Paolo Neri* - Luca Toledano**

Notes on genus *Bembidion*, subgenus *Peryphanes*, from "Anatolo-Caucasian-Turanian" region with description of two new taxa from Iran
(Coleoptera: Carabidae: Bembidiina)

Abstract: Some taxonomic and geographic aspects of genus *Bembidion* Latreille, 1802 subgenus *Peryphanes* Jeannel, 1941 are discussed here. Two new taxa are herewith described: *Bembidion* (*Peryphanes*) *augusti* sp. n. (Iran) and *B.* (*P.*) *grandipenne safavidense* ssp. n. (Iran and Iraq). We describe some further characters of *Bembidion* (*Peryphanes*) *antennarium* (Morvan, 1972), belonging to subgenus *Peryphanes*, "*weiratherianum*" group. Some distributional data for *B.* (*P.*) *grandipenne freyi* Netolitzky, 1937 (mention for Syria) and *B.* (*P.*) *brunnicorne* Dejean, 1831 (mentions for Azerbaijan and Turkey) not reported in Marggi *et al*. (2017) are reported here. A key for the *Peryphanes* species of Anatolic-Caucasian-Turanic area is provided in Italian and in English.

Riassunto: *Note sul genere* Bembidion, *sottogenere* Peryphanes, *dell'area "Anatolo-Caucasico-Turanica" e descrizione di due nuovi taxa dell'Iran. (Coleoptera: Carabidae: Bembidiina)*.

Sono discussi alcuni aspetti tassonomici e geografici del genere *Bembidion* Latreille, 1802 sottogenere *Peryphanes* Jeannel, 1941. Sono descritti i seguenti nuovi taxa: *Bembidion* (*Peryphanes*) *augusti* sp. n. (Iran); *B.* (*P.*) *grandipenne safavidense* ssp. n. (Iran e Iraq). Di *Bembidion* (*Peryphanes*) *antennarium* (Morvan, 1972), appartenente al gruppo del "*weiratherianum*", vengono descritti ulteriori caratteri. Vengono risegnalati dati di distribuzione per *B.* (*P.*) *grandipenne freyi* Netolitzky, 1937 (citazione per Siria) e *B.* (*P.*) *brunnicorne* Dejean, 1831 (citazioni per Azerbaijan e Turchia) non riportati in Marggi *et al*. (2017).

Viene fornita la chiave di identificazione del sottogenere *Peryphanes* per le specie abitanti l'area "Anatolo-Caucasico-Turanica" con l'inserimento dei nuovi taxa, in italiano e in inglese.

Key words: *Bembidion*, *Peryphanes*, taxonomy, new species, Iraq, Iran, identification keys.

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Introduction

Recently collected material sent us by our friends David Wrase, Christoph Reuter and Jan Muilwijk, together with several specimens of *Bembidion antennarium* (Morvan, 1972) allowed us to establish its correct position in the subgenus *Peryphanes* Jeannel, 1941 (Neri & Toledano, 2020), argument that we will deal more in detail in the present work. In addition, we found in this material two undescribed taxa belonging to the same subgenus which we describe here. A new key for the identification of all the species of the subgenus present in the Anatolic-Caucasian-Turanic area (corotype in Vigna Taglianti *et al.,* 1999) is provided.

Materials and methods

The systematic treatment of the Bembidiina and the geographical acronyms follow Löbl & Löbl, 2017.

The body length was measured for card-mounted specimens from the front margin of the labrum to the apex of the elytra. The measurement of the aedeagus does not include the portion of endophallus protruding from the basal opening.

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:

CTVR coll. Luca Toledano, Verona, Italy
CR coll. Christoph Reuter, Hamburg, Germany

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DW coll. David W. Wrase, Gusow-Platkow, Germany (part of Zoologische Staatssammlung München, Germany)
JM coll. Jan Muilwijk, Bilthoven, Holland
PN coll. Paolo Neri, Forlì, Italy
PS coll. Peer Schnitter, Halle, Germany

***Bembidion* (*Peryphanes*) *antennarium* (**Morvan, 1972) (Figs. 3, 8, 11)

Peryphus depressum Morvan, 1972
Bembidion farsense Marggi & Huber, 1999

Historical notes. Morvan (1972) describes *Peryphus antennarius* on a single, male specimen from Iran (Zagros, Kurang, 2800 m); the description, although sufficient, does not mention the elytral microsculpture. In the same paper the author describes *Peryphus depressus* on a single, female specimen collected in the same locality as *antennarius*, but at a slightly different altitude (Zagros, Kurang, 3200 m). Müller-Motzfeld (1986), includes both species in the newly described subgenus *Ocyturanes*, in the species group "with elytra showing apical spots".

Marggi & Huber (1999) change the name *depressum* to *farsense*, being a name preoccupied by *depressum* Ménétriés, 1832.

Neri & Toledano (2017), after the examination of the type specimens of both species synonymize *depressum* Morvan, 1972 with *antennarium* and ascertain that the type specimen of *antennarium* lacks the aedeagus, possibly preserved separately from the specimen and, therefore, possibly lost (aedeagus anyway figured, although in a simplified way, in Morvan, 1973); the Morvan collection is currently located in the Muséum National d'Histoire Naturelle, Paris.

Neri & Toledano (2018), following the Müller-Motzfeld's (1986) statements, include *antennarium* in the keys of subgenus *Ocyturanes*, *signatipenne* du Val, 1852 group (= group "with elytra showing apical spots"). Finally, Neri & Toledano (2020), after the examination of the male genitalia of several new specimens of *antennarium* collected in localities very close to the type locality, state that the species actually belongs to the subgenus *Peryphanes*, *weiratherianum* Netolitzky, 1932 group (Neri & Gudenzi, 2013).

Taxonomical notes. Having been allowed to study numerous specimens of *antennarium* we provide further information on the characteristics of this species. For completeness we report here the original description (Morvan, 1972): "Longueur: 6 mm. Ailé; noir à reflet bleu verdâtre, le tiers apical des élytres testacé rougeâtre englobant une tache plus claire d'un rouge orange; palpes et antennes noires, pattes testacées, les femurs noirs avec l'extrême sommet rougeâtre, pattes et antennes longues et grêles. Tête aux yeux petits, la soie susorbitaire postérieure un peu aprés le bord postérieur de l'oeil, sillons frontaux peu profonds, larges. Pronotum cordiforme, sa plus grande largeur au niveau de la soie antérieure, les côtés rétrécis en arriére jusqu'à la base, les angles vifs, fossettes basales peu profondes, larges, la carinule externe peu saillante, la base avec quelques points épars, bord antérieur peu échancré, bord basal droit; promotum déprimé. Elytres oblongs, larges, épaules bien marquées; toutes les stries visibles jusqu'à l'apex, fortement ponctuées, moins en arriére. Organe copulateur droit, épais à la base, l'apex large et arrondi, pièce copulatrice avec le stylet épais; style gauche avec l'extrémité distale courte et large, l'apex avec quatre soies, le droit allongé avec trois soies. Holotype: 1 ♂, Iran, chaine montagneuse du Zagros, Kurang, 3200 m, VI-1970 (P. Morvan) (ma coll.). Femelle inconnue.".

In addition to the description, unfortunately made upon a single male specimen and with drawings that seem not to match with the type photographed here, we report: the length ranges from 4.90 to 5.70 mm (holotype 5.08 mm, Fig. 3); blackish elytra with blue-green reflections and with apical third dark testaceous-reddish, often with an orange spot; eyes poorly protruding with temples short and barely oblique towards the neck; pronotal base wide as anterior margin or slightly larger; elytra with faint microsculpture, short and transverse or irregular in the apical third or fourth; the microsculpture may also be visible at sides up to the humeri, but always missing on disc.

Aedeagus (Fig. 8), 1.02 - 1.09 mm long, characteristic for *weiratherianum* group, with central brush not or slightly protruding from the basal opening, apical third gradually narrowing towards apex, ventral margin more or less rectilinear and apical third bent ventrally.

Spermatheca (Fig. 11) with duct simple, not spiralled.

Comparative notes. *B. antennarium* differs from *morvanianum* Müller-Motzfeld, 1986 by the larger

size and the aedeagal ventral margin lacking the gibbosity; from *augusti* n. sp., *kulzeri* Netolitzky, 1935 and *hissaricum* Netolitzky, 1943 for the antennae completely darkened; from *augusti* n. sp. for the aedeagus with ventral margin lacking gibbosity; from all the remaining *Peryphanes* species present in the same area by the elytral apical third reddish, often showing an orange spot or for having elytral microsculpture present at least in the apical fourth.

Bembidion* (*Peryphanes*) *augusti n.sp. (Figs 2, 7, 10)
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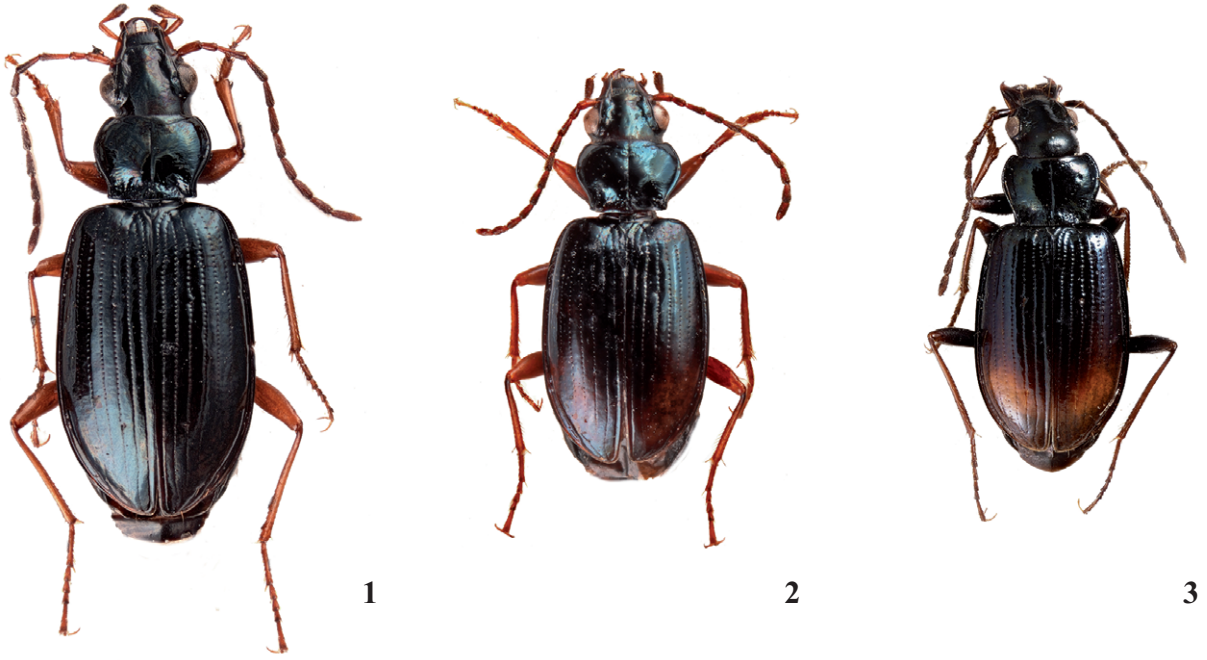
C46D11AE-1543-47E4-B2FF-BE5EF68CCCDE

Diagnosis. A *Peryphanes* of *deletum* Serville, 1821 group (aedeagus with central brush protruding from basal opening and spermatheca with spiralled or twisted duct) from Iran.

Type locality. Iran, Kohkiloeh & Buyer Ahmad, Tobady Valley, 5 Km N Yasud.

Type series. Holotype (CTVR) ♂: "Iran, Kohkiloeh & B. / Tobady Valley / 5 km N Yasud / 26.9.2005 / Muilwijk leg." [printed]. The aedeagus, preserved in Euparal, is pinned on the same pin as the specimen. We added to the specimen the following label: "*Bembidion* (*Peryphanes*) *augusti* Neri & Toledano, 2020 – Holotypus" [red, printed].

Paratypes: 4 ♂♂, 3 ♀♀ with the same label as the holotype (JM, PN, CTVR). 1 ♂, 2 ♀♀: "Iran, Kohkiloeh & B. / Abshar Yasud / 28.9.2005 / Muilwijk leg." (JM, PN). 2 ♂♂: "IR, Kohkiloeh & B. / Sisakht / 30.4.2006 / Muilwijk leg." (JM). 1 ♂: "IR, Fars Sepidan / Tang e Tizab / 29.4.2006 / Muilwijk J." (CTVR). 1 ♂: "IR, Fars / Chamriz / 15.5.2006 / Muilwijk J." (PN). 1 ♀: "IR Kohkiloeh & B. / Babahasan Pass / 2.5.2006 / Muilwijk leg." (PN). 3 ♀♀: "IR, Kohkiloeh & B. / Tobady Valley / 3.5.2006 / Muilwijk leg." (JM). 2 ♀♀: "IR, Fars Shiraz / Ghoyom / 12.5.2006 / Muilwijk J." (JM). 1 ♂: "IR, Fars / Tang e Tizab / 1.5.2008 / Muilwijk leg." (JM). 1 ♂, 2 ♀♀: "IR, Kohkiloeh / Baba Hasan / 4.5.2008 / Muilwijk leg." (JM). 1 ♂: "IR, Fars / Mogtarabad / 29.4.2008 / Muilwijk leg. (JM). 1 ♀: "IR, Kahkiloeh / Kohgol Valley / 3.5.2008 / Muilwijk leg." (CTVR). 1 ♂: "IR, Kohgiluyeh Va Boyer / Ahmad, Stream near lake / Googol 9.VI.2018 2954m / Muilwijk leg." (JM).



Figs. 1-3. Habitus of: 1 – *Bembidion* (*Peryphanes*) *grandipenne safavidense* n. ssp., holotype (CTVR), 6.60 mm; 2 – *B.* (*P.*) *augusti* n.sp., holotype (CTVR), 5.40 mm; 3 – *B.* (*P.*) *antennarium* (Morvan), holotype (coll. Morvan, MNHN), 5.08 mm.

1 ♂: "IR, Kohgiluyeh Va Boyer / Ahmad, lake Googol / 9.VI.2018 2714m / Muilwijk J." (JM). 6 ♂♂, 2 ♀♀: "IR, Fars Barm-e Mad Ab / 1 Km W Hoseyn Khany / 9.VI.2019 2750m / 30°36'14"N 51°46'52"E / Muilwijk J." (JM, PN, CTVR). 2 ♂♂, 1 ♀: "Iran, (Kohkīlyeh va Būyer Ahmadī) / Zagros Mts., Dena Mts., Sisakht, / Kugol vall., 2750 m / N30°49'49" E51°32'50" / (muddy shore of a small lake / under stones) / 25.IV.2018 Wrase & Laser" (DW). 6 ♀♀: " W IRAN (Lorestan) / 10 Km SW Dorūd 1431m / 33°26'N 49°00'E (lux) / 9.VII.2004 M. Rejzek" (DW, CTVR). 1 ♂: "NW Iran p. Azarbaygan-e / Garbi, 10 Km S Hoy / 8.VI.1999 / lgt. E. & P. Hajdaj" (CTVR). 1 ♀: "C. Iran p. Fars, Yasug NW / Siraaz (vill. Kakan) / 30°40'N 51°43'E, 13.VI.1999 / lgt. P. Kabatek" (CTVR). 1 ♂: "SW IRAN (Fārs) / Kākān E Yasūğ 2315 m /3042N 5138E (lux) /14.VII.2004 M. Rejzek" (DW). All specimens bear printed labels.

We added to all paratypes the following label: "*Bembidion* (*Peryphanes*) *augusti* Neri & Toledano, 2020 – Paratypus" [red, printed].

Description of the holotype (Fig. 2). Total length 5.40 mm. Head and pronotum black, glossy; elytra blackish, with two preapical reddish spots, with undefined edges, oblique, divided by the first interval, apex brown. Legs orange with femora darkened in the basal two/thirds. Antennae orange, slightly darkened from the apical half of antennomere 2. Penultimate palpomere darkened in the apical half.

Head: maximum width, including eyes, 1.13 mm; distance between eyes 0.70 mm; frons smooth and glossy with a few scattered punctures, frontal furrows wide, evident. Eyes normally protruding, temples oblique, short. Antennae long 2.71 mm.

Pronotum: length along midline 1.02 mm; width of anterior margin 0.99 mm, maximum width 1.37 mm, width of base 1.00 mm; pronotal width / pronotal length ratio 1.34; moderately convex, transverse; sides entirely bordered, narrowing and sinuate towards base, with which they form an almost right angle, due to the base slightly oblique towards the angles; lateral gutter of uniform width; whole surface smooth and glossy; laterobasal carina evident; median line and anterior, semilunar transverse impression evident; basal transverse impression punctured and subquadrate basal foveae with a few punctures.

Elytra: length 3.60 mm, maximum overall width 2.17 mm; maximum elytral width slightly behind middle, evident shoulders and sides subparallel in the median third, completely microsculptured with short and sharp transverse, polygonal sculpticells. Striae evidently and clearly punctured, puncturation visible up to the apex, where it is very faint, barely visible; stria 7 evident while with punctures less impressed than in the inner striae. Macropterous species.

Male genitalia (Fig. 7). Aedeagus of large size (1.61 mm), central brush completely protruding from the basal opening, ventral margin with strongly marked gibbosity, apical fourth bent ventrally. Each paramere with four apical setae.

4 **5**

Figs. 4-5. Humeral part of elytra of: 4 −*B.* (*P.*) *augusti* n.sp.; 5 − *B.* (*P.*) *adygorum* Belousov & Sokolov, 1996 (photo Luca Toledano).

Intraspecific variability. Males and females vary in length from 5.10 to 6.00 mm. The aedeagus is long, from 1.42 to 1.61 mm. The preapical elytral spot may be more or less visible (not visible in a few specimens). The antennae may have antennomere 2 light and femora may be darkened almost up to the apex. Elytral stria 7 sometimes barely visible.
Spermatheca: 0.15 mm (Fig. 10) with spiralled duct with 5-6 loops.
Derivatio nominis. The species is named after our friend Augusto Vigna Taglianti, for several years undisputed leader of Italian entomology, that we regard with affection. The name is genitive.
Comparative notes. *B. augusti* differs from *adygorum* Belousov & Sokolov, 1996 by the elytral striae showing less impressed punctures and by the flat intervals; from *kulzeri* Netolitzky, 1935, *hissaricum* Netolitzky, 1943, *stephensi* Crotch, 1866, *cilicicum cilicicum* De Monte, 1947, *cilicicum syriacum* De Monte, 1947 (♀), *weiratherianum* Netolitzky, 1932, *klimai* Neri & Gudenzi, 2012 and *antennarium* (Morvan, 1972) by the antennomere 1 and 2 light; from *brunnicorne* Dejean, 1831 and *lirykense* Reitter, 1908 by the femora darkened at least for the basal three/fourth; from all remaining species of *Peryphanes* present in the same region, by the smaller size of body and aedeagus or for the full elytral microsculpture.
Distribution. The species is known from the Iranian provinces of Fars and Kohkiluyeh & Buyer Ahmad.

Bembidion* (*Peryphanes*) *grandipenne safavidense n. ssp. (Figs 1, 6, 9)
urn:lsid:zoobank.org:act:02BF1B55-4D05-4D43-936F-7C7515B8C655
Diagnosis. An Iranian and Iraqi population of *Bembidion* (*Peryphanes*) *grandipenne* Schaum, 1862, (*deletum* Serville, 1821 group): inner sac of aedeagus protruding from basal opening and spermatheca with duct spiralled or twisted.
Type locality. Iran, Lorestan, Lake Gahar, 2413 m, 33°17'41"N 49°18'37"E
Type series. Holotype, ♂, "IR Lorestan Lake Gahar / 3.VI.2019 2413 m / 33°17'41"N 49°18'37"E / Muilwijk J." [printed] (CTVR). The aedeagus, in Euparal, is preserved on the same pin as the specimen. We added to the specimen the following label: *Bembidion* (*Peryphanes*) *grandipenne safavidense* P. Neri & L. Toledano, 2020– Holotypus [red, printed]. Paratypes. 3 ♀♀, 5 ♀♀ with the same label as the holotype (CTVR, PN, JM). 1 ♂: "W Iran, Prov. Ilam / 30 Km NW Ilam / 33°43'N 46°25'E 1786m / S. Kadlek lgt. 7.VII.2004" (JM). 1 ♂, 2 ♀♀: "W Iran, Prov. Ilam / 7 Km S Ilam 1619 m / 33°40'N 46°29'E / S. Kadlek lgt. 25.VII.2004" (JM, PN). 1 ♂: "Iran, Lorestan prov. / Dorud 52 Km SE / Borugerd. 2-3.VI.2005 / F. Pavel leg." (PN). 1 ♀: "Iran, Lorestan prov. Dorud (Lan- / jabad 33°26'57"N 49°01'14"E / 8-10.X.1998, 1700 m / leg. P. Kabatek" (PN). 1 ♂: "Iran, Kushk / N Masìrì 1800m / 12.6.1973" (JM). 1 ♂, 1 ♀: "W Iran, Prov. Lorestan / 25 Km NWW Dorud / 33°33'N 48°53'E – 1874m / S. Kadlec lgt. 8.VII.2004" (JM). 1 ♂: "SW Iran 30°51'N 51°30'E / Buyer Ahmand-o-Kuhgiluye / Sisaht 2267m (E Yasug) / S. Kadlec lgt. 12.VII.2004" (JM). 1 ♂, 1 ♀: "Iran, Isfahan / Dena 3000 m / 17/V/2016 / Muilwijk leg." (JM). 1 ♂: "Iran Isfahan / 1 Km O Sarbaz / 17.V.2016 / Muilwijk leg." (CDVR). 1 ♀: "IR Esfahan Ab Malikh / Kata river / 7.VI.2019 Muilwijk J. / 31°08'46"N 51°22'30"E" (JM). 1 ♀: "Iran Zagros Mrs. 4.VII.2016 / Shakhre-Quord, near Shelemzar / Dasthena 2200-2400m / J.Riegr kgt." (PN). 3 ♂♂: "IR Chaharmahal and / Bakhtiari, Sateh cave / 6.VI.2018 / 31°25'10.3"N 50°43'29.1E / E. Ghasemian, S. Rahideh & J. Muilwijk" (PN, CDVR, JM). 1 ♀: "Iran (Kohkīlyeh va Būyer Ahmadī) / 4 Km S Yasouj, 1850 m / N30°42'16 E51°35'13" / (river bank, in coarse gravel) / 24.IV.2018 Wrase & Laser" (DW). 1 ♀: "Iran (Kohkīlyeh va Būyer Ahmadī) / Zagros Mts., Dena Mts. / pass W Podena, ca 2800-3190 m / N30°52'40" E51°31'35" / (subalpine slopes with steep / rock walls, in gravel/under / stones along brooks/snowfields) / 26.IV.2018 Wrase & Laser" (DW). 1 ♂, 2 ♀♀: "Iran (Kohkīlyeh va Būyer Ahmadī) / Zagros Mts., Dena Mts. / Gorge NW Sisakht vill., ca 2600m / N30°51'08" E51°31'16" / (brook bank, in gravel) / 25.IV.2018 Wrase & Laser" (DW, CTVR). 1 ♂, 1 ♀: "Iran (Kohkīlyeh va Būyer Ahmadī) / Zagros Mts., Zard Koh Mt. / Cheri pass 20 km W Samsani / 2775 m, N32°09'55" E50°13'37" / (subalpine slopes/under stones) / 21.IV.2018 Wrase & Laser" (DW). 1 ♂: "N30°49'49" E51°32'50" Iran / Zagros Mts. p. Kohkīlyeh va / Būyer Ahmadī, Dena Mts. / Sisakht, Lugol vall. subalpine / pasture 25.IV.2018 2750 m / leg. Schnitter" (PS). 1 ♂, 2 ♀♀: "Iran Kohkiloeh & B. / Tobady Valley / 5 Km N Yasud / 26.9.2005 / Muilwijk leg." (JM, CDVR). 1 ♂, 1 ♀: "Iran Kohkiloeh

/ Kohgol Valley / Sisakt / 27-9-2005 / Muilwijk leg." (JM). 2 ♂♂, 2 ♀♀: "Iran Kohkiloeh & B. / Abshar Yasud / 28.9.2005 / Muilwijk leg." (JM, PN). 1 ♂: "Iran Kohgiluyeh va / Boyer Ahmad, Zagros / Kabootari valley 1/8/2017 / Mohammad Javad Malek- / Hosseini" (JM). 3 ♂♂, 1 ♀: "IR Kohgiluyeh Va Biyer / Ahnad Stream / 14.VI.2018 / 31°14'59"N 50°40'46"E / Muilwijk J." (JM). 2 ♂♂, 1 ♀: "IR Kohgiluyeh and Boyer / Ahamad 8 Km N Ceshmeh / Chenar 8.VI.2018 / 30°46'29"N 51°38'14"E / Muilwijk j." (JM). 1 ♂: "IR Kohgiluyeh Va Boyer- / Ahmad Stream near lake / Googol 9.VI.2018 2954 m / Muilwijk J." (PN). 1 ♂: "IR Kohgiluyeh Va Boyer- / Ahmad upper lake Googol / 6.VI.2019 / 30°50'092N 51°32'28"E / Muilwijk J." (CDVR). 1 ♂: "Iran Fars / Sepidan / 21-9-2005 / Muilwijk leg." (JM). 1 ♀: "IR Fars / Tang e Tizab / 1-5-2008 / Muilwijk leg." (JM). 1 ♂: "IR Fars Barm-e Mad Ab / 1 Km w Hoseyn Khany / 9.VI.2019 2750 m / 30°36'14"N 51°46'52"E / Muilwijk J." (CR). 1 ♀: "IR Fars Barm-e Firooz / 10.VI.2019 Muilwijk J. / 3350-3400 m / 30°22'45"N 51°56'31"E " (JM). 1 ♂: "N-Iraq, Rawandoz env. / 36°38'N 44°33'E / Akolan Valley, May 2019 / 1900-2000m leg. C. Reuter" (PN). All specimens bear printed labels.

We added to all paratypes the following label: "*Bembidion* (*Peryphanes*) *grandipenne safavidense* Neri & Toledano, 2020 – Paratypus" [red, printed].

Description of the holotype (Fig. 1). Total length 6.60 mm. Head, pronotum and elytra blue-blackish, glossy, with faint reddish reflections in the elytral apical half. Legs orange with femora faintly darkened at base. Antennae orange, slightly darkened from the apical half of antennomere 3. Penultimate palpomere darkened in the apical half.

Head: maximum width, including eyes, 1.25 mm; distance between eyes 0.78 mm; frons smooth and glossy, wide and evident frontal furrows. Eyes considerably protruding, temples oblique, short. Antennae long 3.47 mm.

Pronotum: length along the mid line 1.13 mm; width of anterior margin 1.02 mm, maximum width 1.44 mm, width of base 1.08 mm; pronotal width / pronotal length ratio 1.27; moderately convex, transverse; sides entirely bordered, narrowing with a sinuature towards base, with which they form right angles; lateral gutter of uniform width; all surface smooth and glossy; laterobasal carina evident; median line and anterior semilunar transverse impression evident; basal transverse impression punctured and subquadrate lateral foveae with a few punctures.

Elytra: length 4.13 mm, maximum overall width 2.46 mm; moderately ovoid, with sides subparallel in the basal third, maximum width slightly behind middle, evident shoulders, completely microsculptured with narrow, transverse polygonal sculpticells. Striae evidently punctured, the puncturation is visible up to the apex where is very faint, barely visible; stria 7 formed by faint punctures only. Macropterous species.

Male genitalia (Fig. 6). Aedeagus of large size (1.82 mm), central brush completely protruding from basal opening, ventral margin with evident gibbosity, apical quarter bent ventrally. Each paramere with four apical setae.

Intraspecific variability. Paratypes range in length from 6.40 to 7.10 mm. The aedeagus is long, from 1.82 to 1.97 mm. Elytra more ovoid in the females; the elytra sometimes have a reddish reflection more or less evident according the maturity of the specimen. Antennomere 2 sometimes may be slightly darkened at apex and legs may be completely orange. Stria 7 can be barely visible, strongly evanescent.

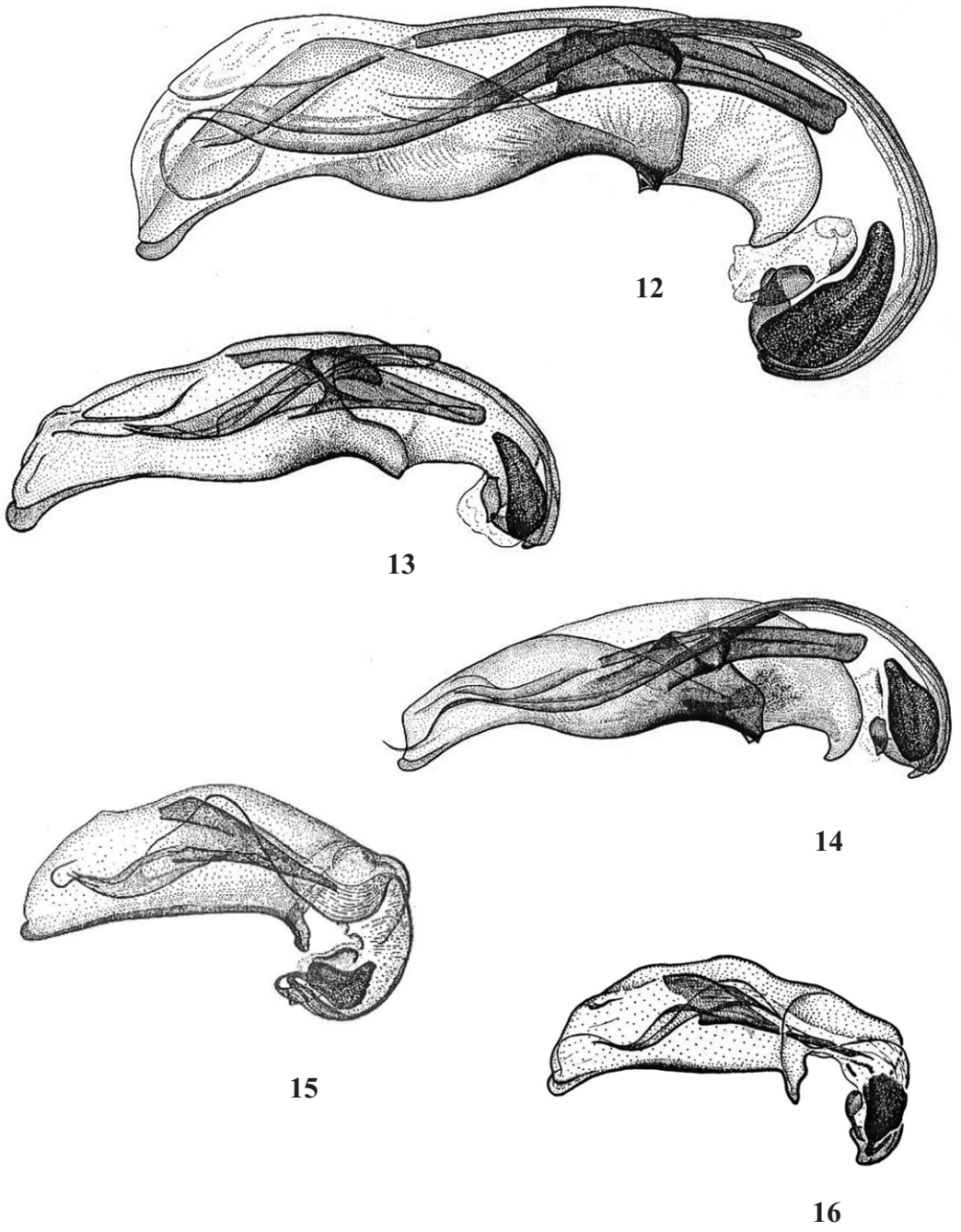
Spermatheca: 0.14 mm (Fig. 9) with duct large and twisted (see figure).

Derivatio nominis. The name, neutral, is an adjective and derives from the Safavid Dinasty that ruled Persia from 1501 to 1736.

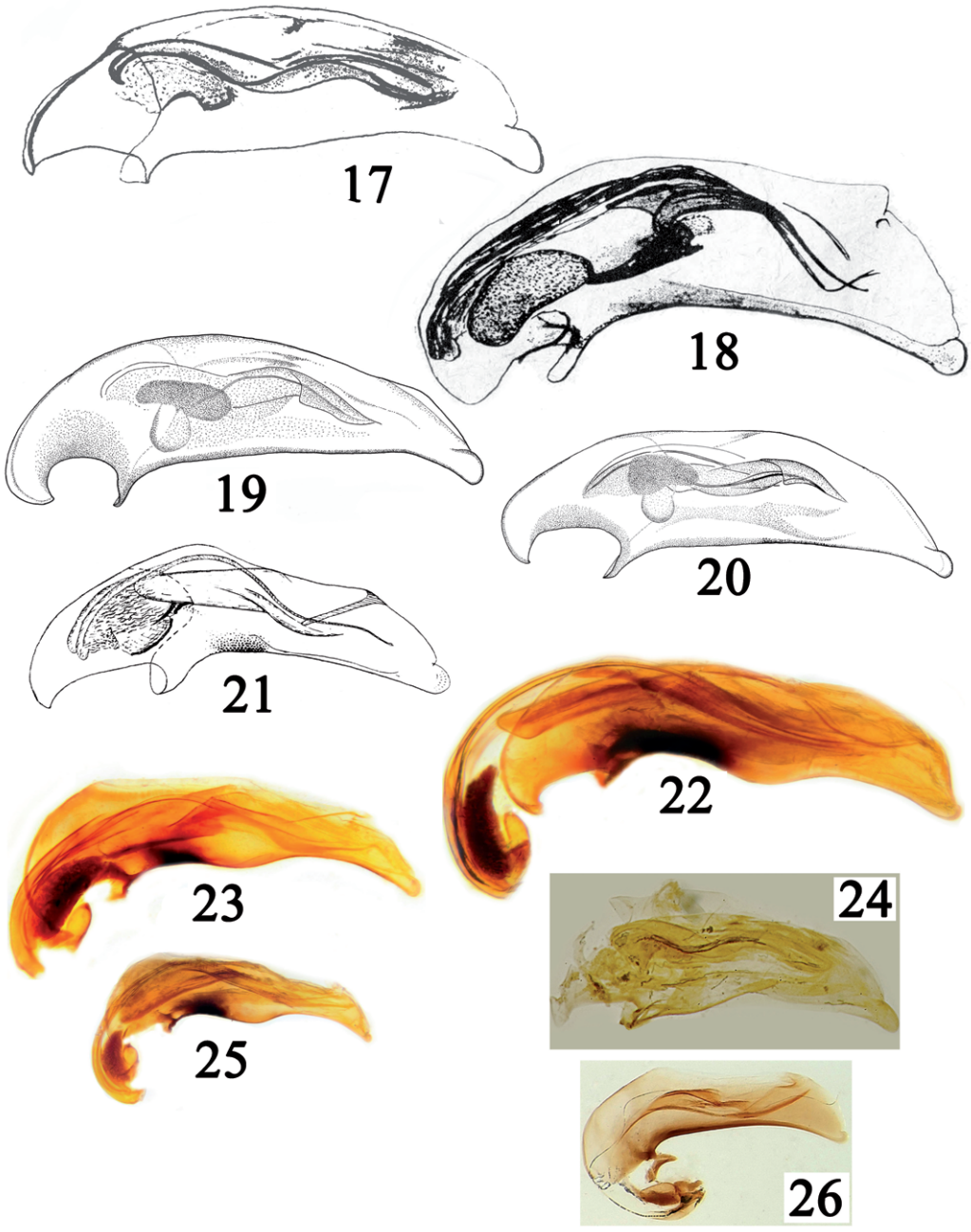
Distribution. This taxon is at present known from the Central-Western Iranian Provinces and the and North Eastern Iraq.

Comparative notes. *B. grandipenne safavidense* n. ssp. differs from *grandipenne bulgardagense* Fassati, 1990 and *grandipenne freyi* Netolitzky, 1937 by the blue-blackish elytral colour and for the aedeagus with apical third less pointed; from *phryganobium* Belousov & Sokolov, 1996 by the blue-blackish elytral colour and by the more slender aedeagus; from *imereticum* Belousov & Sokolov, 1996 by the smaller size of body and aedeagus; from *olegleonidovici* Fassati, 1990 by the moderately ovoid elytra and the third antennomere 1.5 times as long as the second; from *grandipenne grandipenne* Schaum, 1862 for the eyes more protruding, moderately ovoid elytra, almost parallel in the basal third; from all the remaining *Peryphanes* species occurring in the region by the larger size of body and aedeagus.

Figs. 6-8. Aedeagi of: 6. *Bembidion* (*Peryphanes*) *grandipenne safavidense* n.sp., holotype (CTVR), 1.82 mm; 7. *B.* (*P.*) *augusti* n.sp., holotype (CTVR), 1.61 mm; 8. *B.* (*P.*) *antennarium* (Morvan, 1972), Iran, Zagros Mts., p. Chahar Mahallva Bachtiari, Boldaghi vill., Sibak 3km S (PN), 1.06 mm (photo Gabriele Fiumi).
Figs. 9-11. Spermathecae of: 9. *B.* (*P.*) *grandipenne safavidense* n.sp., paratypus, IR Lorestan Lake Gahar 2413 m (PN), 0.15 mm; 10. *B.* (*P.*) *augusti* n.sp., paratype, IR Kohkiloeh & B. Babahasan Pass (PN), 0.14 mm; 11. *B.* (*P.*) *antennarium* (Morvan, 1972), IR, Esfahan, 3 Km E Dena Peak, 3500 m (PN), 0.17 mm. Drawings of Ivo Gudenzi.



Figs. 12-16. Aedeagi of: 12 − *Bembidion* (*Peryphanes*) *imereticum* Belousov & Sokolov, 1996 (From Belousov & Sokolov, 1996); 13 − *B.* (*P.*) *olegleonidovici* Fassati; 14 − *B.* (*P.*) *phryganobium* Belousov & Sokolov, 1996 (From Belousov & Sokolov, 1996); 15 − *B.* (*P.*) *hissaricum* Netolitzky, 1943 (From Belousov & Sokolov, 1996); 16 − *B.* (*P.*) *lirykense* Reitter, 1908 (From Belousov & Sokolov, 1996).



Figs. 17-26. Aedeagi of: 17. *Bembidion* (*Peryphanes*) *weiratherianum* Netolitzky, 1932, holotype (from Müller-Motzfeld, 1986), 1.33 mm; 18. *B.* (*P.*) *kulzeri* Netolitzky, 1935, holotype (from Müller-Motzfeld, 1986), 1.50 mm; 19. *B.* (*P.*) *klimai* Neri & Gudenzi, 2013 paratype, (from Neri & Gudenzi, 2013), 1.24 mm; 20. *B.* (*P.*) *cilicicum* De Monte 1947, cotype (from Neri & Gudenzi, 2012), 1.15 mm; 21. *B.* (*P.*) *brunnicorne* Dejean, 1831 (from De Monte, 1943), 1.06 mm; 22. *Bembidion* (*P.*) *grandipenne* Schaum, 1862, Turkey, Yala Kuzdere (PN), 1.91 mm, (photo Gabriele Fiumi); 23. *B.* (*P.*) *dalmatinum* Dejean, 1831, Croazia (Dalmazia), Zara, cimitero (PN), 1.69 mm, (photo Gabriele Fiumi); 24. *B.* (*P.*) *weiratherianum* Netolitzky, 1932, paratypus, (from Neri & Gudenzi, 2012), 1.29 mm; 25. *B.* (*P.*) *morvanianum* Müller-Motzfeld, 1986, Iran, Zagros Mts., p. Cahar Mahall va Bachtiari, Asad Abad 5 km SW, 2500-2770 m (PN), 1.10 mm (photo Gabriele Fiumi); 26. *B.* (*P.*) *geberti* Marggi, 2011, holotype (from Marggi, 2011), 1.10 mm.

Keys for identification of *Peryphanes* from Caucasus (E: AB, AR, GG, ST), Asian Turkey (TR), Iran (IN), Afghanistan (AF), Middle East (CY, IQ, IS, LE, SY).

Abbreviations: A = distal cavity of spermatheca without annular narrowing; B = distal cavity of spermatheca with annular narrowing.

1 elytral microsculpture absent or present in the apical quarter only 2

- elytral microsculpture on whole elytra or at least in the apical half.....13

2 elytra with apical third testaceous reddish and/or preapical spots with edges more or less defined, sometimes barely visible 3

- elytra without preapical spots 7

3 first antennomere and part of second and third testaceous-yellow, remaining antennomeres mostly or completely blackish; penultimate palpomere and femora, excluding apical third or apex, blackish; elytra microsculptured at maximum at apex; aedeagus long 1.46 to 1.57 mm, central brush protruding from basal opening and ventral margin with evident gibbosity; spermatheca A and spiralled duct; body long 5.20 to 5.95 mm; **E:** AB, AR; **A:** IN, IQ, SY, TR (Marggi *et al.*, 2017) ....***dalmatinum haupti*** Reitter, 1908

- antennae completely blackish or with first antennomere reddish or only partly blackish; femora and palpi completely blackish or brown-blackish or femora reddish only at apex 4

4 elytral microsculpture absent or present only at apex 5

- elytral microsculpture present at least in the apical quarter 6

5 slightly larger species, 5.00 to 6.00 mm; elytra microsculptured at maximum at apex, preapical spots with more or less sharp edges and divided from one another, olive green brownish or blackish.brown; antennae, palpi and femora completely blackish; aedeagus with central brush slightly protruding from basal opening and ventral margin with evident gibbosity long 1.35 mm; **A**: IN, TR (Marggi *et al.*, 2017) ....***lacrimans*** Netolitzky, 1935

- slightly smaller species, 4.70 to 4.90 mm; elytra without microsculpture, blackish-brown with two small yellowish preapical spots, apex blackish; antennae, palpi and femora blackish; aedeagus long 1.10 to 1.18 mm, with central brush completely protruding from basal opening, ventral margin without gibbosity (Fig. 26); **A**: TR (Marggi *et al.*, 2017) .....***geberti*** Marggi, 2011

6 smaller species, 3.80 to 4.80 mm; elytra microsculptured in the apical fourth, apical spot lunate almost always reaching apex; antennae blackish with first antennomere from blackish to reddish, palpi blackish and femora blackish with reddish apex; aedeagus long 1.02 to 1.05 mm, with half of central brush protruding from basal opening, ventral margin with evident gibbosity (Fig. 25); spermatheca A and duct with a few spirals; **A**: AF, IN (Marggi *et al.*, 2017)..... .....***morvanianum*** Müller-Motzfeld, 1986

- larger species, 4.90 to 5.70 mm (Fig. 3); elytral microsculpture short and transverse or irregular from apical quarter or third, the microsculpture may be present also at sides, up to the shoulders, and lacking on the disc; elytra blackish with greenish-blue reflections and apical third dark reddish often with an orange spot; antennae and palpi completely brown-blackish; femora brown-blackish with extreme of apex barely reddish; aedeagus long 1.02 to 1.09 mm (Fig. 8), with central brush not or barely protruding from basal opening, apical third gradually narrowing towards apex, ventral margin more or less rectilinear, without gibbosity; spermatheca A and duct simple (Fig. 11); **A**: IN (Marggi *et al.,* 2017)..... .....***antennarium*** (Morvan, 1972)

7 elytra microsculptured at least in the apical fourth, often with more extended microsculpture; aedeagus, smaller, 0.95 to 1.33 mm, gibbosity of ventral margin absent or very faint, central brush only barely protruding from basal opening 8

- elytra not microsculptured or with microsculpture only at apex: aedeagus larger, 1.38 to 1.62 mm, ventral margin with evident gibbosity, central brush evidently protruding from basal opening; spermatheca A with spiralled duct 10

8 femora completely reddish-yellow; elytra with microsculpture reaching at least apical fourth, often more extended; antennae usually darkened from third or fourth antennomere, rarely completely reddish-yellow; elytra blue-greenish; aedeagus smaller, 0.95 to 1.06 mm, ventral margin without gibbosity (Fig. 21); spermatheca A with simple duct; body long 4.10 to 5.00 mm; **E:** AL, BH, BU, CR, FR, GG, GR, HU, MC, RO, SB, SL, ST, TR, YU (Marggi *et al.*, 2017); AB (Belousov & Sokolov, 1986); **A:** TR (Neri & Gudenzi, 2013) ....***brunnicorne*** Dejean, 1831

- femora largely brown, darkened, with light apex 9

9 larger species, 5.50 to 6.00 mm; wider pronotal base (1.07 to 1.12 mm) and maximum pronotal width (1.36 to 1.43 mm), pronotal base evidently wider than anterior margin; elytra microsculptured in transverse sculpticells in the apical fourth, microsculpture that may be barely visible also at sides almost up to the shoulders, central disc without microsculpture; aedeagus larger, 1.29 to 1.33 mm (Figs 17, 24); spermatheca B with simple duct; **A:** TR (Marggi *et al.* 2017)..... .....***weiratherianum*** Netolitzky, 1932

- smaller species, 4.60 to 5.50 mm; narrower pronotal base (0.86 to 1.00 mm) and maximum pronotal width (1.36 to 1.31 mm), base usually more or less as wide as the anterior margin; elytral microsculpture with transverse sculpticells at apex in the ♂♂, in the apical fourth in the ♀♀; aedeagus smaller, 1.13 to 1.17 mm, gradually narrowing towards apex, ventral margin rectilinear, with apical fourth slightly bent ventrally, central brush slightly protruding from basal opening (Fig. 20); spermatheca B with simple duct; **A:** TR (Marggi *et al.*, 2017).....***cilicicum cilicicum*** De Monte, 1947

10 first antennomere brown or dark brown, remaining antennomeres dark brown, often with reddish base; palpi brown-blackish; legs brown with femora in part darkened; elytra brown, without microsculpture; aedeagus long 1.38 to 1.49 mm; body long 5.00 to 6.00 mm; **E:** BH, BU, GR, TR; **A:** IS, LE, SY, TR (Marggi *et al.*, 2017)..... .....***castaneipenne*** duVal, 1852

- first antennomere, sometimes also the second one, yellowish or light testaceous, remaining antennomeres more or less darkened; elytra metallic, dark blue-greenish.....11

11 femora yellow-reddish; elytra as a rule microsculptured only at the extreme apex; aedeagus long 1.50 mm; **A:** IS, LB (Marggi *et al.*, 2017); SY (Všetečka, 1941)..... .....***dalmatinum levantinum*** Všetečka, 1941
In Marggi *et al.* (2017) it is mentioned also from Cyprus; report to be cancelled (Neri & Toledano, in prep.).

- femora at least in part darkened.....12

12 temples short, oblique and eyes protruding; antennae darkened from second or third antennomere; elytral sides as a rule more or less parallel in the median third; elytral microsculpture present only at the extreme apex, sometimes microsculpture absent mainly in the ♀♀; aedeagus long 1.46 to 1.62 mm (Fig. 23); body long 4.9 to 6.0 mm; **E:** AL, AU, BH, BU, CR, CZ, GR, HU, MC, MD, RO, SK, SL, ST, TR, UK, YU; **A:** TR (Marggi *et al.*, 2017); CY (Neri & Toledano in press)..... ***dalmatinum dalmatinum*** Dejean, 1831

- temples longer and less oblique; antennae darkened from third antennomere; elytra as a rule more ovoid, microsculptured up to apical fifth; aedeagus long 1.51 mm; body long 4.5 to 5.8 mm; **E:** AB, AR, GG, ST; **A:** IN, TR (Marggi *et al.*, 2017).....***fraxator*** Ménétriés, 1832

13 elytra with apical third dark reddish, often with an orange spot or elytra with more or less evident preapical spots.....14

- elytra without preapical spots 16

14 antennae and palpi completely blackish-brown

with extreme of apex barely reddish; elytra with apical third dark reddish often with an orange spot; elytral microsculpture with short, transverse sculpticells or irregular from apical fourth or third, microsculpture sometimes present also at sides up to the shoulders, missing on disc; body long 4.90 to 5.70 mm (Fig. 3); aedeagus long 1.02 to 1.09 mm (Fig. 8), with central brush not or slightly protruding from basal opening, apical third gradually narrowing towards apex, ventral margin more or less rectlinear, without gibbosity; spermatheca A with simple duct, not spiralled (Fig. 11); **A**: IN (Marggi *et al.*, 2017)..... .....***antennarium*** (Morvan, 1972)

- at least first antennomere light; elytra completely microsculptured with preapical spots more or less evident.....15

15 aedeagus long 1.42 to 1.61 mm (Fig. 7), central brush completely protruding from basal opening, ventral margin with evident gibbosity; penultimate palpomere darkened in the apical half; antennomere 1, sometimes also 2, light; femora more or less darkened for the basal two/thirds, sometimes almost completely; elytra blackish, with two preapical reddish spots with undefined edges, oblique, divided by interval 1, apex brown; the spots may be more or less visible, sometimes not visible in a few specimens; spermatheca A with spiralled duct (Fig. 10); body long 5.10 – 6.00 mm (Fig. 2); **A:** IN .....***augusti*** n. sp.

- aedeagus long 1.50 mm (Fig. 18), central brush partially protruding from basal opening, ventral margin without gibbosity; penultimate palpomere light, slightly darkened at apex; first three antennomeres and basal half of fourth as a rule light; femora barely darkened at base; elytra blue-blackish with small and slightly oblique preapical spots situated between stria 3 and 7; body long 5.50 to 6.00 mm; **A:** TR (Marggi *et al.*, 2017) ....***kulzeri*** Netolitzky, 1935

- aedeagus long 1.50 mm (Fig. 15), central brush completely protruding from basal opening, ventral margin without gibbosity; penultimate palpomere darkened; base of antennae largely light; legs light; elytra blue-blackish with small, light preapical spots with undefined edges; spermatheca B with simple duct; body long 4.00 to 5.00 mm; **A:** KI, KZ, TD, UZ (Marggi *et al.*, 2017) ....***hissaricum*** Netolitzky, 1943

16 temples flat, only slightly oblique towards neck; eyes small and slightly convex; elytra evidently rounded with maximum width about at middle; antennae yellow-orange darkened from the apex of antennomere 4; legs completely yellow orange; elytra dark blueish with reddish reflections, completely microsculptured with very transverse sculpticells, thin and compact; aedeagus very large, 1.84 to 2.05 mm, with apical third in general bent ventrally and extreme of apex curved ventrally, ventral margin with evident gibbosity, central brush completely protruding from basal opening; spermatheca A with spiralled duct; body long 5.00 to 6.55 mm; probably in whole Europe, excluding Caucasian area; **A:** TR (Marggi *et al.*, 2017).....***stephensi*** Crotch, 1866
The species is mentioned from Turkey and described as aberration (Salur, près Isparta, sub "*stephensi* ab. *angustus* nov."; 1 ♂ 1 ♀ leg. Coiffait) by Schuler (1957); we were not able to study the typical series and we believe that the presence in the area should be checked.

- species without at least one of the above characters 17

17 smaller species, 4.10 to 6.00 mm: aedeagus smaller, 0.95 to 1.61 mm; 18

- larger species, 6.00 to 8.40 mm; aedeagus larger, 1.80 to 3.00 mm, always with ventral margin showing evident gibbosity; spermatheca with distal cavity showing one annular narrowing or, often, a trace of annular wrinkle 24

18 femora completely yellow reddish, yellow orange or darkened only at base 19

- femora completely darkened or slightly darkened, with light apex, or darkened only in the basal half 20

19 femora completely yellow reddish; elytra microsculptured at least up to the apical fourth,

very frequently more extensively, sometimes over the whole elytra; antennae normally darkened from third or fourth antennomere, rarely completely yellow reddish; elytra blue-greenish; aedeagus small, 0.95 to 1.06 mm (Fig. 21), ventral margin without gibbosity, central brush slightly protruding from basal opening; spermatheca A with simple duct; body long 4.10 to 5.00 mm; **E:** AL, BH, BU, CR, FR, GG, GR, HU, MC, RO, SB, SL, ST, TR, YU (Marggi *et al.*, 2017); AB (Belousov & Sokolov, 1986); **A:** TR (Neri & Gudenzi, 2013).....***brunnicorne*** Dejean, 1831

- femora yellow reddish or yellow orange slightly darkened at base; antennae darkened from the distal half of antennomere third or fourth; elytra dark blue green with reddish reflection towards apex, competely microsculptured; aedeagus larger, 1.36 to 1.40 mm (Fig. 16), ventral margin without gibbosity, central brush almost completely protruding from basal opening; spermatheca B, twisted duct; body long 5.00 to 5.85 mm; **E:** AB, AR; **A:** IN (Marggi *et al.*, 2017) .....***lirykense*** Reitter, 1908

20 elytra completely microsculptured, with isodiametric sculpticells; head with temples only slightly oblique towards neck; antennae, penultimate palponere dark brown, femora dark brown excluding the extreme apex; elytra dark brownish with reddish reflections, with maximum width about at middle; medium sized aedeagus, 1.24 mm (Fig. 19), gradually narrowing towards the apex, ventral margin rectilinear with apical quarter evidently bent ventrally, central brush partially protruding from basal opening; spermatheca A with simple duct; body long 5 to 5.9 mm; **A:** TR (Marggi *et al.*, 2017)..... .....***klimai*** Neri & Gudenzi, 2012

- elytra with complete or partial microsculpture, with transverse sculpticells 21

21 antennae with at least first antennomere yellow testaceous or yellow testaceous, slightly ferrugineous from fourth antennomere 22

- antennae completely dark brown 23

22 antennae yellow testaceous, slightly ferrugineous from fourth antennomere; femora testaceous slightly darkened; head with temples only slightly oblique towards neck; elytra dark brown, ovoid, evidently widened behind middle; subspecies described upon a single ♀; body long 5.30 mm; **A:** TR (Marggi *et al.*, 2017)..... .....***cilicicum syriacum*** De Monte, 1947

- first two antennomeres yellow testaceous and the following darkened from the apical half of the third one; femora darkened at least in the basal half; head with temples short and oblique; elytra with almost complete microsculpture but difficult to see in the basal half, more evident in the ♀♀; punctures of elytral striae deeply and strongly impressed, so that the intervals are convex; at basal third of striae 3 and 4 (often also of stria 2) the punture separated by half their diameter (Fig. 5); aedeagus long 1.44 to 1.48 mm, half of central brush protruding from basal opening, ventral margin with evident gibbosity; spermatheca A with spiralled duct; body long 4.75 to 5.85 mm; **E:** AB, AR. GG, ST; **A:** TR (Marggi *et al.*, 2017) .....***adygorum*** Belousov & Sokolov, 1996
  The mentions for Turkey of *deletum* Serville, 1821 (Neri & Toledano, 2013; Neri & Toledano, 2016) must be referred to *adygorum*.

- first antennomere, sometimes also second one, light; femora more or less darkened for the apical two thirds, sometimes almost completely excluding apex; head with temples short and oblique; elytra completely microsculptured, rarely completely blackish, more frequently with two preapical reddish spots with undefined edges, oblique, divided by the first interval, apex brown; elytral striae normally punctured, elytral intervals flat, punture separated by their diameter (Fig. 4); aedeagus long 1.42 to 1.61 mm (Fig. 7), central brush completely protruding from basal opening, ventral margin with evident gibbosity; spermatheca A with spiralled duct (Fig. 10); body long 5.10 to 6.00 mm (Fig. 2); **A:** IN ....***augusti*** n. sp.

23 larger species, 5.50 to 6.00 mm; wider pronotal base (1.07 to 1.12 mm) and maximum pronotal width (1.36 to 1.43 mm), pronotal base evidently wider than anterior margin; elytral microsculpture in

transverse sculpticells in the apical quarter, sometimes faint but visible also at sides almost up to the shoulders, disc without microsculpture; aedeagus larger, 1.29 to 1.33 mm (Figs. 17, 24); spermatheca B with simple duct; **A:** TR (Marggi *et al.*, 2017) ..... ***weiratherianum*** Netolitzky, 1932

- smaller species, 4.60 to 5.50 mm; narrower pronotal base (0.86 to 1.00 mm) and maximum pronotal width (1.36 to 1.31 mm), as a rule pronotal base as wide as the anterior margin; elytra with microsculpture in transverse sculpticells at apex in the ♂♂, in the apical quarter in the ♀♀; aedeagus smaller, 1.13 to 1.17 mm, gradually narrowing towards apex, ventral margin rectilinear with apical quarter slitghtly bent ventrally, central brush poorly protruding from basal opening (Fig. 20); spermatheca B with simple duct; **A:** TR (Marggi *et al.*, 2017) ..... ***cilicicum cilicicum*** De Monte, 1947

24 elytra yellow reddish, yellow brownish, brown reddish, or brown 25

- elytra blue or greenish-blue, shining, sometimes with reddish or brownish reflections 26

25 mature specimens with elytra brown or dark brown and a greenish metallic lustre; eyes less convex and temples very short, almost absent; elytra gently rounded at sides; third antennomere 1.5 times as long as the second; subspecies described from southern slopes of Cilician Taurus, Central and Eastern Taurus up to Gyaur Dag (Fassati, 1990); aedeagus (1.91 mm) slender, of uniform width, with central brush almost completely protruding from basal opening; body long 6.70 to 7.50 mm; **E:** GG; **A:** TR (Marggi *et al.*, 2017) ..... ***grandipenne bulgardagense*** Fassati, 1990

- mature specimens with elytra from ochre yellow to light brown or brown; eyes less convex and temples very short, almost absent; elytra with almost parallel sides in the basal third, then evidently rounded; third antennomere 1.5 times as long as the second; subspecies described from Lebanon; aedeagus (1.91 mm) slender, of uniform width, with central brush almost completely or completely protruding from basal opening; body long 7.0 to 8.0 mm; **A:** IN, IS, LE, TR (Marggi *et al.*, 2017); SY (Fassati, 1990) ..... ***grandipenne freyi*** Netolitzky, 1937

Possible misidentification with the former taxon. We believe that the presence of the subspecies in Turkey should be confirmed.

- elytra distinctly brownish; species on average smaller (6.00 to 7.25 mm); eyes more convex and temples more evident; third antennomere 1.75 times as long as the second; aedeagus (1.85 mm) with apical third more pointed (evidently thicker basally to the gibbosity than apically to the gibbosity), central brush completely protruding from basal opening (Fig. 14); distal cavity of spermatheca with a trace of annular wrinkle, twisted duct; **E:** AB (Marggi *et al.*, 2017) ..... ***phryganobium*** Belousov & Sokolov, 1996

26 very large species, 7.10 to 8.40 mm; very large aedeagus (2.65 to 3.00 mm), central brush completely protruding from basal opening (Fig. 12); eyes small and poorly convex, temples long, barely oblique towards neck; antennae slightly darkened from the apical half of quarter antennomere, very long, reaching the middle of the elytra; elytra evidently widened in the apical third; distal cavity of spermatheca with a trace or annular wrinkle, duct wide and twisted; **E:** GG; **A:** TR (Marggi *et al.*, 2017) ..... ***imereticum*** Belousov & Sokolov, 1996

- species on average smaller (6.20 to 7.25 mm); eyes more convex with temples short and more oblique towards neck; aedeagus of large size (1.82 to 2.17 mm), central brush totally or partially protruding from basal opening..... 27

27 elytra evidently rounded at sides, maximum elytral width at the middle and disc distinctly depressed; third antennomere slightly less than twice as long as the second; pronotal width / head width ratio 1.21 to 1.32; aedeagus long 2.17 mm, thicker all along its length (Fig. 13); spermatheca B, twisted duct; body long 6.60 to 7.25 mm; **E:** ST (Marggi *et al.*, 2017) ..... ***olegleonidovici*** Fassati, 1990

- elytra more or less ovoid, with maximum width behind middle; third antennomere 1.5 times as long as the second one, or slightly more; pronotal

width / head width ratio 1.17 to 1.23; aedeagus slender, less thick all along its length 28

28 elytra ovoid with maximum width behind middle; head with eyes less protruding; aedeagus (1.82 to 2.11 mm) slender, of uniform width (Fig. 22); distal cavity of spermatheca with more or less evident annular narrowing, duct wide and twisted; body long 6.20 to 7.00 mm; **E:** AL, BU. GR, KO, MC, ME, YU; **A:** CY, IN, TR (Marggi *et al.*, 2017)..... .....***grandipenne grandipenne*** Schaum, 1862

- elytra moderately ovoid, almost subparallel in the basal third, widening behind, with maximum width after the middle, especially in the ♀♀; head with eyes more protruding, aedeagus (1.82 to 1.97 mm) slender, with apical third more pointed (wider basally to the gibbosity than apically to the gibbosity) (Fig. 6); spermatheca with a duct wide and twisted (Fig. 9); body long 6.40 to 7.10 mm (Fig. 1); **A:** IN.....***grandipenne safavidense*** n. ssp.

Chiavi di identificazione dei *Peryphanes* del Caucaso (E: AB, AR, GG, ST), Turchia asiatica (TR), Iran (IN), Afghanistan (AF), Medio Oriente (CY, IQ, IS, LE, SY).

La misura dell'edeago esclude la parte del pacchetto squamigero che fuoriesce dal bulbo basale. Abbreviazioni: A = cavità distale della spermateca senza strozzatura anulare; B = cavità distale della spermateca con strozzatura anulare.

1 elitre senza reticolazione o con questa presente solo nel quarto apicale .....……2

- elitre completamente reticolate o con reticolo presente almeno nella metà apicale 13

2 elitre con terzo apicale testaceo rossastro e/o due macchie preapicali, a contorni più o meno distinti e a volte appena visibili . .....……..3

- elitre senza macchie preapicali 7

3 primo articolo delle antenne e parte del secondo e del terzo giallo testaceo, i rimanenti in gran parte o totalmente, nerastri; penultimo articolo dei palpi e femori ad esclusione dell'ultimo terzo o dell'apice, nerastri; elitre reticolate al massimo all'apice; edeago 1.46 – 1.57 mm, pacchetto squamigero che fuoriesce dal bulbo basale e margine ventrale provvisto di notevole gibbosità; spermateca A, dotto spiraliforme; 5.20 - 5.95 mm; **E:** AB, AR; **A:** IN, IQ, SY, TR (Marggi *et al.*, 2017).....***dalmatinum haupti*** Reitter, 1908

- antenne completamente nerastre o con primo articolo rossastro o anche parzialmente nerastro; femori e palpi completamente nerastri o bruno nerastri o femori con solo l'apice rossastro 4

4 elitre senza microscultura o con reticolo al massimo all'apice 5

- elitre reticolate almeno nel quarto apicale 6

5 taglia più grande, 5.00 – 6.00 mm; elitre reticolate al massimo all'apice, macchie preapicali a margini più o meno distinti e divise tra loro, verde-oliva brunastre o bruno-nerastre; antenne, palpi e femori completamente nerastri; edeago con pacchetto squamigero che appena fuoriesce dal bulbo basale e margine ventrale provvisto di notevole gibbosità, 1.35 mm; **A**: IN, TR (Marggi *et al.*, 2017) ....***lacrimans*** Netolitzky, 1935

- taglia appena più piccola, 4.70 – 4.90 mm; elitre senza microscultura, bruno nerastre con due piccole macchie preapicali giallastre, apice nerastro; antenne, palpi e femori nerastri; edeago, 1.10 – 1.18 mm, con pacchetto squamigero che fuoriesce completamente dal bulbo basale, margine ventrale senza gibbosità (Fig. 26); **A**: TR (Marggi *et al.*, 2017) .....***geberti*** Marggi, 2011

6 taglia più piccola, 3.80 – 4.80 mm; elitre reticolate nel quarto apicale, macchia apicale a forma di lunula quasi sempre raggiungente l'apice; antenne nerastre con primo articolo da nerastro a rossiccio, palpi nerastri e femori nerastri con apice rossiccio; edeago, 1.02 – 1.05 mm, con pacchetto squamigero che fuoriesce per metà dal bulbo basale, margine ventrale con evidente gibbosità (Fig. 25); spermateca A e dotto con alcune spirali; **A**: AF, IN (Marggi *et al.*, 2017) ....***morvanianum*** Müller-Motzfeld, 1986

- taglia più grande, 4.90 – 5.70 (Fig. 3); elitre con reticolo corto e trasverso o irregolare dal quarto o terzo apicale, il reticolo può essere presente anche ai lati fino agli omeri, è mancante sul disco; elitre nerastre con riflessi blu verdastri e terzo apicale rossastro scuro con spesso una macchia aranciata; antenne e palpi completamente bruno nerastri; femori bruno nerastri con estremo apice appena rossastro; edeago, 1.02 – 1.09 mm (Fig. 8), con pacchetto squamigero che non fuoriesce dal bulbo basale o fuoriesce ma rimane nel bulbo basale, terzo apicale che si attenua gradatamente verso l'apice, margine ventrale più o meno rettilineo, senza gibbosità; spermateca A e dotto semplice, senza spirali (Fig. 11); **A**: IN (Marggi *et al.*, 2017)…. .....….***antennarium*** (Morvan, 1972)

7 elitre reticolate almeno nel quarto apicale, molto spesso reticolazione più estesa; edeago di dimensioni minori, 0.95 – 1.33 mm, margine ventrale senza o con leggerissima gibbosità, pacchetto squamigero che fuoriesce solo un poco ma all'interno del bulbo basale.....8

- elitre non reticolate o con reticolo presente solo all'apice; edeago di maggiori dimensioni, 1.38 – 1.62 mm, margine ventrale con evidente gibbosità, pacchetto squamigero che fuoriesce notevolmente dal bulbo basale; spermateca A, dotto spiraliforme 10

8 femori completamente giallo rossicci; elitre reticolate almeno dal quarto apicale, molto spesso reticolazione più estesa; antenne solitamente inscurite dal terzo o quarto articolo, raramente completamente giallo rossicce; elitre bluastro verdastre; edeago di piccole dimensioni, 0.95 – 1.06 mm, margine ventrale senza gibbosità (Fig. 21); spermateca A, dotto semplice; 4.10 – 5.00 mm; **E:** AL, BH, BU, CR, FR, GG, GR, HU, MC, RO, SB, SL, ST, TR, YU (Marggi *et al.*, 2017); AB (Belousov & Sokolov, 1986); **A:** TR (Neri & Gudenzi, 2013).....***brunnicorne*** Dejean, 1831

- femori in gran parte bruno inscuriti, con apice chiaro 9

9 specie di maggiori dimensioni, 5.50 – 6.00 mm; pronoto più largo alla base (1.07-1.12 mm) e nel punto di larghezza massima (1.36-1.43 mm), base del pronoto evidentemente più larga del margine anteriore; elitre reticolate a maglie trasverse nel quarto apicale, reticolo che può essere accennato anche ai lati fino quasi agli omeri, disco centrale senza reticolazione; edeago di maggiori dimensioni, 1.29 – 1.33 mm (Figg. 17, 24); spermateca B, dotto semplice; **A:** TR (Marggi *et al.*, 2017).....***weiratherianum*** Netolitzky, 1932

- specie di minori dimensioni, 4.60 – 5.50 mm; pronoto più stretto alla base (0.86 - 1.00 mm) e nel punto di larghezza massima (1.31 -1.36 mm), base larga più o meno come il margine anteriore; elitre con reticolo a maglie trasverse all'apice nei ♂♂, nel quarto apicale nelle ♀♀; edeago di minori dimensioni, 1.13 – 1.17 mm, che si attenua gradualmente verso l'apice, margine ventrale lineare con quarto apicale appena piegato ventralmente, pacchetto squamigero che fuoriesce ma all'interno del bulbo basale (Fig. 20); spermateca B, dotto semplice; **A:** TR (Marggi *et al.*, 2017).....***cilicicum cilicicum*** De Monte, 1947

10 antenne con primo articolo castano o castano inscurito, i rimanenti castani inscuriti spesso con base rossiccia; palpi castano nerastri; zampe castane con femori in parte inscuriti; elitre castane, senza reticolazione; edeago 1.38 – 1.49 mm; 5.00 – 6.00 mm; **E:** BH, BU, GR, TR; **A:** IS, LE, SY, TR (Marggi *et al.*, 2017) ....***castaneipenne*** duVal, 1852

- antenne con primo articolo giallastro o testaceo chiaro, a volte anche il secondo, i rimanenti più o meno inscuriti; elitre blu verdastro metallico scure 11

11 femori giallo rossastri; elitre reticolate solitamente all'estremo apice; edeago 1.50 mm; **A:** IS, LB (Marggi *et al.*, 2017); SY (Všetečka, 1941); ....***dalmatinum levantinum*** Všetečka, 1941
In Marggi *et al.* (2017) è segnalato anche Cipro; areale da depennare (Neri & Toledano, in prep.).

- femori almeno parzialmente inscuriti 12

12 tempie corte, notevolmente oblique e occhi sporgenti; antenne inscurite dal secondo o terzo articolo; lati delle elitre solitamente, nel terzo

mediano, più o meno paralleli; elitre reticolate solo all'estremo apice, a volte reticolo assente soprattutto nelle ♀♀; edeago 1.46 – 1.62 mm (Fig. 23); 4.90 – 6.00 mm; **E:** AL, AU, BH, BU, CR, CZ, GR, HU, MC, MD, RO, SK, SL, ST, TR, UK, YU; **A:** TR (Marggi *et al.*, 2017); CY (Neri & Toledano in prep.) ....***dalmatinum dalmatinum*** Dejean, 1831

- tempie più lunghe e meno oblique; occhi meno sporgenti; antenne inscurite dal terzo articolo; elitre solitamente più ovoidali, reticolate dal quinto apicale; edeago 1.51 mm; 4.50 – 5.80 mm; **E:** AB, AR, GG, ST; **A:** IN, TR (Marggi *et al.*, 2017)..... .....***fraxator*** Ménétriés, 1832

13 elitre con terzo apicale rossastro scuro con spesso una macchia aranciata o elitre con macchie preapicali più o meno evidenti.....14

- elitre senza macchie preapicali 16

14 antenne e palpi completamente bruno nerastri, femori bruno nerastri con estremo apice appena rossastro; elitre con terzo apicale rossastro scuro con spesso una macchia aranciata; elitre con reticolo corto e trasverso o irregolare dal quarto o terzo apicale, il reticolo può essere presente anche ai lati fino agli omeri, è mancante sul disco; 4.90 – 5.70 mm (Fig. 3); edeago, 1.02 – 1.09 mm (Fig. 8), con pacchetto squamigero che non fuoriesce dal bulbo basale o fuoriesce ma rimane nel bulbo basale, terzo apicale che si attenua gradatamente verso l'apice, margine ventrale più o meno rettilineo, senza gibbosità; spermateca A, dotto semplice (Fig. 11); **A**: IN (Marggi *et al.*, 2017) ... .***antennarium*** (Morvan, 1972)

- antenne con almeno il primo articolo chiaro; elitre completamente reticolate con macchie preapicali più o meno evidenti.....15

15 edeago 1.42 – 1.61 mm (Fig. 7), pacchetto squamigero che fuoriesce completamente dal bulbo basale, margine ventrale con notevole gibbosità; penultimo articolo dei palpi inscurito nella metà apicale; antenne con il primo o anche il secondo articolo chiaro; femori più o meno inscuriti per due terzi, a volte quasi totalmente; elitre nerastre, con due macchie preapicali rossastre, a contorni indefiniti, oblique, divise dalla prima interstria, apice bruno; le macchie possono essere più o meno visibili fino a scomparire in alcuni esemplari; spermateca A, dotto spiraliforme (Fig. 10); 5.10 – 6.00 mm (Fig. 2); **A:** IN..... .....***augusti*** n. sp.

- edeago 1.50 mm (Fig. 18), pacchetto squamigero che fuoriesce all'interno del bulbo basale, margine ventrale senza gibbosità; penultimo articolo dei palpi chiaro, appena inscurito all'apice; antenne con i prime tre articoli e metà del quarto solitamente chiari; femori appena inscuriti alla base; elitre nero bluastre con macchie preapicali piccole e leggermente oblique poste tra la terza e la sesta stria; 5.50 – 6.00 mm; **A:** TR (Marggi *et al.*, 2017) .....***kulzeri*** Netolitzky, 1935

- edeago 1.50 mm, pacchetto squamigero che fuoriesce completamente dal bulbo basale, margine ventrale senza gibbosità (Fig. 15); penultimo articolo dei palpi inscurito; base antennale estesamente chiara; zampe chiare; elitre nero bluastre con macchie preapicali piccole, chiare, a margine indistinto; spermateca B, dotto semplice; 4.00- 5.00 mm; **A:** KI. KZ, TD, UZ (Marggi *et al.*, 2017) ....***hissaricum*** Netolitzky, 1943

16 tempie piatte e solo leggermente oblique verso il collo; occhi piccoli e appena convessi; elitre notevolmente tondeggianti con la massima larghezza situata verso la metà; antenne giallo aranciate inscurite dall'apice del quarto articolo; zampe completamente giallo aranciate; elitre bluastre scure con riflessi rossastri, completamente reticolate a maglie molto trasverse, fini e serrate; edeago molto grande, 1.84 – 2.05 mm, con terzo apicale normalmente piegato ventralmente ed estremo apice maggiormente curvato ventralmente, margine ventrale con evidente gibbosità, pacchetto squamigero che fuoriesce completamente dal bulbo basale; spermateca A, dotto spiraliforme; 5.00 – 6.55 mm; probabilmente in tutta Europa escluso l'area caucasica; **A:** TR (Marggi *et al.*, 2017).....***stephensi*** Crotch, 1866
La specie è citata di Turchia e descritta come aberrazione (Salur, près Isparta, sub "*stephensi* ab. *angustus* nov."; 1 ♂ 1 ♀ leg. Coiffait) da Schuler (1957);

non siamo riusciti a trovare la serie tipica; riteniamo che la presenza nell'area debba essere verificata.

- specie che si differenziano almeno per un carattere tra quelli sopracitati 17

17 specie di taglia minore, 4.10 – 6.00 mm: edeago di taglia minore, 0.95 – 1.60 mm 18

- specie di taglia maggiore, 6.00 – 8.40 mm; edeago di taglia maggiore, 1.80 – 3.00 mm, tutti con margine ventrale provvisto di notevole gibbosità; spermateca con cavità distale provvista di una strozzatura anulare o solitamente di un accenno di piega anulare 24

18 femori completamente giallo rossicci, giallo aranciati o inscuriti solo alla base 19

- femori completamente inscuriti o leggermente inscuriti, con apice chiaro, oppure inscuriti per metà.....20

19 femori completamente giallo rossicci; elitre reticolate almeno dal quarto apicale, molto spesso reticolazione più estesa, anche completa; antenne solitamente inscurite dal terzo o quarto articolo, raramente completamente giallo rossicce; elitre bluastro verdastre; edeago di piccole dimensioni, 0.95 – 1.06 mm, margine ventrale senza gibbosità, pacchetto squanigero che fuoriesce ma all'interno del bulbo basale (Fig. 21); spermateca A, dotto semplice; 4.10 – 5.00 mm; **E:** AL, BH, BU, CR, FR, GG, GR, HU, MC, RO, SB, SL, ST, TR, YU (Marggi *et al.*, 2017); AB (Belousov & Sokolov, 1986); **A:** TR (Neri & Gudenzi, 2013) ....***brunnicorne*** Dejean, 1831

- femori giallo rossicci o giallo aranciati leggermente inscuriti alla base; antenne inscurite dalla metà del terzo o quarto articolo; elitre blu verde scuro con riflessi rossastri verso l'apice, completamente reticolate; edeago di maggiori dimensioni, 1.36 – 1.40 mm, margine ventrale senza gibbosità, pacchetto squamigero che fuoriesce quasi completamente dal bulbo basale (Fig. 16); spermateca B, dotto contorto; 5.00 – 5.85 mm; **E:** AB, AR; **A:** IN (Marggi *et al.*, 2017)..... .....***lirykense*** Reitter, 1908

20 elitre completamente reticolate a maglie isodiametriche; capo con tempie solo leggermente oblique verso il collo; antenne, penultimo articolo dei palpi bruno oscurati, femori bruno oscurati escluso l'estremo apice; elitre brunastre scure con riflessi rossastri, con la massima larghezza circa alla metà; edeago di medie dimensioni, 1.24 mm, che si attenua gradualmente verso l'apice, margine ventrale lineare con quarto apicale chiaramente piegato ventralmente, pacchetto squamigero che fuoriesce ma all'interno del bulbo basale (Fig. 19); spermateca A, dotto semplice; 5 – 5.9 mm; **A:** TR (Marggi *et al.*, 2017)..... .....***klimai*** Neri & Gudenzi, 2012

- elitre con reticolo, totale o parziale, a maglie trasverse 21

21 antenne con almeno il primo articolo giallo testaceo oppure giallo testacee leggermente ferruginee dal quarto articolo 22

- antenne completamente bruno oscurate.....23

22 antenne giallo testacee, leggermente ferruginee dal quarto articolo; femori testacei appena inscuriti; capo con tempie solo leggermente oblique verso il collo; elitre a colorazione bruno scura, ovoidali, molto allargate dopo la metà; sottospecie descritta su di una sola ♀; 5.30 mm; **A:** TR (Marggi *et al.*, 2017).....♀ ***cilicicum syriacum*** De Monte, 1947

- antenne con i primi due articoli giallo testacei ed i seguenti oscurati dalla metà del terzo; femori oscurati almeno per metà; capo con tempie brevi ed oblique; elitre quasi completamente reticolate, ma di difficile visibilità nella metà basale, maggiormente distinguibile nelle ♀♀; strie elitrali fortemente e profondamente punteggiate, tanto che le interstrie appaiono leggermente convesse; nel terzo basale delle strie 3 e 4 (spesso anche della 2) la distanza tra i punti è uguale alla metà della larghezza di un punto (Fig. 5); edeago, 1.44 – 1.48 mm, pacchetto squamigero che fuoriesce per metà dal bulbo basale, margine ventrale con evidente gibbosità; spermateca A, dotto spiraliforme; 4.75 – 5.85 mm; **E:** AB, AR. GG, ST; **A:** TR (Marggi *et al.*, 2017) ....***adygorum*** Belousov & Sokolov, 1996

Le citazioni per la Turchia di *deletum* Serville, 1821 (Neri & Toledano, 2013; Neri & Toledano, 2016) sono da riferirsi ad *adygorum*.

- antenne con il primo articolo, a volte anche il secondo, chiaro; femori più o meno inscuriti per due terzi, a volte quasi totalmente escluso l'apice; capo con tempie brevi ed oblique; elitre completamente reticolate, raramente completamente nerastre, più spesso con due macchie preapicali rossastre, a contorni indefiniti, oblique, divise dalla prima interstria, apice bruno; strie elitrali normalmente punteggiate, interstria piana, la distanza tra i punti è pari alla grandezza del punto (Fig. 4); edeago 1.42 – 1.61 mm (Fig. 7), pacchetto squamigero che fuoriesce completamenete dal bulbo basale, margine ventrale con notevole gibbosità; spermateca A, dotto spiraliforme (Fig. 10); 5.10 – 6.00 mm (Fig. 2); **A:** IN .....***augusti*** n. sp.

23 specie di maggiori dimensioni, 5.50 – 6.00 mm; pronoto più largo alla base (1.07-1.12 mm) e nel punto di massima larghezza (1.36 -1.43 mm), base evidentemente più larga del margine anteriore; elitre reticolate a maglie trasverse nel quarto apicale, reticolo che può essere accennato anche ai lati fino quasi agli omeri, disco centrale senza reticolazione; edeago di maggiori dimensioni, 1.29 – 1.33 mm (Figg. 17, 24); spermateca B, dotto semplice; **A:** TR (Marggi *et al.*, 2017) ....***weiratherianum*** Netolitzky, 1932

- specie di minori dimensioni, 4.60 – 5.50 mm; pronoto più stretto alla base (0.86 - 1.00 mm) e nel punto di massima larghezza (1.36 - 1.31 mm), base in genere larga quanto il margine anteriore; elitre con reticolo a maglie trasverse all'apice nei ♂♂, nel quarto apicale nelle ♀♀; edeago di minori dimensioni, 1.13 – 1.17 mm, che si attenua gradualmente verso l'apice, margine ventrale lineare con quarto apicale appena piegato ventralmente, pacchetto squamigero che fuoriesce ma all'interno del bulbo basale (Fig. 20); spermateca B, dotto semplice; **A:** TR (Marggi *et al.*, 2017)..... .....***cilicicum cilicicum*** De Monte, 1947

24 elitre giallo rossastre, giallastre, giallo brunastre, brunastre rossastre o marroni 25

- elitre blu o blu verdastre, splendenti, a volte con riflessi rossastri o brunastri 26

25 esemplari maturi con elitre color marrone o marrone scuro e un riflesso metallico verdastro; occhi meno convessi e tempie cortissime, indistinte; elitre a lati debolmente arrotondati; terzo articolo delle antenne una volta e mezzo la lunghezza del secondo; sottospecie descritta delle pendici meridionali del Tauro di Cilicia, Tauro centrale e orientale fino al Gyaur dag (Fassati 1990); edeago (1.91 mm) slanciato, di larghezza uniforme, con pacchetto squamigero che fuoriesce quasi completamente dal bulbo basale; 6.7 – 7.5 mm; **E:** GG; **A:** TR (Marggi *et al.*, 2017)..... .....***grandipenne bulgardagense*** Fassati, 1990

- esemplari maturi con elitre da giallo ocra a marrone chiaro o marrone; occhi meno convessi e tempie cortissime, indistinte; elitre con lati, nel primo terzo, quasi paralleli, poi fortemente arrotondati; terzo articolo delle antenne una volta e mezzo la lunghezza del secondo; sottospecie descritta del Libano; edeago (1.91 mm) slanciato, di larghezza uniforme, con pacchetto squamigero che fuoriesce completamente o quasi completamente dal bulbo basale; 7.0 – 8.0 mm; **A:** IN, IS, LE, TR (Marggi *et al.*, 2017); SY (Fassati, 1990) .....***grandipenne freyi*** Netolitzky, 1937
Possibile confusione con il taxon precedente. Riteniamo che la presenza della sottospecie in Turchia debba essere confermata.

- elitre distintamente brunastre; specie mediamente più piccola (6.00 – 7.25 mm); occhi più convessi e tempie più distinte; terzo articolo delle antenne una volta e tre quarti la lunghezza del secondo; edeago, 1.85 mm (Fig. 14), con terzo apicale più attenuato (larghezza, prima della gibbosità, notevolmente più grande della larghezza dopo la gibbosità), pacchetto squamigero completamente fuoriuscito dal bulbo basale; cavità distale della spermateca con un accenno di piega anulare, dotto contorto; **E:** AB (Marggi *et al.*, 2017) ....***phryganobium*** Belousov & Sokolov, 1996

26 specie di grande taglia, 7.10 – 8.40 mm; edeago enorme (2.65 - 3.00 mm), pacchetto squamigero che fuoriesce completamente dal bulbo basale (Fig. 12);

occhi piccoli e poco convessi, tempie lunghe, appena oblique verso il collo; antenne appena inscurite dalla metà del quarto articolo, molto lunghe, raggiungenti la metà delle elitre; elitre notevolmente allargate nel terzo apicale; cavità distale della spermateca con un accenno di piega anulare, dotto ampio e contorto; **E:** GG; **A:** TR (Marggi *et al.*, 2017).....…
.....***imereticum*** Belousov & Sokolov, 1996

- specie di taglia mediamente inferiore (6.20 – 7.25 mm); occhi più convessi con tempie corte e più oblique verso il collo; edeago di grande taglia, 1.82 – 2.17 mm, pacchetto squamigero che fuoriesce totalmente o parzialmente dal bulbo basale 27

27 elitre ampiamente arrotondate ai lati, il punto più largo è posto a metà della loro lunghezza e il disco è distintamente depresso; terzo articolo delle antenne poco meno di due volte la lunghezza del secondo; larghezza del pronoto / larghezza del capo: 1.21-1.32; edeago 2.17 mm, dall'aspetto più voluminoso per tutta la sua lunghezza (Fig. 13); spermateca B, dotto contorto; 6.60 – 7.25 mm; **E:** ST (Marggi *et al.*, 2017) .....
.....***olegleonidovici*** Fassati, 1990

- elitre più o meno ovoidali, che hanno la maggiore larghezza dopo la metà; terzo articolo delle antenne una volta e mezzo, o poco più, la lunghezza del secondo; larghezza del pronoto / larghezza del capo: 1.17 - 1.23; edeago slanciato, dall'aspetto meno voluminoso per tutta la sua lunghezza 28

28 elitre ovoidali che hanno la maggiore larghezza dopo la metà; capo con occhi meno sporgenti; edeago (1.82 – 2.11 mm) slanciato, di larghezza uniforme (Fig. 22); cavità distale della spermateca con strozzatura anulare più o meno distinta, dotto ampio e contorto; 6.20 – 7.00 mm; **E:** AL, BU. GR, KO, MC, ME, YU; **A:** CY, IN, TR (Marggi *et al.*, 2017).....
.....***grandipenne grandipenne*** Schaum, 1862

- elitre moderatamente ovoidali, nel primo terzo quasi subparallele, che si allargano posteriormente ed hanno la maggiore larghezza dopo la metà, particolarmente nelle ♀♀; capo con occhi più sporgenti; edeago 1.82 – 1.97 mm (Fig. 6), slanciato, con terzo apicale più attenuato (larghezza, prima della gibbosità, più grande della larghezza dopo la gibbosità); spermateca con dotto ampio e contorto (Fig. 9); 6.40 – 7.10 mm (Fig. 1); **A:** IN.....***grandipenne safavidense*** n. ssp.

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