

A NEW SPECIES OF THE GENUS *STIRELLUS* OSBORN ET BALL,
1902 (HEMIPTERA: AUCHENORRHYNCHA: CICADELLIDAE:
DELTOCEPHALINAE) FROM THE UNITED ARAB EMIRATES

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Stirellus desertus sp. n. is described after male and female specimens collected in Sharjah of the United Arab Emirates. This is the first record of the tribe Stenometopiini Baker from the country.

Key words: Arabian Peninsula, new species, Stenometopiini, *Stirellus*, Cicadellidae.

INTRODUCTION

The genus *Stirellus* Osborn et Ball, 1902 is “a large and heterogeneous assemblage of species distributed worldwide” currently includes 25 other names of generic level considered as junior synonyms with more than 90 species described (DMITRIEV 2003, DUAN *et al.* 2016, 2019). This genus belongs to the tribe Stenometopiini Baker, 1923 together with the monotypical *Kinonia* Ball, 1933, known from USA and Mexico, and *Hodoedocus* Jacobi, 1910 which comprises seven Old World species (tropical Africa, Oriental Region, and Australia), and one New World species (Guatemala) (DMITRIEV 2003, DUAN *et al.* 2019).

The species of the genus *Stirellus* are characterized by the frons without median carina and the aedeagus with long and narrow, often s-shaped, shaft. The new species described below was collected by sweeping in Sharjah Desert National Park during my field trip to the United Arab Emirates in April 2010 in frame of the project targeting the arthropod fauna of the UAE directed by Dr. Antonios van Harten (Almada, Portugal), and represents the first record of the tribe Stenometopiini Baker from the country.

MATERIAL AND METHODS

The photographs were taken using light microscope Leica MZ9.5 and a Leica DFC 490 camera. Images were produced using Helicon Focus V. 6.7.1 and Adobe Photoshop software. The genital segments of the examined specimen were macerated in 10% KOH and figured in glycerine jelly (Brunel Micro Ltd, UK) using same microscope with camera lucida.

The type series of the species described below are deposited in the Zoological Institute of the Russian Academy of Sciences, Saint Petersburg, Russia.

TAXONOMY

Cicadellidae Latreille, 1802

Deltocephalinae Dallas, 1870

Stenometopiini Baker, 1923

Genus *Stirellus* Osborn et Ball, 1902: 250.

Type species: *Athysanus bicolor* Van Duzee, 1892.

Diagnosis (after ZAHNISER & DIETRICH 2013, DUAN *et al.* 2016, 2019, modified). Vertex with anterior margin rounded or elongately produced. Frons without median carina. Forewings variably developed, usually with three anteapical cells, with inner one basally opened; membrane reduced; veins not raised. Male pygofer sloping caudoventrally, with macrosetae reduced in number or absent, often with a lateral tooth on each lobe. Male anal tube long. Genital valve large, triangular-shaped. Connective Y-shaped or H-shaped. Aedeagus with long and narrow, often S-shaped, single shaft and single gonopore. Ovipositor protruding far beyond the pygofer apex.

***Stirellus desertus* sp. n.**

(Figs 1–16)

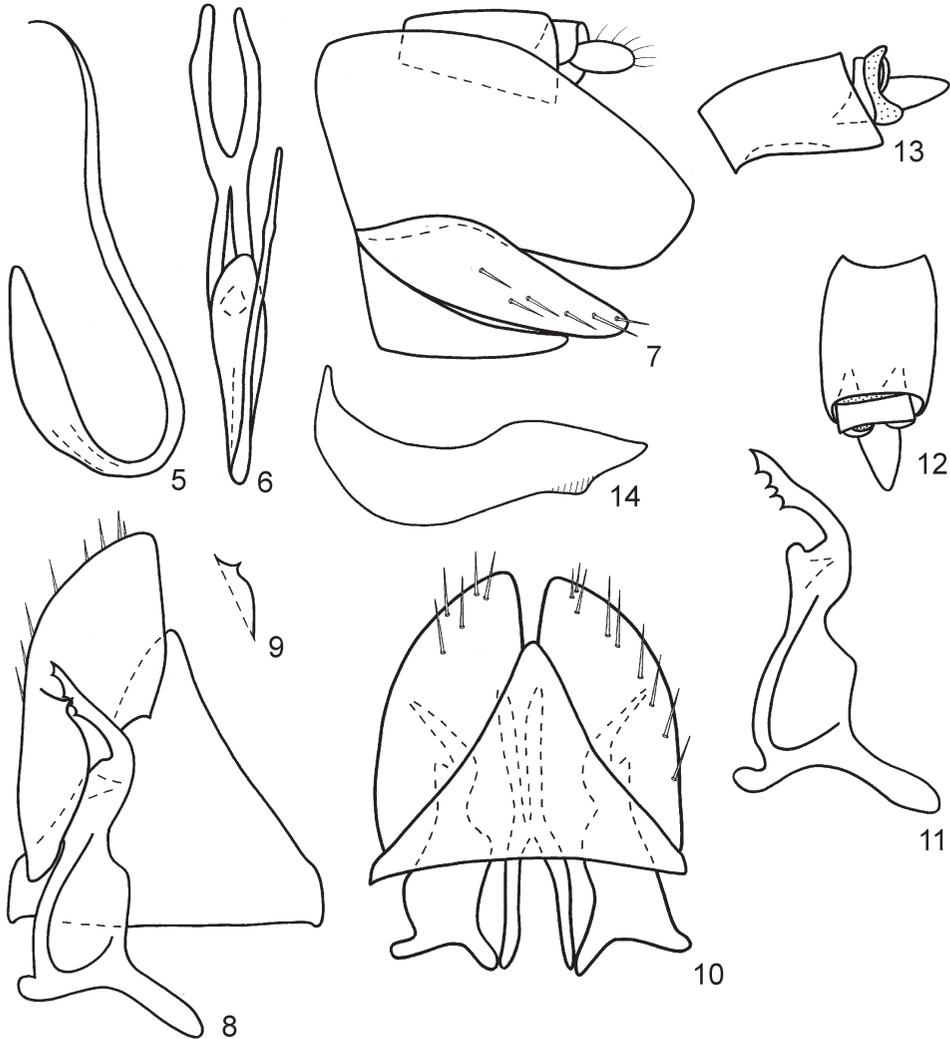
Type material. Holotype, male, United Arab Emirates, Sharjah Desert Park, N 25°16.859' E 55°41.422', 10.IV.2010, V.M. Gnezdilov leg. Paratype, female, United Arab Emirates, Sharjah Desert Park, N 25°16.859' E 55°41.422', 10.IV.2010, V. M. Gnezdilov leg.

Description. Structure. Vertex triangularly elongate, with tiny median groove, nearly twice as long as wide between the eyes, with rounded apex (in dorsal view) (Figs 1, 3). Frons and vertex joint at acute angle (in lateral view) (Figs 2, 4). Rostrum short, apical segment



Figs 1–4. *Stirellus desertus* sp. n.: 1 = male, holotype, dorsal view, 2 = same, lateral view, 3 = female, paratype, dorsal view, 4 = same, lateral view. Male 3.0 mm, female 5.0 mm

cylindrical. Pronotum half as long as vertex at midline. Mesonotum slightly shorter than pronotum, with transverse groove. Forewings reaching hind margin of 7th tergite, with clavus 3/4 as long as whole wing. Forewings with reduced membrane, venation smooth. Hind wings not visible, apparently rudimentary. Hind femora with 2 + 1 + 1 apical spines.



Figs 5–14. *Stirellus desertus* sp. n., holotype, male genitalia: 5 = aedeagus, lateral view, 6 = aedeagus and connective, dorsal view, 7 = genital block without aedeagus and styles, lateral view, 8 = genital valve, subgenital plate, and style, dorsal view, 9 = tooth of the lobe covering style on subgenital plate, dorsal view, 10 = genital valve, subgenital plates, and styles, ventral view, 11 = style, dorsal view, 12 = anal tube, dorsal view, 13 = anal tube, lateral view, 14 = right lobe of pygofer, dorsal view

Colouration. General colouration light yellow whitish (Figs 1–4). Frons darkened, except below its upper margin, with transverse yellow stripes besides of median line. Gena with wide brown cross band below the eye. Vertex with three pairs of large brown to dark brown comma-shaped spots – apical spots fused below apex of vertex and two pairs of spots behind are separated medially; median line dark brown between the spots (Figs 1, 3). Rostrum dark brown apically.

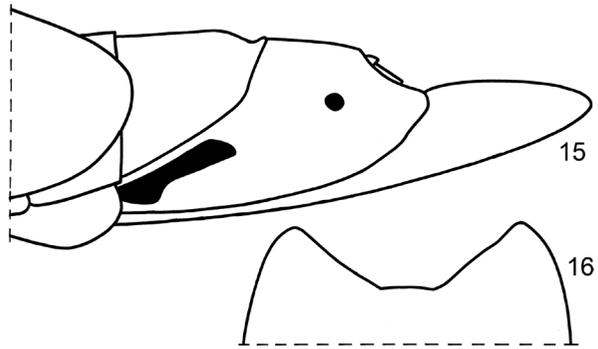
Pronotum with light brown anterior margin, with 10 (3 + 2 + 2 + 3) brown to dark brown spots along the margin, and with transverse light brown stripe along posterior margin. Mesonotum with transverse dark brown stripe below the groove separating scutellum and with two brown spots below anterior margin. Fore wings with cells margined by brown stripes inside. Thorax from below and coxae anteriorly dark brown. Tibiae with dark brown dots at the bases of macrosetae. Inner margins of hind femora dark brown in a female. Apices of tarsomeres and claws from brown to dark brown. Abdominal sternites dark brown laterally. Laterotergites III dark brown almost completely. Laterotergites IV–VII partly dark brown and yellowish. Female abdominal tergites with dark brown median stripe. Female pygofer with elongate brown stripe laterally and with dark brown spot subapically on each side (Figs 4, 15).

Male genitalia (Figs 5–14). Anal tube elongately cylindrical (Figs 12, 13). Pygofer lobe with caudal margin at obtuse angle (Fig. 7), without lateral tooth, but with a subapical swelling visible only in dorsal view (Fig. 14). Subgenital plates as long as pygofer lobes in lateral view, with macrosetae on lateral margins and with a tooth on the inner lobe covering style (Figs 8–10). Genital valve large, triangular-shaped (Figs 8, 10). Connective with a stem as long as the arms (Fig. 6). Style with four subapical teeth (Fig. 11). Aedeagus with long S-shaped shaft, twice as long as aedeagal basement (in lateral view) (Fig. 5).

Female genitalia (Figs 15, 16). Ovipositor protruding far beyond the pygofer apex (Fig. 15). Hind margin of sternum VII deeply concave medially (Fig. 16).

Total length. Male – 3.0 mm. Female – 5.0 mm.

Etymology. The species name refers to the type of biotope where it was collected – sand desert.



Figs 15–16. *Stirellus desertus* sp. n., paratype, female genitalia: 15 = ovipositor, lateral view, 16 = sternum VII, ventral view

DISCUSSION

According to elongate, triangular-shaped vertex the new species described above is close to *Stirellus capitatus* (Distant, 1918), known from the Oriental Region (DUAN *et al.* 2016), *S. mitis* (Kirkaldy, 1906), distributed in Austral-

ian Region, *S. atropunctus* (Gillette, 1898) and *S. fasciatus* (Ball et Beamer, 1940) from the Nearctics, and to *S. acuticeps* (Ribaut, 1948) and *S. pallifrons* (Horváth, 1897), both known from the Western Palaearctic Region (GILLETTE 1898, HORVÁTH 1897, BALL & BEAMER 1940, DELONG 1948, OMAN 1949, RIBAUT 1948, EVANS 1966, NAST 1972, EMELJANOV *et al.* 2002). However, the new species is well distinguished by the coloration of the head and forewings – brown to dark brown comma-shaped spots on the vertex (Figs 1, 3) and forewings with cells margined by brown stripes inside (Figs 1–4). Other mentioned species are monotonously yellow greenish from above, except, *S. mitis*, *S. atropunctus*, and *S. fasciatus* having dark spots or stripes on vertex. *S. fasciatus* differs from *S. desertus* sp. n., as well as from *S. mitis* and *S. atropunctus*, by shorter vertex which is just “slightly longer at middle than width between eyes” (BALL & BEAMER 1940). *S. mitis* is distinguished by brown apex of vertex, with two regular brown cross bands behind (EVANS 1966, fig. 35, G 1), while *S. atropunctus* is characterized by light yellow vertex with a black spot at apex (GILLETTE 1898).

The species figured by DELONG (1948) as *S. atropunctus* differs from original description given by GILLETTE (1898), based on two females, by the presence of four dark spots on vertex widely separated in the middle (DELONG 1948, fig. 210) which were not mentioned by Gillette when he wrote about *S. atropunctus*'s vertex “...light yellow shaded with brown towards the apex, paler between the eyes, median stripe and two cross bars whitish, median dark line obsolete except at the base...” (GILLETTE 1898, p. 28). Apparently DELONG (1948) published the drawing of the head of another species from Illinois different from *S. atropunctus* Gillette described from Colorado in USA. Also OMAN (1949) characterizing the genus *Gillettiella* Osborn, 1930 (junior synonym of *Stirellus*) mistakenly mentioned rounded anterior margin of vertex for all species including *S. atropunctus* even GILLETTE (1898) and BALL and BEAMER (1940) noticed vertex strongly produced and acute for this species.

The tribe Stenometopiini Baker was known from Arabian Peninsula after the record of *Stirellus instabilis* (RIBAUT, 1948) from Saudi Arabia by DLABOLA (1979), but it is first record of the tribe from the United Arab Emirates, the cicadellid fauna of which is still in its initial stage of discovering (GNEZDILOV 2019).

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