

Paolo Neri & Luca Toledano

**Further notes and updates on genus *Bembidion* Latreille, 1802,
subgenus *Ocyturanes* Müller-Motzfeld, 1986,
and description of five new species**

(Insecta: Coleoptera: Carabidae: Bembidiina)

Abstract

Some taxonomical, synonymous and geographical aspects of genus *Bembidion* Latreille, 1802 subgenus *Ocyturanes* Müller-Motzfeld, 1986 are discussed here, and the following new species are described: *Bembidion (Ocyturanes) kafiristanum* n. sp. (Afghanistan), *B. (O.) reuteri* n. sp. (Iraq), *B. (O.) janczyki* n. sp. (Afghanistan), *B. (O.) nuristanum* n. sp. (Afghanistan) and *B. (O.) beutelsbach* n. sp. (Iran).

Bembidion antennarium (Morvan, 1972) is attributed to subgenus *Peryphanes* Jeannel, 1941, *weiratherianum* Netolitzky, 1932 group. *Bembidion (Asioperyphus) lindbergi* (Schuler, 1959) is declared junior synonym of *Bembidion (Ocyturanes) waziristanum* Andrewes, 1932.

New distribution records are provided for *B. (O.) samai* Neri & Toledano, 2017 (new for India: Jammu & Kashmir Province) and *B. (O.) mirzayani* (Morvan, 1973) (new localities for Iran).

The identification key of the *signatipenne* du Val, 1852 group is rewritten with the inclusion of the new species belonging to the group and a key for the species of the *argaeicola* Ganglbauer, 1905 group is also provided in Italian and English.

Key words: *Bembidion*, *Ocyturanes*, *Peryphanes*, *Asioperyphus*, taxonomy, synonymy, new species, Afghanistan, Iraq, India: Jammu & Kashmir, Iran, identification keys.

Riassunto

[Ulteriori note e aggiornamenti sul genere *Bembidion* Latreille, 1802, sottogenere *Ocyturanes* Müller-Motzfeld, 1986 e descrizione di cinque nuove specie (Insecta: Coleoptera: Carabidae: Bembidiina)]

Sono discussi alcuni aspetti tassonomici sinonimici e geografici del genere *Bembidion* Latreille, 1802 sottogenere *Ocyturanes* Müller-Motzfeld, 1986. Sono descritte le seguenti nuove specie: *Bembidion (Ocyturanes) kafiristanum* n. sp. (Afghanistan); *B. (O.) reuteri* n. sp. (Iraq); *B. (O.) janczyki* n. sp. (Afghanistan); *B. (O.) nuristanum* n. sp. (Afghanistan); *B. (O.) beutelsbach* n. sp. (Iran).

Bembidion antennarium (Morvan, 1972) è assegnato al sottogenere *Peryphanes* Jeannel, 1941, gruppo del *weiratherianum* Netolitzky, 1932. *Bembidion (Asioperyphus) lindbergi* (Schuler, 1959) è

dichiarato sinonimo di *Bembidion (Ocyturanes) waziristanum* Andrewes, 1932.

Vengono forniti nuovi dati di distribuzione per *B. (O.) samai* Neri & Toledano, 2017 (citazione per India: provincia Jammu & Kashmir) e *B. (O.) mirzayani* (Morvan, 1973) (nuove località per l'Iran).

Viene rifatta la chiave di identificazione del gruppo *signatipenne* du Val, 1852 con l'inserimento delle nuove specie appartenenti al gruppo e fornita una chiave per le specie del gruppo *argaeicola* Ganglbauer, 1905, in italiano e in inglese.

Introduction

After the publication of some studies on subgenus *Ocyturanes* Müller-Motzfeld, 1986 (NERI & TOLEDANO, 2017; NERI & TOLEDANO, 2018a; NERI & TOLEDANO, 2018b) we have received additional interesting material that led us to this new study in order to describe new species, report new distributional data, provide identification keys regarding this subgenus and provide some addenda and corrigenda to the aforementioned papers.

Materials and methods

The subgenus *Ocyturanes* Müller-Motzfeld, 1986 was divided by the describer himself into species groups exclusively to make the identification easier; this division does not have significance of phylogenetical affinity; the keys for the species group have been published in NERI & TOLEDANO, 2017 and NERI & TOLEDANO, 2018b.

The systematic treatment of the Bembidiina and the geographical acronyms follow MARGGI et al., (2017).

The body length was measured for card-mounted specimens from the front margin of the labrum to the apex of the elytra. Dissections were made using standard techniques. Genitalia and small parts were preserved in Euparal on acetate mounts fixed on the same pins as the specimens.

The photographs of habitus were made by Luca Toledano with Nikon DSFi1 and Nikon DS-L2 on Leica Z6 and those of the male genitalia by Gabriele Fiumi with Nikon D300 on Leitz Dialux 20 EB; the drawings of the spermathecae are made by Ivo Gudenzi.

The examined material is preserved in the following collections:

CR	coll. Christoph Reuter, Hamburg, Germany
CTVR	coll. Luca Toledano, Verona, Italy
DE	coll. Dominique Echaroux, Etréchy, France
DW	coll. David Wrase, Berlin, Germany
KR	coll. Karel Rébl, Nové Strašecí, Czech Republic
JM	coll. Jan Muilwijk, Bilthoven, Holland
MHNG	Muséum d'Histoire naturelle, Genève, Switzerland

MNHN	Muséum National d'Histoire Naturelle, Paris, France
MSNT	Museo Civico di Storia Naturale, Trieste, Italy
PN	coll. Paolo Neri, Forlì, Italy
PS	coll. Peer Schnitter, Halle, Germany
ZIMG	Zoologische Institut und Museum, Greifswald, Germany

***marginipenne* Solsky, 1874 group**

***Bembidion (Ocyturanes) kafiristanum* n. sp.** (figs 1, 4)

Diagnosis. A *Bembidion* belonging to subgenus *Ocyturanes*, “*marginipenne*” group, i.e. showing reddish brown elytra with preapical spots isolated or lunule shaped (key for the species group in NERI & TOLEDANO 2017, 2018b). The species is distinguishable from the other species of the group by orange legs with femora slightly darkened at base, temples short and oblique and aedeagus of medium size (1.08 mm).

Type Locality. Afghanistan, Vallée du Pech [Nuristan].

Type Series. Holotype, ♂: “Afghanistan / Vallee du Pech / 14.8.1977 / D. Echaroux [printed]“ (CTVR). The aedeagus, in Euparal, is preserved on the same pin as the specimen. We added to the specimen the following label: *Bembidion (Ocyturanes) kafiristanum* P. Neri & L. Toledano, 2020 – HOLOTYPE [red, printed].

Description of the holotype (fig. 1). Length 4.80 mm. Head and pronotum blackish, elytra with anterior half reddish-brown, intervals 7 and 8 dark brown, central band dark brown not clearly delimited superiorly with two yellowish, oblique preapical spots, divided by the brown sutural stria, apex brown. All the appendages orange, femora slightly darkened at base. Head: maximum width, including eyes, 0.93 mm, interocular distance 0.54 mm, frons smooth and glossy, frontal furrows wide, evident. Normally protruding eyes, temples oblique, short. Antennae long, 2.67 mm.

Pronotum: length along the median line 0.91 mm, width at anterior margin 0.80 mm, maximum width 1.16 mm, at base 0.86 mm, pronotal width / pronotal length ratio 1.27; moderately transverse and convex; sides entirely rebordered, narrowing with evident sinuosity towards base and forming with the base an almost right angle, due to the base slightly oblique near the corners; marginal gutter not uniformly wide, slightly wider after the middle; all surface smooth and glossy, posterolateral carina long and evident, mid line and semilunar anterior transverse line evident; punctured basal transverse impression and laterobasal foveae subquadrate.

Elytra: length 2.90 mm, maximum overall width 1.80 mm, evident shoulders and subparallel sides; completely microsculptured in transverse sculpticells. Striae evidently punctured, visible almost up to the apex where the puncturation is almost not visible; stria 7 as evident as the others. Macropterous species.

Male genitalia: mid-sized aedeagus (1.08 mm), ventral margin subrectilinear and apical quarter evidently bent ventrally; internal sac barely protruding in the basal opening, apex of paracopulatrix lamina in the direction of the dorsal margin. Spermatheca: unknown, the species is described only from a single male.

Derivatio nominis. The name *kafiristanum* derives from Kafiristan, name used at the beginning of 20th century to indicate the Province at present named as Nuristan and neighbouring areas.

Comparative notes. *B. kafiristanum* is distinguishable from *babaulti* Andrewes, 1924 by the narrower elytra and the aedeagus with the apical third less pointed; from *kiritschenkoi* Mikhailov, 1984, *lobanovi* Mikhailov, 1984 and *davatchii* (Morvan, 1971) for the shorter and more oblique temples; from *eucheres* Netolitzky, 1943 and subspecies for the elytral colour and the aedeagus with the paracopulatrix lamina evidently bent towards the dorsal margin,

In the keys for the “marginipenne” group (NERI & TOLEDANO, 2017) the species *kafiristanum* finds place between points 8 and 9.

Note comparative. *B. kafiristanum* differisce da *babaulti* Andrewes, 1924 per le elitre più strette e l’edeago con il terzo apicale molto meno affusolato; da *kiritschenkoi* Mikhailov, 1984, *lobanovi* Mikhailov, 1984 e *davatchii* (Morvan, 1971) per le tempie più corte e più oblique; da *eucheres* Netolitzky, 1943 e sue ssp. per la colorazione elitrale e l’edeago con lama paracopulatrice chiaramente piegata verso il margine superiore.

Nelle chiavi del gruppo “marginipenne” (NERI & TOLEDANO, 2017) la specie *kafiristanum* si colloca tra il punto 8 e il punto 9.

Distribution. The species is at present known only from the type locality in Afghanistan, Nuristan Province.

***Bembidion (Ocyturanes) samai* Neri & Toledano, 2017**

Among the material of *Bembidion* Latreille, 1802 submitted by our friend Karel Rébl, collected in Ladakh (India, Jammu & Kashmir Province), we discovered a few specimens of *Bembidion (Ocyturanes) samai* Neri & Toledano, 2017, species formerly known only from Northern Afghanistan.

The specimens have been collected in the following localities of Ladakh: Markha valley; Jingchan-Yurutse; Hemis; Stok (coll. CTVR, KR, PN). They are on average larger (4.00 – 4.60 mm, aedeagus 0.81 – 0.86 mm) than the Afghan specimens (3.50 – 4.40 mm; aedeagus 0.72 – 0.78 mm). For the remaining characters the populations of Ladakh are similar to those from Afghanistan.

The distributional pattern of *samai* is therefore extended from Afghanistan to India, Jammu & Kashmir Province.

Updated distribution: A: AF, KA.

In the keys for *marginipenne* group (NERI & TOLEDANO, 2017), *samai* must be placed also in the second part, and exactly between *ioheli* Neri & Toledano, 2017 and *rohanum* Neri & Toledano, 2017. This double presence in the key is necessary because the key point 6 divides the species according the size of habitus and aedeagus.

Errata corrigé. In NERI & TOLEDANO (2017), pag. 118 row 2, please replace (fig. 34) with (fig. 40).

signatipenne du Val, 1852 group

Bembidion (Ocyturanes) reuteri n. sp. (figs 5, 6, 7)

Diagnosis. A *Bembidion* species belonging to subgenus *Ocyturanes*, “*signatipenne*” group, i.e. showing blackish colour with preapical spots isolated or lunule shaped (key for the species group of *Ocyturanes* in NERI & TOLEDANO 2017, 2018b). The species is distinguishable from the other species of the group by elytra not microsculptured, temples short and oblique, orange legs and aedeagus with apex evidently bent ventrally.

Type locality. NE Iraq, Rawandoz, Akoian valley, 1400 m, 36°30'N 44°36'E.

Type series. Holotype, ♂, “N-Iraq, S Rawandoz / Akoian valley – 1400m / 36°30'N, 44°36'E / 17-25.IV.2017 / pitfall trap, leg. Reuter” [printed] (CTVR). The aedeagus, in Euparal, is preserved on the same pin as the specimen. We added to the specimen the following label: *Bembidion (Ocyturanes) reuteri* P. Neri & L. Toledano, 2019 – HOLOTYPE [red, printed].

Paratypes. 5 ♀♀ with the same label as the holotype (CTVR, PN, CR). We added to the specimens the following label: *Bembidion (Ocyturanes) reuteri* P. Neri & L. Toledano, 2019 – PARATYPE [red, printed].

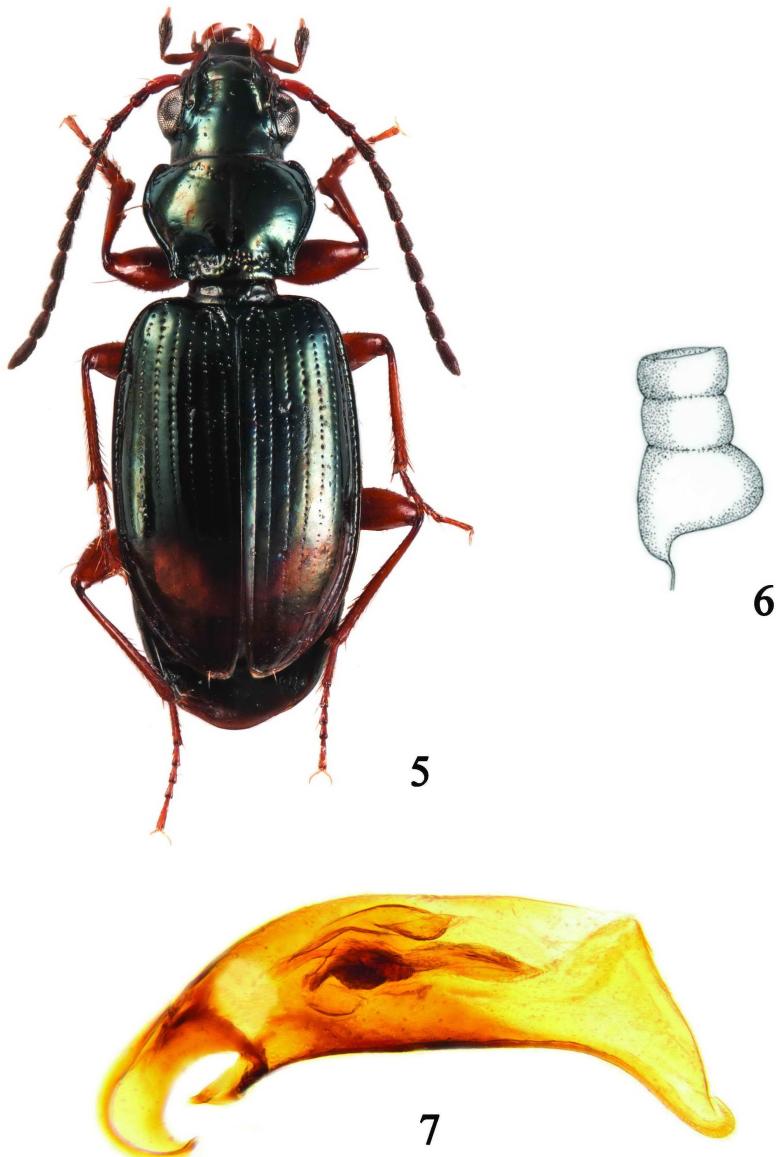
Description of the holotype (fig. 5). Length 4.75 mm. Head and pronotum black, elytra black with two preapical, oblique yellowish spots extending from interval 2 to 6, and apical dark brown. Antennae blackish with first antennomere and base of the following three reddish. Maxillary palps with penultimate palpomere blackish and last antennomere yellowish. Legs orange, knees slightly darkened.

Head: maximum width, including eyes, 1.04 mm; interocular width 0.65 mm; not microsculptured, glossy surface. Eyes protruding, temples very short and oblique. Frontal furrows wide and smooth, glossy. Antennae long 2.58 mm.

Pronotum: length along the mid line 0.95 mm; width of anterior margin 0.95 mm, maximum width 1.28 mm, width of basal margin 0.93 mm; pronotum width / pronotum length ratio 1.35; transverse, anterior margin with rounded corners; sides entirely rebordered, narrowing with evident sinuosity towards base forming a wide right angle; lateral gutter wide, of even width; almost square laterobasal



Figs 1–2. Habitus of: 1. *Bembidion (Ocyturanes) kafiristanum* Neri & Toledano, holotype, 4.80 mm (CTVR); 2. *B. (O.) nuristanum* Neri & Toledano, holotype, 4.25 mm (PN).
Figs 3–4. Aedeagi of: 3. *B. (O.) nuristanum* Neri & Toledano, holotype, 0.84 mm (PN); 4. *B. (O.) kafiristanum* Neri & Toledano, holotype, 1.08 mm (CTVR).



Figs 5–7. *Bembidion (Ocyturanes) reuteri* Neri & Toledano: 5. habitus, holotype, 4.75 mm (CTVR); 6. spermatheca, paratype, 0.12 mm (PN); 7. aedeagus, holotype, 0.91 mm (CTVR).

foveae with scattered punctures and long laterobasal carina; median line and anterior transverse impression narrow; basal transverse impression rugose-punctate between the basal foveae. Microsculpture completely absent, glossy surface.

Elytra: long 2.87 mm, maximum overall width, slightly behind middle, 1.83 mm; sides only slightly ovate with evident shoulders and flattened on disc; microsculpture completely absent, glossy surface; elytral intervals flat; elytral striae and puncturation evident but superficial, barely visible towards apex. Macropterous species.

Male genitalia (fig. 7): aedeagus of medium – small size (0.91 mm), with ventral margin almost rectilinear and apical quarter evidently bent ventrally; endophallus completely included in the median lobe; funnel shaped apical fifth. Parameres with four apical setae.

Intraspecific variability. The paratypes in general match in colours and morphology with the holotype; the preapical elytral spots can be more or less extended. The ♂ is 4.75 mm long e and the ♀♀ between 4.40 and 4.90 mm.

Spermatheca: 0.11 mm (fig. 6) with upper cavity showing one annular narrowing, almost as wide as the lower cavity.

Derivatio nominis. The species is dedicated to the collector of the type series, our friend Christoph Reuter, who, carries out his successful activity as a journalist and as an entomologist in dangerous regions of Middle East and Central Asia.

Distribution. Known only from the type locality, in the NE Iraq.

Comparative notes. The species at present known belonging to the subgenus *Ocyturanes*, “*signatipenne*” group, with elytra not microsculptured or only in part microsculptured at apex, are the following: *Bembidion (Ocyturanes) iphigenia* Netolitzky, 1931 (Crimea), *B. (O.) heinzi* Korge, 1971 (TR) and *B. (O.) mirzayani* Morvan, 1973 (IN).

B. reuteri is distinguishable from *iphigenia* by the very short temples and the antennae mostly darkened; from *heinzi* by the elytra completely lacking microsculpture, the very short temples and the more transverse pronotum; from *mirzayani* by the smaller size and the orange legs; from *heinzi* and *mirzayani* by the aedeagus with the apical quarter evidently bent ventrally (see key in NERI & TOLEDANO, 2018).

Note comparative. Le specie attualmente conosciute appartenenti al sottogenere *Ocyturanes*, gruppo del “*signatipenne*”, a elitre non reticolate o solo parzialmente reticolate all’apice, sono le seguenti: *Bembidion (Ocyturanes) iphigenia* Netolitzky, 1931 (Crimea), *B. (O.) heinzi* Korge, 1971 (TR) e *B. (O.) mirzayani* Morvan, 1973 (IN).

B. reuteri differisce da *iphigenia* per le tempie cortissime e le antenne in gran parte oscurate; da *heinzi* per le elitre completamente prive di microscultura, le

tempie cortissime e il pronoto più trasverso; da *mirzayani* per la minore grandezza, le zampe aranciate; da *heinzi* e *mirzayani* per l'edeago con il quarto apicale nettamente piegato ventralmente (vedi chiave in NERI & TOLEDANO, 2018).

***Bembidion (Ocyturanes) janczyki* n. sp.** (figs 8, 9, 10)

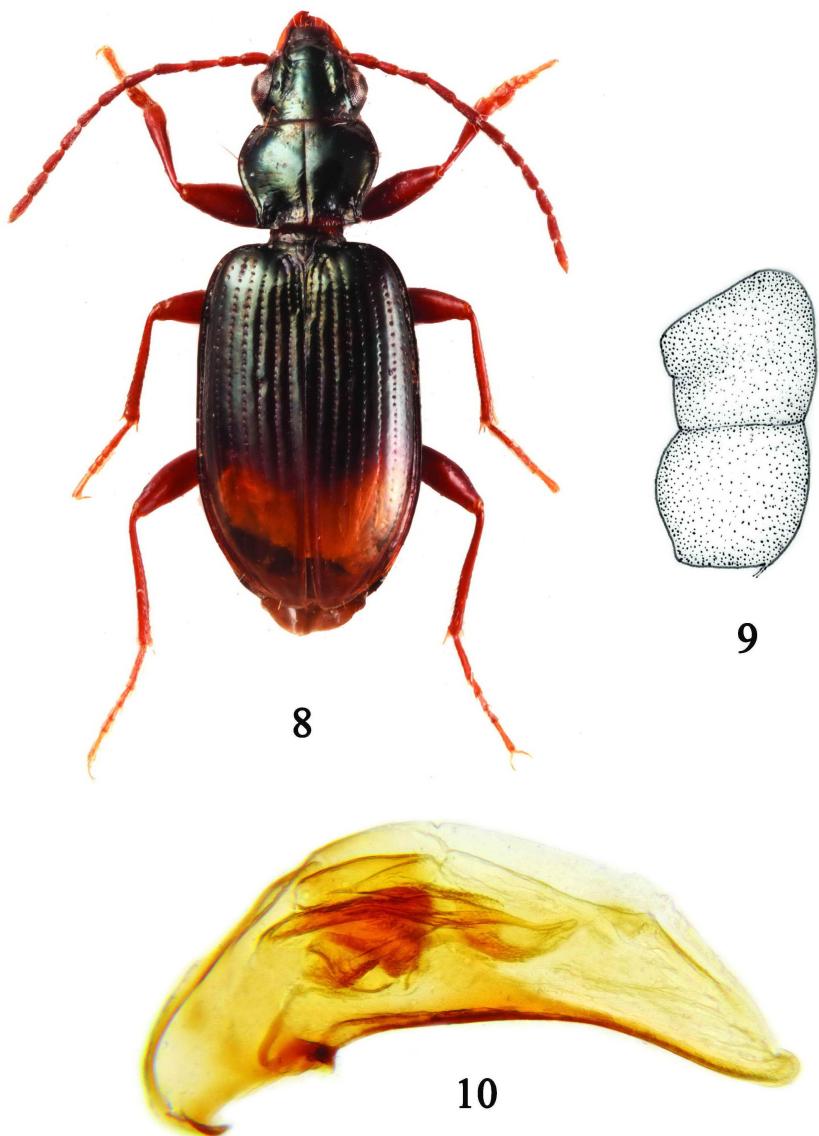
Introduction. From the collection Fassati, preserved at the Muséum d'Histoire naturelle (Genève), thanks to Dr. Werner Marggi we have received four specimens of an undescribed species from Afghanistan already named in litteris as *Bembidion janczyki*, name that we prefer to keep, using it for the official description of the species herewith provided.

Diagnosis. Central Asian *Bembidion* species belonging to subgenus *Ocyturanes*, “*signatipenne*” group characterized by elytra completely microsculptured, orange legs, temples short and oblique and aedeagus of small size (0.75 – 0.80 mm).

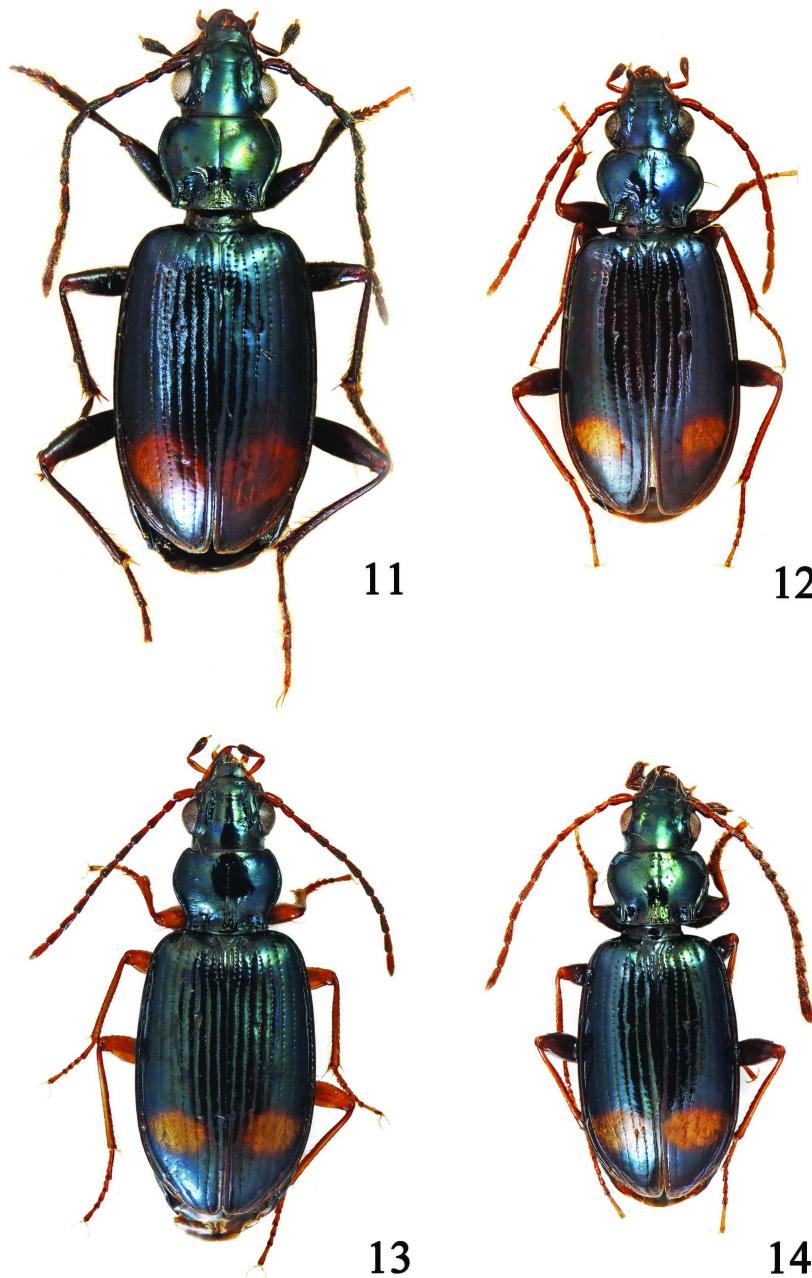
Type locality. East Afghanistan, Panchirtal b. Gulbahar, 1650 m.

Type series. Holotype, ♂, bearing seven labels: “J. Klapperich / Panchirtal, 1650 m [printed] // b. Gulbahar, 14.10.52 / O. Afghanistan [printed] // Collectio / M. Fassati [printed] // alatus [printed] // TYPE [red, printed] // Holotypus [pink, printed] // *Bembidion janczyki* / Fassati (1959 i.l.) 1991 / HOLOTYPE ♂ [handwritten] / det. M. Fassati, 1991 [printed]” (MHNG). The aedeagus, in Euparal, is preserved on the same pin as the specimen. We added to the specimen the following label: *Bembidion (Ocyturanes) janczyki* Neri & Toledano, 2019 – HOLOTYPE [red, printed].

Paratypes: 1 ♂ with three labels: “J. Klapperich / Panchirtal, 1650 m / b. Gulbahar, 14.10.52 / O. Afghanistan [printed] // Collectio / M. Fassati [printed] // PARATYPE [red, printed]” (MHNG); the aedeagus, in Euparal, is preserved on the same pin as the specimen. 1 ♀, with eight labels: “J. Klapperich / Panchirtal, 1650 m [printed] // b. Gulbahar, 14.10.52 / O. Afghanistan [printed] // Collectio / M. Fassati [printed] // alatus [printed] // Allotypus [pink, printed] // TYPE [red, printed] // Spermatheku / nelze odprepar / per zničení abd. [handwritten] [translation: The spermatheca cannot be prepared due to destroyed abdomen] // *Bembidion janczyki* / Fassati (1959 i.l.) 1991 / Allotypus ♀ [handwritten] / det. M. Fassati, 1991 [printed]” (MHNG); the specimen shows, as already mentioned by Fassati's label, the abdomen destroyed. 1 ♂, with five labels: “J. Klapperich / Panchirtal, 1650 m [printed] // b. Gulbahar, 14.10.52 / O. Afghanistan [printed] // Collectio / M. Fassati [printed] // alatus [printed] // *B. janczyki* m., / PARATYPE [handwritten] / det. M. Fassati, 1959 [printed]” (CTVR); the aedeagus, in Euparal, is preserved on the same pin as the specimen. 1 ♀, with four labels: “J. Klapperich / Panchirtal, 1650 m / b. Gulbahar, 14.10.52 / O. Afghanistan [printed] // PARATYPE [red, printed] // Collectio / M. Fassati [printed] // *Bembidion janczyki* m. PARATYPE [handwritten] / Dr. Miloš Fassati det. [printed]” (DW); the



Figs 8–10. *Bembidion (Ocyturanes) janczyki* Neri & Toledano: 8. habitus, holotype, 4.40 mm (MHNG); 9. spermatheca, paratype, 0.11 mm (DW); 10. aedeagus, holotype, 0.80 mm (MHNG).



Figs 11–14. Habitus of: 11. *Bembidion (Ocyturanes) ivanloeblei* Neri & Toledano, holotype, 6.00 mm (CTVR); 12. *B. (O.) viduum* Netolitzky, holotype, 4.75 mm (NHMW); 13. *B. (O.) signatipenne* du Val, Turchia, Edremit, Kaz Dag, 5.20 mm (PN); 14. *B. (O.) kurdistanicum* Netolitzky, Iran, Mazandaran, Karaj-chalus road, 4.90 mm (MNB).

spermatheca, in Euparal, is preserved on the same pin as the specimen.

We added to the four paratypes the following label: “*Bembidion (Ocyturanes) janczyki* Neri & Toledano, 2018 – PARATYPUS“ [red, printed].

Description of the holotype (fig. 8). Length 4.40 mm. Head and pronotum blackish, elytra blackish, with yellowish preapical lunula, divided only by the brown sutural stria, apex brown. All the appendages orange. Head: maximum width, including eyes, 0.89 mm; interocular distance 0.53 mm; frons smooth and glossy, wide, evident frontal furrows, a little rugose. Eyes normally protruding, temples oblique, short. Antennae long 2.38 mm.

Pronotum: length along the mid line 0.82 mm; width at anterior margin 0.73 mm, maximum width 1.02 mm, basal width 0.75 mm; pronotal width / pronotal length ratio 1.24; moderately transverse and convex; sides entirely rebordered, narrowing with evident sinuosity towards base and forming with the base a right angle; marginal gutter narrow and of uniform width; all surface smooth and glossy; laterobasal carina long and evident; median line and semilunar transverse anterior line evident; transverse basal impression punctured and subquadrate basal foveae almost smooth.

Elytra: length 2.70 mm, overall width 1.66 mm; evident shoulders and subparallel sides, short, transverse, microsculpture. Striae visible almost up to the apex with puncturation evanescent apically; stria 7 as impressed as the others. Macropterous species.

Male genitalia: aedeagus (fig. 10) small (0.80 mm), apical quarter of the ventral margin slightly bent ventrally; endophallus barely protruding from basal opening, paracopulatrix lamina bent to the dorsal margin, parameres of the same length with 4 apical setae each.

Intraspecific variability. The colour can be dark brown with yellowish semilunar spot. The antennae can be slightly ferruginous from fourth antennomere, stria 7 can be less evident. Size of the three males between 3.75 and 4.40 mm, that of the two females between 4.20 and 4.50 mm. Aedeagus long from 0.75 to 0.80 mm.

Spermatheca small, 0.11 mm (fig. 9).

Derivatio nominis. The name in litteris found on the labels of these specimens says that evidently Milos Fassati aimed to dedicate the species to Friedrich Janczyk, curator at the Naturhistorisches Museum, Wien in the 20th century (Harald Schillhammer, NHMW, personal communication); we have decided to keep the name proposed by Fassati.

Comparative notes. *B. janckzyki* belongs to the species of *signatipenne* group with elytra completely microsculptured; it differs from *signatipenne* du Val, 1852 (Balkan peninsula, Turkey) by the preapical, lunula shaped spot and palps and antennae orange; from *ivanloebli* Neri & Toledano, 2018 (IN), *viduum* Netolitzky,

1910 (TR, IN, SY) and *kurdistanicum* Netolitzky, 1920 (TR, IN), by the orange femora; from *lobanovi* Mikhailov, 1984 (TD) and *waziristanum* Andrewes, 1932 (AF, PA) by the smaller size of habitus and aedeagus; from *lobanovi* by the short and oblique temples; from *nuristanum* n. sp. (AF) by the elytra microsculptured, not shagreened.

Note comparative. *B. janczyki* appartiene alle specie del gruppo “*signatipenne*” ad elitre completamente reticolate o zigrinate; differisce da *signatipenne* du Val, 1852 (Pen. Balcanica, TR) per la macchia preapicale a forma di lunula e palpi ed antenne aranciate; da *ivanloebli* Neri & Toledano, 2018 (IN), *viduum* Netolitzky, 1910 (TR, IN, SY) e *kurdistanicum* Netolitzky, 1920 (TR, IN), per i femori aranciati; da *lobanovi* Mikhailov, 1984 (TD) e *waziristanum* Andrewes, 1932 (AF, PA) per la minore grandezza dell’edeago e dell’habitus; da *lobanovi* per le tempie corte ed oblique; da *nuristanum* n. sp. (AF) per le elitre reticolate e non solo zigrinate.

Distribution. The species is at present known only from the type locality in Afghanistan, prov. Panjshir.

Bembidion (Ocyturanes) nuristanum n. sp. (figs 2, 3)

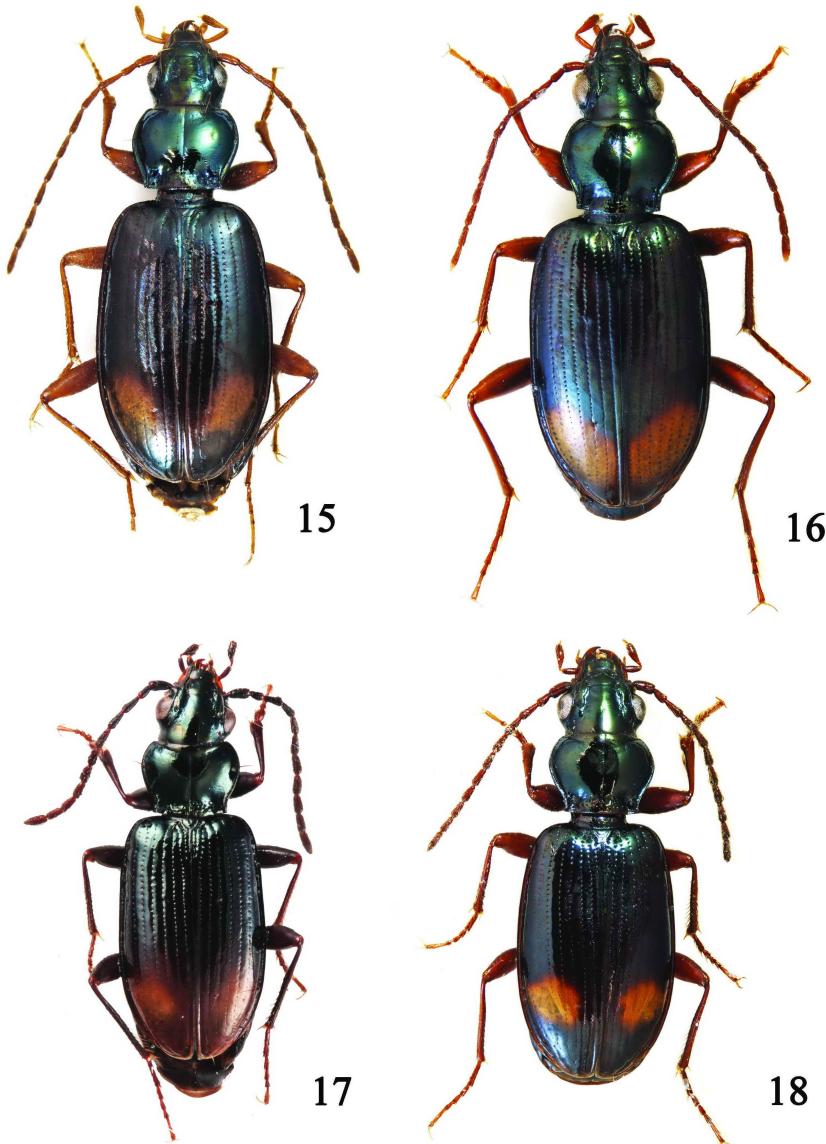
Diagnosis. Central Asian species of *Bembidion* species belonging to subgenus *Ocyturanes*, “*signatipenne*” group characterized by elytra completely shagreened and orange legs.

Type locality. Afghanistan, Nuristan, Koutchous.

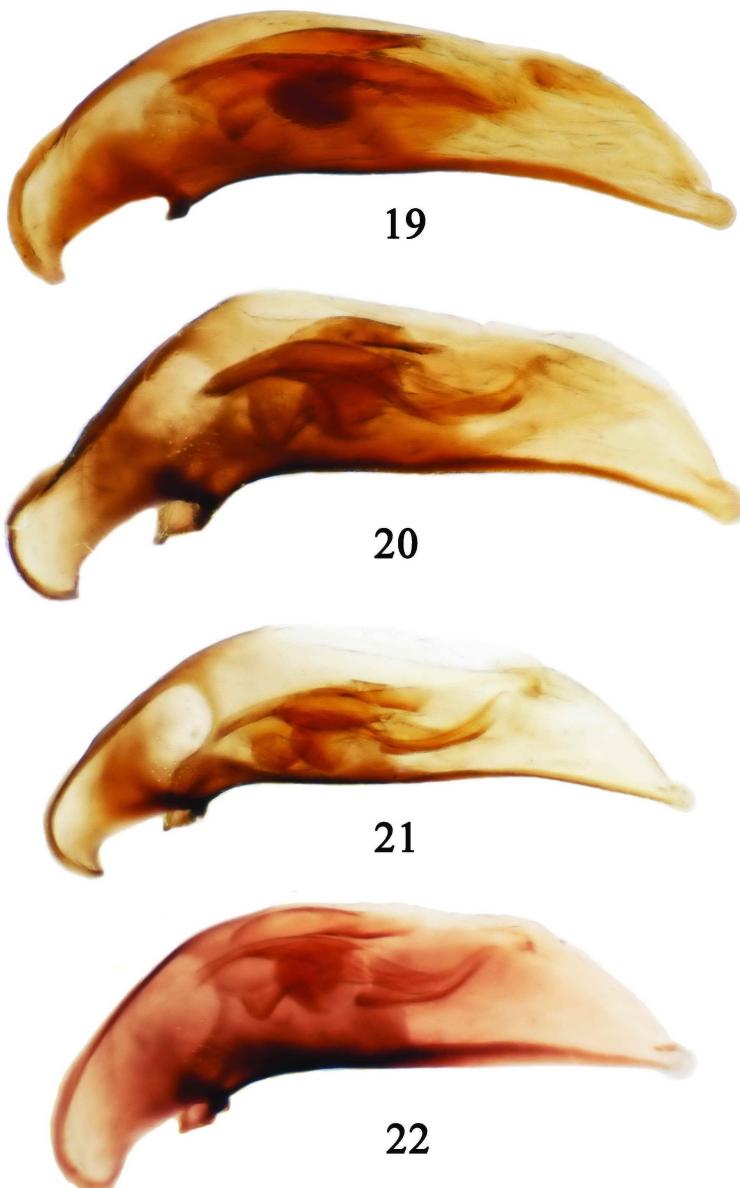
Type series. Holotype, ♂, “Afghanistan / Nuristan Koutchous / 19.8.1976 / Leg. Ledoux [printed]” (PN). The aedeagus, in Euparal, is preserved on the same pin as the specimen. We added to the specimen the following label: “*Bembidion (Ocyturanes) nuristanum* Neri & Toledano, 2020 – HOLOTYPE” [red, printed]. Paratype: 1 ♂, “Afghanistan / Nuristan Koutchous / 19.8.1976 / Leg. Ledoux [printed]” (CTVR). The aedeagus, in Euparal, is preserved on the same pin as the specimen. We added to the specimen the following label: “*Bembidion (Ocyturanes) nuristanum* Neri & Toledano, 2020 – PARATYPE” [red, printed].

Description of the holotype (fig. 2). Length 4.25 mm. Head and pronotum blackish; elytra blackish with brown reflections, with two yellowish, oblique preapical spots, divided by the brown sutural stria, apex brown. All appendages orange, palps light. Head: maximum width, including eyes, 0.84 mm; interocular distance 0.51 mm, frons smooth and glossy, wide, evident frontal furrows. Eyes protruding, temples oblique, short. Antennae long 2.24 mm.

Pronotum: length along the mid line 0.80 mm; width at anterior margin 0.73 mm,



Figs 15–18. Habitus of: 15. *Bembidion (Ocyturanes) lobanovi* Mikhailov, N. Tajikistan, Fanskie mts Khurdak, 5.60 mm (CTVR); 16. *B. (O.) waziristanum* Andrewes, Pakistan, W Himalai mts, SW Chilez, 5.70 mm (CTVR); 17. *B. (O.) mirzayani* Morvan, IR Fars, Khu-e Rondi, 18km N Ardakan 1400 m, 4.50 mm (PN); 18. *B. (O.) heinzi* Korge, paratype, Anatolia bor., Kose riv., 4.90 mm (MNB).



Figs 19–22. Aedeagi of: 19. *Bembidion (Ocyturanes) signatipenne* du Val, GR Creta, Rethimno, Plakias, river Megalopotamos, 0.93 mm (PN); 20. *B. (O.) ivanloebli* Neri&Toledano, paratype, Iran, Sepidan 0.96 mm (PN); 21. *B. (O.) viduum* Netolitzky, Kilikisch. Taurus 0.84 mm (NMPB); 22. *B. (O.) kurdistanicum* Netolitzky, holotype, Persia sept. Kerim, 0.84mm (NHMW).

maximum width 1.04 mm, at base 0.78 mm; pronotal width / pronotal length ratio 1.30; moderately transverse and convex; sides entirely rebordered, narrowing with evident sinuosity towards base and forming with base a right angle; marginal gutter narrow and of uniform width; all surface smooth and glossy; laterobasal carina long and evident; mid line and semilunar anterior transverse line evident; transverse basal impression and subquadrate laterobasal foveae with scattered small punctures.

Elytra: length 2.65 mm, maximum overall width 1.65 mm; evident shoulders and subparallel sides, completely shagreened. Striae evidently punctured, visible almost up to the apex with puncturation vanishing only at apex; stria 7 evident as the other. Macropterous species.

Male genitalia: aedeagus (fig. 3) small (0.84 mm), ventral margin with a slight gibbosity and apical third slightly bent ventrally; endophallus barely protruding from basal opening, paracopulatrix lamina bent towards the dorsal margin; apex slightly pointed.

Intraspecific variability. The paratype shows the same characteristics as the holotype. The length of the second male is 3.95 mm; aedeagus long 0.85 mm with apex less pointed.

Spermatheca: unknown.

Derivatio nominis. The name *nuristanum* derives from the Afghan province of Nuristan where the specimens were collected. The name is an adjective and derives from the same etymology as *Bembidion (Peryphus) gilgit nuristanicum* Fassati, 1957, but is different in the spelling.

Comparative notes. *B. nuristanum* belongs to the species of *signatipenne* group with elytra completely microsculptured or shagreened; it differs from *signatipenne* du Val, 1852 (Balkan Peninsula, TR) by the oblique preapical spots almost lunate and palps and antennae orange; from *ivanloebli* Neri & Toledano, 2018 (IN), *viduum* Netolitzky, 1910 (TR, IN, SY) and *kurdistanicum* Netolitzky, 1920 (TR, IN), by the orange femora; from *lobanovi* Mikhailov, 1984 (TD) and *waziristanum* Andrewes, 1932 (AF, PA) by the smaller size of habitus and aedeagus; from *lobanovi* by the short and oblique temples; from *janczyki* n. sp. (AF) by the shagreened elytra.

Note comparative. *B. nuristanum* appartiene alle specie del gruppo “*signatipenne*” ad elitre completamente reticolate o zigrinate; differisce da *signatipenne* du Val, 1852 (Pen. Balcanica, TR) per la macchie preapicali oblique e quasi a forma di lunula e palpi ed antenne aranciate; da *ivanloebli* Neri & Toledano, 2018 (IN), *viduum* Netolitzky, 1910 (TR, IN, SY) e *kurdistanicum* Netolitzky, 1920 (TR, IN), per i femori aranciati; da *lobanovi* Mikhailov, 1984 (TD) e *waziristanum* Andrewes, 1932 (AF, PA) per la minore grandezza dell’edeago e dell’habitus;

da *lobanovi* per le tempie corte ed oblique; da *janczyki* n. sp. (AF) per le elitre zigrinate.

Distribution. The species is presently known only from the type locality in Afghanistan, Nuristan Province.

***Bembidion (Ocyturanes) mirzayani* (Morvan, 1973) (figs 17, 25)**

In a collection of Iranian material provided by our friend Jan Muilwijk (Bilthoven, Holland), we found 11 specimens of *Bembidion (Ocyturanes) mirzayani* (Morvan, 1973) from the following localities: IR, Fars, Kuh-e Rondi, 18 Km N Ardakan, 3400-3470 m; IR, Fars, Barm-e Firooz, 3350-3400 m (JM, PN, CTVR); these last are the only two localities known, except the type locality (Iran, Zagros, massif du Sisakht, Yasuj, 3800 m).

The descriptions reports that the species size is from 5.50 to 6.00 mm; the specimens examined by us (two paratypes and the eleven specimens mentioned here) are 4.50 to 5.50 mm long.

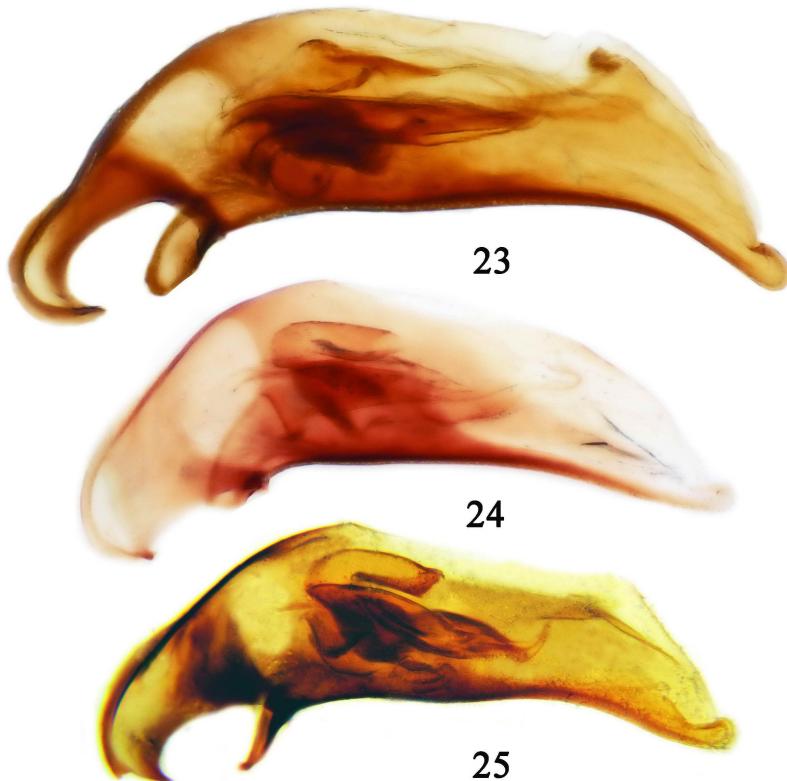
***Bembidion (Ocyturanes) waziristanum* Andrewes, 1932 (figs 16, 23)**

Bembidion (Asioperyphus) lindbergi (Schuler, 1959) **n. syn.**

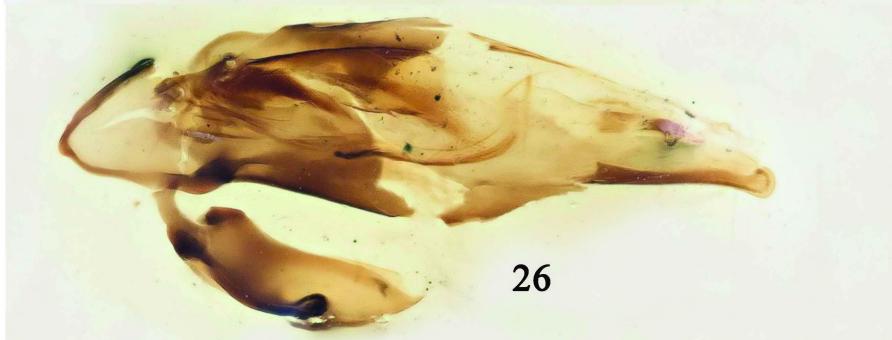
SCHULER (1959) describes *Peryphus lindbergi*, until now known as *Bembidion (Asioperyphus) lindbergi* (Schuler, 1959), and from three female specimens. Recently one of us (LT) was allowed to examine a specimen, preserved at MHNG bearing the label "Afghanistan. / Gr. Pialeh / 27.I.58. Lindberg. [handwritten]", labelled by Schuler as "det. L. Schuler [printed] / *Peryphus* / *Lindbergi* nov.sp. [handwritten]" and later labelled by Fassati as "*B. waziristanum* ANDR. / (= *lindbergi* SCHULER / s.str. nec *lindbergi* / var. SCHULER. – [handwritten] / det. M. Fassati, 19 [printed] 61 [handwritten]" (Fig. 31). The examination of the specimen and of the labels clearly indicated that it was the holotype of *Peryphus lindbergi*, therefore LT added to the specimen a red label "HOLOTYPE / *Peryphus lindbergi* / Schuler, 1959 / Det. L. Toledano, 2018". From Fassati's labels and the examination of the specimen LT confirmed Fassati's opinion in litteris, i.e. that the specimens actually belong to *Bembidion (Ocyturanes) waziristanum* Andrewes, 1932, even though until now the catalogues list *lindbergi* as member of subgenus *Asioperyphus* Vysoký, 1986 (MARGGI et al., 2017).

Now we officially state the following synonymy, with the junior synonym listed first: ***Bembidion lindbergi* (Schuler, 1959)=*Bembidion waziristanum* Andrewes, 1932 syn. nov.**

SCHULER (1959) reports that the third female paratype (Afghanistan, grotte de Bahloul), shows slight differences in respect to the other two ♀♀; this note, together with Fassati's handwritten label seems to suggest that the specimen could actually belong to another species.



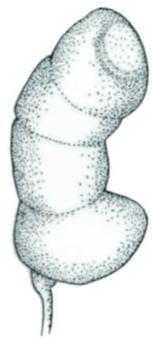
Bembidion lobanovi _ZIMG-II-27993_paratype_male_penis_Ocellus-5x_ZS PMax_edited



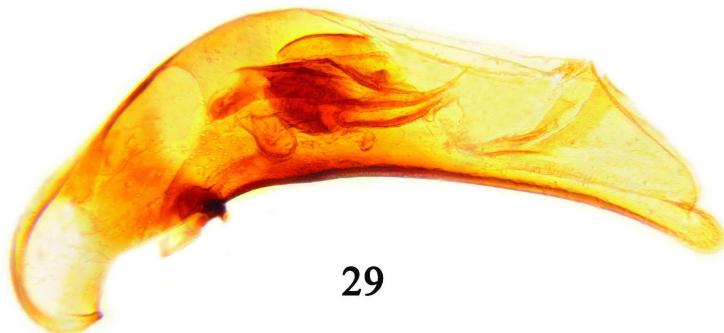
Figs 23–26. Aedeagi of: 23. *Bembidion (Ocyturanes) waziristanum* Andrewes, Pakistan, W Himalai mts, Chilez 1.20 mm (CTVR); 24. *B. (O.) heinzi* Korge, holotype, Anatolia bor., Kose river, 1.02 mm (MNB); 25. *B. (O.) mirzayani* Morvan, IR Fars, Khu-e Rondi, 18 km N Ardakan, 1400 m, 0.96 mm (PN); 26. *B. (O.) lobanovi* Mikhailov, paratype male, 1.12 mm (Photo ZIMG-II-27993).



27



28



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Figs 27–29. *Bembidion (Ocyturanes) beutelsbach* Neri & Toledano: 27. habitus, paratype, Zagros Mts. p.Fars-Kohkileyeh va Buyer Ahmadi, Komehr 9 km S- 2580 m, 4.30 mm (PN); 28. spermatheca, paratype, IR Fars, Eqlid Kuh-e Bei, 3350-3450 m (JM); 29. aedeagus, holotype, 1.00 mm (CTVR).

***Bembidion (Peryphanes) antennarium* (Morvan, 1972) n. comb.** (figs 30, 32, 33)

Historical notes. MORVAN (1972) describes *Peryphus antennarius* from Iran (Zagros Mts., Kurang) from a single male specimen. MORVAN (1973) provides drawings of habitus and aedeagus of *Peryphus antennarius* (fig. 33). MÜLLER-MOTZFELD (1986), in the description of subgenus *Ocyturanes*, lists *antennarius* among its members, including the species in the group “with elytra showing apical spots” (MÜLLER-MOTZFELD, 1986); we suppose that he was influenced by the drawings accompanying the description only. NERI & TOLEDANO (2017) report that they have seen the holotype of *Peryphus antennarius*, but notice that the specimen lacks the aedeagus and they presume that this last could be on a slide separate from the specimen, potentially still preserved in the collection Morvan (at present at MNHN but not yet available for study). At last, again following the statement by MÜLLER-MOTZFELD (1986), we (2018a) included the species in the keys for the subgenus *Ocyturanes, signatipenne* group (= with elytra showing apical spots), and provided in the paper the original MORVAN (1972) drawing since we have not been able to directly examine the (assumed) slide of the aedeagus.

Observations and conclusions. Recently we have received from our friend Peer Schnitter a few specimens from Iran (Zagros Mts., p. Chahār Mahāll, vā Bachtārī, Boldaghi vill., Sibak 3 Km S, 2700 m) that at a first glance seemed to belong to *Bembidion antennarium* (Morvan, 1972); after the examination of the male genitalia we discovered that the structure of endophallus was matching with that of the species of subgenus *Peryphanes, weiratherianum* group.

Thus we examined again the Morvan's (1973) drawing and we noticed, even though from a very simplified drawing, the similarity with the aedeagus of the specimens provided by Schnitter (fig. 32). According to these observation we state that *Bembidion antennarium* actually belongs to the subgenus *Peryphanes* Jeannel, 1941.

Key to *signatipenne* group of subgenus *Ocyturanes* Müller-Motzfeld, 1986

The keys formerly presented in NERI & TOLEDANO (2018b) are updated here.

- | | | |
|---|--|---|
| 1 | elytra completely microsculptured or shagreened | 2 |
| | Elytral shagreenation may be difficult to detect and needs to be observed in oblique lighting. | |
| - | elytra with microsculpture wanting or at maximum present in the apical half | 9 |
| 2 | femora completely darkened or dark piceous brown, except for the lighter knee | 3 |
| - | femora more or less darkened only in part or legs yellowish, orange or orange-brown | 5 |

- 3 larger species, 5.6 - 6.6 mm (fig. 11); eyes more protruding; elytra with lunate preapical reddish spots, not or barely divided by the sutural stria; apex dark; aedeagus (fig. 20); Iran.....*ivanloebli* Neri & Toledano, 2018
- smaller species (4.2 – 5.3 mm); eyes less protruding; elytra with preapical spots evidently independent and far from the suture or shaped as a more or less transverse band.....4
- 4 preapical elytral spots extending from stria 2 to 7, evidently divided and far from suture and lateral margin; 4.2 – 5.3 mm (fig. 12); aedeagus (fig. 21); TR, IN (MARGGI et al., 2017); SY*viduum* Netolitzky, 1910
- preapical spots forming a transverse band, barely interrupted by the suture; 4.2 – 5.3 mm (fig. 14); aedeagus (fig. 22); TR, IN (MARGGI et al., 2017).....*kurdistanicum* Netolitzky, 1920
- 5 East Mediterranean species (EME) (VIGNA-TAGLIANTI et al., 1999); legs completely yellow or orange-yellow; antennae darkened from third antennomere; penultimate palpomere darkened; eyes protruding, temples short, sometimes very short and oblique; preapical spot yellowish, big, rounded, extended from stria 2 to 8; elytral microsculpture in thin polygonal, transverse sculpticells; frequently the microsculpture resembles a fine checkering; 4.3 – 5.2 mm (fig. 13); aedeagus (fig. 19); AL, BU, GR, MC, TR (MARGGI et al., 2017)*signatipenne* du Val, 1852
 In NETOLITZKY (1943, pag. 45/141) are mentioned two specimens from Turkey (Karien, Denisli, Selbakos geb., leg. Weirather) as *signatipenne* ssp. nov.? The specimens, two females respectively long 5.0 and 5.2 mm, preserved at NHMW, must be considered as *signatipenne* du Val.
- Central Asian species (CAS) (VIGNA-TAGLIANTI et al., 1999)..... 6
- 6 elytra completely shagreened; all appendages orange, palps light, temples oblique, short; 3.95 – 4.25 mm (fig. 2); aedeagus short, 0.84 – 0.85 mm (fig. 3); AF*nuristanum* n. sp.
- elytra completely microsculptured 7
- 7 temples long and flat, only slightly oblique towards neck; elytra dark, piceous brown, sometimes almost black; semilunar yellowish preapical spot divided in two by the brown sutural interval; antennae orange with apical antennomeres slightly darkened; eyes faintly protruding; stria 7 very finely punctured, less impressed than the other striae; 4.7 – 5.8 mm (fig. 15); aedeagus with apical third bent ventrally, paracopulatrix lamina bent towards the dorsal margin, 1.09 mm; TD (MARGGI et al., 2017)*lobanovi* Mikhailov, 1984
 The exoskeletal characters of *lobanovi* mentioned above derive from the original description, the examination of one paratype received from NHMB and photos of specimens received from

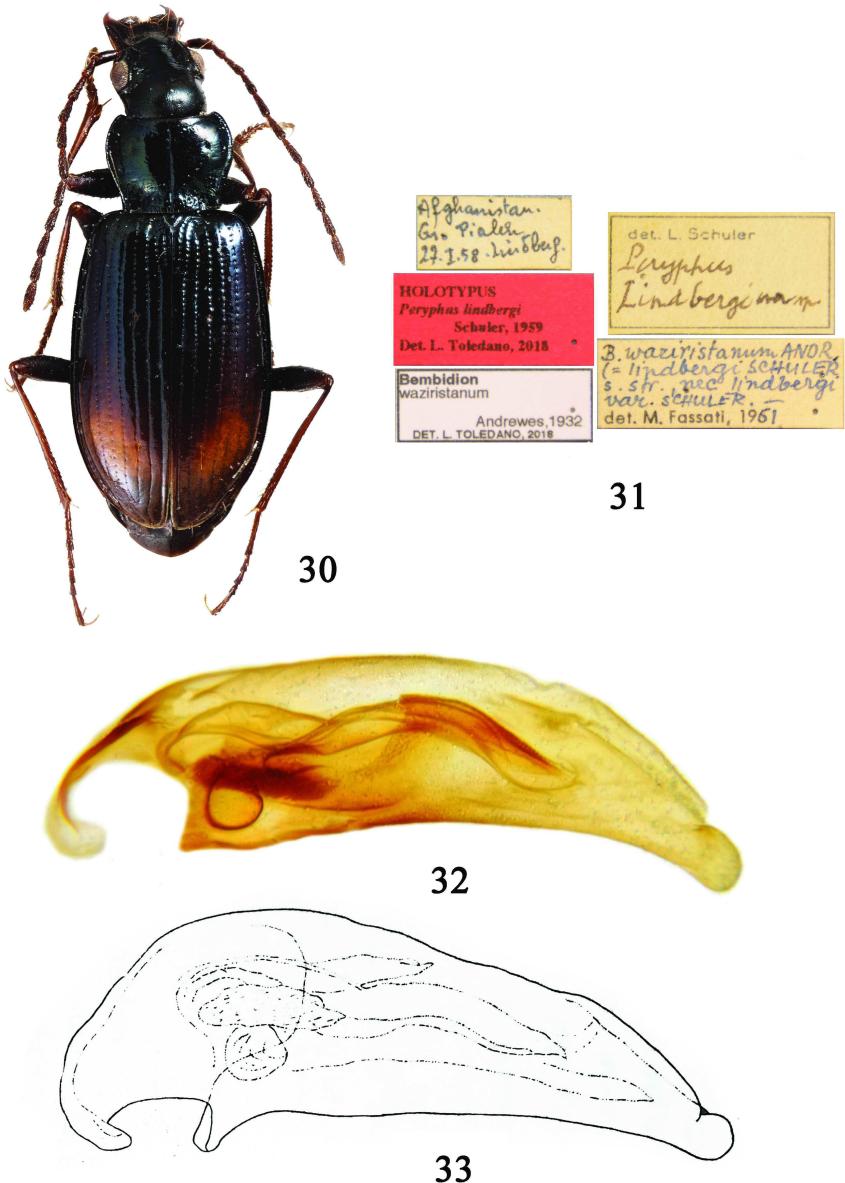
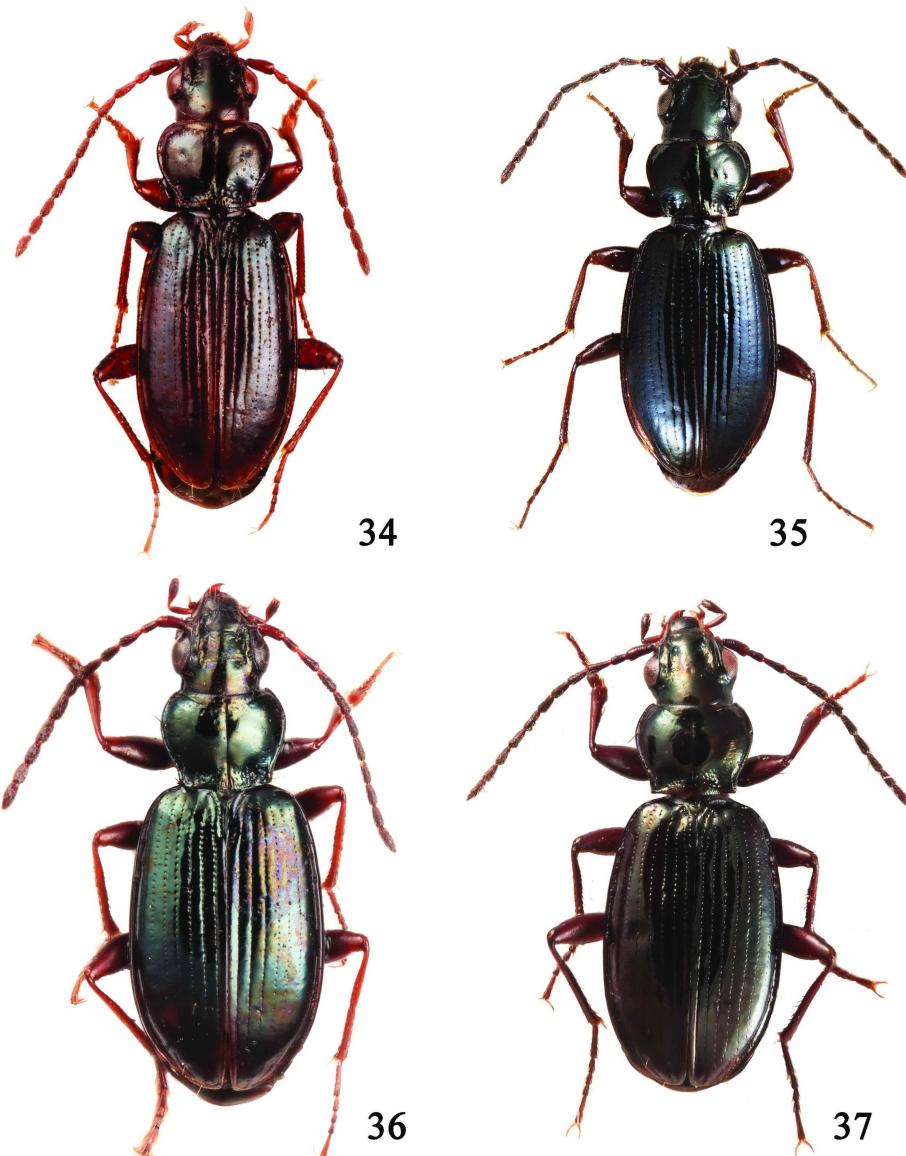


Fig. 30. Habitus of *Bembidion (Peryphanes) antennarium* Morvan, holotype, 5.08 mm (MNHN).

Fig. 31: Labels of *Peryphus lindbergi* Schuler, holotype (MHNG).

Figs 32–33. Aedeagi of: 32. *Bembidion (Peryphanes) antennarium* Morvan, Iran, Zagros Mts., p. Chahar Mahallva Bachtiasi, Boldaghi vill., Sibak 3 km S, 1.06 mm, (PN); 33. *Peryphus antennarius* Morvan (drawing from MORVAN, 1972).



Figs 34–37. Habitus of: 34. *Bembidion (Ocyturanes) tauricum tauricum* Müller, TR Pozanti, 3000 m (Medetsiz), 4.45 mm (CTVR); 35. *B. (O.) argaeicola* Ganglbauer, TR vil. Kayseri, Ercyes dag, 2600–2900 m, 4.1 mm (PN); 36. *B. (O.) tauricum weiratheri* Netolitzky, TR Isparta, Davras dagi 2100–2400 m, 4.8 mm (CTVR); 37. *B. (O.) tauricum frivaldszkyi* Csiki, TR NOcc., Bursa, Uludag 1900–2100 m, 4.50 mm (PN).

Peter Michalik (EMA-Universität Greifswald). The aedeagal characters derive from the very simplified drawing of the original (MICHAILOV, 1984) description; the photo of the aedeagus (fig. 26) received from Michalik is unfortunately of little help due to the bad condition of the slide. Specimens slightly immature, and therefore with lighter elyral colour could be considered belonging to the *marginipenne* group (see key for species groups in NERI & TOLEDANO, 2017); in such case *lobanovi* could be placed between point 8 and point 9 of the key.

- temples short and oblique 8
- 8 smaller species, 3.8 – 4.5 mm (fig. 8); aedeagus very small, 0.75 – 0.80 mm (fig. 10); all appendages reddish-orange, sometimes antennae ferruginous from fourth antennomere; elytra blackish or dark brown with yellowish semilunate preapical spot divided only by the light brown sutural stria; temples short and oblique; AF ***janczyki* n. sp.**
- larger species, 5.6–6.3 mm (fig. 16); aedeagus larger with apical third evidently bent ventrally, paracopulatrix lamina bent towards dorsal margin, 1.20 – 1.22 mm (fig. 23); head with a few punctures at the base of frontal furrows, even though the species does not belong to the subgenus *Ocydromus* Clairville, 1806; elytra dark brown or brown-blackish, lunate yellowish preapical spot frequently divided only by the suture; legs reddish or with femora more or less darkened in the lower side; antennae and palps ferruginous, lateral pronotal gutter wide; puncturation of elytral stria 7 as impressed as in the other striae; PA, AF (MARGGI et al., 2017) ***waziristanum*** Andrewes, 1932
- 9 legs, antennae and palps entirely light reddish; temples only slightly oblique, flat (similar in this aspect to a small specimen of *B. stephensi* Crotch, 1869); elytra completely lacking microsculpture in the male; ovoid, oblique preapical spot widened almost as a band and barely divided by the suture; 5.0 mm; UK: Crimea (MARGGI et al., 2017) ***iphigenia*** Netolitzky, 1931
Netolitzky described *iphigenia* from a single male specimen collected in Crimea. MÜLLER-MOTZFIELD (1986), in the paper where he describes the “infrasubgenus” *Ocyturanes*, reports that he is unable to assign with certainty *iphigenia* to a subgenus not having been able to see the specimen. KRYZHANOVSKIJ et al. (1995) list for the first time *iphigenia* among the *Ocyturanes* but without any explanation. Later *iphigenia* has always been listed within the *Ocyturanes*. All the characters mentioned in the key derive from the original description. The type was lost more than 20 years ago in the mailing from NHMW to a specialist (Harald Schillhammer pers. comm.).
- antennae dark brown or blackish at least from third antennomere; temples very short, almost absent or very short and oblique towards neck 10
- 10 legs completely reddish-brown or orange 11
- femora blackish almost up to the apex; elytra with parallel sides, not microsculptured, marked shoulders, dark brown-bluish with reddish reflections and with semilunar yellowish preapical spot with undefined edges,

- often barely divided by suture, apex brown or light brown; eyes protruding, temples short and oblique towards neck; 4.4 – 5.5 mm (fig. 17); aedeagus (fig. 25); IN.....*mirzayani* Morvan, 1973
- 11 elytra microsculptured only at the extreme apex; legs unicolorous reddish-brown; elytra with round preapical spot almost reaching stria 2; antennae dark brown often with base of antennomeres reddish; 4.30 – 5.00 mm (fig. 18); aedeagus with apical third only slightly bent ventrally (fig. 24); TR (MARGGI et al., 2017).....*heinzi* Korge, 1971
- elytra glossy, without microsculpture; legs completely orange; elytra with oblique preapical spot extending from interval 2 to 7; antennae blackish with antennomere 1 and the base of 2 to 4 reddish; 4.4 – 4.9 mm (fig. 5); aedeagus with apical quarter evidently bent ventrally (fig. 7); IQ*reuteri* n. sp.

Chiavi del gruppo *signatipenne* del sottogenere *Ocyturanes*
Müller-Motzfeld, 1986

Vengono aggiornate le chiavi presentate in precedenza (NERI & TOLEDANO, 2018b).

- 1 elitre completamente reticolate o zigrinate 2
La zigrinatura, spesso di difficile visibilità, si può maggiormente notare illuminando l'esemplare con luce radente.
- elitre senza microscultura o, al massimo, reticolate nella metà apicale 9
- 2 femori totalmente anneriti o bruno pece scuro, ad esclusione dell'articolazione femore-tibia 3
- femori solo parzialmente più o meno inscuriti o zampe giallastre, aranciate o marrone-aranciato..... 5
- 3 specie più grande, 5.6 - 6.6 mm (fig. 11); occhi più sporgenti; elitre a macchie preapicali rossastre a forma di lunula, non o appena interrotte dalla stira suturale; apice scuro; edeago (fig. 20); Iran.....*ivanloebli* Neri & Toledano 2018
- specie più piccole (4.2 – 5.3 mm); occhi meno sporgenti; elitre con macchie preapicali sia nettamente separate e distanti dalla sutura che a fascia più o meno trasversa 4
- 4 elitre con le macchie preapicali poste dalla seconda alla settima stria, nettamente separate e distanti dalla sutura e dal margine laterale; 4.2 – 5.3 mm (fig. 12); edeago (fig. 21); TR, IN (MARGGI et al., 2017); SY.....*viduum* Netolitzky, 1910

- elitre con le macchie preapicali che formano quasi una fascia trasversa, appena interrotta dalla sutura; 4.2 – 5.3 mm (fig. 14); edeago (fig. 22); TR, IN (MARGGI et al., 2017) ***kurdistanicum*** Netolitzky, 1920
- 5 specie mediterraneo orientale (EME) (VIGNA-TAGLIANTI et al., 1999); zampe completamente gialle o giallo-aranciate; antenne oscurate dall'apice del terzo articolo; penultimo articolo dei palpi oscurato; occhi sporgenti, tempie oblique e corte, a volte cortissime; macchia preapicale giallastra, grande, arrotondata, che va dalla seconda all'ottava stria; elitre con reticolo a sottili maglie poligonali trasverse; spesso il reticolo appare più come una zigrinatura che come una vera e propria reticolazione; 4.3 - 5.2 mm (fig. 13); edeago (fig. 19); AL, BU, GR, MC, TR (MARGGI et al., 2017).....
..... ***signatipenne*** du Val, 1852

In NETOLITZKY (1943, pag. 45/141) vengono citati due esemplari di Turchia (Karien, Denisli, Selbakos geb., leg. Weirather) come “*signatipenne* ssp. nov.”. Gli esemplari, due ♀♀ rispettivamente di 5.0 e 5.2 mm, conservati al Naturhistorisches Museum di Vienna, sono da considerare *signatipenne* du Val.

- specie centro asiatiche (CAS) (VIGNA-TAGLIANTI et al., 1999) 6
- 6 elitre completamente zigrinate; tutte le appendici aranciate, palpi chiari; tempie oblique, brevi; 3.95 - 4.25 mm (fig. 2); edeago di piccole dimensioni, 0.84 - 0.85 mm (fig. 3); AF ***nuristanum*** n. sp.
- elitre completamente reticolate 7
- 7 tempie lunghe e piatte, solo leggermente oblique verso il collo; elitre scure o bruno pece, a volte quasi nere; macchia preapicale semilunare giallastra divisa dall'interstria suturale bruna; antenne aranciate con articoli apicali leggermente insuriti; occhi poco sporgenti; settima stria con punteggiatura molto fine, meno impressa rispetto alle altre strie; 4.7 – 5.8 mm (fig. 15); edeago con terzo apicale piegato ventralmente, lama paracopulatrice piegata verso il margine superiore, 1.09 mm; TD (MARGGI et al., 2017)
..... ***lobanovi*** Mikhalov, 1984

I caratteri esoscheletrici di *lobanovi* sono tratti dalla descrizione, da un paratypo ricevuto da Basilea e da alcune foto di due paratipi ricevute da Greifswald. I caratteri dell'edeago sono tratti dal disegno “molto schematico” apparso nella descrizione; la foto dell'edeago (fig. 26) ricevuta da Grefswald è difficilmente leggibile.

Esemplari leggermente immaturi, e quindi con colorazione elitrale più chiara, potrebbero essere considerati appartenenti al gr. *marginipenne* (vedi chiavi dei gruppi di *Ocyturanes* in NERI & TOLEDANO, 2017); in questo caso *lobanovi* si potrebbe collocare tra il punto 8 e il punto 9 delle chiavi del gruppo.

- tempie corte e oblique 8
- 8 specie più piccola, 3.8 – 4.5 mm (fig. 8); edeago molto piccolo, 0.75 – 0.80 mm



Figs 38–41. Aedeagi of: 38. *Bembidion (Ocyturanes) tauricum frivaldszkyi* Csiki, TR Nord occ., Bursa, Uludag 1900–2000 m, 1.00 mm (PN); 39. *B. (O.) tauricum weiratheri* Netolitzky, TR Isparta, Davras dagi, 2100–2400 m, 1.0 mm (CTVR); 40. *B. (O.) tauricum tauricum* Müller, TR Pozanti, 3000 m (Medetsiz), 1.02 mm (CTVR); 41. *B. (O.) argaeicola* Ganglbauer, TR Erzincan, 30 km W Refahiye, Kizildag Gec., 1950 m, 0.84 mm (CTVR).

- (fig. 10); tutte le appendici aranciato-rossicce, a volte le antenne ferruginee dal quarto articolo; elitre nerastre o bruno scure con una macchia preapicale semilunare giallastra interrotta solo dalla stria suturale bruno chiara; tempie brevi e oblique; AF *janczyki* n. sp.
- specie più grande, 5.6 – 6.3 mm (fig. 16); edeago più grande con terzo apicale nettamente piegato ventralmente, lama paracopulatrice piegata verso il margine superiore, 1.20 – 1.22 mm (fig. 23); la specie ha il capo con alcuni punti alla base dei solchi frontali pur non appartenendo al sottogenere *Ocydromus* Clairville, 1806; elitre bruno oscurate o bruno nerastre, macchia preapicale giallo rossastra a forma di lunula spesso separata solo dalla sutura; zampe rossastre o con femori più o meno oscurati nella metà inferiore; antenne e palpi ferruginei, pronoto con doccia laterale ampia; settima stria elitrale con punteggiatura impressa come le altre strie; PA, AF (MARGGI et al., 2017)
..... *waziristanum* Andrewes, 1932
- 9 zampe, antenne e palpi interamente rossastro-chiari; tempie solo leggermente oblique, appiattite (simili a un piccolo *stephensi* Crotch); elitre completamente non reticolate (♂); macchia preapicale ovaloide, obliqua, allargata quasi a fascia e appena separata dalla sutura; 5.0 mm; UK: Crimea (MARGGI et al., 2017) *iphigenia* Netolitzky, 1931
 Netolitzky descrive *iphigenia* su un solo esemplare ♂ proveniente dalla Crimea. MÜLLER-MOTZFIELD (1986), nel lavoro in cui descrive il sottogenere *Ocyturanes*, segnala che non può ancora assegnare *iphigenia* a un sottogenere certo non avendo visto l'esemplare. KRYZHANOVSKIJ et al. (1995) elencano per la prima volta *iphigenia* tra gli *Ocyturanes* senza però aggiungere alcuna nota esplicativa. In seguito *iphigenia* è stata sempre elencata tra gli *Ocyturanes*. Tutti i caratteri esposti sono tratti dalla descrizione. Il tipo è andato perso oltre vent'anni fa durante una spedizione postale fatta dal Naturhistorisches Museum di Vienna ad uno studioso (Harald Schillhammer, com. pers.).
- antenne bruno scure oppure nerastre almeno dal terzo articolo; tempie cortissime, quasi inesistenti oppure brevi e oblique verso il collo 10
- 10 zampe completamente bruno-rossicce o aranciate 11
- femori nerastri quasi fino all'apice; elitre a lati paralleli e non reticolate, omeri evidenti, bluastre bruno scure con riflessi rossastri e una macchia semilunare preapicale giallastra, a bordi indefiniti, spesso divisa solo dalla sutura, apice bruno o bruno chiaro; occhi sporgenti, tempie brevi e oblique verso il collo; 4.4 – 5.5 mm (fig. 17); edeago (fig. 25); IN *mirzayani* Morvan, 1973
- 11 elitre reticolate solo all'estremo apice; zampe unicolori bruno-rossicce; elitre con macchia preapicale subrotonda che giunge quasi alla seconda stria; antenne bruno-scure con spesso la base degli articoli rossiccia; 4.30 – 5.00 mm (fig. 18); edeago con terzo apicale solo leggermente piegato ventralmente (fig. 24); TR (MARGGI et al., 2017) *heinzi* Korge, 1971

- elitre lucide, senza reticolazione; zampe completamente aranciate; elitre con macchia preapicale obliqua occupante dalla seconda alla sesta interstria; antenne nerastre con primo articolo rossastro e base dei tre seguenti rossastra; 4.4 – 4.9 mm (fig. 5); edeago con quarto apicale nettamente piegato ventralmente (fig. 7); IQ *reuteri* n. sp.

subcylindricum Reitter, 1892 group

Bembidion (Ocyturanes) beutelsbach n. sp. (figs 27, 28, 29)

Diagnosis. A *Bembidion* belonging to subgenus *Ocyturanes*, “*subcylindricum*” group (key for the species group of *Ocyturanes* in NERI & TOLEDANO 2017, 2018b), i.e. with cylindrical elytra, parallel sides and marked shoulders, distinguishable from the other species of the group by the unicolorous reddish brown elytra and the antennae completely testaceous reddish.

Type locality. Iran, Zagros Mts, p. Fars / Kohktlyeh, va Büyer Ahmadī, Komehr, 2580 m, 30°31'19"N 51°50'32"E.

Type series. Holotype, ♂, “N 30°31'19" E 51°50'32" Iran / Zagros Mts., p. Fars/ Kohktlyeh / va Büyer Ahmadī, Komehr 9km S / stony plateau with wet places / 24/26.IV.2018 2.580 m NN / leg.: Schnitter” [printed] (CTVR). Specimen lacking the hind right leg. The aedeagus, in Euparal, is preserved on the same pin as the specimen. We added to the specimen the following label: *Bembidion (Ocyturanes) beutelsbach* n. sp. P. Neri & L. Toledano, 2019 – HOLOTYPE [red, printed].

Paratypes. 2 ♂♂, with the same label data as the holotype (PN, PS); 1 ♀, “Iran (Fars/Kohkīlyeh va Büyer / Ahmadī) Zagros Mts., 9 Km S / Komar, 2580 m / N30°31'19" E51°50'32" / (stony plateau, partly with / damming wetness/under stones) / 24./26.IV.2018 Wrase & Laser” (DW); 1 ♂, “IR Fars Eqlid Kuh-e Bei / 8.VI.2019 / Muilwijk J. 3350-3450 m / 30°47'18"N 52°45'07"E” (JM).

We added to the specimens the following label: *Bembidion (Ocyturanes) beutelsbach* n. sp. P. Neri & L. Toledano, 2019 – PARATYPE [red, printed].

Description of the holotype. Length 4.60 mm. Colour: head and pronotum brown reddish, elytra brown reddish, slightly lighter. Antennae completely testaceous reddish. Maxillary palps testaceous reddish with penultimate palpomere darkened. Legs light testaceous.

Head: maximum width, including eyes, 1.08 mm; interocular width 0.73 mm; microsculpture absent, glossy. Eyes poorly protruding, temples evident, slightly rounded towards the neck. Frontal furrows wide and almost glossy. Antennomeres stout, antennae long 2.33 mm.

Pronotum: length along the midline 0.88 mm; width of anterior margin 0.97 mm, maximum width 1.20 mm, width of basal margin 0.88 mm; pronotal width

/ pronotal length ratio 1.36; transverse, anterior angles rounded; sides entirely bordered, narrowing with evident sinuosity towards base, hind angles right; lateral gutter of even width; almost square laterobasal foveae, smooth and with evident laterobasal carina; median line and anterior transverse impression sharp; basal transverse impression, between lateral foveae, with a few scattered punctures. Pronotum completely glossy, lacking microsculpture.

Elytra: long 2.83 mm, maximum overall width, slightly behind middle, 1.58 mm; with subparallel sides and marked shoulders, flattened on disc; lacking microsculpture, glossy; elytral intervals flat, striae and puncturation evident but superficial, barely visible towards apex. Macropterous species.

Male genitalia: aedeagus (fig. 29) medium-small sized (1.00 mm) with ventral margin only slightly bent ventrally; endophallus completely included in the median lobe. Parameres with three apical setae each.

Intraspecific variability (fig. 27). The paratypes in general match in colours and morphology with the holotype; head and pronotum, can be castaneous; the penultimate palpalomere can be darkened only in the apical half. The ♂♂ paratypes are long between 4.30 and 4.60 mm, the ♀ is long 5.20 mm. Aedeagus long 0.94 to 1.00 mm.

Spermatheca: 0.14 mm (fig. 28) with distal cavity showing two annular narrowings, bent ventrally.

Derivatio nominis. The name derives from Beutelsbach (Stuttgart, Germany), the locality where every year, in late October, the annual meeting of the Südwestdeutscher Koleopterologen Sektion im Entomologischen Verein takes place, which, year after year, has grown to become a well known international meeting, great opportunity to contact colleagues, exchange material for study (including the type series of the new species herewith described), for systematic discussions between specialists, and nice conviviality. The epithet is given in apposition, and the species is dedicated to all the friends and estimated colleagues that every year give life to one of the world's nicest and most fruitful entomological meetings.

Distribution. Known from NW Iran, Fars Province.

Comparative notes. The other members of the subgenus *Ocyturanes*, *subcylindricum* group, known at present are the following: *Bembidion (O.) subcylindricum subcylindricum* Reitter, 1892; *B. (O.) subcylindricum kuliabense* Netolitzky, 1931; *B. (O.) kyros* Netolitzky, 1931; *B. (O.) luristanicum* Neri & Toledano, 2018; *B. (O.) bamyanense* Neri & Toledano, 2018.

B. beutelsbach is distinguishable from the other members of the group by the following characters: from all members except for *bamyanense* by the elytra completely reddish lacking preapical spots; from *bamyanense* by the temples

slightly rounded towards the neck, the thicker, completely testaceous reddish antennomeres, the right hind pronotal angles and the aedeagus with ventral margin only slightly bent ventrally; from *luristanicum* by the smaller size of body and aedeagus and by the heart shaped pronotum; from *kyros* by the antennae completely testaceous reddish and from *subcylindricum* s.l. by the elytra not microsculptured. The spermatheca of *beutelsbach* is easily distinguishable from the others of the group by the distal cavity showing two annular narrowings, bent ventrally.

Note comparative. Le specie ora conosciute appartenenti al sottogenere *Ocyturanes*, gruppo del *subcylindricum* sono le seguenti: *Bembidion (Ocyturanes) subcylindricum subcylindricum* Reitter, 1892; *B. (O.) subcylindricum kuliabense* Netolitzky, 1931; *B. (O.) kyros* Netolitzky, 1931; *B. (O.) luristanicum* Neri & Toledano, 2018; *B. (O.) bamyanense* Neri & Toledano, 2018.

B. beutelsbach differisce da tutte le specie del gruppo, escluso il *bamyanense*, per le elitre completamente testaceo rossastre, senza macchie preapicali; da *bamyanense* per le tempie leggermente incurvate verso il collo, gli articoli antennali più tozzi e completamente testaceo rossastri, il pronoto ad angoli posteriori retti e l'edeago con il margine ventrale solo leggermente arcuato ventralmente; da *luristanicum* per la minore grandezza sia dell'habitus che dell'edeago e per il pronoto cordiforme; da *kyros* per le antenne completamente testaceo rossastre; da *subcylindricum* s.l. per le elitre non reticolate. La spermateca differisce da tutte le specie per avere la cavità distale provvista di due strozzature anulari, piegata ventralmente.

Errata & corrigenda.

We report that in *Bembidion (Ocyturanes) bamyanense* Neri & Toledano, 2018, the parameres of the aedeagus actually have three apical setae each, instead of four, as incorrectly stated in the original description.

***argaeicola* Ganglbauer, 1905 group**

We provide here a key for the species of the *argaeicola* group (see the key for the species groups in NERI & TOLEDANO 2017, 2018b) mostly based on the elytral microsculpture and the aedeagal characters that, together with Netolitzky's (1943 pag. 39/135) keys sub "Gruppe des *nitidulum*", should help in the identification of the species.

Key to the species of subgenus *Ocyturanes* Müller-Motzfeld, 1986, *argaeicola* Ganglbauer, 1905 group

- 1 elytral microsculpture short and transverse, very thin, barely visible, more evident in the apical third in the males; short and transverse, sharp and evident in the females; aedeagus with basal portion normally bent ventrally in respect to the ventral margin (figs 38, 39). 2

- elytral microsculpture short and transverse barely visible in the apical third in the males; almost isodiametric, sharp and evident in the females; aedeagus with basal portion more evidently bent ventrally in respect to the ventral margin, almost “pistol grip-shaped” (figs 40, 41) 3
- 2 ventral aedeagal margin slightly arcuate, apex bent ventrally, apical fourth more stout, 0.98 – 1.12 mm (fig. 37); black with antennae and femora blackish, tibiae and tarsi reddish brown; hind pronotal angles as a rule right; 4.1 – 5.1 mm (fig. 38); Turkey (Bursa: Uludağ) *tauricum frivaldszkyi* Csiki, 1928
- ventral aedeagal margin rectilinear, apex not or gently bent ventrally, apical fourth more pointed, 0.96 – 1.07 mm (fig. 36); colour as in the former taxon, but elytra often showing a preapical reddish lightening; hind pronotal angles from right to slightly obtuse; 4.00 – 5.00 mm (fig. 39); Turkey (Dawras dağ, Kurnicova, Dipoyras Gebirge) *tauricum weiratheri* Netolitzky, 1930
- 3 aedeagus smaller, 0.80 – 0.86 mm (fig. 41), with ventral margin more or less rectilinear and apical fourth bent ventrally; black or blackish-brown, antennae blackish-brown, base of antennomeres 2, 3 and 4 reddish; femora blackish-brown or brownish, tibiae and tarsi reddish brown; 4.10 – 4.50 mm (fig. 35); Turkey (Erciyas dağ, Erzincan: Kizildag Gec.) *argaeicola* Ganglbauer, 1905
- aedeagus larger, 1.00 mm (fig. 40), with ventral margin arcuate and therefore bent ventrally, apex more pointed; blackish or blackish-brown antennae and legs reddish-brown; 4.40 mm (fig. 34); Turkey (Bulgar dağ; Pozanti: Medetsiz) *tauricum tauricum* Müller, 1918

Chiavi del gruppo *argaeicola* del sottogenere *Ocyturanes* Müller-Motzfeld, 1986

- 1 elitre con reticolazione, nei ♂♂, corta e trasversa appena accennata, più visibile nel terzo apicale, quasi una zigrinatura; nelle ♀♀ reticolazione corta e trasversa, chiara ed evidente; edeago con bulbo basale, rispetto al margine ventrale, piegato ventralmente come nella norma (figg. 38, 39).....2
- elitre con reticolazione, nei ♂♂, corta e trasversa appena accennata, più visibile nel terzo apicale; nelle ♀♀ reticolazione quasi isodiametrica, chiara ed evidente; edeago con bulbo basale, rispetto al margine ventrale, maggiormente piegato ventralmente, quasi a “calcio di pistola” (figg. 40, 41)3
- 2 edeago con margine ventrale debolmente arcuato, apice piegato ventralmente,

- quarto apicale più tozzo, 0.98 – 1.12 mm (fig. 37); colorazione nera con antenne e femori nerastri, tibie e tarsi bruno rossastri; pronoto con angoli posteriori solitamente retti; 4.1 – 5.1 mm (fig. 38); Turchia (Bursa: Uludağ).
..... *tauricum frivaldszkyi* Csiki, 1928
- edeago con margine ventrale rettilineo, apice non o appena piegato ventralmente, quarto apicale più affusolato, 0.96 – 1.07 mm (fig. 36); colorazione come il taxon precedente, ma le elitre presentano spesso uno schiarimento preapicale rossastro; pronoto con angoli posteriori da retti a leggermente ottusi; 4.00 – 5.00 mm (fig. 39); Turchia (Dawras dağ, Kurnicova, Dipoyras Gebirge) *tauricum weiratheri* Netolitzky, 1930
- 3 edeago più piccolo, 0.80 – 0.86 mm (fig. 41), con margine ventrale più o meno rettilineo e quarto apicale piegato ventralmente; colorazione nerastra o bruno nerastra, antenne bruno nerastre, 2°, 3° e 4° articolo con base rossiccia; femori bruno nerastri o brunastri, tibie e tarsi bruno rossastri; 4.10 – 4.50 mm (fig. 35); Turchia (Erciyas dağ, Erzincan: Kizildag Gec.)..... *argaeicola* Ganglbauer, 1905
- edeago più grande, 1.00 mm (fig. 40), con margine ventrale arcuato e di conseguenza piegato ventralmente, apice più affusolato; colorazione nerastra o bruno nerastra, antenne e zampe bruno rossastre; 4.40 mm (fig. 34); Turchia (Bulgar dağ; Pozanti: Medetsiz).
..... *tauricum tauricum* Müller, 1918

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Literature

- KRYZHANOVSKIY O.L., BELOUSOV I.A., KABAK I.I., KATAEV B.M., MAKAROV K.V. & SHILENKOV V.G., 1995 – Pensoft Series Faunistica n. 3. A Checklist of the Ground-Beetles of Russia and Adjacent Lands (Insecta, Coleoptera, Carabidae). *Pensoft Publishers*, Sofia-Mosca, 271 pp.
- MARGGI W., TOLEDANO L. & NERI P., 2017 – Carabidae: Bembidiini: Bembidiina: 294-342. In: Löbl I. & Löbl D. (eds.) - Catalogue of Palaearctic Coleoptera. Volume I. Archostemata - Myxophaga - Adephaga. *Brill*, Leiden. 1446 pp.
- MORVAN P., 1972 – Descriptions de nouveaux Coléoptères Carabiques d'Iran. *Bulletin de la Société Entomologique de France*, 77: 26-28.
- MORVAN P., 1973 – Nouveaux Coléoptères Carabiques d'Iran. *Bulletin du Muséum National d'Histoire Naturelle*, 110: 169-186.
- MÜLLER-MOTZFELD G., 1986 – Zur Taxonomie und Philogenie im *Bembidion* - Subgenus *Ocydromus* Clairville (Col., Carabidae). *Entomologische Nachrichten und Berichte*, 30: 31-40.
- NERI P. & TOLEDANO L., 2017 – Notes on genus *Bembidion* Latreille, 1802, subgenus (*Ocyturanes*) Müller-Motzfeld, 1986, with particular reference to the *marginipenne* group and description of seven new species (Insecta: Coleoptera: Carabidae: Bembidiina). *Quaderno di Studi e Notizie di Storia Naturale della Romagna*, 46: 59-120.
- NERI P. & TOLEDANO L., 2018a – Notes on genus *Bembidion* Latreille, 1802, subgenus (*Ocyturanes*) Müller-Motzfeld, 1986, with particular reference to the *signatipenne* group and description of a new species from Iran (Insecta: Coleoptera: Carabidae: Bembidiina). *Entomologische Blätter und Coleoptera*, 114: 301-308.
- NERI P. & TOLEDANO L., 2018b – Notes on genus *Bembidion* Latreille, 1802, subgenus (*Ocyturanes*) Müller-Motzfeld, 1986, *subcylindricum* group and description of two new species (Insecta: Coleoptera: Carabidae: Bembidiina). *Quaderno di Studi e Notizie di Storia Naturale della Romagna*, 48: 75-95.
- NETOLITZKY F., 1942-1943 – Bestimmungstabellen europäischer Käfer (9. Stück). II. Fam. Carabidae, Subfam. Bembidiinae. 66. Gattung: *Bembidion* Latr. Bestimmungstabelle der *Bembidion*-Arten des paläarktischen Gebietes. *Koleopterologische Rundschau*, 29: 1/97-70/166.
- SCHULER L., 1959 – Contribution à l'étude de la faune de l'Afghanistan, 14. Quelques *Peryphus* (Bembidiini) peu connus ou nouveaux (Col. Trechidae). *Bulletin de la Société entomologique de France*, 64: 117-118.
- VIGNA TAGLIANTI A., AUDISIO P.A., BIONDI M., BOLOGNA M.A., CARPANETO G.M., DE BIASE A., FATTORINI S., PIATELLA E., SINDACO R., VENCHI A., ZAPPAROLI M., 1999 – A proposal for a chorotype classification of the Near East fauna, in the frame work of the Western Palearctic region. *Biogeographia, Lavori della Società Italiana di Biogeografia*, (n.s.) 20: 31-59.

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