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Key to species of the genus *Nyctellisca* nom. nov. with description of *Nyctellisca chureisica* n. sp. (Diptera: Sarcophagidae: Miltogramminae)

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ABSTRACT

Two replacement names are proposed in miltogrammine flesh flies: Nyctelliscina *nomen novum* for the subtribe Nyctellina Rohdendorf, 1967 and *Nyctellisca nomen novum* for the genus *Nyctella* Zimin, 1928 (nec *Nyctella* Reuter, 1905). Three new combinations for species names are proposed: *Nyctellisca egregia* (Zimin, 1928), n. comb.; *Nyctellisca syczewskajae* (Rohdendorf & Verves, 1980), n. comb.; and *Nyctellisca zimini* (Rohdendorf, 1961), n. comb. A new species, *Nyctellisca chureisica* n. sp. (♀), is described from Saudi Arabia. The new species is close to *N. egregia* (Zimin), but can be easily distinguished from the latter species by the presence of only 2 pairs of proclinate *orb*, almost straight *dm–cu* and an entirely yellow arista. A key to the four known species of the genus *Nyctellisca* is compiled.

KEYWORDS: Sarcophagidae, *Nyctellisca*, flesh flies, identification key, new species, new names, new combinations.

INTORDUCTION

The subtribe Nyctelliscina (as Nyctellina) was established by Rohdendorf (1967) for the genus *Nyctella* Zimin, 1928. It belongs to tribe Milltogrammini Brauer & Bergenstamm, and its representatives resemble species of the genus *Senotainia* Macquart, 1846 (subtribe Senotainiina Rohdendorf, 1930) in their head proportions and elongate claws of male legs, differing well by white thick setae on their body and a very small size. The species of Nyctelliscina are very rare and each is known from holotype only. The four known species, including a new one described herein, are keyed. The trophic associations of their larvae are unknown; it is most likely that they live in the underground nests of solitary wasps or bees, as in most others Miltogramminae.

MATERIALS AND METHODS

The holotype of the new species has been deposited in the Natural History Museum, London, UK (NHMUK; curator N. Wyatt). Taxonomic conceptions accepted in the present study follow Rohdendorf (1967) and Verves (1989). Morphological terminology is given after Merz and Haenni (2000). Abbreviations used in the text

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and figures are as follows: *acr* – acrostichal setae; *ad* – anterodorsal setae; *C* – costal vein; *d* – discal setae; *dc* – dorsocentral setae; *dm–cu* – discal medial-cubital crossvein; *fr* – frontal setae; *gn* – genal setae; *ial* – intra-alar setae; *ivt* – inner vertical seta; *kepst* – katepisternal setae; *M* – medial vein; *ms* – marginal setae; *npl* – notopleural setae; *orb* – orbital setae; *ovt* – outer vertical seta; *poc* – postocellar setae; *pocl* – postocular setae; R_{4+5} – branch of radius; r_{2+3} – distal 3rd radial cell; r_{4+5} – distal 5th radial cell; *sbvi* – subvibrissal setae; *vi* – vibrissal setae.

TAXONOMY

Tribe Milltogrammini Brauer & Bergenstamm, 1889

Subtribe **Nyctelliscina** *nomen novum*

Nyctellina Rohdendorf, 1967: 65, based on *Nyctella* Zimin, 1928 (junior homonym of *Nyctella* Reuter, 1905).

Diagnosis: Very small (at most 3.2 mm long) grey flies. Chaetotaxy consists of thickened white setae. The wings is notably costalized; all veins situate in the anterior 0.3–0.4 of wing.

Remarks: A single genus *Nyctellisca* belongs in this subtribe. The above set of autapomorphic features distinctly separates Nyctelliscina from a closely related but more plesiomorphic subtribe Senotainiina Rohdendorf, 1930.

Genus ***Nyctellisca*** *nomen novum*

(Figs 1–3)

Nyctella Zimin, 1928: 23 (preoccupied in Hemiptera by *Nyctella* Reuter, 1905: 36). Type species: *Nyctella egregia* Zimin, 1928, by monotypy.

Nyctella (Zimin): Rohdendorf 1961: 6 (review); Rohdendorf & Verves 1980: 457 (key), 483 (key to species); Verves 1986: 80 (catalogue); 1990: 522 (key), 544 (diagnosis).

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Type species: *Nyctella egregia* Zimin, 1928, authomatic.

Diagnosis: Grey small flies; body length 2.0–3.2 mm. Head in profile angular, its lower edge distinctly shorter than head length at level of antennal base (Fig. 1). Frons and parafacialia wide, about 0.4× of head width; genae moderately high; eyes bare; *orb* 1+2–7, very strong; flagellomere not more than 1.5× as long as pedicel, arista thickened in basal 0.5–0.7; *vi* unpaired, well differentiated from *sbvi* (Fig 2). Cell r_{2+3} closed at wing margin, r_{4+5} long petiolate (Fig. 3). Abdomen with dark hind dorsal spots on tergites or almost monochrome light dusted.

Remarks: Four known species occur in arid zones of the Palaearctic Asia. Ecological features are unknown; adult flies were collected with light trap at night (Zimin 1928).

Key to species of the genus *Nyctellisca*

1 *M* obtuse-angled, without appendix; one horizontal row of 4–5 *kepst*.....2

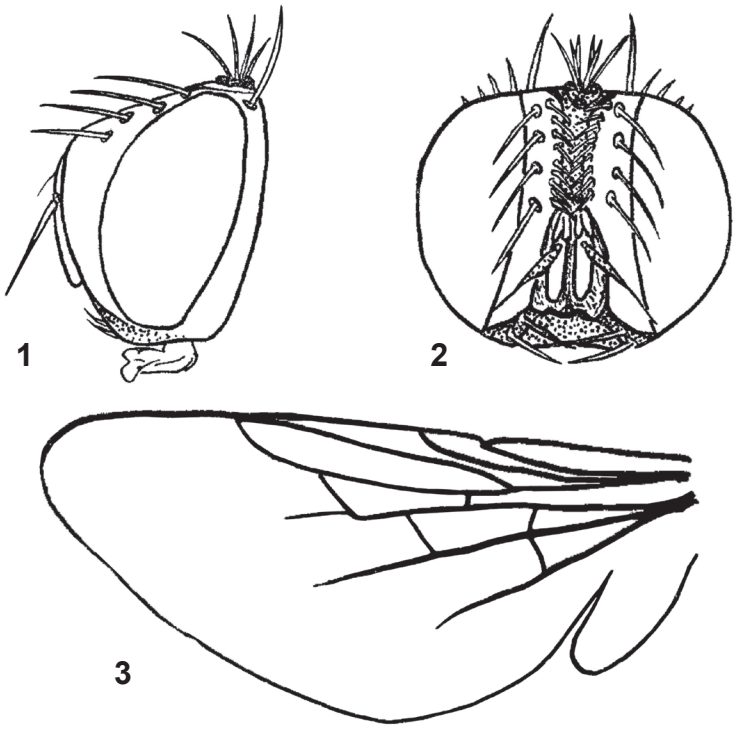
– *M* acute-angled, with appendix; two horizontal rows of 4–5 upper and 1–2 lower pairs of *kepst*.....3

2 5–7 pairs of proclinate *orb*; *dm–cu* distinctly curved; thickened part of arista brown. ♀. 2.0–3.0 mm. [Uzbekistan] .....*N. egregia* (Zimin, 1928), n. comb.

– 2 pairs of proclinate *orb*; *dm–cu* almost straight; arista entirely yellow. ♀. 2.7 mm. [Saudi Arabia].....*N. chureisica* n. sp.

3 *M* connected with vein R_{4+5} transversely; 3rd costal section at most 0.25× as long as 4th costal section; basal widened part of arista brownish grey. Abdomen dark, slightly silver-grey dusted, each tergite with shining black rounded median spot and a pair of chatoyant dark lateral spots. ♂. 3.0 mm. [Iran: Beluchistan] .....*N. zimini* (Rohdendorf, 1961), n. comb.

– *M* connected with vein R_{4+5} obliquely; 3rd costal section at least 0.33× as long as 4th costal section; basal widened part of arista dark yellow. Abdomen light, intensely bronze-yellow dusted, each tergite with small chatoyant median spot only. 3.2 mm. ♂. [Mongolia]..... .....*N. syczewskajae* (Rohdendorf & Verves, 1980), n. comb.



Figs 1–3: *Nyctellisca syczewskajae*, male: (1) head laterally; (2) head frontally; (3) wing. (After Rohdendorf & Verves 1980)

Nyctellisca chureisica n. sp.

LSID: urn:lsid:zoobank.org:act:8A9304C4-046A-47E8-93CE-1FE48C8EAB74.

Etymology: The species is named for the type locality, Chureis.

Diagnosis: This species is close to *N. egregia* (Zimin, 1928) in having an obtuse-angled *M* vein without appendix and one horizontal row of 4–5 *kepst*, but can be easily distinguished from the latter species by the presence of only 2 pairs of proclinate *orb*, almost straight *dm–cu* and an entirely yellow arista.

Description: Female. Body length 2.7 mm.

Head. Frons, facials and parafacials silvery yellow dusted, genae and occiput slightly light grey pruinose, antennae, arista and palpi yellow. Parafrontalia, parafacialia and genae with microscopic light setae, fine yellowish white haired, almost bare; 2 pairs of strong angular *vi* present; *gn* numerous, medium long and hair-like. Frontal width at vertex and at level of antennal base about 0.4× of head width. Frontal vitta in middle of frons 0.5× as wide as parafrontalia, in upper part 3.0× widened backwards. Flagellomere 1.3× as long as pedicel, arista thickened in basal 0.6–0.7. Vibrissal angles higher than oral margin, lunula distinctly narrowed downwards. Parafacial wide at level of antennal base equals 0.25× of eye height, and genae 0.13× as high as eye. Palpi medium long, distinctly widened at apex; prementum short and thick, 2.5× as long as wide. All head bristles whitish yellow, distinctly thickened. One regular row of *pocl* in upper part of occiput only; *ivt* distinctly longer than *ovt*; *poc* long and strong; *orb* 1+2, strong; *fr* 7–8, as long as *orb*, not crossed.

Thorax. Intensely dark grey dusted, almost black; scutum and pleura reddish, dorsally with several irregular rows of thickened elongate bristle-liked white setae, propleuron bare; prescutellar pairs of *acr*, *dc*, *ial* longer then postscutellars; *npl* 2, notopleural surface bare; *kepst* 4–5, forming one horizontal row along upper edge of katepisternum. Scutellum with 2 pairs of *ms* and several *d*. *Legs*. Entirely yellow, all tibia partly grey dusted. First tarsomere of fore tarsus flattened dorsoventrally and widened. *Wings*. Hyaline; veins, basicosta and epaulet yellow. Costal spine absent; all veins bare; r_{2+3} closed at wing margin; r_{4+5} long petiolate; *M* obtuse-angled, without appendix, connected with vein R_{4+5} obliquely; *dm–cu* not curved, almost straight; ratio of 3rd and 4th sections of *C* 0.30:1.

Abdomen. Almost orange-yellow, rear parts of tergites slightly light brownish. All tergites with thick and long white marginal setae.

Male. Unknown.

Holotype: ♀ **Saudi Arabia**: Chureis [Khurais, 25°05'N 48°02'E], 3–4.vi.1976, W. Büttiker (NHMUK).

DISCUSSION

In the 1960–1990s, the phylogenetic system of Sarcophagidae, including Miltogramminae, was developed as a joint effort of leading world experts, who used a series of hierarchical categories like tribe, subtribe and subgenus (e.g. Barták *et al*.

2019; Lopes 1969, 1989; Lopes *et al*. 1977; Rohdendorf 1963, 1967; Rohdendorf & Verves 1980; Shewell 1987; Verves 1986, 1989; Verves & Khrokalo 2006, 2018). On the contrary, Pape (1996) published a catalogue of the flesh flies of the world, which was based on the Zumpt's system of Afrotropical species (1961, 1964, 1972). This system was built as a result of unnecessary merging many taxa into giant genera with numerous subgenera, whereas the categories of tribes and subtribes were rejected. For example, several taxa were formally included in the so-called "genus" *Senotainia*" (*sensu* Pape 1996: 133–134) with no argument or justification: a distinct genus *Senotainia* Macuart, 1830 (subtribe Senotainiina, tribe Miltogrammini); *Nyctella* Zimin, 1928 (subtribe Nyctelliscina, tribe Miltogrammini); *Noditermitomyia* Seguy, 1953 (subtribe Lamprometopiina, tribe Phyllotelini), and partly *Lamprometopia* Macquart, 1846 (subtribe Lamprometopiina, tribe Phyllotelini). Thus, it is unsurprising that the DNA analysis of selected species of "*Senotainia*" showed the polyphyletic character of this group (Piwczyński *et al*. 2017).

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