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Contribution to the study of the Stratiomyidae species in the Balkan Peninsula, with description of *Nemotelus rumelicus* spec. nov. (Insecta: Diptera)

With 27 Figures

VENELIN L. BESCHOVSKI & EMILIA P. MANASSIEVA

Abstract. The authors report about finding of the species *Hermetia illucens* (L.) in the Balkan Peninsula for the first time, and describe *Nemotelus rumelicus* spec. nov. from the district of Burgas (Bulgaria). The taxonomic peculiarities of the new species are compared with those of *Nemotelus brevirostris* MEIG.

Introduction

The Stratiomyidae fauna of the Balkan Peninsula is comparatively well known thanks to the monographs of ROZKOŠNÝ (1982, 1983). This makes it easy to be established the new data for the penetration of the unknown species in the Balkan countries, as far as to establish the new taxa, too. In the result of revision of the Stratiomyidae collection in the Institute of Zoology, Sofia and the collecting of new material we establish new data about the distribution of *Hermetia illucens* (L.) in the Balkan Peninsula, as far as a new Nemotelus species from Bulgaria.

New taxa for the Balkan Peninsula

1. *Hermetia illucens* (LINNAEUS, 1758), genus *Hermetia* and subfamily Hermetiinae – new taxa for the Balkan Peninsula.

The subfamily Hermetiinae is presented with only one genus and species being neotropical by the origin. According ROZKOŠNÝ (1983) the species is almost cosmopolitan in distribution between about 45° N and 40° S. The species is introduced in Europe in 1926 and to 1982 it is known for the Mediterranean region of France, Spain and Italy (ROZKOŠNÝ, 1982), reaching the Adriatic coast of Triest to the East. Evidently the species enlarges its range to the East in Europe. In the last years it was established in the western part of the Balkan Peninsula: 1 ♂ from Albania, Shkodra region, 19 November 1993, Velipoja Sea Coast, leg. St. Beshkov, and 1 ♀ from Croatia, Punat on the Krk Is., sea-coast, 2 September 1994, lgt. R. ROZKOŠNÝ (ROZKOŠNÝ, in litt.) (Fig. 27). Probably the species will penetrate to the east in the next years.

Address of the authors:

Dr V.L. Beschovski, E.P. Manassieva, Institute of Zoology,
Bulgarian Academy of Sciences, Boul. Tzar Osvoboditel 1,
1000 Sofia (Bulgaria)

2. *Nemotelus rumelicus* spec. nov. (Figs. 1–15)

Diagnosis Facial projection comparatively short. Frontal band a little narrower than the diameter of the first ocellus. Facial spots large, shining yellow, contiguous. Subnotopleural stripe clear yellow. Female frons with clear transverse spots, and unclear outlined facial spots; abdomen predominantly black without yellow lateral edge.

Male Head (Figs. 1, 2) from above wider than long. Eyes bare, in profile with clear separated facets (Fig. 2): the lower one-third with smaller facets than above. Facial projection short, rounded, black, equal to one-quarter of the length of the eye. Frons narrower than the diameter of the first ocellus, black shining, with 2 rows comparatively short, yellow, reclinate hairs. Frontal spots yellowish, pear-like, contiguous in a light longitudinal line, and almost reaching the antennal bases. Cheeks shining black-navy blue, wide, about two times wider than the widest part of the flagellomere. Postocular part in view dorsal short as wide as the widest part of the flagellomere. Antennae black, a little shorter than the length of the eye, the last flagellomere almost equal to the flagellomere 4. Head pile-light, moderately long, fine and rarely. Head index 1,13.

Thorax shining blue-black, rarely and uniformly punctuated in the base of the hairs. Thoracic pile yellowish with right, erected hairs approximately equal in length to the first two antennal segments. Subnotopleural stripe including and humeral calli shining yellow, in the both ends about two times wider than in the middle. Legs black and light: coxae and femora black, the femoral apex yellow; first two tibiae yellow-brownish, with dark brown stripe on the hind surface reaching about one-third of the tibial length; third tibia black with yellow ends. Tarsi yellow. Wings hyaline, light yellowish. Halteres yellow with a darkened stalk.

Abdomen dorsally mainly yellow. Tergum 1 with a large black spot, passing backward on the base of tergum 2 as a black semicircle. The rest part of tergum 2, the whole tergum 3, and the most part of tergum 4 yellow. The hind part of tergum 4 and the whole tergum 5 black except a small medial spot on the end of the segment 5. The colour of the ventral surface of the segments 2–3 varies: all yellow or yellow with black-brown spots. The rest part black.

The male genitalia are very specific. The dorsal part with elongated triangular epandrium and comparatively narrow proctiger (Fig. 9). The median process of synsternum (Figs. 6, 10) shallowly divided in two rounded and relatively low lobes. The distylus is equal in length to the posterolateral projections; inner posterior projections of the synsternum are well developed with several lobes (Fig. 9); aedeagal complex generotypical; parameres approximately equal to one-third of the total length of the copulatory organ apart (Figs. 7, 8, 11, 12).

Female. Head short, in view dorsal heart-shaped. Frons as wide as one-third of the head. The yellow frontal spots transverse, elongated, rectangular with unclear front side (Figs. 3, 4). Cheeks wide, their largest width in view ventral equal to one-half of the height of the eye in view lateral. Face with specific small yellowish, unevenly restricted spots just under the front part of the eye (Fig. 4). Postocular band in profile comparatively large, in the middle approximately equal to two-third of the rostral length. Head-index = 1,1.

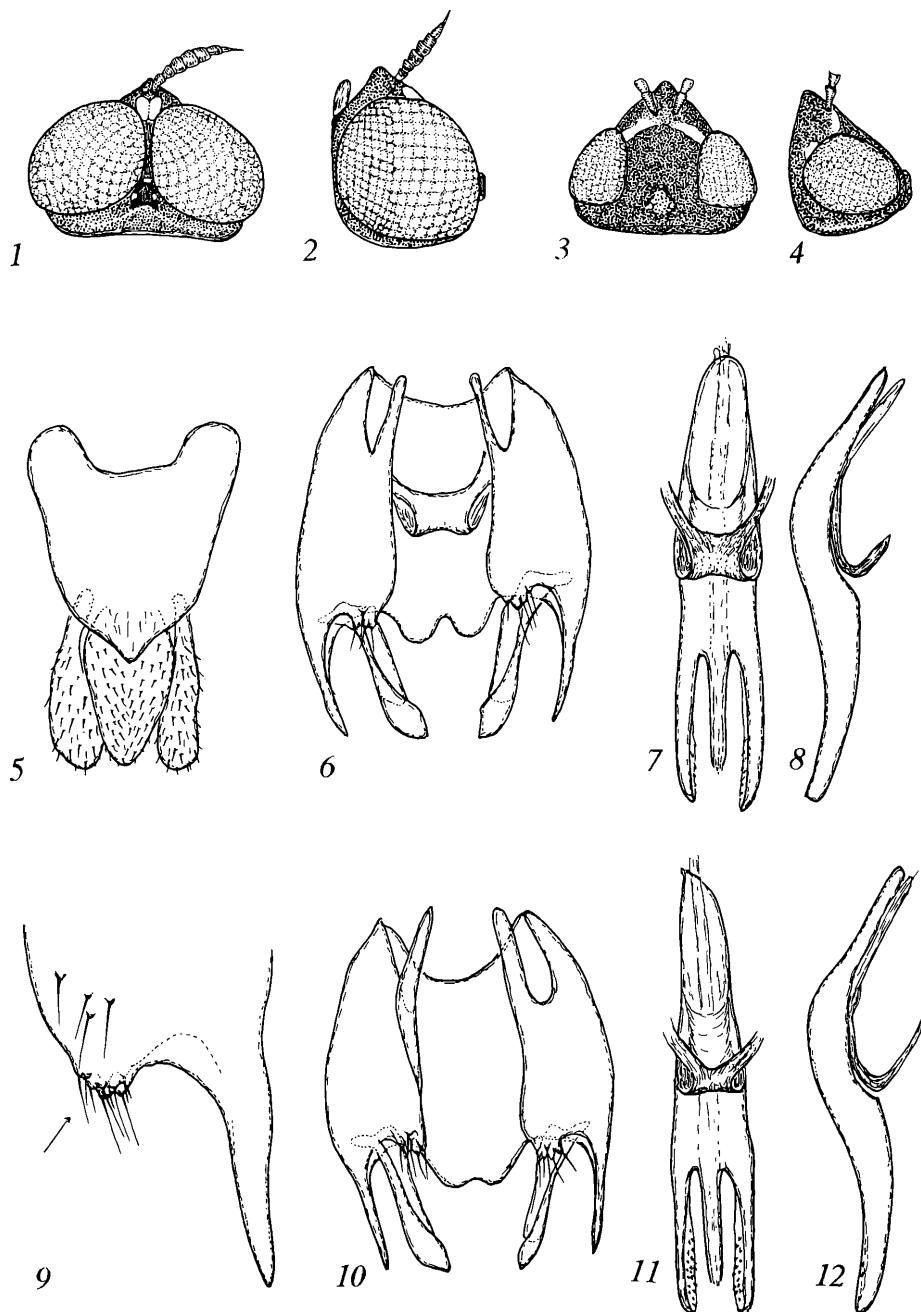
Thorax shining like the male, rear punctuated, rear and short haired with right black hairs.

Abdomen shining black without lateral yellow edge, and with small yellow rounded spots on the middle of the apical margin of tergum 2. Abdominal pile rear short whitish. Ventral surface black-brown, shining.

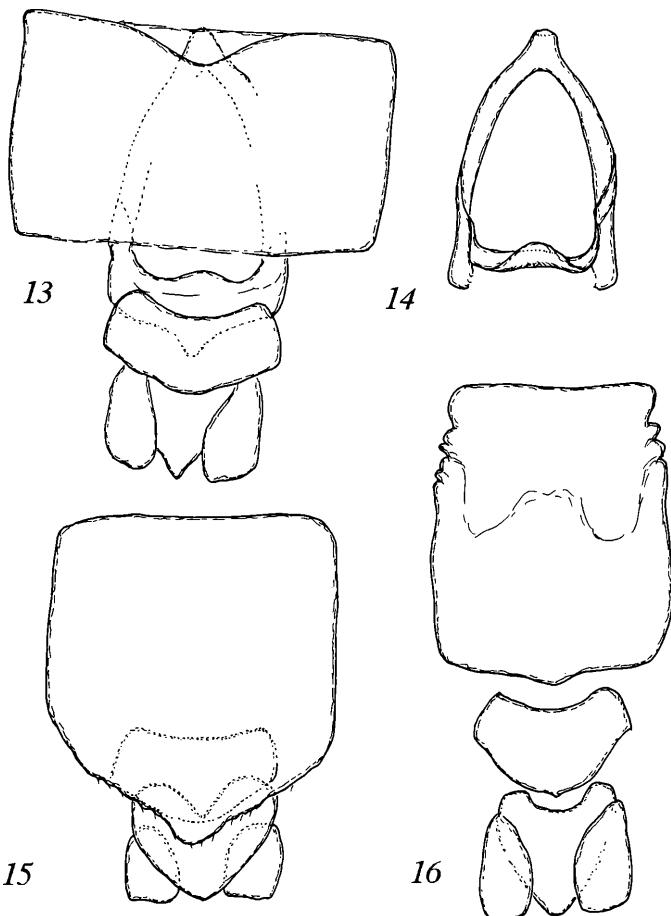
Female terminalia (Figs. 13–15): cerci short, subgenital plate (sternite 8) almost square with protruded backward hind margin. Genital furca elongated triangular.

Material studied. Holotype, ♂, district of Burgas: Burgaski mineralni bani (Fig. 27), 31 May 1978 (leg. Beschovski), meadow (a refugial biotope with more or less salt ground). Paratypes, 1♂ and 1♀ collected together with the holotype. The specimens are in the author's collection in the Institute of Zoology, Bulgarian Academy of Sciences, Sofia.

At present a Bulgarian endemic species.



Figs. 1–12: *Nemotelus rumelicus* spec. nov., taxonomic peculiarities: 1–4 – head of the male (1, 2) and female (3, 4): 1, 3 – from above; 2, 4 – from left; 5–12 – male genitalia of the holotype (5–9) and paratype (10–12): 5 – dorsal part from above; 6, 10 – synsternum from above; 7, 8, 11, 12 – aedeagal complex in dorsal (7, 11) and lateral (8, 12) view; 9 – structure of the right inner apical projection of synsternum by larger argumentation.



Figs. 13–16: Female genitalia of *Nemotelus rumelicus* spec. nov. (13–15) and *N. brevirostris* MEIG. from Bulgaria (16): 13 – in dorsal view; 14 – genital furca; 15, 16 – in ventral view.

Note. By some external peculiarities the male specimens of *N. rumelicus* spec. nov. are similar to *N. brachystomus* LOEW, 1846; by the male genitalia they are close to *N. brevirostris* MEIGEN, 1822. The separation between both *Nemotelus rumelicus* spec. nov. and *N. brevirostris* are given as following:

Nemotelus rumelicus spec. nov.

Narrower than the diameter of the first ocellus (Fig. 1)

Haires with backward bent tops.

Well distinguished between large in the upper two-thirds and small in the lower one-third (Fig. 2).

Nemotelus brevirostris MEIG.

♂, width of the frons:

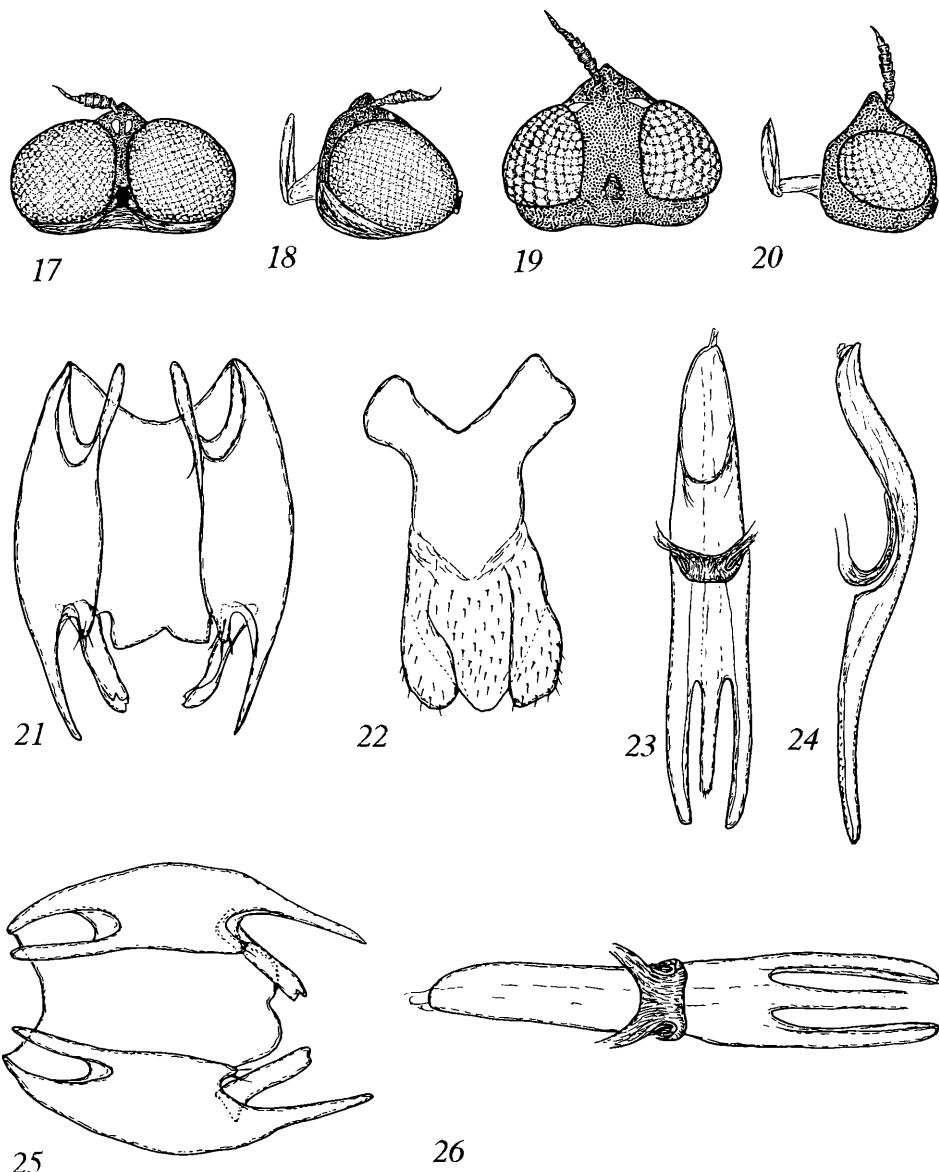
Two times wider than the diameter of the first ocellus (Fig. 17).

♂, frons pile:

Haires with right tops.

♂, facets of the eyes:

Almost uniform in size on entire eye-surface (Fig. 18).



Figs. 17–26: Taxonomic peculiarities of *Nemotelus brevirostris* MEIG.: 17–20 – head of the male (17, 18) and female (19, 20) from above (7, 19) and from left (18, 20); 21–26 – male genitalia of the specimens from Hungary (21–24) and from Bulgaria (25–26): 21, 25 – synsternum in dorsal view; 22 – dorsal part from above; 23, 24, 26 – aedeagal complex from above (23, 26) and from side (24).

♂, frons spots:

Large, contiguous (Fig. 1).

Small, separated (Fig. 17).

♂, legs:

The first two tibiae yellow-brownish with elongated dark spot in the middle of the back side.

The first two tibiae yellow.

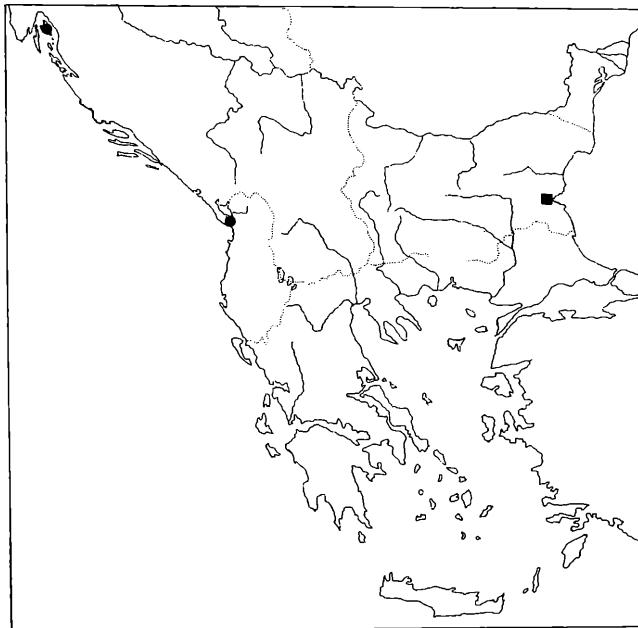


Fig. 27: Distribution of the mentioned taxa in the Balkan Peninsula: ● – *Hermetia illucens* (L.); ■ – *Nemotelus rumelicus* spec. nov.

The inner apical projection with clear several tops (Fig. 9).

The basal corner of the epiproct short, rounded (Fig. 5).

Elongated transverse rectangular, reaching the antennal basis with brown apex and unclear front side (Fig. 3).

Small unclear outlined, yellow (Fig. 4).

Index eye/cheek = 2,20.

The first two tibiae brown-yellow, from behind with a median dark longitudinal band; the third tibia black with both ends yellow.

♂ genitalia, synsternum:

The inner apical projection narrow, elongated, monotopic with several hairs (Figs. 21, 25).

♂ genitalia, epandrium:

The basal corner of the epiproct more elongated and clearly divergent (Fig. 22).

♀, frons spots:

Cuneiform with well outlined brown apex, not reaching the antennal basis (Fig. 19).

♀, face spots:

Without spots (Fig. 20).

♀, cheeks:

Index eye/cheek = 2,55.

♀, legs:

The first two tibiae yellow; the third tibia brown-black, on the basal one-third yellow.

♀, abdomen:

Black, shining, without light lateral margins, with yellowish medial, rounded spots on the hind margin of terga 2-4.

By description: black with yellow lateral margin and yellow spots on the middle of the apical margin of terga 2-4.

♀, terminalia:

Eight sternite almost square (Fig. 15).

Eight sternite elongated rectangular (Fig. 16).

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Autor(en)/Author(s): Beschovski Venelin L., Manassieva Emilia P.

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