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AN UNDESCRIBED DUFOUREINE BEE
 FROM THE CARPATHIAN BASIN
 (HYMENOPTERA: APOIDEA, HALICTIDAE)

By

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A new dufoureine bee, *Rhopites bluetzeni* nov. spec. is described from the Carpathian Basin. Its known distribution, seasonal flight period and flower relationships are outlined. A key is added to the Central European species of the genera.

So far, three species of the genera *Rhopites* SPINOLA, 1808 have been known in Europe. The only one with a partly yellow body, *foveolatus* FRIESE, 1900, was described from Greece. The remaining two species, *quinquespinosus* SPINOLA, 1808 (= *trispinosus* PÉREZ, 1903), and *hartmanni* FRIESE, 1902 (= *bistrispinosus* LEVEDEV, 1931), are dark-bodied and are spread over Europe.

M. MÓCZÁR (1967: Fauna Hungariae, No. 85: 114), however, cited and keyed a further species, "*Rhopites pillichi* VÜTTGEN", as occurring in Hungary. He mentioned a further name, "*pannonicus* VÜTTGEN", as a synonym of "*pillichi* VÜTTGEN". This species according to his statement, was known from Simontornya where it had been collected by F. PILLICH. This bee however, has never been described by VÜTTGEN!

In the *Rhopites* material of the Hungarian Natural History Museum from the Carpathian Basin more than 200 exemplars carried the label "*Rhopites 5-spinosus* SPIN., det. MÓCZÁR M." and approximately 150 "*Rhopites Hartmanni* Fr., det. MÓCZÁR M.". However, 5 exemplars were labeled "*Rhop. pannonicus* n. sp., VÜTTGEN det." and placed into the collection under the name "*pillichi* VÜTTGEN". As the whole collection had been revised by M. MÓCZÁR and the 5 exemplars in question originated from Simontornya, there is no doubt that they were identical with the ones mentioned by M. MÓCZÁR (l. c.) as "*pillichi* VÜTTGEN".

It is known that M. MÓCZÁR (deceased in 1971) was in regular correspondence with P. VÜTTGEN (deceased in 1967). The latter may have mentioned to M. MÓCZÁR that he intended to describe the species in question in his planned *Rhopites* monograph as "*pillichi*". Both VÜTTGEN (1961, Nachr. bl. Bayer Ent., 10: 31) and his biographer, KÖNIGSMANN (1970, Dtsch. Ent. Z., N. F., 17: 273) have mentioned the project of this monograph. Unfortunately, this monograph has never been completed and, therefore, the

description of the species became never realized. Both names mentioned by M. Móczár (l. c.) are, therefore, invalid and inapplicable.

At the same time the bees in question were found to be a good species by the author when he studied the *Rhopites* material of the Museum. However, it is without a question that P. Brütgen was the first who recognized this species as new for the science. The author, therefore, felt obliged to dedicate the species to the memory of the great apidologist.

Rhopites bhethgeni nov. spec.

Syn.: *Rhopites pillichii* Brütgen: M. Móczár, 1967, Fauna Hungariae, No. 85: 114—115 (invalid name).
Rhopites pannonicus Brütgen: M. Móczár, l. c., mentioned as a synonym (invalid name).

D i a g n o s i s. This is a medium size bee, closely related to *Rhopites quinquespinosus*. Its body is slender compared to that of *quinquespinosus*. The puncture of the body is finer and denser, with much smaller interspaces between the punctures. The vestiture is less dense and paler than that of *quinquespinosus*. The male can easily be distinguished from that of *quinquespinosus* by its much more slender hind basitarsus and mediotarsi (Fig. 1: D). The female is very similar to that of *quinquespinosus*. However, the sculpturing of the frons is roughly shagreened, without punctures. The same area on the *quinquespinosus* female is shiny, with coarse and close-set punctures; the interspaces between the punctures are of almost a half puncture in diameter.

F e m a l e. Length 9.5—10 mm. Pubescence pale with a brownish yellow hue on frons and mesoscutum, whitish yellow elsewhere. Integument black, except yellow ventral surface of 3rd to 10th segments of antennal flagellum.

Head densely punctate. Face (Fig. 1: B) angled and 0.97—0.98 as long as wide. Same ratio in *quinquespinosus* 0.92—0.93. Frons roughly shagreened and dull, except minute shiny fields before ocelli. Vertex densely punctate with narrow and dull interspaces or ridges between punctures. Three rows of dark-brown spinules on frons. Rows slightly convergent towards clypeus. First row arising between lateral ocellus and compound eye. Total number of spinules 30—40. Clypeus shiny. Paraocular area with sparse punctures and finely sculptured interspaces on its upper and with dull shagreening on its remaining surfaces. Gena finely punctured, with shiny, half to two-thirds diameter interspaces between punctures. Length of antennal scape equalling flagellar segments 1—7. First flagellar segment as broad as long, its length equalling segments 2—3. Segments 2—5 three times, segment 6 two times,

segments 7—9 one and a half times as broad as long. Segment 10 slightly longer than broad. Flagellum slightly broader toward its apex.

Mesosoma with dense punctures separated by narrow interspaces. Pronotum with fine and dense punctures, with small ridges between them. Mesoscutum and scutellum with dense punctures and one-fourth diameter

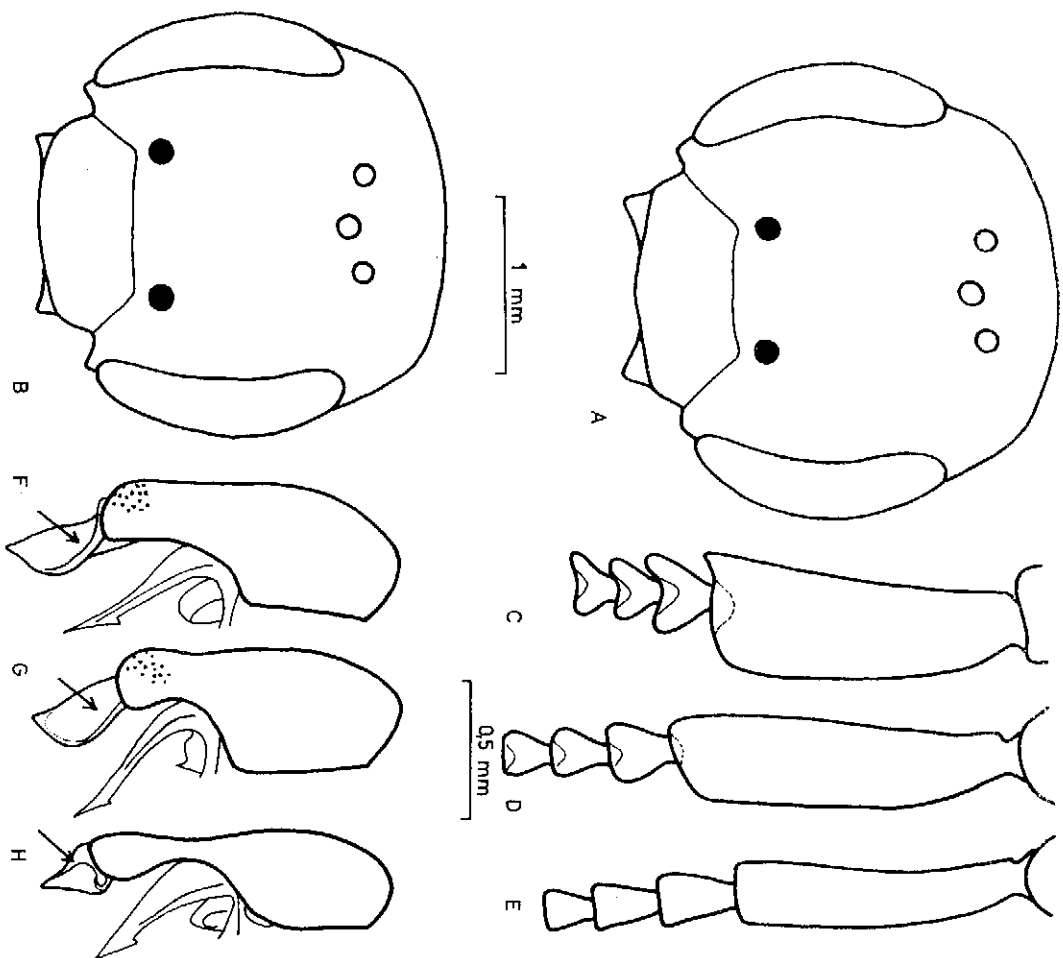


Fig. 1. A—B = Face of females; C—E = hind basitarsus and mediotarsi of males; F—H = male genitalia without gonobase, left side dorsal view; A, C and F = *Rhopites quinquespinosus* SPINOLA, B, D and G = *Rhopites bhethgeni* nov. spec., E and H = *Rhopites hartmanni* FRIESE

interspaces between punctures. Metanotum coarsely shagreened. Horizontal field of propodeum with regular longitudinal ridging. Vertical back surface with dense punctures. Lateral surfaces with very fine and coarse punctures, separated by narrow ridges. Episternum 2 densely punctured, with narrow shiny interspaces. Punctures larger on upper part, and finer and denser near coxal cavities. Preaxilla with dense and fine punctures and ridges between punctures. Punctures finer than that of propodeum. Wing hyaline, veins and stigma brown.

Metasoma with dense punctures, separated by one-fourth diameter interspaces. Baso-median portion of sternal plates lightly protruding and delicately shagreened, without punctures. Rest of sternum with coarse punctures separated by 0.7–1.5 diameter dull interspaces of reticular shagreening.

Male. Length 8–10 mm. Integument black, except yellow ventral and lateral surfaces of flagellar segments and yellow tarsi. Distal carina of metasomal tergites and sternites transparent yellowish. Vestiture dense. Colour of pubescence similar to that of female. Some males, however, with mainly whitish yellow and others with pale yellowish brown hairs. Whitish yellow bands on distal tergal carinae. Sculpture finer and denser than in female.

Head slightly elongated. Face 0.96 as long as wide. Same ratio in *quinque-spinosus* 0.94. Face with dense punctures, separated by narrow ridges. Gena with dense punctures and shiny interspaces. Antennal scape shorter than flagellar segments 1–3; 1st to 10th flagellar segments 1.6–1.7 times, 11th segment 2.5 times longer than broad. Ventral surface of flagellar segments curved.

Mesosoma densely punctate with ridges between punctures. Horizontal area of propodeum with dense longitudinal ridges. Rest of its surface with dense punctures, separated by ridges or by shagreened narrow interspaces. Sternum 2 with dense and fine punctures and with shiny interspaces between punctures. Preaxilla with dense and fine punctures. Hind basitarsus slender; mediotarsi about as long as broad (Fig. 1: D). Wing hyaline with light dark hue; veins and stigma dark brown.

Metasoma dorsally with dense and deep punctures separated by ridges or one-fourth diameter dull interspaces. Sternal plates flat and shiny with sparse and fine punctures. Male genitalia as in Fig. 1: G.

TYPE MATERIAL. A total of 532 males and 106 females has been available as type material.

HOLOTYPE MALE: Hu. oec. Simontornya, August 6, 1935. leg. F. PILIČEK. There are two additional labels with the following inscription: "Rhophites 5-spinosus SPIN., det J. D. ALFKEN, 1935". "Rhoph. pannonicus n. sp., BÜTTNER det., 1936".

ALLOTYPE FEMALE: Same locality, August 23, 1933. leg. F. PILIČEK. There are two additional labels with similar inscription.

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Paratypes are from the following localities: * HUNGARY, I: Abádszalók, Apostag, Balatonkenese, Bánhalma, Bánkút, Bátorliget, Békés, Békéscsaba, Berettyóújfalú, Booskaykert, Bojt, Ceglédbercel, Cibakháza, Csepel, Debrecen, Debreceen-Pallag, Elek, Endréd, Fegyvernek, Félégyháza, Gyoma, Gyula, Hajdúszoboszló, Hajdúhözömrény, Hunya, Jászberény, Kaba, Karasz, Kaszaper, Kenderes, Kétegyháza, Kéthalom, Kevermes, Kondoros, Konyár, Körszladány, Kunmadaras, Martonvásár, Mezőhegyes, Mezőtúrk, Mikepécs, Murony, Okány, Oroszlána, Ocsód, Szeged, Szeghalom, Szegszentmiklós, Székkutas, Tarhos, Tiboerszalás, Tiszabura, Tiszafüred, Tiszatenyő, Tótkomlos, Törökzentmiklós, Tárkány, Újfehérvő, Zarnárd, I: Bácsa, Kímle, Kismegyer, Magyaróvár, Szil, II: Ácseszár, Balatonalmádi, Balinka, Budafok, Budapest, Buda hill (Güggerhegy, Hítvősvölgy, Ordógtórok, Nagytétény, Rónai firdő, Svábhegy), Csetény, Csopak, Csór, Káptalanfüred, Lovas, Márkó, Nagykovácsi, Péterd, Pomáz, Pula, Ságpuszta, Szilfő, Tah, Tihany, Várpalota, Velenec, II: Iászeg, Bársóly (Kisnóc), Gödöllő, Gyöngyös, Kartal, Kisgéc, Miskolc, Sújtóvárkony, Vác, Zamp-lén (Kishuta); VI: Kőszeg; VI: Villányosukma; VI: Balatonszemes, Simontornya; CZECHOSLOVAKIA, II: Kistoronva (Malá Trna); III: Beszterce (Stará Bystrica), Besztercebánya (Banská Bystrica), Kassa (Košice), Nyitra (Nitra), Pöstyén (Piestany), Szilacs (Siač); JUGOSLAVIA, I: Ujvidék (Novi Sad); III: Versec (Vrsac); VI: Lipik, Mamudovac; ROMANIA, I: Nagyvárád (Oradea), III: Alsólova (Iisna), Bethlen (Belean), Csikszentdomokos (Sindomnic), Cs.-keresztúr (Gicu Cristur), Ciblesz (Giblesin), Felsőlova (Tihina); III: Bokásbánya (Boosa Montana), Námethokszán (Boosa Vaslove); III: Hahad (Hodod), Keced (Alunsi), Nagylonda (Ileanda), Oroszmező (Rus), Zichy bartang (Vadul Cristul); III: Apunagyfalú (Nuseni Apata), Désakna (Oena Dejului), Diszsentimdraton (Trenaveni), Erdőhaja (Supădure), Lompárd (Zoreni), Nagyenyed (Aind), Szászkezd (Saschz); III: Előpatak (Vitecle); IV: Mehadia.

Holotype (Hym. Typ. No. 5001), allotype (Hym. Typ. No. 5002) and 205 male and 60 female paratypes (Hym. Typ. No. 5003–5268) are in the collection of the Hungarian Natural History Museum, Budapest. 20 male and 10 female paratypes deposited in the collection of the Bakony Museum, Zirc. 306 male and 35 female paratypes are in the author's collection.

DISTRIBUTION. The material studied was collected nearly everywhere in the Carpathian Basin. However, the new species seems to be most frequent in the Great Hungarian Plain. Fewer individuals were collected in the mountains and only some few localities are known from the high ranges of the Carpathians.

SEASONAL FLIGHT PERIOD. Males were captured in the period between mid May and early September and females between late June and late August. The main seasonal flight period seems to be restricted to July and August.

FLOWER RELATIONSHIPS. Females and males have been taken on the flowers of 10 and 17 plant species, respectively. However, 90 per cent of the males and 70 per cent of the females with known flower records were captured on *Ballota nigra* and *Stachys annua*. Females occasionally forage for pollen on some other Labiatae, mainly on *Lanium* and other *Stachys* and *Saleia* species when *Ballota nigra* or *Stachys annua* are absent. Nest colonies, however, can be found only where *Ballota nigra* or *Stachys annua*

* The localities are listed according to the zoogeographical division of the Carpathian Basin (Móczár L. 1948: Fragm. Faun. Hung., II: 85–89): I = Europannonicum, I₂ = Arraboniticum, II₁ = Plisticum, II₂ = Eumatricum, III₁ = Eucarpaticum, III₂ = Transylvanicum, III₃ = Praemiosicum, III₄ = Bihanicum, III₅ = Camanum, III₆ = Barcaagium, IV = Moesicum, V₁ = Styriacum, V₂ = Sophanicum, V₃ = Praelyricum, V₄ = Euliyricum.

bloom in masses in several consecutive years. This is why great numbers of the new species can be captured only on patches of flowering *Ballota nigra* or *Stachys annua*. This species may be regarded an oligolege on the flowers of *Ballota nigra* and *Stachys annua*.

A key to the Central European Rhophites species

Females

- 1 (4) Some dozens of dark-brown spinules on frons. Larger species.
- 2 (3) Frons shiny with coarse and close-set puncture, separated by almost half diameter. Length 9.5–10 mm. *quinquespinosus* SPINOLA, 1808
- 3 (2) Frons dull, roughly shagreened, without punctures. Length 9.5–10 mm. *bluethegeni* nov. spec.
- 4 (1) Only two brownish yellow spinules on each half of frons. Smaller species. Length 8–9 mm. *hartmanni* FRUZE, 1902

Males

- 1 (2) Hind basitarsus squat; mediotarsi broader than long (Fig. 1: C). Genitalia as in Fig. 1: F. Length 9.5–11 mm. *quinquespinosus* SPINOLA, 1808
- 2 (1) Hind basitarsus elongated; mediotarsi at least as long as broad (Fig. 1: D–E).
- 3 (4) Hind mediotarsi as long as broad; basitarsus less slender (Fig. 1: D). Genitalia as in Fig. 1: G. Larger species. Length 9–10 mm. *bluethegeni* nov. spec.
- 4 (3) Hind mediotarsi much longer than broad; basitarsus much slenderer (Fig. 1: E). Genitalia as in Fig. 1: H. Smaller species. Length 7–8.5 mm. *hartmanni* FRUZE, 1902

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LA PLACE SYSTÉMATIQUE ET LES SOUS-ESPÈCES DE *NEBRIA HYBRIDA* ROTTENBERG, 1874 (COLEOPTERA: CARABIDAE)

Par
S. HORVÁTOVICH

(Reçu le 30 décembre 1972)

The distinct specificity of *Nebria hybrida* ROTTENBERG and *N. germari* HEER is proven and the description of two new subspecies of *N. hybrida* (*rhodopensis* ssp. n., and *pirinensis* ssp. n.) is given.

Le Catalogue des Coléoptères (Coleopterorum Catalogus, 1927, écrit par E. CSIKI) de W. JUNK & S. SCHENKLIING et le Catalogue des Coléoptères de la région paléarctique (Catalogus Coleopterorum regionis palaearcticae, 1924) de A. WINKLER contiennent l'espèce *Nebria hybrida* ROTTENBERG, comme une variété ou plutôt une sous-espèce de *Nebria germari* HEER. En conséquence, *N. hybrida* ROTTENBERG a été déterminée dans les collections, comme la sous-espèce ou bien la variété de *N. germari* HEER. C'est pourquoi il est nécessaire de présenter les différences existantes entre les caractères des deux espèces. *N. hybrida* ROTTENBERG fut décrit, comme une espèce indépendante (ROTTENBERG, 1874: 326). Dans la description originale, l'auteur a mentionné qu'elle est très ressemblante à *N. germari* HEER, dont elle se distingue par les points des stries légers. Dans son livre sur la faune des Coléoptères de la péninsule Balkanique, APPELBECK a annexé *N. hybrida* ROTTENBERG, comme une race, à *N. germari* HEER (APPELBECK, 1904: 58). K. VŠETĚČKA, donnant une table des sous-espèces de *N. germari* HEER, mentionne *N. hybrida* ROTTENBERG également entre elles (VŠETĚČKA, 1929: 109–111). Tandis que BÄNNINGER, discutant les sous-espèces, ne signale pas *N. hybrida* ROTTENBERG entre elles (BÄNNINGER, 1932: 117–119).

Les différences les plus importantes entre les deux espèces sont les suivantes:

- 1 (2) Au labre plus long, les lobes du labre sont beaucoup plus petits (Fig. 13). Gouttière marginale du pronotum moins large et plus arquée, aux angles postérieurs du corselet plus petits et plus saillants (Fig. 1). Les points des stries plus gros, la 7^{ème} strie moins développée, la 8^{ème} presque disparue (Fig. 1). Les élytres sont plus convexes. Les organes copulateurs sont bien différents de ceux de *N. hybrida* HEER. L'édéage ne se