

Two new species of the genus *Bradybatus* GERMAR, 1823 (subgenus *Nothops* MARSEUL, 1868) from Lebanon (Coleoptera: Curculionidae: Anthonomini)

M. KOŠTÁL

Abstract

Two new species of *Bradybatus* GERMAR, 1823 (Coleoptera: Curculionidae: Curculioninae), belonging to the subgenus *Nothops* MARSEUL, 1868, are described from Lebanon: *B. schoenmanni* sp.n. and *B. nemethi* sp.n. The type material of closely related species has been studied. An updated key to the species of *Nothops* with remarks on the distribution is provided.

Key words: Coleoptera, Curculionidae, Curculioninae, Anthonomini, *Bradybatus*, *Nothops*, taxonomy, new species, Lebanon.

Introduction

MARSEUL (1868) originally described *Nothops* as a genus (type species: *Anthonomus elongatulus* BOHEMAN, 1843), which he regarded as being intermediate between *Anthonomus* GERMAR, 1817 and *Bradybatus* GERMAR, 1823.

A few years later, DESBROCHERS DES LOGES (1872) demoted *Nothops* to a subgenus of *Bradybatus*. DIECKMANN (1968) regarded the elytral shape (diverging posteriorly) as the only typical character common to all species of *Nothops*. The same author also mentioned the asymmetry of the basal part of the body of the penis, which is, however, not the case in all species of the subgenus – see aedeagal illustrations in DIECKMANN (1968), who published a comprehensive overview of the subgenus. A total of 11 species of *Nothops* is known so far (CALDARA 2013). All are distributed in the Palearctic Region.

During a collecting trip to Lebanon in 2015, I found an undescribed species of *Nothops*. In addition, T. Németh (HNHM), who took part in the expeditions of the Hungarian Natural History Museum to Lebanon in 2015 and 2017, collected a second new species of this subgenus. Both species are described below.

Material and methods

All measurements were made using a stereomicroscope (Intraco Micro NSZ-810) with an ocular micrometer. The body length is interpreted as the distance between the anterior eye margin and the elytral apex; the rostrum length (Rl) is the distance between the anterior eye margin and the apex of the rostrum without mandibles; the rostrum width (Rw) is measured at the rostrum base; the elytral width (Ew) corresponds to the maximum width of the elytra. Habitus photographs were taken with a high resolution camera (Canon EOS 50D) and a macro zoom lens (Canon MP-E, 65 mm). Male genital structures were dissected, treated in 10 % KOH for several days and photographed in glycerol using the same camera attached to a laboratory microscope (Intraco Micro LMI T PC). Multilayer pictures were processed using Combine ZP software.

Abbreviations: E: elytra, P: pronotum, R: rostrum, l: length, w: width.

Depositories:

HNHM Hungarian Natural History Museum, Budapest, Hungary
ISZP Institute of Systematics and Evolution of Animals, Kraków, Poland

KO	Collection Michael Košťál, Šoporňa, Slovakia
MNHN	Muséum National d'Histoire Naturelle, Paris, France
MTD	Senckenberg Naturhistorische Sammlungen Dresden (Museum für Tierkunde), Dresden, Germany
NHMW	Naturhistorisches Museum Wien, Austria
ZFMK	Zoologisches Forschungsmuseum Alexander Koenig, Bonn, Germany
ZSMC	Zoologische Staatssammlung, München, Germany

***Bradybatus schoenmanni* sp.n.**

Holotype ♂ (KO): "LIBANON bor. [northern] Libanon Mts. Michael Košťál leg. \ Mchaitiye env. 1350 m N 34°08.3' E 36°06.1' 6.iv.2015 \ Acer monspessul. microphyllum (Bois.) [green label]". **Paratypes:** 7 ♂♂, 7 ♀♀ (KO), 1 ♂ (NHMW), 1 ♂ (MTD), same data as holotype; 1 ♂ (HNHM): "LEBANON, Northern gov., Bcharre env., Quadisha Valley, swept & beaten, \ 34°14'57"N, 35°58'34"E, 970 m, 10.V.2017, leg. T. Németh & C. Tanios (No. 49) \ coll. M. Budapest [blue label]".

DIAGNOSIS: Habitus as in Figs. 1–2. This species is recognizable by the small body size, by an uneven narrow transverse band in the posterior half of the elytra formed by recumbent, markedly elongate whitish scales, by the almost straight antennal scape only slightly widened to apex, by the strongly dentate anterior tibiae in both sexes, and by the striking intumescence with rugulose surface in the basal part of the third elytral interstria. Especially the last character, unique in the subgenus *Nothops*, underlines the peculiarity of this new species.

DESCRIPTION: Holotype: Completely preserved specimen, 2.77 mm long. Integument (Fig. 1): reddish-brown, head and anterior part of abdomen darker, tibiae, tarsi, antennal scape and proximal part of funicle lighter.

Head: Rostrum stout, of average length (l/w 3.2, RI/PI 0.98); in dorsal view basal part markedly, apical part slightly broadened from base to apex, in lateral view unevenly and slightly curved, of the same width from base almost to apex; in basal part longitudinally ribbed, in apical part longitudinally punctured; in basal half covered with sparse suberect curved elongate yellowish scales. Head between eyes slightly narrower than width of rostrum at base. Eyes large, almost evenly rounded, their posterolateral angles not protruding from head outline. Antennae inserted at 0.6 of rostrum length, except for club sparsely covered with suberect elongate whitish trichoid scales, club with densely arranged, tiny subrecumbent setae and sparse erect sensilla; scape thin, only slightly widened in apical third, 1.6 times as long as funicle, funicular segment 1 almost twice as long as wide, segments 2–3 isodiametric, segments 4–6 transverse; club spindle-shaped, more than twice as long as wide.

Pronotum: Wider than long (PI/Pw 0.65). Widest at base, moderately convergent to anterior margin, with constriction shortly before anterior margin, in lateral view flat on disc; with sparsely distributed, round deep punctures, distance between punctures larger than puncture diameter, interstices with fine grainy texture; sparsely, on sides and in midline more densely covered with suberect elongate curved whitish and yellowish scales.

Scutellum: Small, subquadrate, covered with very densely arranged, greyish scales, directed posteriad.

Elytra: Longer than wide (EI/Ew 1.28), from base to 0.6 of their length evenly divergent, broadly rounded in apical part, widest at 0.6 of their length, in lateral view almost flat on disc; interstriae of approximately the same width, with grainy texture, interstria 3 in basal fifth with striking rugulose, elevated dark intumescence; striae shallow, thin, of $1/3$ – $1/4$ interstriae width, formed by single rows of almost confluent, elongate punctures; interstriae except for intumescences with irregular single rows of suberect elongate curved whitish and brownish scales, which are arranged in irregular double-rows on the intumescences; in $2/3$ of elytral length with striking transverse band, laterally broader, formed by whitish to light yellowish recumbent thin, markedly

elongate scales – in the most apical part of the elytra semidensely accumulated scales of the same type as in transverse band.

Legs: Femora, especially profemora, very robust, swollen in median part, profemora with large triangular, at apex inwardly curved, tooth-like sharp spine, meso- and metafemora with moderately large sharp teeth; protibiae in both sexes in the middle of mesal margin with large sharp teeth, longer than half of tibial width, apices of protibiae with moderately large, apices of meso- and metatibiae with small inwardly oriented teeth; tarsomere 1 almost twice as long as wide, tarsomere 2 shorter, tarsomere 3 bilobed, onychia of approximately 1.5 times as long as tarsomere 3, claws connate at base, finely toothed.

Penis (Fig. 5): Tementes shorter than body, manubrium tegmeni longer than tegmen diameter, body slightly asymmetrical, not apparently narrowed at base, in apical part evenly narrowed to apex, moderately tapered at apex.

Female (Fig. 2): Rostrum distinctly longer and slenderer (l/w 5.7, Rl/Pl 1.30), in basal part only finely longitudinally ribbed, in apical 2/3 matt, in dorsal view of the same width from base to antennal insertion, in apical part widened towards apex, in lateral view almost evenly, moderately curved, of approximately the same width from base to apex. Spermatheca (Fig. 7) simple, without ramus and nodulus.

VARIABILITY: Body length: ♂♂ 2.37–3.01 mm, ♀♀ 2.57–3.03 mm. The type series does not show any remarkable variability in colour, vestiture and body shape.

COMPARATIVE NOTES: *Bradybatus schoenmanni* is similar to *B. delagrangi* DESBROCHERS DES LOGES, 1895 and *B. iranensis* HOFFMANN, 1962. I had an opportunity to study the type material of both species. The lectotype (designated by DIECKMANN 1968) is deposited in the Desbrochers collection (MNHN). It is a 3.28 mm long, perfectly preserved male with mounted penis, labelled: “Akbés [former Trappist monastery near Meydan Ekbaz in southern Turkey (Hatay Province)] \ Delagrangi m. Fr. 9 [...illegible] \ Ex Musæo Desbrochers 1914 \ LECTOTYPUS *Bradybatus delagrangi* Dbr. Design. Dieckmann 1967 \ MUSÉUM PARIS COLL. DESBROCHERS”. *Bradybatus schoenmanni* differs from the lectotype in the absence of densely arranged recumbent elongate scales on the posterior half of the elytra, in the thinner and much more sparsely distributed, recumbent elongate scales on the anterior part of the elytra, in the striking intumescence on the basal part of the third interstria and in the basally not markedly narrowed body of the penis.

In the Hoffmann collection (MNHN) there are two females. One of them, 3.62 mm long, is perfectly preserved, and labelled: “s/*Acer cinerascens* Col KAZEROUN V 1959 IRAN G. REMAUDIERE \ *Bradybatus* (s.str.) *iranensis* m. A. Hoffmann det. \ *Bradybatus* sp.n. [...illegible...] A. Hoffmann det. \ TYPE [red label] \ MUSEUM PARIS 1968 Col. A. HOFFMANN”. It is evidently the holotype of *B. iranensis*. Females of *B. schoenmanni* differ from this specimen in the distinctly narrower, recumbent elongate scales forming a transverse elytral band, in the antennal scape being only slightly widened in the apical third, in the much longer rostrum, and in the striking intumescence on the basal part of the third elytral interstria.

DISTRIBUTION: Lebanon.

BIONOMICS: I collected this species by beating *Acer monspessulanum* ssp. *microphyllum* (BOISS.) BORN. on east-oriented slopes with forest steppe vegetation.

ETYMOLOGY: The new species is dedicated to Dr. Heinrich Schönmann, an eminent entomologist and former curator of the Coleoptera collections of the NHMW who passed away last year.



1



2



3



4

Figs. 1–4: Habitus of 1–2) *Bradybatus schoenmanni*, 1) male (paratype), 2) female (paratype); 3–4) *B. nemethi*, 3) male (holotype), 4) female (paratype).

Bradybatus nemethi sp.n.

Holotype ♂ (HNHM): “LEBANON, Northern gov., Tannourine env., 2 km N Harissa, Tannourine Cedars Nat. Reserve, swept & hand-collected, 34°12'34"N, 35°55'45"E, 1750 m, 1.V.2017, leg. A. Kotán, P. Nemes & T. Németh (No. 30) \ coll. M. Budapest [blue label]”. **Paratypes**: 2 ♂♂, 4 ♀♀ (HNHM), 1 ♂, 1 ♀ (KO): same data as holotype; 2 ♀♀ (HNHM): “LEBAN., Northern gov., Tanou-rine env., 2 km N Harissa, Tanourine Cedars Nat. Res., 34°12'34"N, 35°55'45"E, \ 1750 m, 23.V.2015, leg. O. Akiki, M. Boustani, A. Márkus, N. Nemer, T. Németh, M. Rehayem & W. Yammine \ coll. M. Budapest [blue label]”; 3 ♀♀ (HNHM): “Lebanon, Northern gov., Tannourine env., 2 km N Harissa, Tannourine Cedars Nat. Reserve, 1802 m, \ 10.V.2017, hand collected & swept, 34°12'28"N; 35°56'5.01"E, leg. A. Kotán, P. Nemes & T. Németh (No. 47) \ coll. M. Budapest [blue label]”.

DIAGNOSIS: Habitus as in Figs. 3–4. This species is recognizable by medium-sized, short body (El/Ew 1.35), two diffuse transverse light bands in posterior part of elytra formed by accumulated recumbent elongate whitish and intermixed reddish scales bounding very sparsely scaled transverse area with dark integument except for interstriae 1–2, rounded protruding eyes, almost straight antennal scape, only moderately widened in distal third, protibiae medially unarmed, their mesal margin slightly sinuate.

DESCRIPTION: Holotype: Completely preserved specimen, 3.23 mm long. Integument (Fig. 3): reddish-brown, rostrum, pronotum on disc except for anterior and median part, and anterior part of abdomen black, antennal club darkened.

Head: Rostrum stout, medium-sized (l/w 3.8, RI/PI 0.98); in dorsal view evenly broadened from base to apex, in lateral view evenly slightly curved, except for moderately widened base; in basal part longitudinally ribbed, in apical part with large scattered longitudinal and tiny elongate punctures; in basal part covered with sparse subrecumbent elongate curved reddish-brown scales. Head between eyes about 0.8 rostrum width at base. Eyes large, slightly asymmetrically rounded, their posterolateral angles not protruding from head outline. Antennae inserted at 0.6 of rostrum length, except for distal half of club covered with subrecumbent elongate whitish scales, distal part of club covered with fine dense grayish setae and relatively short erect pale sensilla; scape thin, widened in apical third, 1.5 times as long as funicle, funicular segment 1 large, wide, 1.3 times as long as wide, segment 2 small, funnel-like, about 1.5 times as long as wide, segments 3–6 transverse; club shortly spindle-shaped, less than twice as long as wide.

Pronotum: Wider than long (PI/Pw 0.70). Widest at base, almost parallel to half of its length, then abruptly rounded and narrowed anteriorly, with relatively deep constriction before anterior margin, in lateral view almost flat on disc; with densely arranged, deep subround punctures, mostly larger than grainy interstices; sparsely, almost evenly covered with recumbent and subrecumbent, variously oriented, markedly elongate brownish scales.

Scutellum: Small, protruding, subtriangular, very densely covered with recumbent tiny elongate whitish scales.

Elytra: Longer than wide (El/Ew 1.35), until 0.6 of their length evenly divergent, broadly, somewhat unevenly rounded in apical part, widest in 0.6 of their length, in lateral view almost flat on disc; interstriae except for narrower interstriae 1 and 2 of approximately the same width, slightly vaulted, with fine grainy texture; striae deep, of 1/2–1/1 width of interstriae, formed by single even rows of deep, almost confluent subround punctures; striae with irregular multiple rows of subrecumbent and curved suberect, elongate light brownish scales, intermixed with whitish scales; in about 0.5 and 0.8 of elytral length with an indistinct transverse band formed by accumulated, moderately densely arranged recumbent elongate whitish scales not reaching suture, bounding transverse black, sparsely scaled area reaching interstria 3.

Legs: Profemora robust, swollen in median part, profemora with small, meso- and metafemora with tiny teeth reduced to small tubercles; anterior tibiae in both sexes in the middle of mesal margin only slightly widened, without teeth; tarsomere 1 large, at most 1.5 times as long as wide,

tarsomere 2 smaller, less than twice as long as wide, tarsomere 3 bilobed, onychia slightly more than 1.5 times as long as tarsomere 3, claws connate at base, finely toothed.

Penis (Fig. 6): Tementes shorter than body, manubrium tegmeni longer than tegmen diameter, body very slightly asymmetrical, distinctly broadened towards apex, with less sclerotized “window” before broadly, but clearly tapered apex.

Female (Fig. 4): Rostrum slightly longer and slender (l/w 4.5, RI/PI 1.00), in basal part almost without scales, with very fine, densely arranged subround punctures. Spermatheca (Fig. 8) slim, with long thin ramus.

VARIABILITY: Body length: ♂♂ 3.17–3.27 mm, ♀♀ 3.20–4.07 mm. Black transverse area in posterior part of elytra often involves also interstria 2, anterior part of elytra in some specimens partly with black integument.

COMPARATIVE NOTES: This species is most closely related to *B. abeillei* DESBROCHERS DES LOGES, 1889, endemic to Cyprus. In the collection of K. Daniel (ZSMC), there is a well preserved, 3.72 mm long male labelled: “Cypern 84 Ab. \ Anthonomus Abeillei \ Samml. K. Daniel \ PARALECTOTYPUS *Bradybatus abeillei* Desbr. Design. Dieckmann 1967”. The lectotype designation was published by DIECKMANN (1968). *Bradybatus nemethi* differs from that paralectotype in shorter elytra (El/Ew 1.35 vs. 1.45), more densely and deeply punctured pronotum with distance between punctures usually smaller than a puncture diameter, rounded eyes without protruding posterolateral angles, and the black, slightly shorter rostrum, which is longitudinally ribbed at the base in females.

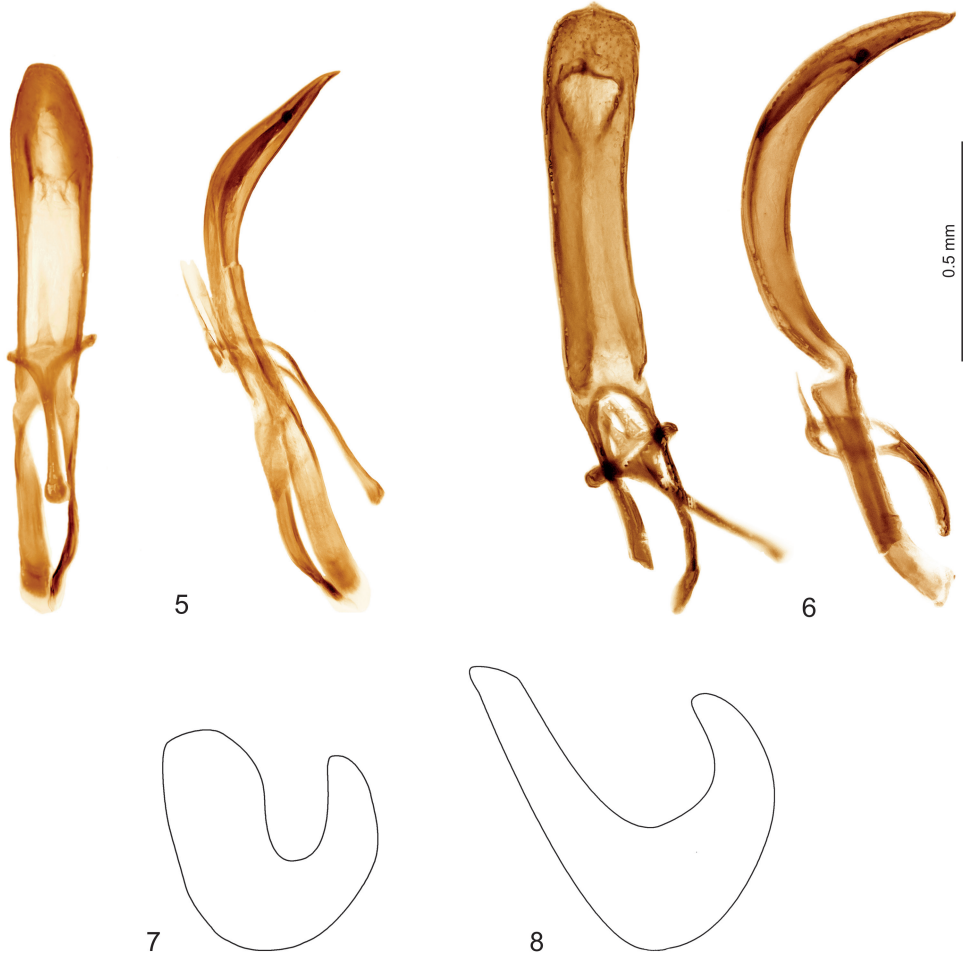
Later, TER-MINASYAN (1946) described a second related species, *B. grandis* from Armenia. Neither me nor DIECKMANN (1968) were able to study the type material. In the Smreczyński collection (ISZP), I found a couple of *B. grandis* (identified by Dieckmann) with its locality label referring to the locus typicus of *B. grandis* (“Erevan Gekhard ASSR. 2.5.50”). Additionally, I studied photographs of a male and a female from Herher (= Gerger) Village near Vayk (formerly Azizbekov), Armenia, collected by Khnzorian (HNHM) (see also DIECKMANN 1968). *Bradybatus nemethi* differs from all studied specimens of *B. grandis* in the considerably smaller body size, narrower constriction at anterior margin of pronotum, less convergent sides of pronotum, and lack of moderately elongate, snow-white scales on pronotum and elytra.

Another related species, *B. grandoides* DIECKMANN, 1968, was described from two males collected in Georgia. In the Faust collection (MTD), there is a 4.22 mm long, well preserved male lacking the left antenna, labelled: “Manglis [Manglisi] Siwers \ Coll J. Faust Aukauf [= Ankauf] 1900 \ HOLOTYPUS *Bradybatus grandoides* Dieckm. 1968 [red label] \ Staatl. Museum für Tierkunde, Dresden”. *Bradybatus nemethi* differs from this specimen in smaller body size, markedly less clavate antennal scape, flat basal part of elytral interstria 3, which is vaulted in *B. grandoides*, and in the subparallel basal part of the body of the penis, which is strikingly narrow in *B. grandoides*.

TER-MINASYAN (1979) described *B. turkmenicus* from Turkmenistan. I had no opportunity to study the type material. However, in my collection there are 4 ♂♂ and 3 ♀♀ of this species (identified by Dieckmann, 1989), which I collected from *Acer monspessulanum* ssp. *turcomanicum* POJARKOVA in Turkmenistan (Kopet-Dagh Mts., “Kara-Kala” [Garrygala] env., 26.IV.1989 and 7.V.1989). *Bradybatus nemethi* differs from *B. turkmenicus* mainly in considerably shorter elytra (El/Ew 1.35 vs. 1.65), shorter and more transverse pronotum (PI/Pw 0.70 vs. 0.75), lack of strikingly elongate, bright white and yellowish scales on pronotum and elytra, and in the base of the body of the penis being only slightly narrowed, with much sharper apex.

The holotype of *Bradybatus graciliformis* VOSS, 1960 from Afghanistan is deposited in the Voss collection (ZFMK). It is a perfectly preserved, 2.97 mm long male, labelled: “Holotypus [printed

pink label] \ J. Klapperich Bashgultal 1500 m Kamu, Nuristan 26.4.53, Afgh. \ *Bradybatus* (*Nothops*) *graciliformis* E. Voss det., 1956 n.sp. \ *Bradybatus graciliformis* Voss, 1959 [folded]". *Bradybatus nemethi* differs from this specimen substantially in the divergent elytral margins, in the absence of a median pronotal vitta, and in the transverse elytral band being formed by bright white recumbent scales.



Figs. 5–6: Penis of 5) *Bradybatus schoenmanni* and 6) *B. nemethi* in ventral (left) and lateral (right) view. Figs. 7–8: Spermatheca of 7) *B. schoenmanni* and 8) *B. nemethi*.

DISTRIBUTION: Lebanon.

BIONOMICS: This species was beaten from *Acer* sp., and sifted in a forest with *Quercus* sp. and *Acer* sp. (T. Németh, pers. comm.).

ETYMOLOGY: I dedicate this species to my friend, click beetle specialist Tamás Németh (HNHM).

Key to the species of *Bradybatus* subgen. *Nothops* MARSEUL, 1868

- 1 Lateral sides of pronotum and femora covered with very densely accumulated, recumbent to subrecumbent, elongate whitish scales leaving only a small part of the integument visible. Body strikingly flattened. Tajikistan, Uzbekistan .. *tadzhikorum* TER-MINASSIAN [TER-MINASYAN]
- Lateral sides of pronotum and femora with more sparsely distributed, recumbent to suberect, light to brownish scales leaving the vast majority of the integument visible. Body vaulted..... 2
- 2 Middle of mesal margin of protibiae in both sexes with prominent large sharp teeth, at least as long as half of tibial width..... 3
- Middle of mesal margin of protibiae without prominent teeth, at most moderately widened..... 7
- 3 Elytra covered (in males in apical half, in females entirely) with densely arranged whitish and scattered recumbent and subrecumbent reddish-brown scales, without transverse band in their apical half. Southern Turkey, Lebanon..... *delagranei* DESBROCHERS DES LOGES
- Elytra covered with sparsely distributed scales in basal and preapical part only; with transverse band in apical half, formed by accumulated scales..... 4
- 4 Elytra in posterior third with narrow transverse band formed by moderately elongate, bright white recumbent scales, posteriorly and anteriorly bounded by two wider transverse dark, sparsely scaled parts of integument. Iran..... *iranensis* HOFFMANN
- Elytra in posterior third with narrow transverse band formed by strongly elongate, recumbent yellowish to whitish scales, posteriorly and anteriorly with the same integument colour as on rest of elytra..... 5
- 5 Pronotum densely punctured, distance between punctures smaller than puncture diameter. Elytral interstria 3 in basal part at most moderately vaulted, with same texture as on other interstriae..... 6
- Pronotum sparsely punctured, distance between punctures larger than puncture diameter. Elytral interstria 3 in basal part with striking rugulose intumescence, emphasized by tubercles and accumulated scales. Lebanon..... *schoenmanni* sp.n.
- 6 Elytra stouter, elytral length of about 1.8 elytral width at humeri. Apical part of body of penis concave, apex sharply tipped. Western, Central and Eastern Europe..... *fallax* GERSTAECKER
- Elytra slimmer, elytral length of more than 1.9 elytral width at humeri. Apical part of body of penis conically convergent, blunt. Central Europe..... *elongatulus* (BOHEMAN)
- 7 Elytra widest approximately at middle. In apical half with transverse band, widened from interstria 2 to elytral margins, formed by elongate bright white scales. Pronotum with median vitta formed by the same scales. Afghanistan..... *graciliformis* VOSS
- Elytra widest posterior of the middle. In apical half without transverse scaled band. Pronotum without median vitta formed by bright white scales..... 8
- 8 Elytra moderately stout to moderately slim, at most twice as long as elytral width at humeri 9
- Elytra very slim, more than twice as long as elytral width at humeri. Algeria, Morocco..... *vaulogeri* BEDEL
- 9 Posterolateral angles of eyes protruding from head outline, eyes unevenly rounded. Cyprus..... *abeillei* DESBROCHERS DES LOGES
- Posterolateral angles of eyes not protruding from head outline, eyes evenly rounded..... 10
- 10 Elytra slim, elytral length approximately twice as long as elytral width at humeri. Transverse bare area in posterior half of elytra indistinct, not clearly bounded. Turkmenistan..... *turkmenicus* TER-MINASSIAN [TER-MINASYAN]
- Elytra stouter, elytral length at most as long as 1.8 elytral width at humeri. Transverse bare area in posterior half of elytra distinct, more or less sharply bounded..... 11
- 11 Constriction at anterior margin of pronotum longer than 1/4 of median pronotal length. Recumbent elongate scales on pronotum and elytra broader, less elongate (l/w 5–8), mostly

- snow-white, with intermixed yellowish scales. Armenia.....
 *grandis* TER-MINASSIAN [TER-MINASYAN]
- Constriction at anterior margin of pronotum approximately half as long as median pronotal length. Recumbent hair-like scales on pronotum and elytra very thin, considerably elongate (l/w 8–12), brownish, or yellowish to pale whitish, never moderately elongate and snow-white... 12
- 12 Body size larger (4.00–4.22 mm); antennal scape markedly clavate; basal part of elytral interstria 3 vaulted; basal half of body of penis very strikingly narrowed. Georgia.....
 *grandoides* DIECKMANN
- Body size smaller (3.17–4.07 mm); antennal scape slightly clavate; basal part of elytral interstria 3 flat; basal half of body of penis subparallel, not narrowed. Lebanon..... *nemethi* sp.n.

Acknowledgements

I thank T. Németh (HNHM) for the loan of material collected in Lebanon and for sending photographs of *Bradybatus grandis*. I am grateful to D. Ahrens (ZFMK), M. Balke and K. Neven (ZSMC), K.-D. Klass and O. Jäger (MTD), D. Kubisz (ISZP), and H. Perrin (MNHN) for enabling me to study type material and additional specimens of related species. Thanks are also due to N. Nemer (Holy Spirit University of Kaslik, Lebanon) and C. Tawk (Committee of Cedar Forest Friends, Bcharre, Lebanon) for the organisation of the expedition to Lebanon. A PDF of the original description of *B. grandis* was sent to me by L. Behne (Senckenberg Deutsches Entomologisches Institut, Müncheberg, Germany).

References

- CALDARA, R. 2013: Curculioninae, pp. 117–171. – In Löbl, I. & Smetana, A. (eds.): Catalogue of Palaearctic Coleoptera. Vol. 8. – Leiden: Brill, 700 pp.
- DESBROCHERS DES LOGES, J. 1872: Monographie des Balanidae et Anthonomidae, 1. Supplément. – Annales de la Société entomologique de France 2: 413–419.
- DESBROCHERS DES LOGES, J. 1895: Espèces inédites de curculionides de l’Ancien-Monde IV (C). – Le Frelon 4: 57–100.
- DIECKMANN, L. 1968: Revision der westpaläarktischen Anthonomini (Coleoptera: Curculionidae). – Beiträge zur Entomologie 18: 377–564.
- HOFFMANN, A. 1962: Contribution à la connaissance de la faune du Moyen-Orient (Missions G. Remaudière 1955 et 1959). I. Coléoptères Curculionides. – Vie et Milieu 12 (4): 643–666.
- MARSEUL, S.A. de 1868: Matériaux pour l’étude des curculionides; par A. Gerstæker [sic] (Stet. 1855.167). – L’Abeille, Mémoires d’Entomologie 5: 261–270.
- TER-MINASYAN [TER-MINASSIAN], M.E. 1946: Novyj vid roda *Bradybatus* Germ. iz Armenii (Coleoptera, Curculionidae) [A new *Bradybatus* from Armenia (Coleoptera, Curculionidae)]. – Doklady Akademii Nauk Armjanskoy SSR 4: 55–57. [In Russian and English]
- TER-MINASYAN [TER-MINASSIAN], M.E. 1979: Novye vidy zhukov-dolgonosikov roda *Bradybatus* Germar (Coleoptera, Curculionidae) iz Turkmenii. – Trudy Zoologicheskogo Instituta Akademii Nauk SSSR 88: 74–76. [In Russian]

Dr. Michael KOŠTÁL

Střelecká 459, CZ – 500 02 Hradec Králové, Czechia (michael.kostal@iol.cz)

...professional entomology...



>entomologie

>mikroskopie

>equipment

>outdoor

>buch

>gps



entomology

bioform.de



new books

entobooks.de



antiquarian

bioquariat.de



microscopy

bioformmicro.de

dr. jürgen schmidl e.k.
am kressenstein 48
D-90427 nürnberg-kraftshof
tel +49 (0) 911 / 93 85 - 778
fax +49 (0) 911 / 93 85 - 774

info@bioform.de
www.bioform.de