Puton, 1972 and *Isometopus* Fieber, 1860, are among the largest genera within Isometopinae. Representatives of *Myiomma* are widely distributed. They have been described from Europe [Puton, 1872], Africa [McAtte & Malloch, 1932; Carvalho, 1951; Hoberlandt, 1952; Smith, 1967; Linnavuori, 1975; Slater, 1976; Wagner E., 1983; Akingbohunge, 1996], China [Ren, 1987]; India [McAtte & Malloch, 1932; Carvalho, 1951]; Sri Lanka [McAtte & Malloch, 1932], Japan [Miyamoto, 1965], South America [Carvalho & Ross, 1962; Henry, 1979], Mexico [Henry, 1979], and the United States [Banks, 1907; Heidemann, 1908; Henry, 1979; Wheeler, Henry, Mason, 1983]. The data available indicate that the largest number of representatives of this genus live in Africa. Akingbohunge [1996] reports 28 species, new forms included, the largest number of them to be found in Ghana (12 species) and Nigeria (10 species). Other forms occur in other countries of the same continent (Fig. 1). Only 6 species are known from both males and females. In all other cases one of the sexes is still missing, which is one of the reasons why it has so far been impossible to determine the range of morphological variation due to sexual dimorphism.

The genus *Isometopus* comprises two subgenera. In Africa, the species classified by Akingbohunge [1996] within the subgenus *Jehania* Distant distinctly predominate. The subgenus *Isometopus* is represented by merely 5 species occurring only in northern Africa (Morocco — 3

species, Algeria — 1, Ethiopia — 1). *Jehania* houses more species — 24 or 23, if *I. (J.) madagascariensis* (Polhemus) equals *I. (J.) discrepans* Akingboh. They are distributed in southern Africa (4), Nigeria (7), Madagascar (5), Ghana (2) and in Sudan, Uganda, Togo, Ethiopia, Zaire and Angola (1 species in each; Fig. 1). As in the case of *Myiomma*, many species here are monotypic (e.g. *I.(J.) nitidus*, *I. (J.) nigrans*, *I. (J.) lunaris*), which makes identification of specimens more difficult, especially in view of the fact that the intraspecific variation cannot be determined.

All borrowed material is deposited at the Department of Entomology in the Museum Natural of History (London).

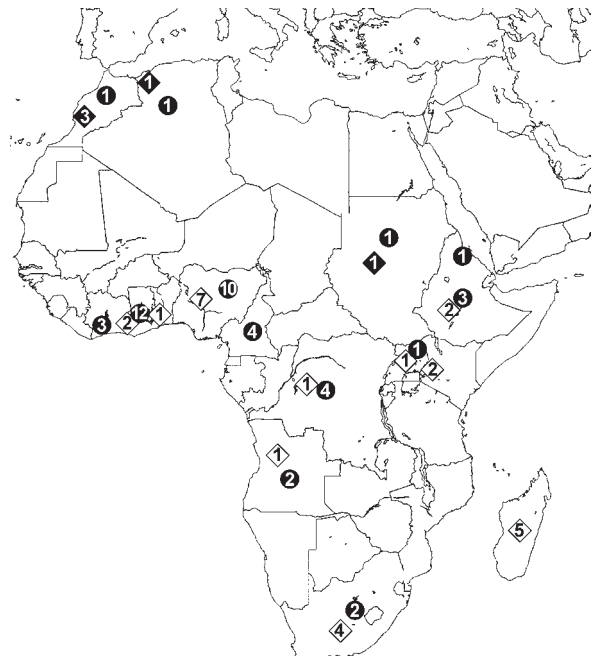


Fig. 1. Distribution of African species of the genera *Myiomma* (rounds) and *Isometopus* (black diamond — subgenus *Isometopus*, white diamond — subgenus *Jehania*). Numbers refer to the number of known species.

Рис. 1. Распространение африканских видов родов *Myiomma* (круги) и *Isometopus* (чёрный ромб — подрод *Isometopus*, белый ромб — подрод *Jehania*). Числа соответствуют числу известных для Африки видов.

Taxonomy

Myiomma latifrons sp. n.

Figs 2–3.

MATERIAL. Holotype: 1 ♀, Ethiopia (Abyssinia) Mt. Zaguala, ca. 9000 ft, Beaten from trees near lake shore; collector: Dr H. Scott.

DESCRIPTION. Facies (except clypeus) and eyes black. Clypeus dark auburn, basal part of frons and lateral portions of head (behind eyes) dark yellow. Ocelli auburn-brown. Pronotum dark brown, slightly paler in the basal part, with a narrow brownish-yellow stripe in the middle which terminates at the level of calli. Mesoscutum dark brown with brownish-yellow lateral margins. Scutellum pale yellow in the apical part, basal part dark brown. Hemelytra light brown, slightly transparent. The inner part of the base of cuneus with light patches. The inner, basal portion of clavus pale yellow. Membrane light brown, smoked. Underside of the body auburn. Rostrum, antennae and legs brownish-yellow.

Pronotum and clavus distinctly punctate. The rest of the dorsal part of the body finely punctate, cuneus almost smooth. Facies transversely rugose.

Head slightly raised above pronotum (but not above its middle part), somewhat overlapping with its anterior margin. Ocelli contiguous with the inner margin of eyes, distance between them slightly bigger than their diameter. Distance between eyes in the front part equals the diameter of ocellum, approximately the same in the back. Antennae rather slender, diameter of joint II in the apical part not longer than diameter of joint I. Base of frons with a distinct, rather deep depression. Rostrum slender, reaching abdominal sternite V.

The posterior part of pronotum bisinusoidal. Lateroposterior margins flattened, weakly oblique. Calli marked.

The dorsal part of the body, antennae and tibiae covered with short, pale, clinging setae.

All femora normal, not thickened. Tarsi 2-segmented, segment II almost twice as long as segment I.

MEASUREMENTS (in mm): length of body from apex of hemelytra: 2.28, width: 1.08; length of head 0.19, width 0.44, height 0.53; width of vertex: 0.076; length of eye 0.19, width of eye 0.19; height 0.27; antenna joints: I — 0.13, II — 0.60, III — lost, IV — lost; labial segments: I — 0.18, II — 0.38, III — 0.34, IV — 0.34; length of pronotum: 0.36 (min), 0.39 (max), width: 0.52 (min), 0.90 (max); length of mesoscutum: 0.13, width: 0.62; length of scutellum: 0.38, width: 0.47; claval commissure: 0.38; hind legs: length of femur: 0.60, width: 0.18; length of tibia: 1.01; length of tarsus: 0.23 (I — 0.08; II — 0.19).

COMPARISON. Referring to the key species of *Myiomma* in Akingbohunge [1996], the new species should be contrasted with *M. capaneri*. The described species is smaller and differs in a number of morphological characters. The colour pattern on pronotum in *M. capaneri* consists of yellow spots in the front part and along the posterior margin. Hemelytra in *Myiomma latifrons* are brown but slightly transparent, while in *M. capaneri* they are chocolate brown. Also the coloration of legs is different: in *M. capaneri* coxae (except the base), trochanters, proximal portions of femora, and apical halves of tibiae are whitish, while the base of coxae, distal halves of femora, basal halves of tibiae and tarsi are dark brown. In the new species legs are brown except the lighter termination of metacoxae and tro-

chanters. Antennae and rostrum in *M. capaneri* are almost black. Moreover, the shape of the posterior margin of head is distinctly different — incised in the new species. The described form also lacks setae on the posterior margin of eye, which are present in *M. capaneri*. Furthermore, in *M. capaneri* eyes lie close together in the frontal part, while in *M. latifrons* they are distinctly apart. Also antennae are inserted lower compared with *M. capaneri*.

ETYMOLOGY. Specific name coined from the Latin words *latus* — “broad”, and *frons* — “forehead”.

Myiomma scotti sp. n.

Figs 4–5.

MATERIAL. Holotype: 1 ♀, Ethiopia (Abyssinia) Malu above Muger Valley, circa 8000ft; 18–23 XII. 1926. Collector: Dr H. Scott.

DESCRIPTION. Ground body colour light brown. Vertex, ocelli, eyes and facies below the lower margins of eyes, mesoscutum and the basal 2/3 of scutellum dark brown. Lateral margins of head (at the level of eyes), the apical 1/3 of scutellum, base of cuneus (about 1/4 its length) and scent gland peritreme ivory; legs and antennae brownish yellow. Pronotum yellow, brown in the middle and in the lateral portions. Mesoscutum with orange-yellow sides.

Head raised above the level of pronotum by 1/4 of its height. Ocelli contiguous with eye, the distance between them equals twice their diameter. Vertex at the level of ocelli wider than in the anterior and posterior part. Eyes in the frontal part close together, the distance between them equals the diameter of ocellus. Inner and lower lateral margins of eyes slightly thickened, which results in frons appearing weakly depressed in the middle. Antennae rather slender, joint I short, slightly thicker than the base of joint II. Rostrum slender, reaching somewhat behind abdominal sternite III. Two terminal rostral segments covered with short protruding setae. The surface of body weakly punctate, rather densely covered with short, yellowish, clinging setae. Sides of pronotum narrowly flattened, calli rather poorly marked, only the anterior portion of pronotum somewhat thickened. Mesoscutum and scutellum weakly marked with transverse wrinkles. Hemelytra semitransparent (more transparent in the lateral portions), finely punctate. Metafemora thickened. Tarsi 2-segmented, segment II more than twice as long as segment I.

MEASUREMENTS (in mm): length of body from apex of hemelytra: 2.50, width: 1.00; length of head 0.21, width 0.35, height 0.52; width of vertex: 0.12; length of eye 0.21, width of eye 0.16, height 0.31; antenna joints: I — 0.10, II — 0.60, III — 0.21, IV — 0.14; labial segments: I — 0.21, II — 0.26, III — 0.23, IV — 0.29; length of pronotum: 0.31 (min), 0.34 (max); width: 0.34 (min), 0.91 (max); length of mesoscutum: 0.09, width: 0.68; length of scutellum: 0.40, width: 0.49; claval commissure: 0.42; hind legs: length of femur: 0.76, width: 0.28; length of tibia: 0.95; length of tarsus: 0.25 (I — 0.10, II — 0.22)

COMPARISON. The described species is similar to *M. albiscutellata* Smith and *M. juniperina* Linnav. From the former it differs in size (*M. scotti* is slightly bigger) and in antennal joint II not distinctly club-shaped but covered with setae which are not longer than its diameter. There is also a marked difference in the placement of antennae. In the new species fovea antennalis are placed almost immediately at the posterolateral margin of head, low, a long distance from the lower margin of

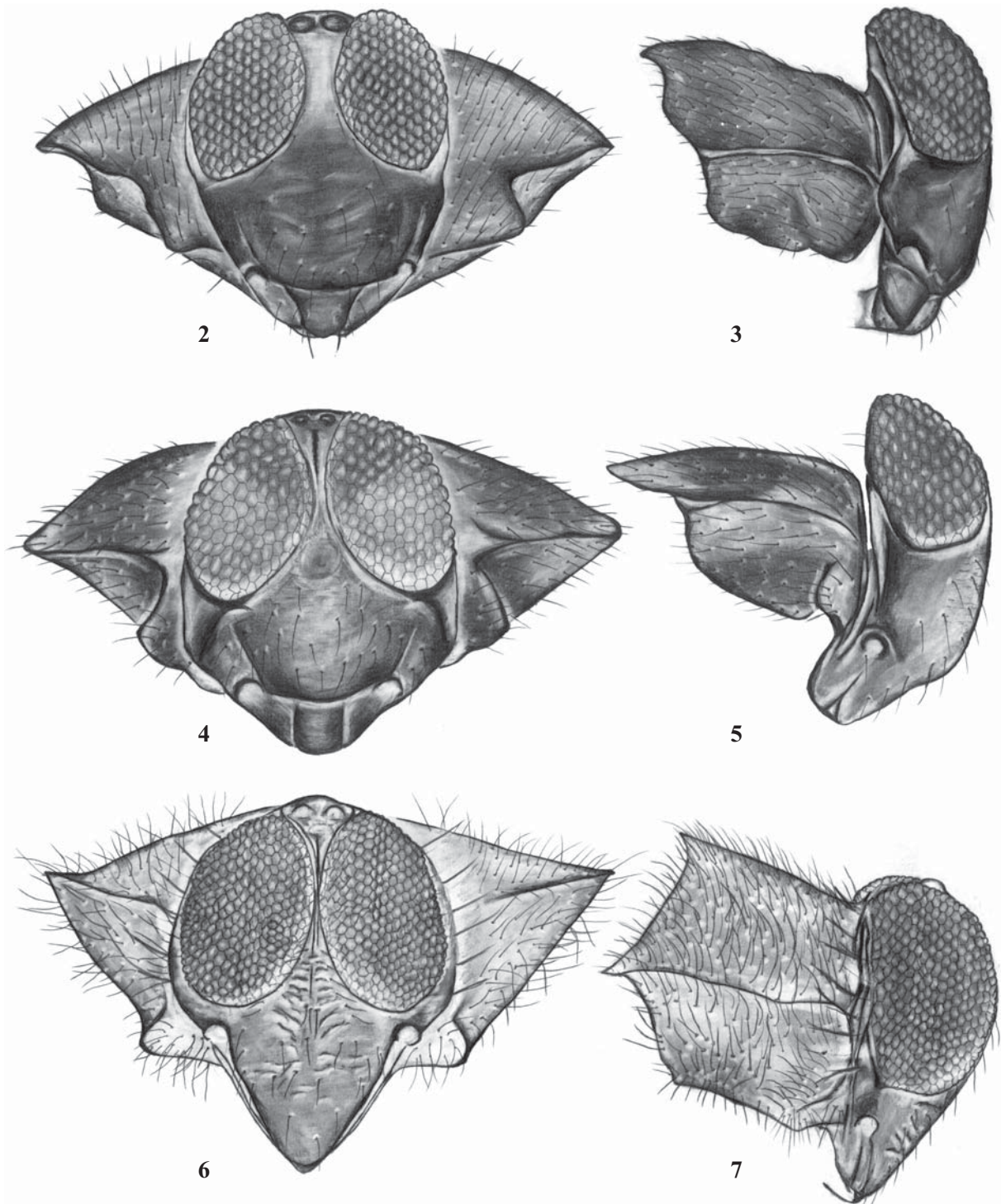


Fig. 2-7. *Myiomma* spp., head and pronotum: 2-3 — *M. latifrons* sp. n.; 4-5 — *M. scotti* sp. n.; 6-7 — *M. adusta* sp. n. 2, 4, 6 — frontal view; 3, 5, 7 — lateral view.

Рис. 2-7. *Myiomma* spp., голова и переднеспинка: 2-3 — *M. latifrons* sp. n.; 4-5 — *M. scotti* sp. n.; 6-7 — *M. adusta* sp. n. 2, 4, 6 — вид спереди; 3, 5, 7 — вид сбоку.

eye, while in *M. albiscutellata* antennae are inserted at a certain distance from the posterolateral margin of head, almost at the lower margin of eye. Antennae in *M. juniperina* are in a low position, as in *M. scotti*, but the point of insertion is moved to the front of head. At

the same time posterior portions of lora in *M. scotti* are strongly flattened to form a weak depression above fovea antennalis. A similar depression appears in *M. albiscutellata* below the point of insertion and is absent altogether from *M. juniperina*. There is also a

difference in the relative position of the inner margins of eye, which in the new species are distinctly divergent, while in the other two forms they are almost parallel. Moreover, the compared species differ in the coloration of certain parts of body. In the described species and in *M. juniperina* antennal joint II is yellowish with brown apical portion, while in *M. albiscutellata* it is dark brown. Pronotum in *M. scotti* is yellowish with brown spots in the middle and at sides. In the other two species pronotum is dark brown and shiny. Scutellum in *M. scotti* is brown with a white apex (the same in *M. juniperina*), while in *M. albiscutellata* it is creamy with a brown anterior margin. The base of cuneus in the described species is white over its entire width (the same in the species described by Linnavuori, but the white stripe at the base of cuneus is swollen), while in *M. albiscutellata* there is only a small white spot at the base of cuneus. In contrast to the other forms, whose corium is dark brown, corium of the new species is light brown.

ETYMOLOGY. Specific name coined from the name of the collector.

Myiomma adusta sp. n.

Figs 6–7

MATERIAL. Holotype: 1 ♂, Uganda, Kalinzu forest, T.H.E Jackson collector, 1935 B.M.E. Afr. Exp.

DESCRIPTION. Body elongate, oval; ground body colour dark brown. Facies black, ocelli, eyes and vertex dark brown. The posterior margin of head (up to the half of eye's height), lateroposterior angles of pronotum and its lateral, narrow, semitransparent lateral margins yellow. Coxae, antennal joint I and the base of joint II and rostrum (except segment IV, which is brown) also yellow. The termination of scutellum, scent gland peritreme and a small paracentral fragment of the base of cuneus whitish-yellow. Femora in the apical 2/3 orange, tibiae brown. Membrane brown, mat, longitudinally rugose, covered with very short, light setae. Minor cell weakly marked.

Body shining, densely punctate, covered with rather long setae, which protrude on corium. Antennal joint I short, goblet-shaped. Joint II thicker than joint I, more distinctly expanded in the apical part, strongly setose, setae somewhat longer than the joint diameter. Joint III short, slightly longer than joint I, slender, also covered with setae. Joint IV missing. The posterior margin of head slightly incised in the middle. The margins of eyes meet in the front part and at the posterior margin of head. Ocelli placed close together, almost contiguous. Scutellum slightly swollen, the posterior margin of pronotum bisinusoidal. Embolium relatively broad. Rostrum rather slender, long, reaching abdominal segment VIII. Metafemora thickened, tarsi 2-segmented.

MEASUREMENTS (in mm): length of body from apex of hemelytra: 3.22, width: 1.55; length of head 0.28, width 0.70, height 0.88; width of vertex: 0.13; length of eye 0.28, width of eye 0.31, height 0.52; antenna joints: I — 0.11, II — 1.10, III — 0.13, IV — lost; labial segments: I — 0.34, II — 0.49, III — 0.38, IV — 0.57; length of pronotum: 0.49 (min.), 0.57 (max.); width: 0.65 (min.); 1.33 (max); length of mesoscutum: 0.19, width: 0.95; length of scutellum: 0.57, width: 0.65; claval commissure: 0.38; hind legs: length of femur: 1.14, width: 0.30; length of tibia: 1.71; length of tarsus: 0.1 (I — 0.05, II — 0.06)

COMPARISON. The characters of this species call for a comparison with *M. obscura* Akingboh. In spite of

a number of shared features, the new species is considerably bigger than the one described in 1996. It lacks the depression separating frons and tylus, while antennae are inserted below the posterior lateral margin of eye, near the margin of head (in *M. obscura* antennae are inserted below the middle portion of the lower margin of eye). Moreover, in the new species occiput and postgenae are not as broadly exposed as it is the case in *M. obscura*. In *M. adusta* eyes almost touch the posterolateral margin of head. Along the posterior margin of head, at the level of the lower margin of eye up to the apex of head, there are 6 long, stiff setae. There is no short sulcus before ocelli, while the lateral margins of pronotum are weakly arcuate and convex, and rather broadly flattened. The posterior margin of pronotum in the described species is almost straight, while in *M. obscura* it is sinusoidally incised. Furthermore, calli in *M. adusta* are not distinctly rugose, while hemelytra, except relatively broad embolium, are not semitransparent. Also minor cell on the membrane is very weakly marked, while in *M. obscura* the cells are distinct.

There are also considerable differences in the coloration of the compared forms. Frons, vertex and genae in *M. obscura* are dark red, while in the new species they are brownish black; head between eyes is yellowish brown and its posterior margin is whitish, while in *M. adusta* these regions are brown and yellow respectively. In *M. obscura* rostrum is reddish brown, while in the described species it is yellow. Moreover, the new form lacks yellow coloration of the posterior margin of pronotum and the white stripe at the base of cuneus — there is only a small, slightly convex white spot in the paracentral fragment of the base.

ETYMOLOGY. Specific name coined from the brown coloration of the specimen (Latin *adustus*).

Isometopus africanus sp.n.

Figs 8–9.

MATERIAL EXAMINED. Holotype: 1 ♀, Kenya, 1955, collector D.C. Thomas.

DESCRIPTION. Body oval, head, eyes (except the posterior and posterolateral margins, which are yellow), ocelli, pronotum, mesoscutum and scutellum blackish brown. Antennal joints I and II black, the rest brown. Hemelytra lighter, with a whitish patch not extending to clavus in 1/3 of their length from the base of wings. Embolium broad, yellowish, semitransparent. Cuneus brown, the paracentral fragment of the base ivory, the inner margin darker.

Vertex very narrow; ocelli located very close to the posterior margin of head, ot contiguous with the inner margins of eyes. Interocellar distance almost as long as the diameter of ocellus. Antennal joint II evenly swollen along its length, its diameter as long as the diameter of joint I. Joints III and IV markedly thinner, short. The apical portion of the frontal part of head in front view with a distinct batten-like swelling. Tylus and lora moved to the back. The lateral portions of pronotum flattened, batten-like, the posterior margin bisinusoidal. Scutellum swollen, raised to the level of pronotum. The base of clavus with a distinct wedge-like swelling. Rostrum relatively short, reaching metacoxae. Femora dark brown, with light apices. Tibiae light brown, tarsi yellowish.

Frons, facies (partly damaged), pronotum and hemelytra distinctly punctate with deep marks, covered with yellow

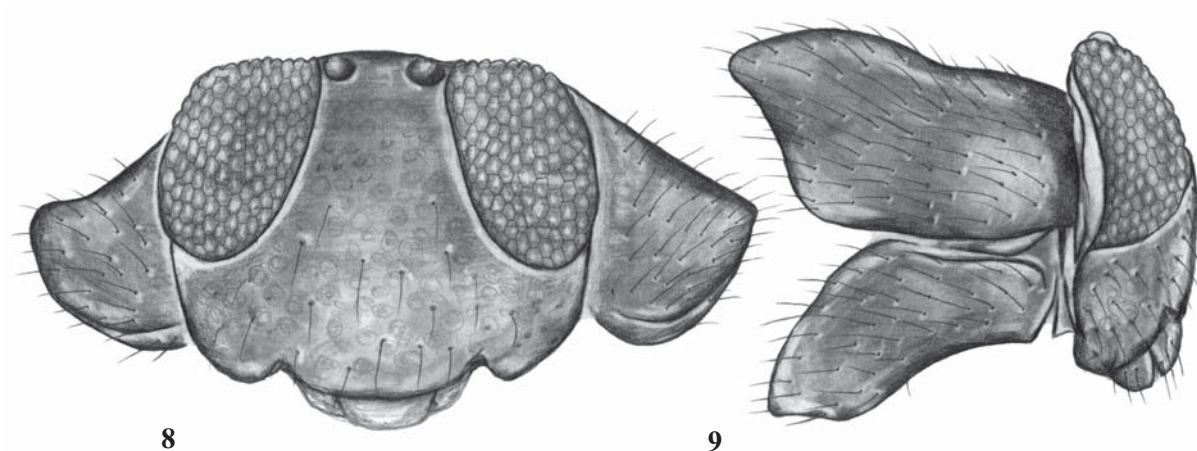


Fig. 8–9. *Isometopus africanus* sp. n., head and pronotum: 8 — frontal view; 9 — lateral view.
Рис. 8–9. *Isometopus africanus* sp. n., голова и переднеспинка: 8 — вид спереди; 9 — вид сбоку.

clinging setae. Membrane dark, mat, densely covered with very short setae, with two cells. Minor cell very small and poorly delineated.

MEASUREMENTS (in mm): length of body from apex of hemelytra: 2.58, width: 1.41; length of head 0.22, width 0.68, height 0.61; width of vertex: 0.13; length of eye 0.17, width of eye 0.23, height 0.30; height of gena — 0.13; antenna joints: I — 0.10, II — 0.76, III — 18, IV — 19; labial segments: I — 0.45, II — 0.50, III — ?, IV — ?; length of pronotum: 0.84, width: 0.95 (min.), 1.77 (max); length of mesoscutum: 0.3 (max.), width: 1.29; length of scutellum: 0.91, width: 0.84; claval commissure: 1.52; hind legs: length of femur: 0.81, width: 0.26; length of tibia: 0.83; tarsus: 0.23 (I — 0.08, II — 0.16).

COMPARISON. Among the species of the genus *Isometopus* described from Africa [Akingbohunge, 1996], the new species should be contrasted with *I. (J.) fallax* Akingboh. and *I. (J.) brevisrostris* Akingboh. In contrast to these species, the described form is very distinctly and deeply punctate both in the front part of head and on pronotum and hemelytra. Membrane is dark and densely covered with fine, very short setae, while minor cell is poorly delineated and very small (almost invisible). Moreover, in the new species the ratio of the height of gena to eye is higher (0.5, in the other species 0.25 and 0.36 respectively), the ratio of the width of head to its length is higher too (3.1, in the other forms 2.2 and 2.5), and the distance between ocelli is smaller (only slightly longer than the diameter of ocellus). Important differences are also observed in the colour pattern. In *I. africanus* pronotum is entirely dark brown and lacks any paler markings. Scutellum is of the same colour, except the ending, which is lighter. In *I. fallax* there is a pale stripe running in the apical 2/3 of scutellum, while in *I. brevisrostris* there is an orange stripe cutting across the middle of scutellum. Hemelytra in *I. africanus* are brown, with a pale spot which does not extend to clavus and is located below the base of wings. Cuneus in the new species is brown, darker at the inner margin, with a pale, ivory spot at the inner margin of the base (the colour of this element of hemelytra in *I. fallax* and *I. brevisrostris* is distinctly different).

ETYMOLOGY. Specific name related to the name of the continent where the specimen was found.

Discussion

A morphological analysis of the species of *Myioma* shows that within this genus there is a considerable morphological variation. Moreover, differences resulting from sexual dimorphism pose additional problems when an attempt is made at defining the taxon. The difficulties involved have already been pointed out by many authors [Smith, 1967; Slater & Schuh, 1969; Henry, 1979]. A considerable variation is visible especially in the head structure — in the position of eyes in relation to the posterolateral margin of head, their shape in the rear part of head behind ocelli and their height; in the position and size of ocelli; in the size of vertex; in the appearance and position of the lateral margins of head regarding pronotum; and in the position of foveae antennalis in relation to both the posterior margin of head (ranging from their placement almost at the posterolateral margin of head to the position close to the paracentral portion of the margin) and in relation to the lower margin of eye (almost contiguous or at a distinct distance from the margin). Moreover, the size of clypeus varies as well, as does the degree of its fusion with frons. Remarkable variation is to be noticed also in the development of genae and the relative positioning of plates: lora, genae and bucullae. The length of rostrum varies as well. In African species it can, in extreme cases, barely reach metacoxae (*M. linearis* Akingboh., *M. impunctata* Smith, *M. zandeana* Linn.) or extend as far as abdominal segments VII or VIII (*M. fieberi* Puton, *M. nigra* Smith). Also the ratio of the width of pronotum to its length is not stable and ranges from 2.28 in *M. schmitzi* Slater to 3.0 in *M. hemialba* (Carv.) (it must be added, though, that in a vast majority of cases it varies from 2.5 to 2.8). Data on parameres and the structure of female genitalia are severely limited and of use only in some species because the information about the genus is largely incomplete (in many cases either the male or the

female remains unknown). This does not mean, of course, that they should not be applied whenever possible, although it may seem that an increased emphasis on the differences in chaetotaxy — not only on these elements of structure — may also prove informative.

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