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New and little known species of the subgenus *Haplomaseus* (Coleoptera: Carabidae: *Pterostichus*) from Turkey

Noví a málo známí zástupci podrodu *Haplomaseus* (Coleoptera: Carabidae: *Pterostichus*) z Turecka

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Carabidae, Pterostichini, *Pterostichus*, *Haplomaseus*, Turkey, taxonomy, new species, key, lectotype designation

Abstract. The Turkish species of the subgenus *Haplomaseus* Reitter, 1896 (genus *Pterostichus* Bonelli, 1810) are reviewed and a key to the identification of known species of the subgenus *Haplomaseus* is given except *Pterostichus* (*Haplomaseus*) *jugicola* (Lutshnik, 1933). The following six new species are described and illustrated: *Pterostichus* (*Haplomaseus*) *ikizderensis* sp. n., *P.* (*H.*) *balikliensis* sp. n., *P.* (*H.*) *pseudoastutus* sp. n., *P.* (*H.*) *skoupyi* sp. n., *P.* (*H.*) *staveni* sp. n. and *P.* (*H.*) *tanjae* sp. n. Seven species are redescribed: *P.* (*H.*) *arator* (Faldermann, 1836), *P.* (*H.*) *armenus* (Faldermann, 1836), *P.* (*H.*) *astutus* (Tschitschérine, 1903), *P.* (*H.*) *consanguineus* (Chaudoir, 1878), *P.* (*H.*) *giresuni* Jedlička, 1965, *P.* (*H.*) *heinzi* Jedlička, 1965 and P. (*H.*) *woronowi* (Lutshnik, 1916). The lectotype of *Pterostichus* (*Haplomaseus*) *arator* (Faldermann, 1836) is designated. The diagnosis of the subgenus *Haplomaseus*, created by previous authors on the basis of the study of Caucasian members of the subgenus, is confirmed as generally valid.

INTRODUCTION

During the last years many coleopterologists visited Turkey, often travelling to the mountainous areas in the north-eastern part, the so-called Pontic chain, and collected many interesting species of carabid beetles. Some species belonging to the subgenus *Haplomaseus* Reitter, 1896, of *Pterostichus* Bonelli, 1810, proved to be very difficult to identify. Eleven species of *Haplomaseus* have been described so far, seven of which have been known to occur in Turkey (Casale & Vigna Taglianti 1999, Reitter 1902). Having studied the few recent literary sources (Jedlička 1965, Kryzhanovskij & Abdurakhmanov 1983, Kryzhanovskij 1989, Belousov 1991) and available type material, we could distinguish several undescribed species among the recently collected specimens. In the following text we give descriptions of six new species and redescription or comments on previously described taxa. Moreover we confirm the morphological characteristics of the subgenus *Haplomaseus*, given by Reitter (1896) and completed by Kryzhanovskij (1989) and Belousov (1991), who studied the Caucasian members of the subgenus. Finally, we provide an identification key for all known species belonging to the subgenus *Haplomaseus* except one enigmatic species, the somewhat obscure *P. jugicola* (Lutshnik, 1933), from Caucasus.

HISTORICAL REVIEW

The subgenus *Haplomaseus* was established for *Pterostichus armenus* (Faldermann, 1836) in Reitter's (1896) work on Caucasian *Pterostichus* species related to *P. caucasicus* (Ménétriés, 1832). Reitter (1896) also described a related subgenus, *Eurymelanius*, in which he included five species: *P. caucasicus* (Ménétriés, 1832), *P. abagonensis* Reitter, 1896, *P. kubanicus* Reitter, 1896 – later synonymised with *P. caucasicus* (Ménétriés), *P. tamsii* (Dejean, 1831) and *P. inapertus* (Faldermann, 1836) – synonym of *P. tamsii* (Dejean) (Kryzhanovskij et al. 1995). Another related species, *P. arator* (Faldermann, 1836), was unknown to Reitter and he considered it close to *P. inapertus*.

Tschitschérine (1897) revised the same group of species shortly after Reitter but he did not recognised them as members of different subgenera. He corrected some Reitter's (1896) inaccuracies and gave a complete list of synonyms of all included species. Tschitschérine (1897) shown in the identification key that *P. arator* shares an important morphological character with *P. armenus*: the presence of dense short pubescence on the apical part of third antennomere. He also described *P. andreae* Tschitschérine, 1897, just before a note on species recently classified in the subgenera *Haplomaseus* and *Eurymelanius*, but did not include it in the group under question.

Subsequently Reitter (1902) described a new variety of *P. arator* – var. *perlidaghensis* – and placed this taxon in his subgenus *Haplomaseus*. Tschitschérine (1903) and later Lutshnik (1916) did not consider subgenera *Haplomaseus* and *Eurymelanius* as independent taxa; the latter author considered *Haplomaseus* as the valid subgeneric name for species belonging to both groups. Both authors described new species, which now belong to the subgenus *Haplomaseus* – *P. astutus* Tschitschérine, 1903, and *P. woronowi* Lutshnik, 1916. Finally, Lutshnik (1916) expressed doubts that *P. consanguineus* (Chaudoir, 1878) belongs to this subgenus.

Lutshnik (1933) later described (in the genus *Platysma*) two species from Caucasus – *P. krulikovskyi* and *P. jugicola* – as members of the subgenus *Haplomaseus*. *Pterostichus krulikovskyi* probably belongs (data in original description; I. Belousov, pers. comm.) to the subgenus *Eurymelanius*. *Pterostichus jugicola* was since then mentioned only twice: in a key by Jedlička (1965), who obviously knew only the original description, and in the checklist of carabid beetles of the former USSR (Kryzhanovskij et al. 1995). It was ignored in recent studies of Caucasian *Haplomaseus* (Belousov 1991, Kryzhanovskij 1989) and the validity and status of this taxon is not clear.

Jedlička (1965) also described two new species from Turkey belonging to the subgenus *Haplomaseus* (*P. giresuni* and *P. heinzi*) and gave a key to *Haplomaseus* species known to him at that time. Kryzhanovskij & Abdurakhmanov (1983) redescribed of *P. andreae* and included it in the subgenus *Eurymelanius*. Later on, Kryzhanovskij (1989) recognised the subgenera *Haplomaseus* and *Eurymelanius* as independent, gave morphological characteristics of the subgenus *Haplomaseus* and provided a key for the Caucasian members of this subgenus, and described *P. megrelicus*, later synonymised with *P. andreae* by Belousov (1991). Kryzhanovskij considered the subgenus *Haplomaseus* as related to the subgenus *Oreoplatysma* Jacobson, 1906. Belousov (1991) gave the most recent characteristics of the subgenus *Haplomaseus*, described of the *P. meskheticus*, *P. olegi olegi* and *P. olegi askhicus*, and provided a new key for the Caucasian and Transcaucasian members of this subgenus.

MATERIAL AND METHODS

This paper is based on the study of more than 1,100 specimens of the subgenus *Haplomaseus* Reitter from Turkey and Caucasus, plus a few representatives of the related subgenus *Eurymelanius*. Most material is deposited in the collection of junior author. Listed below, with abbreviations used in the text, are the names of collectors and institutions from which additional material was borrowed and/or in which the type material of the new species is deposited:

cBA – collection of Jaroslav Bašta, Brno (Czech Republic)
cBU – collection of Petr Bulirsch, Praha (Czech Republic)
cDU – collection of Gerard Dubault, Savigny/Orge (France)
cGR – collection of František Grycz, České Budějovice (Czech Republic)
cHE – collection of Walter Heinz, Schwanfeld (Germany)
cHO – collection of Oldřich Hovorka, Dobříš (Czech Republic)
cJA – collection of Miroslav Janata, Praha (Czech Republic)
cLA – collection of Bernard Lassalle, Vanves (France)
cLO – collection of Roman Lohaj, Košice (Slovakia)
cMA – collection of Jan Macek, Mirošov (Czech Republic)
cME – collection of Josef Mertlik, Hradec Králové (Czech Republic)
cMNHN – collection of Museum National d'Histoire Naturelle, Paris (France) (T. Deuve)
cMSNM – collection of Museo Civico di Storia Naturale, Milano (Italy) (F. Rigato)
cNMP – collection of National Museum, Praha (Czech Republic) (J. Jelínek)
cSCH – collection of Peer Schnitter, Halle (Germany)
cSCI – collection of Riccardo Sciaky, Milano (Italy)
cSK – collection of Vladimír Skoupý, Žilina (Czech Republic)
cST – collection of Klaus Staven, Lengede (Germany)
cVO – collection of Pavel Vonička, Liberec (Czech Republic)
cWR – collection of David W. Wrase, Berlin (Germany)
cZI – collection of Vladimír Zieris, Pardubice (Czech Republic)
cZISP – collection of Zoological Institute of the Russian Academy of Sciences, Sankt Petersburg (Russia) (I. Belousov)

Measurements were made with a MBS-10 stereoscopic microscope, at magnifications of 8x, 16x and 32x. Measurements of body parts and corresponding abbreviations used in the text are as follows:
EL = elytral length – length of left elytron measured from basal border (ridge) to apex;
EW = elytral width – maximal width of both elytra combined;
HW = width of head – maximal width of head (including eyes);
PL = pronotal length – length of pronotum measured along mid-line;
PW = pronotal width – maximal width of pronotum;
PW_b = width of pronotum at base, from basal angle to basal angle;
TL = total length – length measured from the apex of left mandible (mandibles closed) to the apex of left elytron;
N = number of the measured specimens (♂♂/♀♀) (usually 5/5 and given only if the number is different).

Male genitalia were mostly dissected from water-softened adults; in several specimens of every studied taxon, the genitalia were placed overnight in a cold KOH solution (8-10%) and then transferred via distilled water and 50-75-96% ethanol series into glycerol.

The collecting dates from locality label(s) are unified to the form in which day and year are written in Arabic numerals, month in Roman numerals. Local geographical names are spelled as given on original locality labels without corrections of misspellings. Comments and/or complements of incomplete (or missing) data are in square brackets. Data from every individual label are distinguished by quotation marks. All type specimens of newly described species are provided with one red printed label: "[name of species], HOLOTYPE, ALLOTYPE or PARATYPE, det. O. Hovorka & V. Skoupý".

DIAGNOSTIC CHARACTERS OF THE SUBGENUS *HAPLOMASEUS*

The subgenus *Haplomaseus* includes dark, black to dark piceous species of moderate size (TL 9.2-18.4 mm) and with a typical pterostichoid, calathoid or harpaloid habitus (Figs 1-3). They are distributed in Caucasus, Transcaucasus and North-Eastern (NE) Turkey. This group was originally characterised by the following combination of characters (Reitter 1896): 2-3 basal metatarsomeres with furrow on the outer side, third antennomere densely pubescent on inner side, claw-bearing tarsomere glabrous underneath, profemora of male thickened, penultimate labial palpomere with two setae, tooth of mentum incised, pronotum with two basal impressions on each side, elytra with distinct basal margin and with only one stria between outer side and umbilical series, metathoracic episternite longer than wide, prosternal process not margined apically, metatrochanters about half as long as femora, and female elytra dull. Some of these characters are common in *Pterostichus*, while others are not present in all recently known *Haplomaseus* species. The simultaneously described subgenus *Eurymelanius* differs from *Haplomaseus* according to the original description (Reitter 1896) mainly by the not furrowed metatarsomeres (or only the basal metatarsomere furrowed), densely pubescent antennae starting from the fourth antennomere, elytra beimg hardly duller in female than in male, profemora only slightly thickened, and sternite VII without longitudinal keel in male.

Recently, Kryzhanovskij (1989) and Belousov (1991) found a new important character distinguishing *Haplomaseus* from *Eurymelanius* – the shape of the right paramere. We have studied male specimens of almost all known *Haplomaseus* species, including the new species described below, and can confirm the general validity of this character. We thus define the subgenus *Haplomaseus* by the combination of the following three important morphological characters: (1) third antennomere pubescent terminally (except in *P. woronowi* and some specimens of *P. ikizderensis* sp. n.), (2) metatarsus with distinct furrow on 2-3 basal tarsomeres (present also in *P.* (*Eurymelanius*) *abagonensis*) and (3) right paramere strongly curved and elongate in *Haplomaseus* (short and slightly curved in *Eurymelanius* species, see Fig. 13).

Moreover, other characters are common to all *Haplomaseus* and will not be repeated in the descriptions of individual species: protibiae with two clip setae (only some specimens of *P. giresuni* have three clip setae), and with three (rarely two or four) setae ventrally between antennal cleaning organ and knee; meso- and metafemora with two posterior setae on ventral side; pro- and mesotrochanters with one subapical seta, metatrochanters with one seta in basal quarter of their length; metepisternum subquadrate; sternum VII of male usually with secondary sexual modifications such as a tubercle, depression, keel or carina and with two (in female four) setae; seventh elytral stria with two preapical setigerous punctures; aedeagus with ostium deflected to the left side, left side of membranous part with more sclerotised strip, inner sac with two sclerites and a microtrichial field; right paramere apically elongate and strongly curved; left paramere oval, with relatively long and thin basal transverse apophysis (Fig. 7); female with spermatheca more or less distinctly differentiated in receptaculum and seminal canal, receptaculum elongate; stylomere 2 elongate, lateral margin normally with two ensiform setae and medial margin with two short nematiform setae in subapical depression.

TAXONOMIC PART

Descriptions of the new species

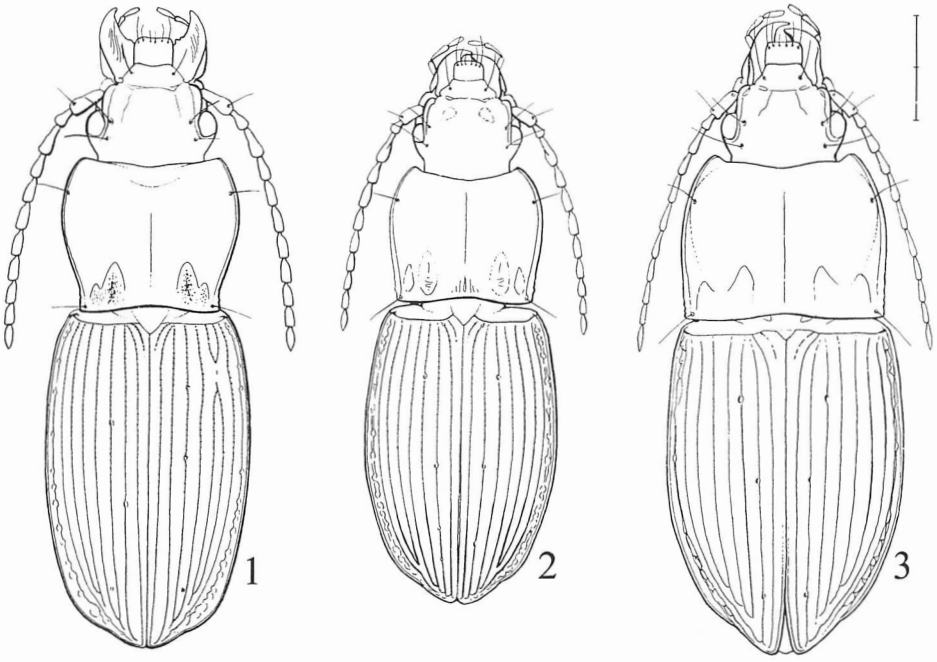
Pterostichus (*Haplomaseus*) *balikliensis* sp. n.
(Figs 14-19)

Type material. 11 specimens: Holotype – ♂, labelled "TR – Borcka, Balikli Dagi, 14.vi.1992, lgt. M. Janata" (cNMP). Allotype – ♀, the same data as holotype (cNMP). Paratypes – 7 ♂♂, 2 ♀♀, the same data as holotype (cJA, cSK, cHO).

Description. Habitus – small (TL 9.5-10.6 mm) and stout species, with body wide and depressed.

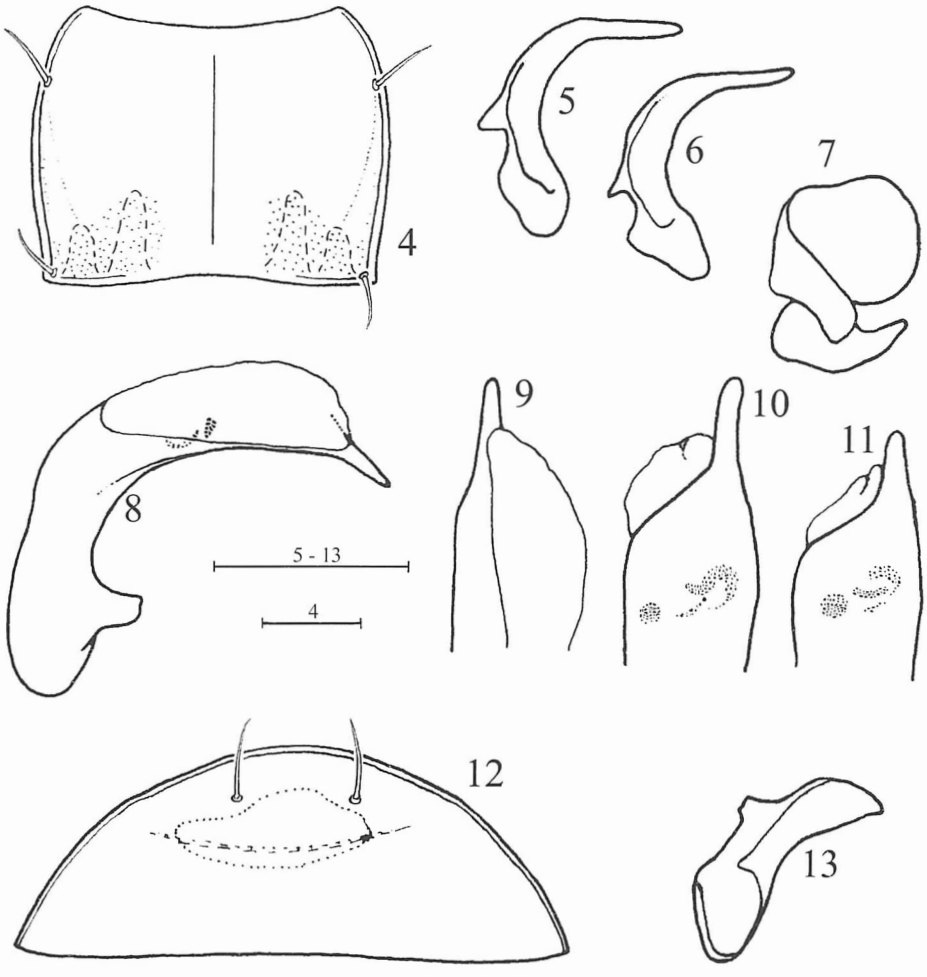
Coloration – black species, antennae black to brown black, legs with brown to brown-black femora and brown to red-brown tibiae and tarsi, palpi reddish-brown.

Microsculpture – isodiametric reticulation on labrum and in basal impressions and lateral parts of pronotum; clypeus, frons and disc of pronotum with only indistinct traces of reticulation (magnification 56x), with microscopic punctures; elytra and ventral parts of body with distinct, more or less transverse microsculpture.



Figs. 1-3: *Pterostichus* (*Haplomaseus*) species, habitus: 1 – *P. pseudoastutus* sp. n.; 2 – *P. skoupyi* sp. n.; 3 – *P. tanjae* sp. n. J. Velc del. Scale bar: 2.0 mm.

Obr. 1-3: Zástupci rodu *Pterostichus*, podrodu *Haplomaseus*, celkový vzhled: 1 – *P. pseudoastutus* sp. n.; 2 – *P. skoupyi* sp. n.; 3 – *P. tanjae* sp. n. J. Velc del. Měřítko: 2,0 mm.



Figs. 4-13: *Pterostichus* (*Haplomaseus*) *ikizderensis* sp. n. (4-12) and *Pterostichus* (*Eurymelanius*) *tamsii* (Dejean) (13): 4 – pronotum; 5,6 – right paramere (specimens from Sivrikaya and Ayder, Kavron yayla respectively); 7 – left paramere; 8 – median lobus of aedeagus, lateral view; 9 – apical part of aedeagus dorsally; 10 – apical part of aedeagus ventrally (9, 10 – specimen from the Sivrikaya); 11 – apical part of aedeagus ventrally (specimen from the Ayder, Kavron yayla); 12 – sternite VII of the male; 13 – right paramere. Scale bars: 1.0 mm.

Obr. 4-13: *Pterostichus* (*Haplomaseus*) *ikizderensis* sp. n. (4-12) a *Pterostichus* (*Eurymelanius*) *tamsii* (Dejean) (13): 4 – štít; 5, 6 – pravá paramera (jedinci z lokalit Sivrikaya (5) a Ayder, Kavron yayla (6)); 7 – levá paramera; 8 – střední lobus aedeagu laterálně; 9 – apikální část aedeagu dorzálně ; 10 – apikální část aedeagu ventrálně (exemplář z lokality Sivrikaya); 11 – apikální část aedeagu ventrálně, exemplář z lokality Ayder, Kavron yayla; 12 – VII. sternit samce; 13 – pravá paramera. Měřítka: 1,0 mm.

Elytral chaetotaxy – third elytral interval normally with three setigerous punctures, anterior puncture adjoining third stria, two posterior ones in third interval or adjoining second stria; no variability was observed in the material studied. Series umbilicata with 15-18 pores.

Head distinctly narrower than prothorax (PW/HW 1.63-1.67). Pronotum (Fig. 14) transverse (PW/PL 1.49-1.60), maximal width at midlength or before it; lateral sides only slightly narrowed towards posterior angles (PW/PWb 1.03-1.06), straight or slightly concave; anterior angles slightly prominent, obtuse; two pairs of basal impressions, inner one's sometimes shallow, but always distinct, both slightly and sometimes indistinctly punctate. Body stout, EL/EW 1.33-1.39 (both sexes). Episterna of prothorax and of mesothorax medially finely punctate; episternum of metathorax smooth. Episternum of metathorax wider than long. Elytra slightly iridescent, elytral striae moderately impressed, very slightly and indistinctly punctate, intervals slightly convex. Abdominal sternites only slightly irregularly wrinkled, without distinct punctures. Sternite VII of male (Fig. 15) with longitudinal, asymmetrically placed impression, without distinct longitudinal keel. Male genitalia as in Figs 16-19.

Differential diagnosis. The species is in many characters similar to *P.* (*H.*) *giresuni*. It is recognisable from this and other species by the following combination of characters: pronotum with two basal impressions on each side; sternite VII of the male always without tubercle, with relatively deep and sharply delimited, asymmetrically placed impression; pronotum strongly transverse, with lateral sides slightly convex or straight, only slightly narrowed towards posterior angles; median lobus of aedeagus almost symmetrically narrowed towards relatively wide apex (Fig. 19).

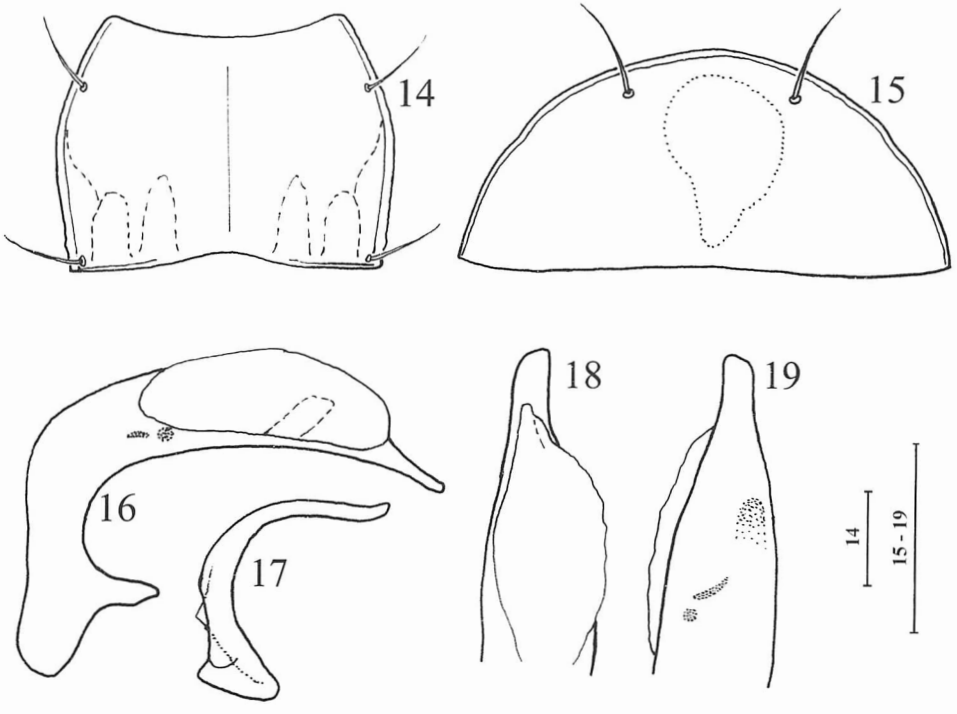
Distribution and habitat. The species is known from the forest zone of the Balikli Dağı mountain ridge, west of the town of Borçka (Fig. 90).

Name derivation. The species is named after the type locality (Balikli Dağı mountain ridge).

Pterostichus (*Haplomaseus*) *ikizderensis* sp. n.
(Figs 4-12)

Type material. 487 specimens: Holotype – ♂, labelled "Türkey, Rize, Ikizdere, Dereköy, Waldzone ±1400 m, leg. K. Staven 19.-21.vii.1987", (cNMP). Allotype – ♀, "Tr. bor. 6.vii.1996, Sivrikaya, Skoupý leg." (cNMP). Paratypes – 1 ♂, the same data as holotype (cSK); 10 ♂♂, the same data as allotype (cSK); 1 ♂, "Türkey, Rize/Erzurum, Ispir, südl. Ovit-Pass, 1500-1800 m, leg. K. Staven, 21.vii.1987" (cST); 1 ♀, "Türkey, Rize, Ikizdere, n. Ovit geçidi, 2000 m, 18.vi.1994, leg. K.+ I. Staven" (cST); 2 ♂♂, 1 ♀, "Türkey, Rize, n. Ovit geçidi, Sivrikaya, 2050 m, 22.vi.1996, leg. Staven/Skoupý" (cST); 3 ♀♀, "Türkey, Rize, Ikizdere, Dereköy, Waldzone ±1400 m, leg. Staven/Klingenberg 6.vii.1990" (cST); 2 ♂♂, 1 ♀, the same data but "19.-21.vii.1997, leg. Staven/Heinz" (cST); 1 ♀, "Türkey, Rize, Ikizdere, Dereköy/Camlik, 6.vii.1996, leg. Staven/Skoupý" (cST); 6 ♂♂, 1 ♀, the same data as allotype but "22.vi." (cSK); 4 ♂♂, 3 ♀♀, "Tr. bor. 5.vii.1996, Dereköy (Ikizdere), Skoupý leg." (cSK); 22 ♂♂, 4 ♀♀, "Tr. or. 11.vi.1994, Sivrikaya, Ovitdagi pass, Skoupý leg." (cSK, cHO, cMSNM); 9 ♂♂, 4 ♀♀, "Tr. bor. 6.vii.1996, Ispir Ovit geç., Skoupý leg." (cSK); 1 ♂, "Tr. bor. or. 31.v.2000, Ovit south 2100 m, Skoupý leg." (cSK); 3 ♂♂, 2 ♀♀, "Turquie, Col Ovit 2700 m, 22.vi.1998, G. Dubault leg." (cDU); 4 ♂♂, 3 ♀♀, the same data but "2500 m, 23.vi.1998" (cDU); 1 ♂, 1 ♀, "Ikizdere 1900 [m a.s.l.], Rize Turquie, viii.[19]87, leg. B. Lassalle (cDU); 1 ♂, 2 ♀♀,

the same data but "vii.1987" (cLA); 1 ♂, "Camlik 2000 [m a.s.l.], Rize Turquie, vi.91, leg. B. Lassalle" (cDU); 62 spec. [unsexed], "Ayder 2000 m, Rize Turquie, 2.vii.1998, G. Dubault leg. " (cDU); 10 spec. [unsexed], the same data but "1600 m" (cDU); 4 spec. [unsexed], the same data but "24.vi., 1300 m" (cDU); 4 ♂♂, 2 ♀♀, "Tr. bor. or., 15.vii.1998, Ikizdere Çamlik 1300 m, Skoupý leg." (cSK); 13 ♂♂, 7 ♀♀, the same data but "1500 m, 31.v.2000" (cSK); 2 ♀♀, "Cat Baskoy, Rize Turquie, 22.viii.[19]72, leg. B. Lassalle" (cDU); 1 ♂, "Çat, 1250 m, Rize Turquie, 30.vi.1998, G. Dubault leg." (cDU); 3 ♂♂, "Turkey NE, prov. Rize, Soganli Dagi Mts., 2000 m, Sivrikaya env., 23.vi.1998, Pavel Vonička lgt." (cVO); 4 ♂♂, "TR (Rize), Karos yayla, SW Kaptanpaşa, 1800-2400 m, 25.vii.1992, leg. Heinz" (cHE); 1 ♂, 1 ♀, "TR (Rize), Kaçkar – Berge b. Başköy (s. Camlihemşin) 2000 m, 21.vii.1992, Heinz leg." (cHE); 2 ♂♂, 1 ♀, "Anatolia bor., W. Heinz leg.", "Pass s.Ikizdere, 2000-2500 m, 27.viii.1965" (cHE); 1 ♂, 3 ♀♀, "Anatolia bor., Pass südl. Ikizdere, ca 2000-2500 m, 27.viii.1966" (cHE); 4 ♂♂, 7 ♀♀ + 23 spec. [unsexed], the same locality but "4.viii.1965" (cHE); 7 ♂♂, 11 ♀♀ + 46 spec. [unsexed], "Anatolia bor., Heinz leg." "Tal v. Ardesen (Ayder), 1000-1600 m, 2.viii.1965"



Figs. 14-19: *Pterostichus* (*Haplomaseus*) *balikliensis* sp. n.: 14 – pronotum; 15 – sternite VII of the male; 16 – median lobus of aedeagus laterally; 17 – right paramere; 18 – apical part of aedeagus dorsally; 19 – apical part of aedeagus ventrally. Scale bars: 1.0 mm.

Obr. 14-19: *Pterostichus* (*Haplomaseus*) *balikliensis* sp. n.: 14 – štít; 15 – VII. sternit samce; 16 – střední lobus aedeagu laterálně; 17 – pravá paramera; 18 – apikální část aedeagu dorzálně; 19 – apikální část aedeagu ventrálně. Měřítka: 1,0 mm.

(cHE); 11 spec. [unsexed] "Anatolia bor., Heinz leg." "Tal v. Ardesen oberh. Ilica (Ayder), 1600-2000 m, ob. Waldzone, 2.vii.1983" (cHE); 1 ♂, "Tal v. Ardesen, Kavron-yayla 2100-2600 m, 2.vii.1983, leg. Heinz, Nordost-Anatolien" (cHE); 1 ♀, "NO Anatolien, Heinz leg., Pass südl. Ikizdere, 1500-2500 m, 21.viii.1978" (cHE); 7 spec. [unsexed], "Anatolia bor., Tal v. Ardesen (Ayder), 1400 m, 11.vi.1966, Blumenthal leg." (cHE); 6 ♂♂, "TR (Rize), Kaçkar-Berge b. Elevit (s. Camlihenşin), 17[00]-1800 m, 22.vii.1992, Heinz leg." (cHE); 2 ♂♂, 2 ♀♀, "Türkey, Rize, n. Ayder, Kavron yayla 1750-1950 m, 23.vi.1996, leg. Staven/Skoupý" (cST); 1 ♂, 2 ♀♀, "Türkey, Rize, s. Ayder, 1500-1600 m, 23.vi.1996, leg. Staven/Skoupý" (cST); 1 ♂, the same data but "8.viii.1995, leg. Staven/Hinze" (cST); 17 ♂♂, 9 ♀♀, "Tr. bor., 5.vii.1996, Ayder 1500-1750 m, Skoupý leg." (cSK); 3 ♂, the same data but "1750-1950 m" (cSK); 46 ♂♂, 25 ♀♀, "Tr. bor. or., 14.vii.1998, Ayder – Kavron yayla, 2200 m, Skoupý leg." (cSK); 3 ♂♂, "Turkey b.or., 14.vii.1998, Dogu Karadeniz Daglari, Ayder Kaplica env. /pr. Rize/, 2300-2700 m, alp snow, S. Benedikt leg." (cZI); 2 ♀♀, "TR vill. Erzurum, Ovitdagi Geçidi, 9.-10.vi.2000, Josef Mertlik lgt." (cME); 5 ♂♂, 2 ♀♀, "TR vill. Rize 8.-9.vi.2000, Ovitdagi Geçidi env., Çamlik, Josef Mertlik lgt." (cME); 1 ♀, "Kleinasien, Prov. Rize, NO – Anat.; Randgebirge, Kaçkar-" "Massiv, 1200 m, Iliça, 14./15.viii.1978, leg. DeFreina" (cWR); 2 ♂♂, 1 ♀, "Kleinasien, Prov. Rize, Soganli-Daglari" "Ovit-Pass-Nord-Seite, 1500/1800 m, 11.-12.viii.1983, leg. DeFreina" (cWR); 1 ♂ "Türkei – Rize, Region Dogu Karadeniz Bölümü, Ikizdere 1400 m, 20.vi.-18.vii.1989, leg. I. Wolf" (cWR); 1 ♂, 3 ♀♀, "Türkey/Rize, Kackar Geb., Ayder, 1400-1700 m", "21.-28.viii.1989, leg. Aistleitner & Görgner" (cWR); 1 ♂, "Türkey/Rize, Ovit Gec., 1800-2000 m", "11.-18.viii.1989, leg. Aistleitner & Görgner" (cWR); 3 ♂♂, 4 ♀♀, "Türkey, Rize, Ayder, n. Kavron yayla, 23.vi.1996, leg. Staven/Skoupý 1750-1950 m" (cSCH); 1 ♂, the same data but "1500-1600 m" (cSCH); 2 ♂♂, "Türkey, Rize, n. Ovit gecidi, Sivrikaya 2050 m, leg. Staven/Skoupý 22.vi.1996" (cSCH); 1 ♂, "Türkei, Rize, S Ikizdere, n. Ovit gecidi 2000 m, leg. Staven 18.vi.1994" (cSCH); 1 ♂, "Türkei, Rize, Ikizdere, Dereköy, Waldzone, 19.-21.vii.1987, leg. Staven" (cSCH); 2 ♂♂, 1 ♀, the same data but "29.vi.1989" (cSCH).

Description. Habitus – relatively small (TL 9.3-11.2 mm), stout species, similar to *P. heinzi*. Body wide and depressed.

Coloration – dorsum black to brown-black, legs and palpi reddish-brown. Antennae black, scapus sometimes brown-black to red-brown.

Microsculpture – isodiametric reticulation on labrum and in basal impressions and lateral parts of pronotum; clypeus, frons and disc of pronotum with only indistinct traces of reticulation (magnification 56x), with microscopic punctures; elytra and ventral parts of body with distinct, more or less transverse microsculpture.

Elytral chaetotaxy – third elytral interval normally with three setigerous punctures, anterior puncture adjoining third stria, two posterior ones in third interval or adjoining second stria. Rarely one elytron with a fourth, unpaired puncture or with one setigerous puncture (usually second) is missing. Series umbilicata with 15-18 pores.

Head distinctly narrower than prothorax, PW/HW 1.59-1.66. Pronotum (Fig. 4) transverse, PW/PL in males slightly less (1.46-1.49) than in females (1.51-1.57). Maximal pronotal width near midlength; lateral sides slightly concave or straight before posterior angles but only slightly narrowed towards them (PW/PW_b 1.04-1.10); anterior angles slightly prominent, obtuse; two pairs of basal impressions, inner one's sometimes shallow, but always distinct, both distinctly punctate. Episternum of metathorax wider than long. Elytra dull in both sexes,

elytral striae slightly impressed on disc, more distinctly towards apex, slightly but distinctly punctured; intervals very slightly convex. Body stout, EL/EW 1.34-1.40 (in both sexes). Elytral striae, basal impressions of pronotum, thoracic episterna and lateral part of basal abdominal sternites distinctly punctured. Sternite VII of male (Fig. 12) with transverse furrow or impression, without distinct longitudinal keel. Male genitalia as in Figs 5-11.

Variability. Specimens vary in two important characters. The easternmost population from the Kaçkar Dağı differs from others by the absence or strong reduction of the dense pubescence on third antennomere and by a shorter apex of the median lobus of aedeagus (see Figs 10, 11). As transitional specimens are known within population from Kaçkar Dağı and no differences were found in other characters, we consider this and other examined populations as conspecific. We do not want to give any formal status or name to this population before a more intensive study in the future.

Differential diagnosis. Specimens with a bare third antennomere differ from *P. woronowi*, sharing the same character state, by shorter and stouter body, non-cordate pronotum and longer and narrower apex of the median lobus of aedeagus. Specimens with pubescent third antennomere (as normal for *Haplomaseus*) differs from consubgeners by the following combination of characters: pronotum with two basal impressions on each side; sternite VII of the male always without tubercle and without impression or with only shallow and indistinctly delimited impression; pronotum transverse, not cordiform, pronotal base distinctly punctured (at least on the bottom of both basal impressions), lateral sides of pronotum convex or straight, only slightly narrowed towards posterior angles; aedeagal apex strongly and asymmetrically narrowed with a characteristic shape (Figs 9-11).

Distribution and habitat. The species is known from the forest and alpine zone (above 1300 m a.s.l.) of the eastern part of the Soğanli Dağı mountain ridge between the towns of Ikizdere and Ispir (Fig. 90), reaching eastwards to the region of Kaçkar Dağı (the highest part of Karadeniz Dağlari).

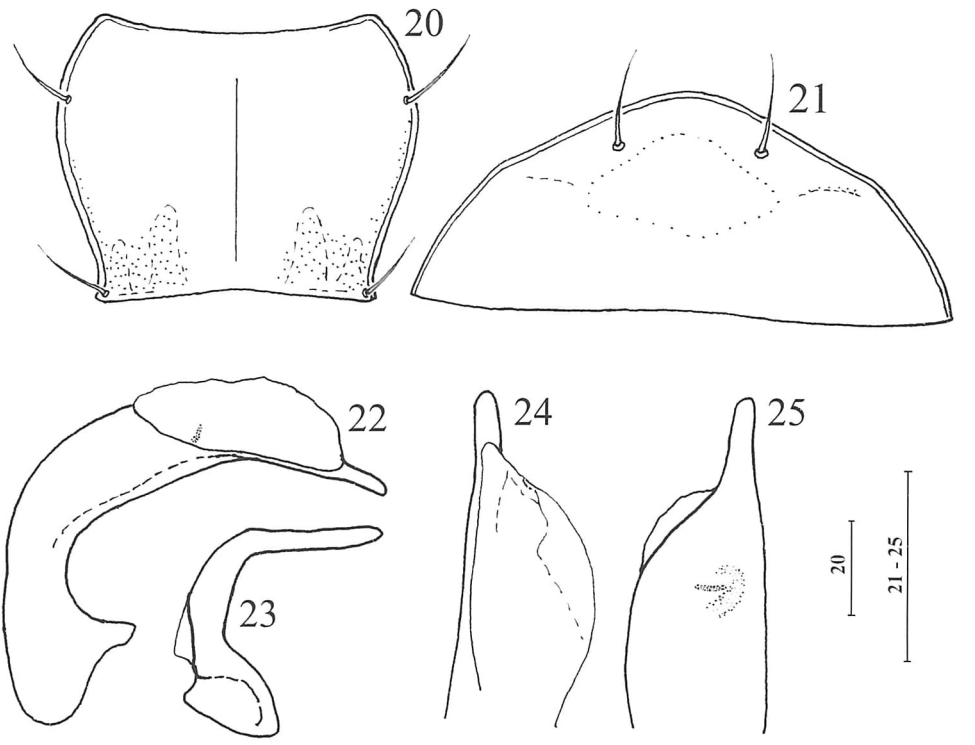
Name derivation. The specific name is derived from the name of the type locality (Ikizdere).

Pterostichus (*Haplomaseus*) *pseudoastutus* sp. n.
(Figs 1, 20-25)

Type material. 27 specimens: Holotype – ♂, labelled "Tr. bor., 6.vii.1996, Ispir Ovit south, Skoupý leg." (cNMP). Allotype – ♀, "Tr. or., 2.vi.1994, Ispir env., Skoupý leg." (cNMP). Paratypes – 1 ♂, 2 ♀♀, the same data as holotype (cSK); 1 ♂, "Yalnizcam 1700 [m a. s.l.], Artvin Turquie, vi.[19]80, leg. B. Lassalle" (cHO); 1 ♂, 5 ♀♀, "Ispir 1600 [m a.s.l.], Erzurum Turquie, vii.[19]88, leg. B. Lassalle" (cDU, 1 ♀ cHO); 5 ♂♂, 3 ♀♀, the same data (cLA); 4 ♂♂, 1 ♀, "Anatolia bor., Heinz leg.", "Pass südl. Ikizdere (Südseite), 1700-2400 m, 24.vi.1975" (cHE); 1 ♂, "Anatolia bor., Heinz leg.", "Nördl. v. Ispir, ca. 1400 m" (cHE); 1 ♂, "Türkei, Erzurum, Ispir, s. Ovit geç., w. Talseite +1750 m, leg. Staven/Skoupý, 6.vii.1996" (cST).

Description. Habitus – narrow species of moderate size (TL 10.8-12.4 mm). Body depressed, elongate.

Coloration – black, whole legs and palpi brown to reddish-brown. Antennomeres black to brown-black, apical antennomeres paler. Lateral margins of pronotum and elytra often brownish.



Figs. 20-25: *Pterostichus* (*Haplomaseus*) *pseudoastutus* sp. n.: 20 – pronotum; 21 – sternite VII of the male; 22 – median lobus of aedeagus, lateral view; 23 – right paramere; 24 – apical part of aedeagus dorsally; 25 – apical part of aedeagus ventrally. Scale bars: 1.0 mm.
Obr. 20-25: *Pterostichus* (*Haplomaseus*) *pseudoastutus* sp. n.: 20 – štít; 21 – VII. sternit samce; 22 – střední lobus aedeagu laterálně; 23 – pravá paramera; 24 – apikální část aedeagu dorzálně; 25 – apikální část aedeagu ventrálně. Měřítka: 1,0 mm.

Microsculpture – dense isodiametric reticulation on labrum; head dorsally without any visible reticulation (magnification 56x), only with very fine punctures, which are more dense laterally and posteriorly; pronotum with isodiametric to slightly transverse reticulation, distinct on basis and along lateral margins; elytra dull, in both sexes with distinct isodiametric reticulation; whole ventral side of body with dense and fine isodiametric to slightly transverse reticulation.

Elytral chaetotaxy – third elytral interval with three (in one case with four) setigerous punctures, anterior puncture adjoining third stria, two posterior ones adjoining second stria. Series umbilicata with 16 to 18 pores.

Head distinctly narrower than pronotum, PW/HW 1.41-1.48 (average 1.44, N=12). Pronotum (Fig. 20) transverse, PW/PL 1.31-1.44 (average 1.38, N=12), distinctly concave before posterior angles, strongly constricted towards its base (PW/PW_b 1.22-1.31). Anterior angles of pronotum obtuse, moderately prominent. Basal pronotal impressions distinct, whole base and lateral sides along margin distinctly punctate. Disc of pronotum less convex than

in *P. astutus*, space between outer basal fovea and lateral margin flat or slightly convex. Pro-, meso- and metathoracic episternites punctate; episternum of metathorax subquadrate. Lateral parts of prosternite and basal abdominal sternites punctate. Elytra narrow, elongate, almost parallel, EL/EW 1.52-1.62 (average 1.56, N=12). Elytral striae moderately deep, distinctly punctured, intervals slightly convex. Sternite VII of male (Fig. 21) without any distinct impression or keel, only very slightly depressed or planar in the posterior half. Male genitalia as in Figs 22-25.

Differential diagnosis. The species is habitually somewhat similar to *P. astutus* or to small specimens of *P. woronowi*. It is recognisable from those and other consubgeners by the following combination of characters: body elongate and narrow; pronotum cordate and at base clearly punctate, strongly narrowed towards base, with space between outer basal fovea and lateral margin flat or only slightly convex; elytral striae deep and strongly punctate; sternite VII of male practically unmodified; and shape of aedeagus (Figs 22-25).

Distribution and habitat. The species is known from the forest zone (around 1600 m a.s.l.) of the eastern part of Soğanli Dağı, near the road between Ispir and Ovitdağı Geçidi (Fig. 90). A single specimen was collected in Yalnizçam Dağlari east of Artvin at 1700 m a.s.l. Occurrence of the species in the area between these localities is not known.

Name derivation. The name of the species refers to its habitual similarity with another related species, *P. astutus*.

Pterostichus (*Haplomaseus*) *skoupyi* sp. n.
(Figs 2, 26-33)

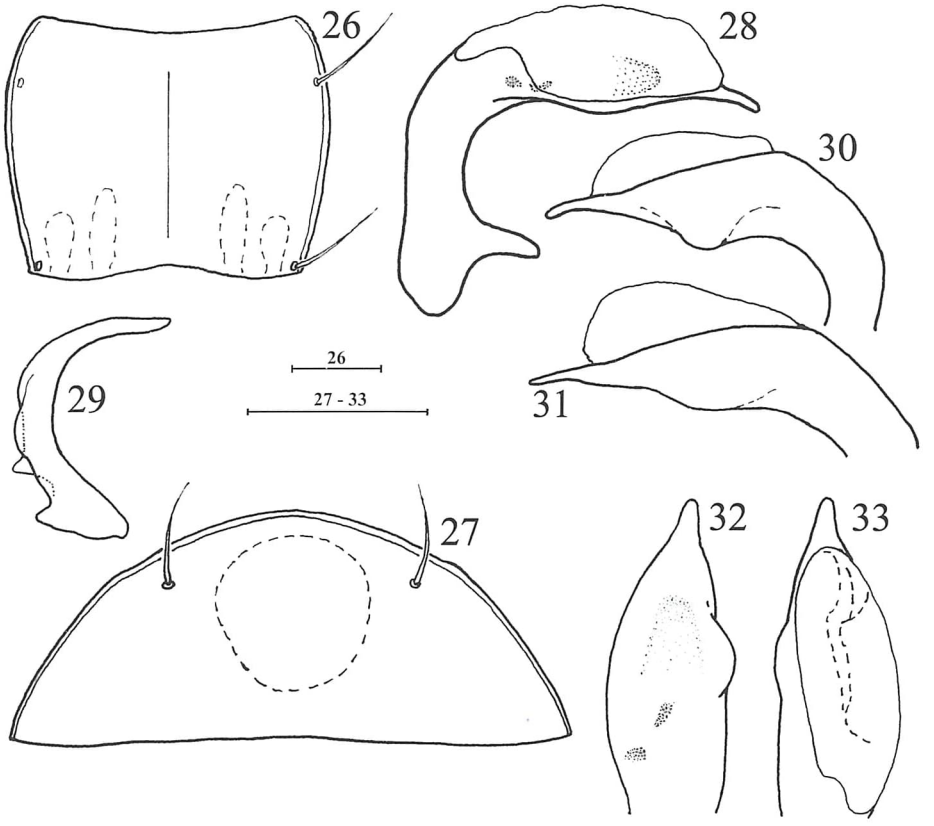
Type material. 251 specimens: Holotype – ♂, labelled "Tr. bor. or. 11.vii.1998, Kafkasör 1800 m, Skoupý leg." (cNMP). Allotype – ♀, "Tr. bor. 3.vii.1996, Kafkasör (Artvin), 1700-2000 m, Skoupý leg." (cNMP); Paratypes – 76 ♂♂, 46 ♀♀, the same data as allotype (cSK, cHO), 4 ♂♂, the same data as holotype (cSK); 8 ♂♂, 7 ♀♀, "Tr. bor. or. 29.v.2000, Artvin – Kafkasör, Skoupý leg. 1800 m" (cSK, cMSNM); 3 ♂♂, 4 ♀♀, "Kavkasor 1700, Artvin Turquie, vii.[19]88, leg. B. Lassalle" (cDU); 3 ♂♂, 3 ♀♀, the same data (cLA); 4 ♂♂, 4 ♀♀, "Env. Artvin 1800, Turquie, vii.[19]88, leg. B. Lassalle" (cDU); 3 ♂♂, 4 ♀♀, the same data (cLA); 1 ♂, 1 ♀, the same data but vi.1991 (cLA); 6 ♂♂, "Umg. Artvin, Cayirli – dere – Tal, ca. 2000 m, 13.vii.1987", "Nordost. Anatolien, leg. Heinz" (cHE); 36 spec. [unsexed], "Wälder oberhalb Artvin, ca 1600-1800 m, 5.viii.1978, Anatolia or., Heinz leg." (cHE); 1 ♂, 3 ♀♀, "TR – Murgul – Artvin, Alaça Dag, 10.vi.1993, lgt. M. Janata" (cJA); 7 ♂♂, 4 ♀♀, "Anatolia or., Heinz leg.", "Hochweiden, 1700 m, Murgul-yayla, 10.viii.1978" (cHE, 1 ♂ cHO); 5 ♂♂, 2 ♀♀, "TR (NO) SW Artvin, 1800 m, Czipka leg. vii.1996" (cHE); 1 ♂, 1 ♀, "Anatolia, env. Artvin, 1400 m, vii.1991 Kirschenhofer" (cWR); 1 ♀, "NO-Türkey, Artvin/Kafkasör, 1600-1800 m, 24.viii.1987, leg. Kleinfeld" (cWR); 1 ♀, "Türkei, Artvin 1200-1600 m, 21.vi.2001, leg. H. Kalz" (cWR); 3 ♂♂, 2 ♀♀, "Türkei, Artvin SE Kafkasör, Parmak Dagi 1820 m, leg. Staven/Skoupý 4.vii.1996" (cSCH, cST); 1 ♀, "Türkei, Artvin, Kafkasör, 1750 m, 7.vii.1990, leg. Staven/Klingenberg" (cST); 1 ♂, the same data but "1700 m, 8.vii." (cST); 1 ♀, the same data but "27.vii.1993, leg. Staven/Schiller" (cST); 1 ♂, 1 ♀, the same data but "1800 m, 2.vii.1996, leg. Staven/Skoupý" (cST).

Description. Habitus – small to medium sized *Haplomaseus* species (TL 9.8-11.1 mm) with relatively narrow body.

Coloration – black species; antennae brownish, scapus sometimes lighter; legs including tarsi red-brown or femora darkened.

Microsculpture – dense and distinctly isodiametric reticulation on labrum; clypeus, frons and disc of pronotum without distinct reticulation (magnification 56x); basal impressions and lateral areas of pronotum, elytra and ventral side of body with fine isodiametric to slightly transverse reticulation. Whole body surface with very fine punctuation.

Elytral chaetotaxy – third elytral interval normally with three setigerous punctures, anterior puncture adjoining third stria, two posterior ones in third interval or adjoining second stria;



Figs. 26-33: *Pterostichus* (*Haplomaseus*) *skoupyi* sp. n.: 26 – pronotum; 27 – sternite VII of the male; 28 – median lobus of aedeagus, lateral view; 29 – right paramere; 30 – distal part of median lobus in right lateral view, specimen from Murgul-yayla; 31 – distal part of median lobus in right lateral view, specimen from Kafkasör; 32 – apical part of aedeagus ventrally; 33 – apical part of aedeagus dorsally. Scale bars: 1.0 mm.

Obr. 26-33: *Pterostichus* (*Haplomaseus*) *skoupyi* sp. n.: 26 – štít; 27 – VII. sternit samce; 28 – střední lobus aedeagu laterálně; 29 – pravá paramera; 30 – apikální část středního lobu aedeagu laterálně zprava, jedinec z lokality Murgul-yayla; 31 – apikální část středního lobu aedeagu laterálně zprava, jedinec z lokality Kafkasör; 32 – apikální část aedeagu ventrálně; 33 – apikální část aedeagu dorzálně. Měřítka: 1,0 mm.

less frequently a fourth, unpaired puncture on one elytron or rarely four punctures on both elytra or one elytron with five punctures. Series umbilicata with (15-)16 to 19(-20) pores.

Head narrower than prothorax, PW/HW 1.39-1.49. Pronotum (Fig. 26) transverse, PW/PL 1.39-1.49, maximal width at midlength or anterior of it; lateral sides strongly narrowed towards posterior angles (PW/PWb 1.13-1.21, in two males from Artvin only 1.08), straight or slightly concave; anterior angles slightly prominent, obtuse; two pairs of basal impressions, inner one's longer and more shallow, but always distinct, both smooth or indistinctly punctate. Pro-, meso- and metathoracic episternites smooth; episternum of metathorax wider than long. Body relatively narrow. Elytra only slightly iridescent; elytral striae relatively strongly impressed, clearly punctured, intervals convex. Elytra narrow, elongated, EL/EW 1.38-1.49. Only first and second abdominal sternites laterally slightly, but distinctly punctured, others smooth. Sternite VII of male (Fig. 27) with clearly delimited oval or slightly longitudinal impression, without distinct longitudinal keel, but sometimes with indistinct protuberance in anterior part of impression. Male genitalia (Figs 28-33) with more or less pronounced bulge on the right side of median lobus of aedeagus, more prominent in males from Murgul-yayla and Cayirli – dere – Tal than in males from other localities.

Differential diagnosis. This small and narrow species differs from all other consubgeners by the unique lateral bulge on the median lobus of the aedeagus (Figs 30-33). Other distinguishing characters are mentioned in the identification key; males also have a characteristic, distinctly delimited oval impression on sternite VII, and the pronotum is markedly narrowed towards posterior angles but never deeply incised and cordiform (Fig. 26).

Distribution and habitat. The species is known from the forest zone west to the river Çoruh Nehri between the towns of Borçka and Artvin (Fig. 90) on the slopes of Parmak Dağı at 1600-2000 m a.s.l.

Name derivation. The species is dedicated to Vladimír Skoupý, father of the junior author.

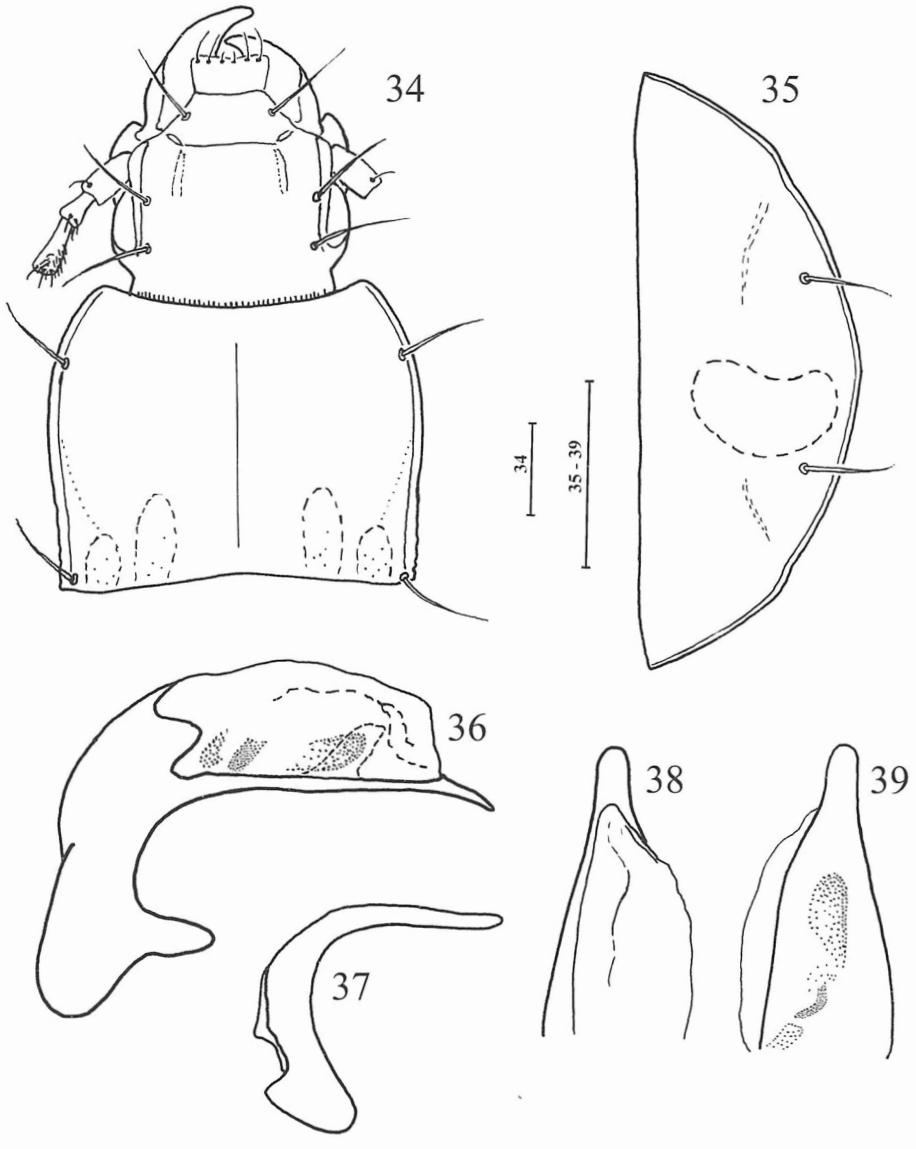
Pterostichus (*Haplomaseus*) *staveni* sp. n.
(Figs 34-39)

Type material. 109 specimens: Holotype – ♂, labeled "Tr. bor. 8.vii.1996, Kürtün yayla 2000 m, Skoupý leg." (cNMP). Allotype – ♀, the same data as holotype (cNMP). Paratypes – 27 ♂♂, 17 ♀♀, the same data as holotype (cSK, cHO); 1 ♂, 2 ♀♀, "Ulukoy 1800, Gumushane Turquie, vii.[19]87, leg. B. Lassalle" (cDU); 3 spec. [unsexed], the same data (cLA); 1 ♀, "Tr. bor. or., 16.vii.1998, Kürtün 1400 m, Skoupý leg." (cSK); 10 ♂♂, 28 ♀♀, "Tr. bor. 16.vii.1998, Kürtün 1800 m, Skoupý leg." (cSK, cHO); 1 ♂, 3 ♀♀, "Türkey, Gümüşhane, Waldzone w. Kürtün 1500 m, 8.vii.1996, leg. Staven/Skoupý" (cST); 2 ♂♂, 2 ♀♀, "Türkey, Gümüşhane, Kürtün, Kürtün yayla 2000-2200 m, 8.vii.1996, leg. Staven/Skoupý" (cST); 3 ♂♂, 7 ♀♀, "Anatolia bor., Heinz leg.", "Kürtün yayla (westl. Kürtün), 1100-1800 m, 27.vii.1973" (cHE).

Description. Habitus – flat, stout species of medium size (TL 11.0-13.6 mm (in males 11.0-12.8 mm, in females 12.0-13.6 mm)), habitually very similar to *P. tanjae* sp. n.

Coloration – black species, whole legs red-brown to brownish, palpi paler, lateral margins of elytra and pronotum often brown. Antennae dark brown to black, scapus often slightly paler than following antennomeres.

Microsculpture – isodiametric on labrum; head dorsally without any visible reticulation (magnification 56x), only with very fine punctures, which are more dense laterally and pos-



Figs. 34-39: *Pterostichus* (*Haplomaseus*) *staveni* sp. n.: 34 – head and pronotum; 35 – sternite VII of the male; 36 – median lobus of aedeagus, lateral view; 37 – right paramere; 38 – apical part of aedeagus dorsally; 39 – apical part of aedeagus ventrally. Scale bars: 1.0 mm.
Obr. 34-39: *Pterostichus* (*Haplomaseus*) *staveni* sp. n.: 34 – hlava a štít; 35 – VII. sternit samce; 36 – střední lobus aedeagu laterálně; 37 – pravá paramera; 38 – apikální část aedeagu dorzálně; 39 – apikální část aedeagu ventrálně. Měřítka: 1,0 mm.

teriorly; pronotum with almost indistinct isodiametric microsculpture, mainly along lateral margins and on its basis, basal impressions nearly smooth or slightly punctured; elytral striae slightly, but distinctly punctured, intervals with dense and fine transverse microsculpture in both sexes; abdominal sternites with transverse microsculpture.

Elytral chaetotaxy – third elytral interval with three (rarely on one side with four) setigerous punctures, anterior puncture adjoining third stria, two posterior ones adjoining second stria. Series umbilicata with 16-19 pores.

Head much narrower than pronotum (Fig. 34), PW/HW 1.56-1.65; eyes small and flat. Pronotum (Fig. 34) transverse, slightly to very distinctly concave before posterior angles, but only slightly narrowed towards posterior angles (PW/PW_b 1.01-1.05). Anterior angles obtuse, moderately prominent. Basal pronotal impressions present, inner ones longer and shallower and smooth, outer impressions deeper. Body depressed, PW/PL 1.37-1.47 and EL/EW 1.27-1.39. Elytral striae moderately impressed, slightly but distinctly punctured, intervals almost flat, only very slightly convex, more distinctly towards apex. Sternite VII of male (Fig. 35) with distinct, deep, asymmetrical impression placed slightly on right side. Male genitalia as in Figs 36-39.

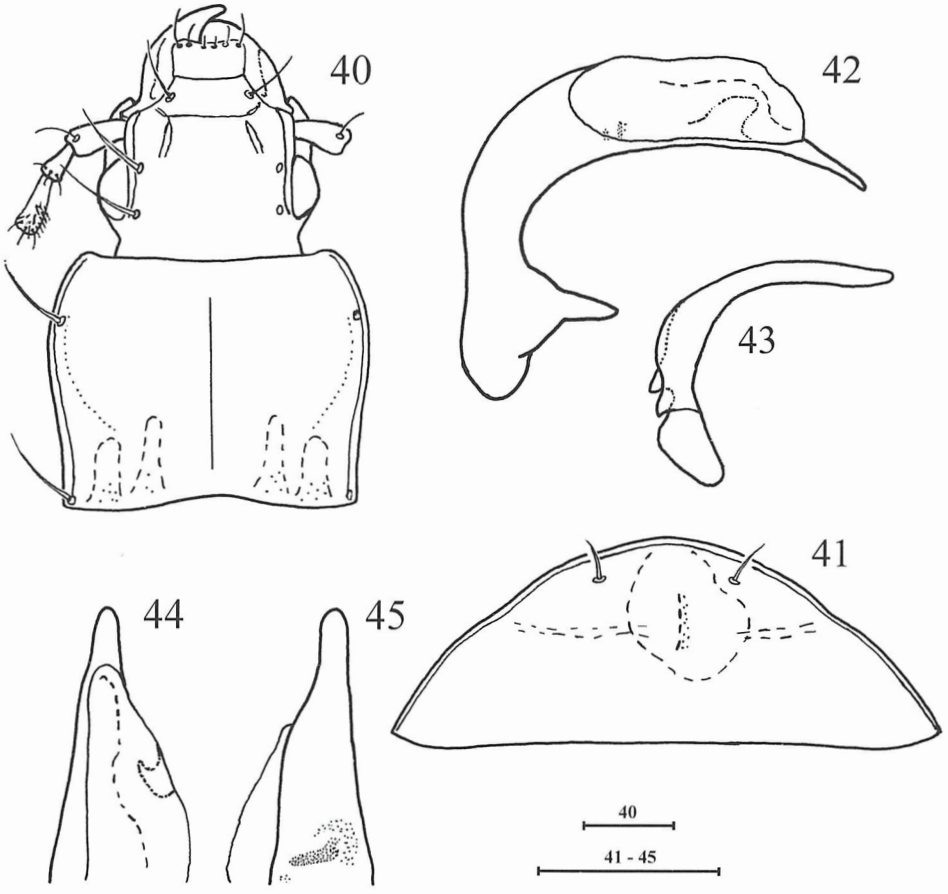
Differential diagnosis. This species is habitually very similar to the *P. tanjae* sp. n. but has a stouter body. The main differences distinguishing *P. staveni* n.sp. are the less convex eyes (Fig. 34), clearly delimited and assymmetrically placed impression on sternite VII of the male (Fig. 35) and the less assymmetrically narrowed, relatively shorter and wider apex of the median lobus of aedeagus (Figs 38, 39). Differences from other consubgeners are given in the identification key.

Distribution and habitat. The species occurs at altitudes of 1100-2200 m a.s.l. in the valley of the river Harşit Çay in the vicinity of the town Kürtün (Fig. 89). It was collected predominantly in forests, although some specimens were found in the subalpine zone.

Name derivation. The species is dedicated to Klaus Staven, Lengede (Germany).

Pterostichus (*Haplomaseus*) *tanjae* sp. n.
(Figs 3, 40-45)

Type material. 64 specimens: Holotype – ♂, labelled "Tr. bor. or. 3.vii.1998, Yavuzkemal 1400 m, Skoupý leg." (cNMP). Allotype – ♀, "Tr. bor. or. 5.vii.1998, Kümbet 1800 m, Skoupý leg." (cNMP). Paratypes – 4 ♂♂, the same data as holotype, 5 ♂♂, 1 ♀, the same data as holotype but "H=1800 m" (cSK), 1 ♂ "Tr. bor. or. 4.vii.1998, Ikisu-Tamdere 1500 m, Skoupý leg." (cSK), 2 ♂♂, "Tr. bor. or. 4.vii.1998, Uzundere 1500 m, Skoupý leg." (cSK), 4 ♂♂, 7 ♀♀, the same data as allotype (cSK), 1 ♂, 2 ♀♀, "Col Yavuskemal, 1000 Giresun Turqu., vii.[19]88, leg. B. Lassalle" (cDU),), 1 ♂, 2 ♀♀, the same data (cLA), 3 ♂♂, "Turquie, Kumbet, vii.1988, leg. B. Lassalle" (1 ♂ cDU, 2 ♂♂ cLA), 1 ♀, "Anatolia N. Orientale, (Giresun) Konacik-Dereli, 15.viii.1987, leg. L. e S. Falletti" (cSCI), 1 ♂, "Col. Kumbet, 1400 m, viii.[19]84, Giresun TR, [leg. ?]" (cSCI), 4 ♂, 4 ♀, "Walder n. Kümbet (Giresun), 1200-1300 m, 22.vii.1976", "Anatolia bor., Heinz leg." (cHE), 3 ♂♂, 1 ♀, "TR Anat. bor. 1450 m, Yavuzkemal, Czipka leg. vii. 1974" (cHE), 4 ♂, 1 ♀, "Kulakkaya bei Giresun 1450 m, 27.vii.1973", "Anatolia bor., Heinz leg." (cHE), 4 ♂♂, 4 ♀♀, "Anatolia bor., leg. Heinz", "Biçik – orman b. Yavuzkemal, 1600-1700 m, 22.vii.1976" (cHE), 1 ♂, 1 ♀, "N Turkey, 27.v.-9.vi.1996, Tamdere env., 70 km S of Giresun, leg. Z. Hanousek & J. Hron" (cLO).



Figs. 40-45: *Pterostichus* (*Haplomaseus*) *tanjae* sp. n.: 40 – head and pronotum; 41 – sternite VII of the male; 42 – median lobus of aedeagus, lateral view; 43 – right paramere; 44 – apical part of aedeagus dorsally; 45 – apical part of aedeagus ventrally. Scale bars: 1.0 mm.
Obr. 40-45: *Pterostichus* (*Haplomaseus*) *tanjae* sp. n.: 40 – hlava a štít; 41 – VII. sternit samce; 42 – střední lobus aedeagu laterálně; 43 – pravá paramera; 44 – apikální část aedeagu dorzálně; 45 – apikální část aedeagu ventrálně. Měřítka: 1,0 mm.

Description. Habitus – very similar to the previous species, so that only main morphological characters are given. TL 11.1-12.3 mm.

Coloration – black species, whole legs and palpi reddish-brown. Antennae black to brown-black.

Microsculpture – isodiametric reticulation on labrum, pronotum (mainly along lateral margins and around basal impressions) and on basal part of elytra; elytral disc with transverse microsculpture.

Elytral chaetotaxy – third elytral interval with three setigerous punctures, anterior puncture adjoining third stria, two posterior ones adjoining second stria. Rarely a fourth, unpaired

puncture on one elytron or in basal part of fourth interval near fourth stria. Series umbilicata with 15-19 pores.

Head narrower than prothorax, PW/HW 1.43-1.55; eyes larger and more convex that in *P. staveni* sp. n. (Fig. 40). Head and pronotum with very fine punctures. Pronotum (Fig. 40) transverse, PW/PL 1.33-1.46, slightly but distinctly concave before posterior angles; anterior angles only slightly prominent, obtuse; two pairs of basal impressions, inner one's sometimes shallow, but always distinct, both impunctate. Pronotum widest slightly before midlength, only slightly narrowed towards posterior angles (PW/PW_b 1.03-1.08). Elytral striae slightly impressed on disc, more distinctly laterally and towards apex. Body depressed, stout, EL/EW 1.34-1.40. Elytral striae slightly, but distinctly punctured. Sternite VII of male (Fig. 41) with shallow, asymmetrical impression and with (sometimes missing) slight and short longitudinal ridge. Male genitalia as in Figs 42-45.

Differential diagnosis. Generally larger and stouter than the habitually similar *P. staveni* sp. n. and *P. giresuni* Jedlička, 1965. It differs from the morphologically most similar *P. staveni* sp. n. by distinctly more convex eyes (Fig. 40), a shallow and less distinctly delimited impression on male sternite VII (Fig. 41) and a more asymmetrically narrowed, longer and narrower apex of the aedeagus (Figs 44, 45). Differences from other consubgeners are given in the identification key.

Distribution and habitat. The species is known from the forests zone in the valley of the river Aksu Çay, south from the town Giresun (Fig. 89), where it lives at a relatively wide range of altitudes (1000-1800 m a.s.l.).

Name derivation. Dedicated to Taťjána Skoupá, the wife of the junior author, with many thanks for her patience and tolerance.

Redescriptions and comments on previously described taxa

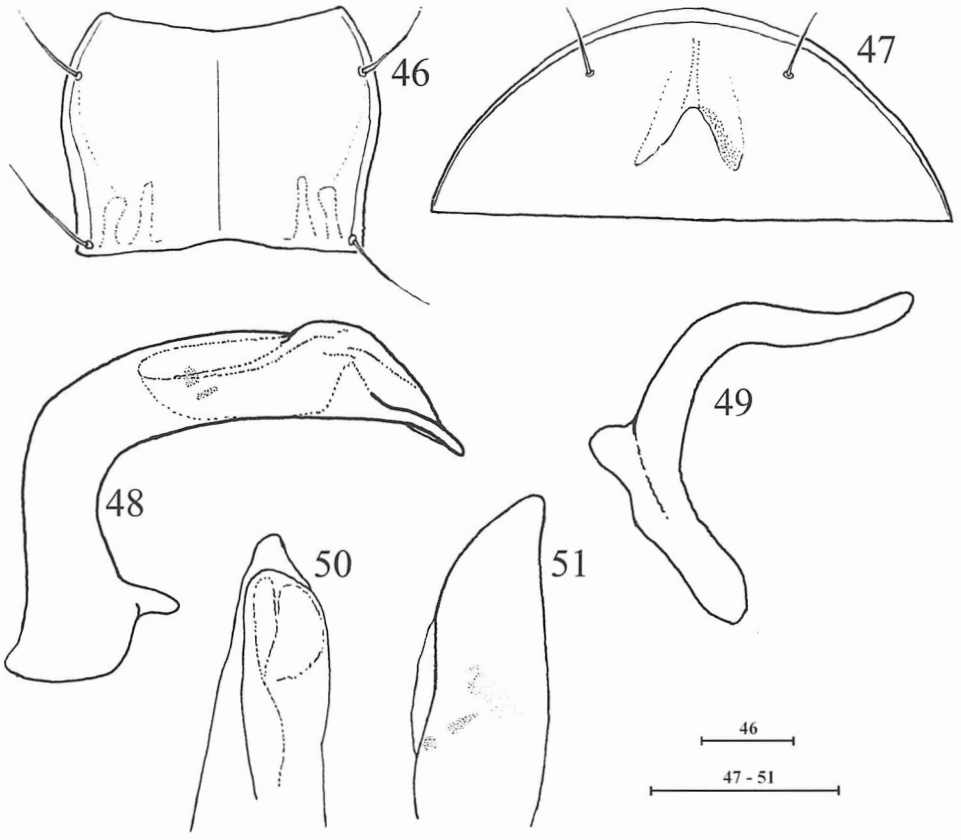
The descriptive format used for the newly described species (see above) is different from that used by previous authors. Therefore we feel necessary to redescribe in the same way all Turkish *Haplomaseus* species. The Caucasian members of this subgenus (Kryzhanovskij 1989, Belousov 1991) have not been studied in sufficient detail and we have seen the type material, at least paratypes, and mostly also some additional specimens from all Caucasian *Haplomaseus*. The only species that we could not examine is *Pterostichus jugicola* (Lutshnik, 1933).

Pterostichus (*Haplomaseus*) *arator* (Faldermann, 1836)
(Figs 46-51)

Abax arator Faldermann, 1836: 65, type locality not given.

Type material examined. Two syntypes under label "arator" in coll. Oberthür (cMNHN). Lectotype, ♂, labelled "Lectotypus, Abax arator Faldermann, Hovorka et Skoupý des., 2006" (cMNHN); paralectotype, ♀, "Paralectotypus, Abax arator Faldermann, Hovorka et Skoupý des., 2006" (cMNHN), both specimens without any other label.

Other material examined. 46 specimens: 4 ♂♂, 2 ♀♀, "Tr. bor. 25.vi.1996, Maçahel geç., Karçal mts., Skoupý leg." (cSK); 1 ♂, 1 ♀, "Türkey, Kars, Posof, Ilgardagi Gecidi, Südhang +2350 m, leg. K. Staven, 4.vii.1989" (cSK); 1 ♂, "TR – Borcka, Balikli Dagi, 14.vi.1992,



Figs. 46-51: *Pterostichus* (*Haplomaseus*) *arator* (Faldermann): 46 – pronotum; 47 – sternite VII of the male; 48 – median lobus of aedeagus, lateral view; 49 – right paramere; 50 – apical part of aedeagus dorsally; 51 – apical part of aedeagus ventrally. Scale bars: 1.0 mm.
Obr. 46-51: *Pterostichus* (*Haplomaseus*) *arator* (Faldermann): 46 – štít; 47 – VII. sternit samce; 48 – střední lobus aedeagu laterálně; 49 – pravá paramera; 50 – apikální část aedeagu dorzálně; 51 – apikální část aedeagu ventrálně. Měřítka: 1,0 mm.

lgt. M. Janata" (cJA); 1 ♂, 1 ♀, "TR - Savşat, Camlica, 18.vi.1996, Janata leg. (cJA); 1 ♂ "Turchia or., P.so tra Damal e Posof, m 2600, viii.[19]84, Battoni" (cSCI); 1 ♂, 1♀, "Turkey (Kars), Possof, 2450 m, 6.vii.1993, H. Wilberg" (cWR); 4 ♂♂, "TR Damal-Posof 2600 m, Armen. viii.[19]84", "ex coll. Battoni" (cWR); 2 ♂♂, 1 ♀, "Tr. or., 2.vi.[19]96, Savşat, Hanousek [leg.]" (cSK); 3 ♂♂, 1 ♀, "NO Anatolien: Heinz leg.", "Karckal-Otingo, 2000 - 2800 m, (Hochweidenzone), 11.viii.1978" (cSK); 2 ♂♂, "Tr. bor. or., 12.vii.1998, Karçal d. yayla (Balci), Skoupý leg., 2100 m" (cSK); 1 ♂, 1 ♀, "Turkey NE Şavşat, 16.-18.vi.1999, T. Lackner lgt." (cHO); 1 ♂, "Turkey NE 18.vi.1999, Çam Geçidi 2540 m.n.m., near Şavşat, T. Lackner lgt." (cHO); 2 ♂♂, 2 ♀♀, "Turkey bor.occ., Ilgardagi Gecidi, near Posof, vi.1999, T. Lackner lgt." (cHO); 1 ♂, 2 ♀♀, "TR vill. Artvin, Çam Geçidi env., 4.vi.2000, Josef Mertlik lgt." (cHO); 2 ♂♂, "Turkey NE, Çam Geçidi, 10 km E Şavşat, 2600 m, 18.v.1997, lgt.

J. Bašta" (cBA); 1 ♂, 2 ♀♀, "Turkey, Artvin, Çam pass E Şavşat, 1900 m, vii.1991, H. Wilberg" (cWR); 1 ♂, 1 ♀, "Turkey-Kars, Region Kars-Erzurum- Bölümü, Igardagi Pass 2450-2550 m, 20.vi./18.vii.[19]89, leg. I. Wolf" (cWR); 1 ♂, "Anatolia, env. Artvin, 1400 m, vii.1991 Kirschenhofer" (cWR); 1 ♂ "USSR Georgia, Chokhatauri Dist., near Bakhmero 40km SSE, Nabeglavi 1950-2020 m, Abies nordmanniana, 8.vi.1981, Golovatch & Martens leg.", "ex coll. Museum Stuttgart" (cWR).

Redescription (based on both the types and recent material). Habitus – smaller (TL 9.5-12.5 mm) and somewhat stouter than the following species.

Coloration – body black, sides of pronotum and femora brown, palpi, tarsi and tibiae reddish-brown.

Microsculpture – head, pronotum and elytral intervals with very fine punctures, pronotum moreover with fine isodiametric to slightly transverse microsculpture, more distinct near lateral margins and in basal impressions; elytra with distinct, slightly transverse microsculpture, similar in both sexes, female almost as shining as male.

Elytral chaetotaxy – third interval with 4-5 pores. Series umbilicata with 18-20 pores.

Head narrower than pronotum, PW/HW 1.48-1.56. Frontal impressions indistinct, wide, shallow, smooth. Pronotum (Fig. 46) widest before midlength, clearly emarginate before rectangular posterior angles, distinctly narrowed posteriorly (PW/PW_b 1.09-1.16), transverse (PW/PL 1.43-1.57). Basal pronotal impressions distinct, inner impression shorter and deeper than outer one. Pro-, meso- and metepisternite finely punctate, metepisternite wider than long. Metatrochanter as long as or slightly longer than half length of metafemur. Body more or less elongate (EL/EW 1.45-1.53). Elytral striae moderately deep, punctured, deepened before apex. Elytra on the disc with flat inner intervals and slightly convex outer ones, all intervals clearly convex before elytral apex. Basal abdominal sternites finely punctate along lateral margins. Sternite VII of male (Fig. 47) in lateral view with distinct tooth, which is prolonged into keel placed in the middle of shallow, symmetrical depression. Male genitalia as in Figs 48-51.

Recently collected material shows no morphological differences from Faldermann's types.

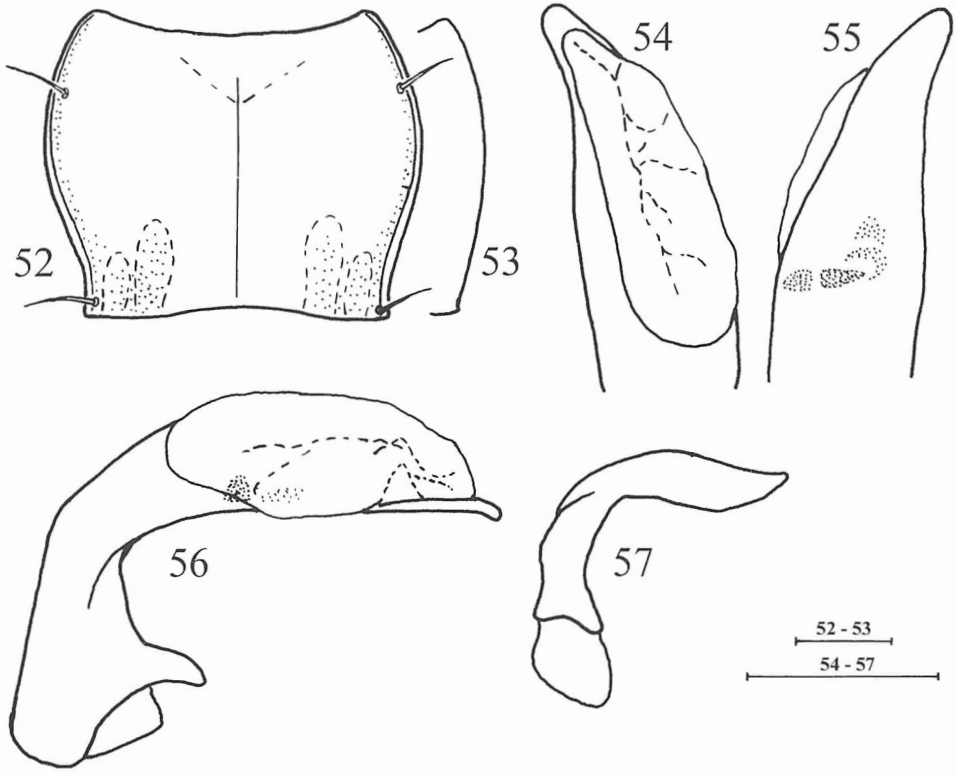
Distribution and habitat. The nominotypical subspecies lives in the forest and subalpine zones eastward of the town of Borçka in the Karçal Dağı and Yalnizçam Dağlari mountain ridges (Fig. 90) and in the subalpine zone of several mountain ridges in southwestern Gruzia (Adzharia) (Belousov 1991). We have not seen the variety *perlidaghensis* (possibly a subspecies), described by Reitter (1902: 186) from "Perli-Dagh" (= Perili Dağ, 39°55' N, 43°25' E; see Pawłowski 1979: 260) in former Armenia. The type locality is nowadays placed in NE Turkey north-west of the lake Balik Gölü on the border between the Kars and Ağri provinces; the recent name of this mountain is Kizilcaziyaret Dağı (Aras Güneyi Dağlari mountain ridge). The only difference from the nominotypical subspecies given in the original description is the presence of only three setigerous pores in the third elytral interval.

Pterostichus* (*Haplomaseus*) *armenus (Faldermann, 1836)
(Figs 52-57)

Omaseus armenus Faldermann, 1836: 53, type locality not given.
syn. *Platysma kasbekiana* Kolenati, 1845: 48, type locality Mt. Kasbek; synonymised by Ganglbauer (1891).
syn. *Feronia rufimana* Chaudoir, 1846: 142, type locality Oni a Satchkéri, Imérétie; synonymised by Tschitschérine (1897).

syn. *Feronia* (*Pseudomaseus*) *seriepunctata* Chaudoir, 1846: 141 (nec Mannerheim, 1843), type locality montagnes d'Abbastouman; synonymised by Ganglbauer (1891).
syn. *Pterostichus incultus* Kraatz, 1875: 417, type locality Rhilo-Dagh; synonymised by Chaudoir (1878).
syn. *Pterostichus zorkae* Vysoký, 1983: 101, type locality Borjom, Banis-Chevi; synonymised by Belousov in Kryzhanovskij et. al. (1995).

Type material examined. *Feronia rufimana* Chaudoir: Holotype – ♂, bearing only one printed red label "Type", with dissected genitalia, both median lobe and right paramere strongly damaged (cMNHN, coll. Oberthür); *Pterostichus zorkae* Vysoký: Paratypes – 2 ♀♀, labeled "Georgian SSR mer., Borjom, Banis-Chevi, 1300 m, 22.-26.vi.[19]71, Z. & J. Novotný lgt.", "Paratypus P. (H.) zorkae sp. n., det. Vysoký" (cNMP).
Other material examined. 34 specimens: 1 ♂, "Caucas min. bor., Trialetskij Chreb., Bakuriani 1800-2200 m, 18./20.vi.1987, leg. Wrase/Schülke" (cWR); 1 ♂, "Transcauc. Georgia, Zchneti pr. Tbilisi, 1200 m, 26.vi.1986, leg. Wrase/Schülke" (cWR); 2 ♂♂, "USSR, Georgia, Mt. Tria-



Figs. 52-57: *Pterostichus* (*Haplomaseus*) *armenus* (Faldermann): 52 – pronotum; 53 – right lateral pronotal margin – variability in the shape of lateral margin of pronotum; 54 – apical part of aedeagus dorsally; 55 – apical part of aedeagus ventrally; 56 – median lobus of aedeagus, lateral view; 57 – right paramere. Scale bars: 1.0 mm.
Obr. 52-57: *Pterostichus* (*Haplomaseus*) *armenus* (Faldermann): 52 – štít; 53 – variabilita tvaru postranního okraje štítu; 54 – apikální část aedeagu dorzálně; 55 – apikální část aedeagu ventrálně; 56 – střední lobus aedeagu laterálně; 57 – pravá paramera. Měřítka: 1,0 mm.

letskij, Lake Tabackuri", "9.vii.1989, under stones, leg. Szalóki D." (cSK); 1 ♀, "Achalzich (Chambobelo), 1910, Korb" (cSK); 5 ♀♀, with the same data (cNMP); 1 ♀, "Caucasus, Reitter" (cNMP); 1 ♀ "Bakuriany, Russl." (cNMP); 1 ♂, 1 ♀, "Caucasus" (cNMP); 1 ♀, "Caucasus, Meskiseh Gb., Leder, Reitter" (cNMP); 1 ♀, "Borjhom, Dr. Martin" (cNMP); 1 ♂, 1 ♀, "Abastouman, Dr. Martin" (cNMP); 1 ♀, "Caucasus, Chambobel, 1885" (cNMP); 2 ♂♂, "Achalzikh, Cauc. Mer." (cNMP); 1 ♂, "Caucasus, Reitter, Leder" (cNMP); 1 ♂, "Caucasus, Lomis Mta 2000, E. König" (cNMP); 1 ♂, "Bakuriani, Ca., 16.v.1918, Dr. W. Eichler" (cNMP); 2 ♂♂, "Ca.: Bakuriani, v.[19]66, Pfeffer [leg.]" (cJA); 1 ♂, "USSR, Bakuriani, 22.v.1966, A. Pfeffer lgt." (cJA); 6 ♂♂, 1 ♀, "N 41°24'56.5" E 42°44'30.1"; "Türkiye vil. Kars, Posof S Ciçek Dađi, Ilgardađi Geçidi; beweidete Hochfläche HF; 20.vii.2005, 2550 m üNN [= a.s.l.]; leg. Schnitter" (cWR, SK, HO).

Redescription. Habitus – relatively large species (TL 11.0-14.0 mm), body narrow and parallel-sided.

Coloration – black with brown to redish-brown palpi and tarsomeres, basal part of mandible, apical part of elytral epipleura and sometimes with brownish antennal scapus and tibiae.

Microsculpture – fine, isodiametric on labrum; head dorsally without any visible reticulation (magnification 56x), with only very fine punctures; pronotum with very fine, hardly visible, slightly transverse reticulation and very fine punctuation; elytra with isodiametric to slightly transverse reticulation (very strong in female) and sparse and very fine punctuation; male shining, female dull.

Elytral chaetotaxy – third interval with 4-7 setigerous punctures. Series umbilicata with 18-20 pores, without interruption.

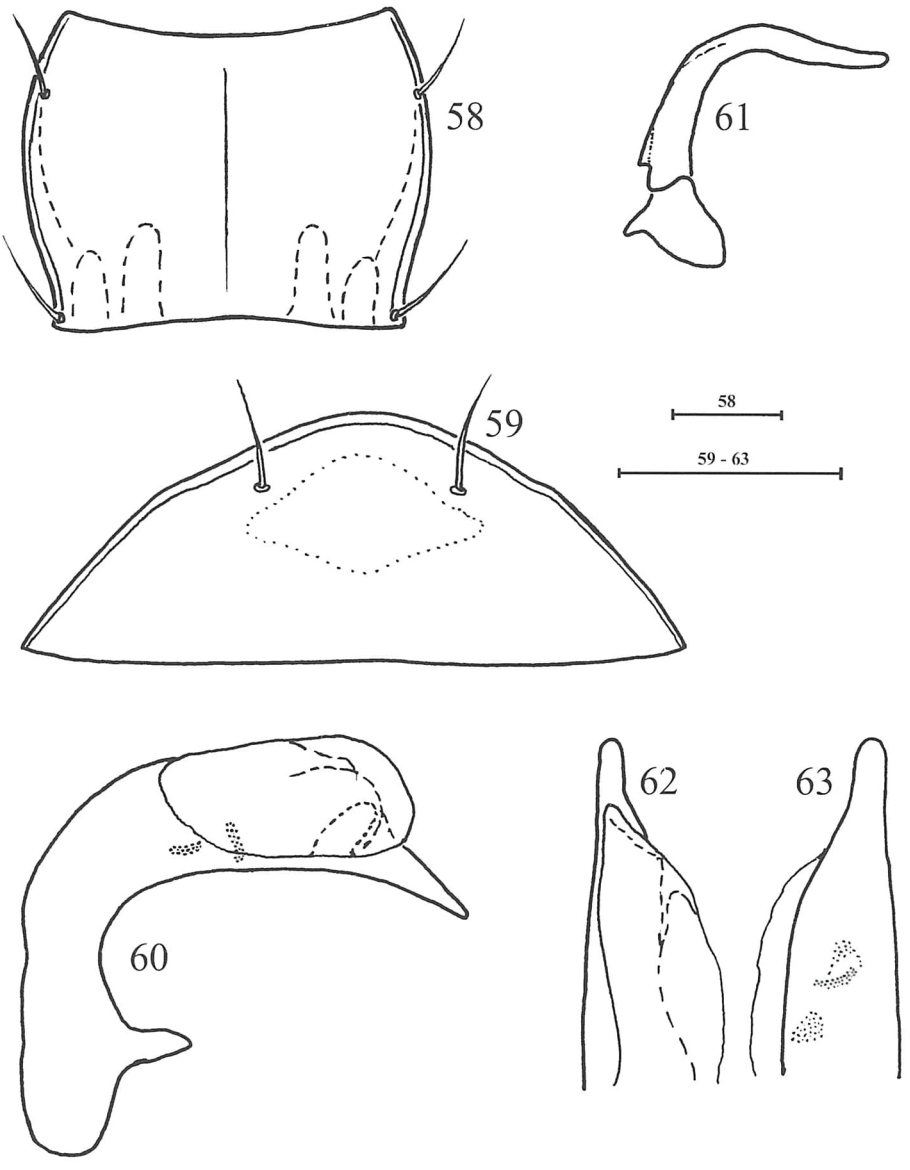
Pronotum with sides mostly (but not always! – Figs 52-53) clearly sinuate before posterior angles, strongly narrowed towards base (PW/PW_b 1.11-1.22), transverse (PW/PL 1.35-1.50), much wider than head (PW/HW 1.45-1.63). Basal impressions punctured, some punctures present also along lateral margins. Elytra with moderately deep and finely punctate striae; intervals slightly convex, shining. Elytra more or less elongate (EL/EW 1.45-1.58). All thoracic episterna and lateral parts of abdominal sternites I-III finely punctured. Sternite VII of male similar to those of previous species. Male genitalia as in Figs 54-57.

Distribution. Widely distributed in Transcaucasus from the northern part of the Meshkhetskyi khrebet and the environs of Tkibuli (Georgia) on south-west or north-west respectively eastward to Murovdagskyi khrebet on south-east and Kasbeg (border Georgia/Russia) on north-east (Belousov 1991). The species was reported recently from Turkey by Casale & Vigna Taglianti (1999). We have seen this species from a the single locality near Posof in the northernmost part of the Kars province near the border with Gruzia.

Pterostichus (*Haplomaseus*) *astutus* (Tschitschérine, 1903)
(Figs 58-63)

Platysma astutum Tschitschérine, 1903: 107, type locality "Prov. Kars: Aeznos-jaila in montibus circum planitiem Goel, et collum Salatshur".

Type material examined. Lectotype – ♂, designated by Kryzhanovskij, labelled: (locality label handwritten in Cyrillic alphabet): "Eznos-jaila, I. IX. 1902, K. Satunin", "Syntypus, Platysma astutum Tschit., Tschitscherin det.", "Lectotypus, Pt. [sic!] (Haplomaseus) [sic!] astutum Tschit., Kryzhanovskij design.", "St.Petersburg, Zool.Inst." (cZISP).



Figs 58-63: *Pterostichus* (*Haplomaseus*) *astutus* (Tschitschérine): 58 – pronotum; 59 – sternite VII of the male; 60 – median lobus of aedeagus, lateral view; 61 – right paramere; 62 – apical part of aedeagus dorsally; 63 – apical part of aedeagus ventrally. Scale bars: 1.0 mm.

Obr. 58-63: *Pterostichus* (*Haplomaseus*) *astutus* (Tschitschérine): 58 – štít; 59 – VII. sternit samce; 60 – střední lobus aedeagu laterálně; 61 – pravá paramera; 62 – apikální část aedeagu dorzálně; 63 – apikální část aedeagu ventrálně. Měřítka: 1,0 mm.

Other material examined. 25 specimens: 14 ♂♂, 6 ♀♀, "Tr. bor. or. 30.v.2000, Jusufe-li-Kiliçkaya, Skoupý leg., 2100 m" (cSK); 1 ♂, "Tr. bor. or. 22.v.2000, Salmankaş geç. 2400 [m a.s.l.], Skoupý leg." (cSK); 1 ♂, "TR – Anatolia or., Kop Gec. (Askale), 9.vi.1992, 2600 m, S. Kadlec lgt." (cWR); 1 ♀, the same data (cSCI); 2 ♀♀, "Turkey b. or., 8.vii.1998, Mescit Daglari, Kiliçkaya env. (prov. Artvin), 2600-2900 m, alp-snow, S. Benedikt leg." (cZI).

Redescription. Habitus – relatively small (TL 9.2-12.7 mm), parallel-sided species.

Coloration – dorsal surface and antennae black, apical antennomeres often brownish. Mandibles and legs brown, femora sometimes brown reddish, paler than tibiae; palpi reddish brown.

Microsculpture – isodiametric reticulation on labrum and on elytra; basal impressions and lateral parts of pronotum and sternal parts of thorax with isodiametric to slighly transverse microsculpture; clypeus, frons, ventral side of head and disc of pronotum with only indistinct traces of reticulation (magnification 56x), with microscopic punctures; abdominal sternites with distinct microsculpture, isodiametric in the middle and more or less transverse laterally.

Elytral chaetotaxy – third interval with three setigerous punctures, anterior puncture adjoining third stria, two posterior ones adjoining second stria; no variability was observed in the material studied. Series umbilicata with 12-18 pores.

Head narrower than pronotum (PW/HW 1.40-1.52), frontal furrows shallow, slightly punctured. Pronotum (Fig. 58) transverse (PW/PL 1.40-1.49), cordate, lateral sides distinctly concave before posterior angles, strongly narrowed towards base (PW/PW_b 1.15-1.21); dorsal surface convex; anterior angles moderately prominent; both basal impressions distinct; pronotal base smooth or only bottom of basal impressions punctate to punctate-wrinkled, space between outer basal fovea and lateral margin strongly convex. Proepisterna slightly punctate antero-medially; metepisternite transverse, sparsely and strongly punctate. Elytra more or less elongate (EL/EW 1.45-1.58), elytral striae fine, not deepened apically (or only slightly), slightly but distinctly punctate; intervals almost flat. Only 2-3 basal abdominal sternites laterally punctate. Sternite VII of male (Fig. 59) with shallow (sometimes indistinct), slightly asymmetrically placed impression. Male genitalia as in Figs 60-62.

Distribution and habitat. The species is known from a deforested area near Kop Geçidi between the towns of Bayburt and Aşkale, from the subalpine zone of the mountain ridge Mescit Dağlari and from the western part of Soganli Dağı (Fig. 90). It occurs at altitudes 2100-2900 m a.s.l.

Pterostichus (*Haplomaseus*) *consanguineus* (Chaudoir, 1878)
(Figs 64-69)

Feronia consanguinea Chaudoir, 1878: 72, type locality Trébisonde [= Turkey, Trabzon].

Type material examined. Holotype – ♀, labelled "Trébizonde, Th. Deyr.", "TYPE" (printed red label) (cMNHN).

Other material examined. 40 specimens: 5 ♂♂, 4 ♀♀, "Soganli Pass bei Bayburt, 2.viii.1963, 2000-2600 m" "Anatolia bor., W. Heinz leg." (cNMP), 2 ♂♂, "Tr. or. 31.v.1984, Soganli pass, Skoupý leg." (cSK), 7 ♂♂, 1 ♀, "Tr. bor. 20.vi.1996, Soganli geç., Skoupý leg." (cSK), 12 ♂♂, 5 ♀♀, "Tr. bor. or. 22.v.2000, Salmankaş geç. 2400 m, Skoupý leg." (cSK), 2 ♀♀, "Pont. Al-

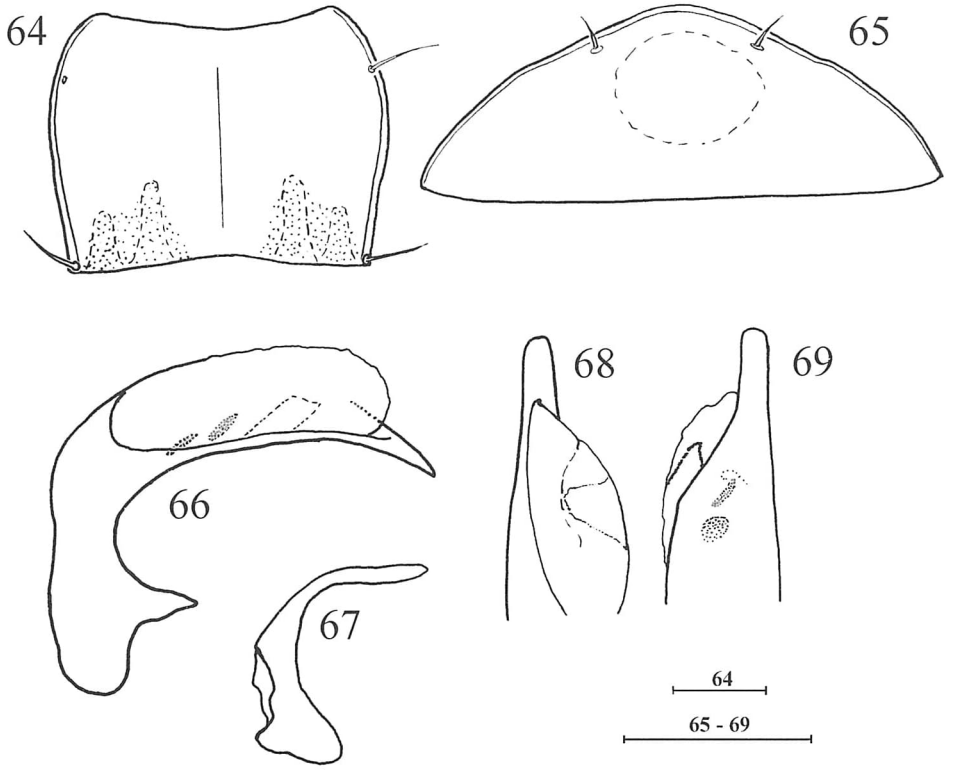
pen, Soganli 2000 m, Anat. 20.viii.1984, l[eg]. Blumenthal" (cWR), 2 ♀♀, "Turkey/Trabzon, Soganli Gec. 2200 m, 9.viii.1989, leg. Aistleitner & Görgner" (cWR).

Redescription. Habitus – smaller species (TL 9.7-10.9 mm), habitually similar to *P. ikizderensis* sp. n. or *P. skoupyi* sp. n.

Coloration – body black, antennae brown to black, legs brown to red-brown, palpi rufous.

Microsculpture – pronotum with fine transverse microsculpture along lateral margins and in basal impressions, on the disc is microsculptured only at the bottom of fine transverse wrinkles; elytra with relatively strong isodiametric microsculpture and very fine punctuation on intervals in both sexes.

Elytral chaetotaxy – third elytral interval with three (rarely with four) pores, anterior pore in third stria, posterior pores near second stria.



Figs 64-69: *Pterostichus* (*Haplomaseus*) *consanguineus* (Chaudoir): 64 – pronotum; 65 – sternite VII of the male; 66 – median lobus of aedeagus, lateral view; 67 – right paramere; 68 – apical part of aedeagus dorsally; 69 – apical part of aedeagus ventrally. Scale bars: 1.0 mm.

Obr. 64-69: *Pterostichus* (*Haplomaseus*) *consanguineus* (Chaudoir): 64 – štít; 65 – VII. sternit samce; 66 – střední lobus aedeagu laterálně; 67 – pravá paramera; 68 – apikální část aedeagu dorzálně; 69 – apikální část aedeagu ventrálně. Měřítka: 1,0 mm.

Head only very slightly punctured, frontal furrows shallow, sometimes indistinct, with several punctures. Pronotum (Fig. 64) transverse (PW / PL 1.44-1.53), much wider than head (PW/HW 1.49-1.60), narrowed straight towards posterior angles, widest before midlength; basal impressions distinct, irregularly wrinkled and punctate, outer impression deeper and shorter. Base of pronotum distinctly bordered before basal impressions, lateral margins not incised before posterior angles, relatively strongly narrowed towards base (PW/PW_b 1.12-1.20). Metepisternite subquadrate. Pro-, meso-, and metepisternite and sides of basal abdominal sternites are slightly punctured. Body more or less wide, EL/EW 1.39-1.49. Elytral striae relatively fine, moderately deepened apically, elytral inervals flat, striae finely but distinctly punctured. Humeral angle without tooth in dorsal view. Sternite VII of male (Fig. 65) flattened apicad or with shallow and very indistinctly delimited impression with slight, hardly visible longitudinal ridge. Male genitalia as in Figs 66-69.

Distribution and habitat. The species is known from the alpine zone (2000-2600 m a.s.l.) of the western part of Soğanli Dağı (Fig. 89) between Soğanli Geçidi and Salmankaş Geçidi north to north-west from Bayburt (Trabzon/Gümüshane provinces).

Pterostichus (*Haplomaseus*) *giresuni* Jedlička, 1965
(Figs 70-75)

Pterostichus giresuni Jedlička, 1965: 216, type locality Kulakkaya south of Giresun.

Type material examined. Paratype – ♂, labelled "Anatolia bor., W. Heinz leg." "Kulakkaya bei Giresun 1450 m, 27.vii.1963" "Paratypus" "Mus. Nat. Pragae Inv. 20342" "Pterostichus giresun sp. n., det. Ing. Jedlička" (cNMP).

Other material examined. 9 specimens: 1 ♂, "TR bor., Tamdere, 30.v.1992, V. Skoupý leg." (cSK); 2 ♀♀, "TR bor. or. 4.vii.1996, Uzundere 1500 m, Skoupý leg." (cSK); 1 ♂, 1 ♀, "Tr. bor. 8.vii.1996, Kürtün 1600 m, Skoupý leg." (cSK); 2 ♂♂, "Anatolia bor., leg. Heinz", "Kürtün-yayla (westl. Kürtün), 1000 m, 27.vii.1978" (cHE); 1 ♂, "N-Türkei (Giresun), P. Kümbet 1300-1500 [m], 1.ix.[19]87 Kleinfeld [leg.] " (cHO); 1 ♂, "Col. Kümbet, m. 1400, viii.1984, (Giresun) Anat." (cSCI).

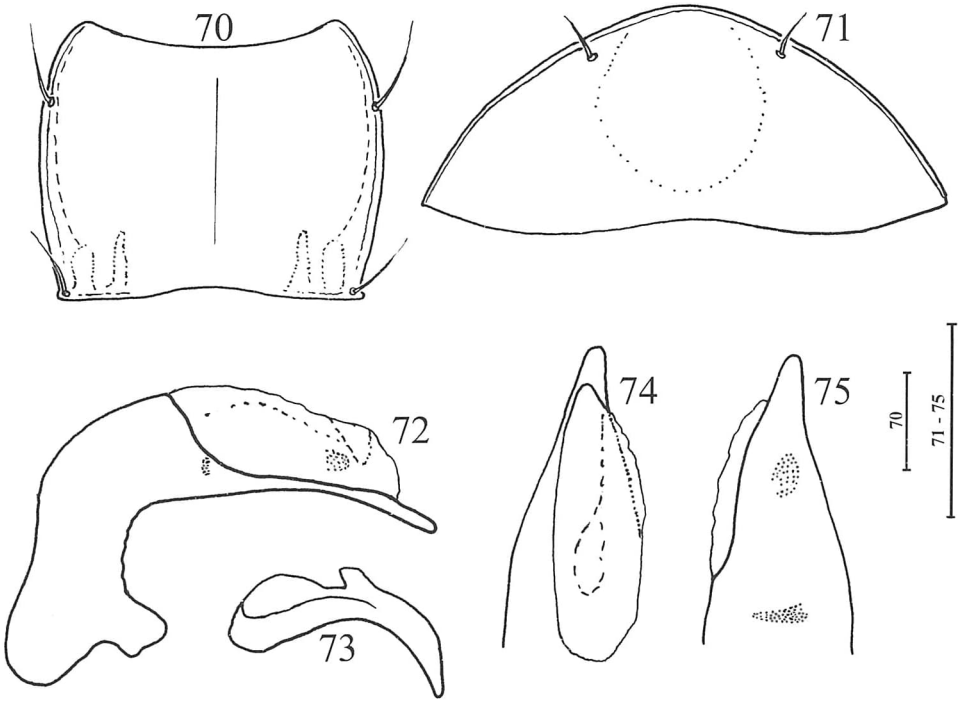
Redescription. The description given by Jedlička (1965) is short and inadequate and is extended and corrected here Habitus – relatively small (TL 10.5-11.0 mm; N = 7/3) and narrow species.

Coloration – body black; antennae, mandibles and femora brown, tibiae and tarsi red-brown, palpi reddish.

Microsculpture – distinct isodiametric reticulation on labrum; head with indistinct isodiametric microsculpture, pronotum with slightly transverse microsculpture and elytra with strongly transverse microsculpture, much deeper than that on head and pronotum.

Elytral chaetotaxy – third elytral interval with 3-5 punctures, series umbilicata with 16-19 punctures.

Pronotum (Fig. 70) transverse (PW/PL 1.33-1.46), much wider than head (PW/HW 1.44-1.57), distinctly narrowed towards basis (PW/PW_b 1.10-1.16); lateral margins of pronotum convex or straight before posterior angles; basal impressions glabrous or with few slightly impressed punctures; pronotal disc not convex to lateral margins, but laterally distinctly flattened. Body not robust, elytral proportions moderately wide (EL/EW 1.44-1.48). Elytral



Figs 70-75: *Pterostichus* (*Haplomaseus*) *giresuni* Jedlička: 70 – pronotum; 71 – sternite VII of the male; 72 – median lobus of aedeagus, lateral view; 73 – right paramere; 74 – apical part of aedeagus dorsally; 75 – apical part of aedeagus ventrally. Scale bars: 1.0 mm.
Obr. 70-75: *Pterostichus* (*Haplomaseus*) *giresuni* Jedlička: 70 – štít; 71 – VII. sternit samce; 72 – střední lobus aedeagu laterálně; 73 – pravá paramera; 74 – apikální část aedeagu dorzálně; 75 – apikální část aedeagu ventrálně. Měřítka: 1,0 mm.

striae deeply impressed, slightly punctured, elytral intervals convex. Male genitalia as in Figs 72-75. Right paramere (Fig. 73) with unusually short distal part. Sternite VII of male (Fig. 71) with deep, symmetrically placed, distinctly delimited, oval impression.
Distribution and habitat. The species is known from the zone of coniferous forests (1300-1500 m a.s.l.) in the valley of the river Aksu in the moutain ridge of Giresun Dağlari south of the town of Giresun (Fig. 89) and west of Kürtün from the valley of the river Harşit at altitudes of 1000-1600 m a.s.l.

Pterostichus* (*Haplomaseus*) *heinzi Jedlička, 1965
(Figs 76-82)

Pterostichus heinzi Jedlička, 1965: 216, type locality Zigana Pass south of Trabzon.

Type material examined. Holotype – ♂, labelled "Zigana Pass bei Macka, ca 2200 m, 31.vii.1963" "Anatolia bor., Heinz leg.", "Holotypus", "Mus. Nat. Pragae Inv. 20343",

"Pterostichus heinzi sp. n. det. Ing. Jedlička" (cNMP). Paratypes – 2 ♂♂, 3 ♀♀, the same data as holotype, only instead the red printed label "Holotypus" bearing a label "Paratypus" (cNMP).

Other material examined. 22 specimens: 1 ♂, "Col Zigana 1500 [m a.s.l.], Trabzon Turquie, vii.[19]87 G. Dubault" (cDU); 1 ♂, 1 ♀, "Tr. bor.or., Zigana – Pass, 14.vi.1991, Skoupý leg." (cSK); 2 ♂♂, "Anatolia bor., Zigana geçidi SSZ [=NNW] of Trabzon, 14. vi. [19]91, Jan Macek leg., 1700-2000 m" (cMA); 2 ♂♂, "Tr. bor. or., Zigana – Pass, 29.v.1992, Skoupý leg." (cSK); 6 ♂♂, 4 ♀♀, "N Turkey, 16.vi.1996, Trabzon, Zigana gecidi, M. Snížek leg." (cGR, cHO); 1 ♂, 2 ♀♀, "Anatolia bor., Yavuskemal, Jan Hron leg." (cSK); 2 ♂♂, "Turkey NE 24.-26.vi.1999, Altindere Mili Parki, Maçka env. 1600-1900 m.n.m. [= a.s.l.], T. Lackner lgt." (cHO).

Redescription. The description given by Jedlička (1965) is short and is extended and corrected here. Habitus – robust species of moderate size (TL 10.5-12.1 mm).

Coloration – black with red-brown legs and rufous palpi.

Microsculpture – isodiametric on labrum, reticulation on clypeus, frons and pronotum invisible at 56x magnification (except basal impressions and posterior margin), very fine punctuation on head and even more fine and coarse on pronotum; elytra with fine transverse microsculpture in male and almost isodiametric microsculpture in female, abdominal sternites with isodiametric to slightly transverse microreticulation.

Elytral chaetotaxy – third elytral interval with three (exceptionally on one side with four) setigerous punctures, anterior puncture adjoining third stria, two posterior ones adjoining second stria; one specimen with one anterior setigerous puncture in fifth stria. Series umbilicata with 17-21 pores.

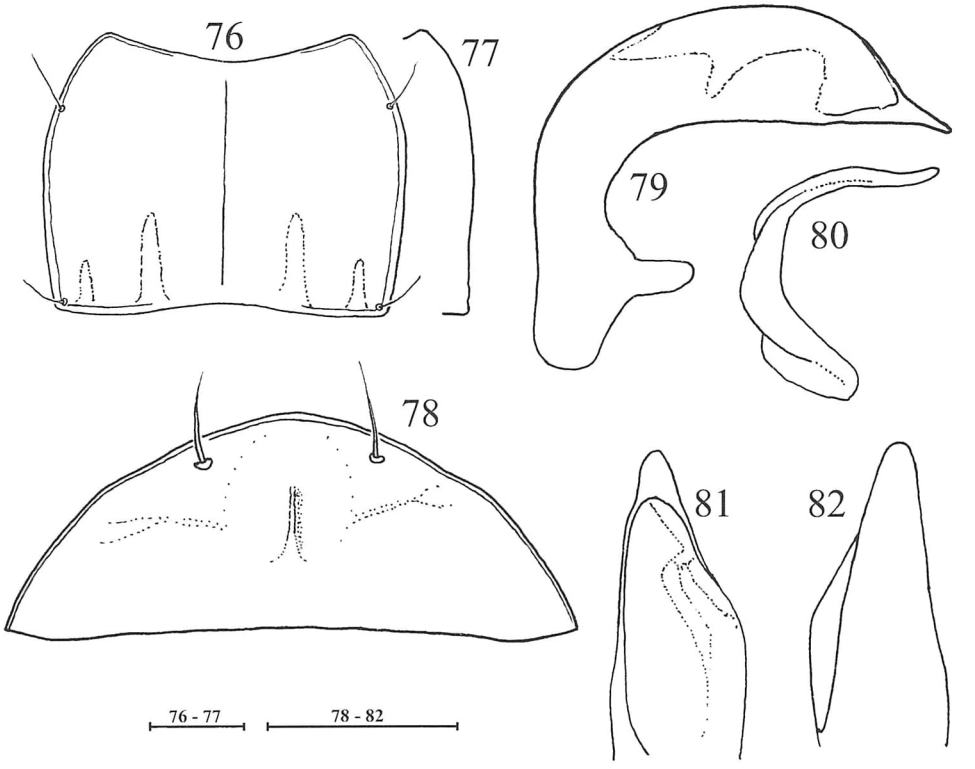
Head much narrower than pronotum (PW/HW 1.52-1.65). Pronotum transverse (PW/PL 1.40-1.47), only very slightly narrowed basally (PW/PW_b 1.00-1.06); lateral margins of pronotum before posterior angles straight or slightly concave (Figs 76-77). Elytra relatively short and wide, EL/EW 1.36-1.43. Elytral disc flat, striae fine, intervals flat, only near apex slightly convex. Abdominal sternites with few faint lateral punctures. Sternite VII of male (Fig. 78) with shallow and often slightly asymmetric median depression and with clear to indistinct longitudinal median keel and irregular transverse furrow. Male genitalia as in Figs 79-82.

Distribution and habitat. The species occurs south of the town of Trabzon in the forest and (sub)alpine zones of the Kalkanli Dağlari mountain ridge at 1400-2300 m a.s.l. (Fig. 89).

Pterostichus (*Haplomaseus*) *woronowi* (Lutshnik, 1916)
(Figs 83-88)

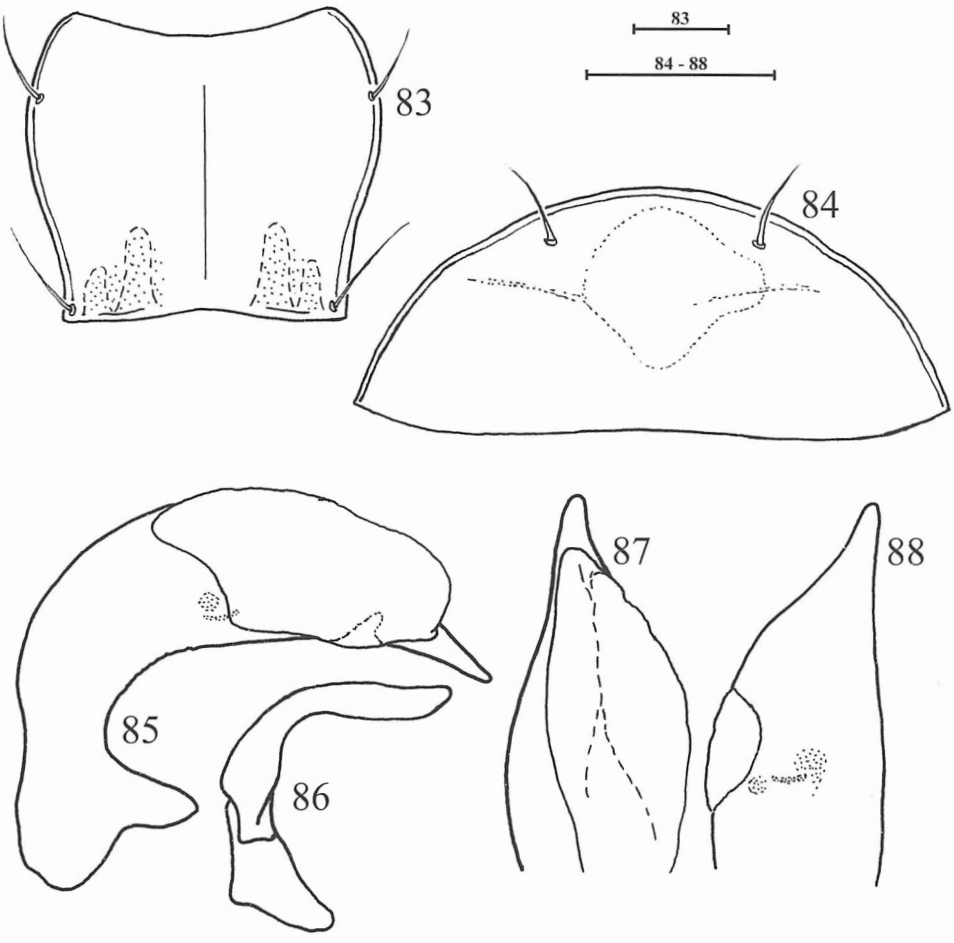
Platysma woronowi Lutshnik, 1916: 68, type locality Araks valley (Nakhichevan).
(= "*P.* (*H.*) *voronovi*" auct., e.g. Casale & Vigna Taglianti 1999, Kryzhanovskij et. al. 1995).

Type material examined. Syntype – ♂, labelled "vall. fl. Araxis, dist. Nachitshevan, 20.v.[19]14", "Mus. Caucas., 60-14, Woronow et Voltshanetski", "Platysma voronovi m. (handwritten), V. Lutshnik det.", "Paratypus" (handwritten red label), "Holotypus" (printed red label), "St. Petersburg, Zool. Inst.", "Zool. Inst., Acad. Sci. USSR, Leningrad" (cZISP). The syntype is damaged (only four right basal antennomeres are present, right mesotarsus and both metatarsi are missing) and immature. The studied type specimen bears both a "Paratypus" and "Holotypus" label, neither of which is probably original.



Figs 76-82: *Pterostichus* (*Haplomaseus*) *heinzi* Jedlička: 76 – pronotum; 77 – variability in the shape of lateral margin of pronotum; 78 – sternite VII of the male; 79 – median lobus of aedeagus, lateral view; 80 – right paramere; 81 – apical part of aedeagus dorsally; 82 – apical part of aedeagus ventrally. Scale bars: 1.0 mm.
Obr. 76-82: *Pterostichus* (*Haplomaseus*) *heinzi* Jedlička: 76 – štít; 77 – variabilita tvaru postranního okraje štítu; 78 – VII. sternit samce; 79 – střední lobus aedeagu laterálně; 80 – pravá paramera; 81 – apikální část aedeagu dorzálně; 82 – apikální část aedeagu ventrálně. Měřítka: 1,0 mm.

Other material examined. 90 specimens: 6 ♂♂, 7 ♀♀, "Turkey 2.-3.vii.1993, Cankurtaran Geçidi, Borçka env., leg. O. Hovorka" (cHO); 5 ♂♂, 5 ♀♀, "Borcka 1600 [m], Artvin Turquie, vii.[19]87 G. Dubault" (cDU); 4 ♂♂, 1 ♀, "Tr. bor. 4.vii.1996, Karagöl (Borçka), Skoupý leg." (cSK); 4 ♂♂, "Tr. bor. 5.vii.1996, Ayder 1500-1750 m, Skoupý leg." (cSK); 11 ♂♂, 6 ♀♀, "Tr. bor. or. 26.v.2000, Murgul 1300 m, Skoupý leg." (cSK); 4 ♂♂, 1 ♀, "Tr. bor. or. 11.vii.1998, Kabaca-Murgul 1000 m, Skoupý leg." (cSK); 1 ♂, the same data but "13.vii. … 1300 m" (cSK); 1 ♂, 1 ♀, "Turkey b. or. 11.vii.1998, Kabaca p. Murgul env., 1300 m a.s.l. (prov. Artvin), sifting in Fagetum, S. Benedikt leg." (cZI); 3 ♂♂, 3 ♀♀, "TR. bor. or., Hopa-Pass, 16.vi.1991, Skoupý leg." (cSK); 1 ♂, 1 ♀, "TR. bor. or., Hopa geç., 21.v.1992, V. Skoupý leg." (cSK); 4 ♂♂, 2 ♀♀, the same data but "13.vi.1996, Snížek leg." (cSK); 1 ♂, 6 ♀♀, "Tr. bor. 27.vi.1996, Yaylalar 1800 m, Skoupý leg." (cSK); 2 ♂♂, "Tr. bor. or. 9.vii.1998, Yusufeli-Kayabaşi 1400 m, Skoupý leg." (cSK); 1 ♂, 1 ♀, "TR. or. 4.vi.1994, Yusufeli env.,



Figs 83-88: *Pterostichus* (*Haplomaseus*) *woronowi* (Lutshnik): 83 – pronotum; 84 – sternite VII of the male; 85 – median lobus of aedeagus, lateral view; 86 – right paramere; 87 – apical part of aedeagus dorsally; 88 – apical part of aedeagus ventrally. Scale bars: 1.0 mm.
Obr. 83-88: *Pterostichus* (*Haplomaseus*) *woronowi* (Lutshnik): 83 – štít; 84 – VII. sternit samce; 85 – střední lobus aedeagu laterálně; 86 – pravá paramera; 87 – apikální část aedeagu dorzálně; 88 – apikální část aedeagu ventrálně. Měřítka: 1,0 mm.

Kiliçkaya, Skoupý leg." (cSK); 1 ♂, 1 ♀, the same data but "1.vii.1996, 2100 m" (cSK); 1 ♂, 1 ♀, the same data but "8.vii.1998" (cSK); 1 ♂, 1 ♀, the same data but "30.v.2000" (cSK); 1 ♂, "Turkey 4.vii.1993, Trabzon, Sumelas, leg. O. Hovorka" (cHO).

Redescription. Habitus – larger (TL 12.1-14.7 mm) and narrow species, similar to *P. armenus* (Faldermann, 1836) or *P. pseudoastutus* sp. n.

Coloration – body and appendages black or mandibles, tibiae and tarsi brown-black, palpi brown.

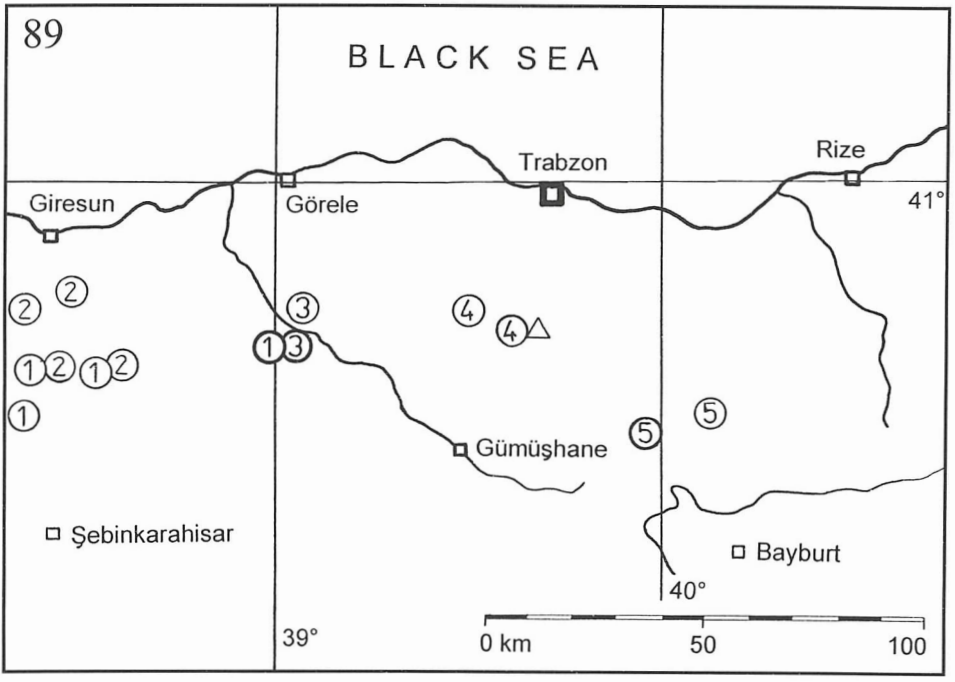


Fig. 89: Distribution of the *Pterostichus* (*Haplomaseus*) species in Turkey, western part of Turkish areal: 1 – *P. giresuni* Jedlička; 2 – *P. tanjae* sp. n.; 3 – *P. staveni* sp. n.; 4 – *P. heinzi* Jedlička; 5 – *P. consanguineus* (Chaudoir); △ – *P. woronowi* (Lutshnik).
Obr. 89: Západní část areálu zástupců podrodu *Haplomaseus* v Turecku: 1 – *P. giresuni* Jedlička; 2 – *P. tanjae* sp. n.; 3 – *P. staveni* sp. n.; 4 – *P. heinzi* Jedlička; 5 – *P. consanguineus* (Chaudoir); △ – *P. woronowi* (Lutshnik).

Microsculpture – isodiametric on labrum; head dorsally without any visible reticulation (magnification 56x), only with very fine punctures; pronotum with isodiametric to slightly transverse microsculpture; elytra with dense, slight, strongly transverse microsculpture in male and with strong, isodiametrical microsculpture in female. Male shining, female dull.

Elytral chaetotaxy – third interval with 4-7 punctures (first adjoining mostly to third stria, others to second stria, but irregularities occures very often). Umbilical series with 16 to 21 pores.

Third antennomere always glabrous, only with large apical setae. Pronotum (Fig. 83) wider than head (PW/HW 1.34-1.45), only slightly transverse (PW/PL 1.26-1.34), cordate, deeply incised before rectangular posterior angles and strongly narrowed basad (PW/PW_b 1.20-1.33); basal impressions distinctly punctured. Elytra elongate, narrow (EL/EW 1.59-1.73). Elytral striae deep, slightly but distinctly punctured. Metepisternite as long as wide. Pro-, meso- and metepisternite and sides of abdominal sternites punctured. Sternite VII of male (Fig. 84) with shallow median depression in posterior part. Male genitalia as in Figs 85-88.

Distribution. The species was described from the Araks river valley in Nakhichevan (Azerbaidzhan) and for a long time known only from the type specimens. Recently it was discovered in eastern Turkey as well (Kryzhanovskij et al. 1995; Figs 89, 90).

KEY TO THE IDENTIFICATION OF *HAPLOMASEUS* SPECIES

Note: The Caucasian species *Pterostichus jugicola* (Lutshnik, 1933), known to us from the original description only, was not included in this key.

1 (4) Third antennomere with only few large stout setae, without short dense pubescence.

2 (3) Smaller and stouter species (TL 9.3-11.2 mm); pronotum (Fig. 4) transverse, not cordate, pronotal base wider than anterior margin, $PW/PW_b < 1.10$; male – apex of aedeagus is very narrow and long (Figs 9-11); female with only slight elytral microsculpture, not distinctly duller than male; Turkey (Fig. 90). .... *P.* (*H.*) *ikizderensis* sp. n. (part)

3 (2) Larger and narrower species (TL 12.1-14.7 mm); pronotum (Fig. 83) narrower, cordate, pronotal base about as wide as anterior margin, $PW/PW_b > 1.20$; male – apex of aedeagus shorter and wider (Figs 87, 88); female with strong isodiametric elytral microsculpture, elytral surface much duller than in male; Nakhichevan, Turkey (Figs 89, 90). ..... *P.* (*H.*) *woronowi* (Lutshnik, 1916)

4 (1) Third antennomere with short dense pubescence in terminal part.

5 (6) Pronotum with only inner basal impression present or outer basal impression indistinct, much shallower and shorter than inner one; large and robust species (TL 13.0-17.3 mm, EL/EW 1.35-1.45); both males and females with strong elytral isodiametric microsculpture and dull and opaque integument; elytral intervals flat, third with three dorsal punctures; last visible sternite of male with flat impression; Georgia: Abkhazia, Megrelia. ..... *P.* (*H.*) *andreae* (Tschitschérine, 1897)

6 (5) Both inner and outer basal pronotal impressions distinct; at least male not opaque, with distinct lustre and not so deep elytral microsculpture; body less robust or TL < 13 mm.

7 (12) Sternite VII of male with more or less distinct and symmetrically placed impression, in anterior part of the impression always with distinct central tubercle, often prolonged posteriorly by longitudinal keel (Fig. 47); body narrower and more convex, elongate and more or less parallel-sided.

8 (9) Female with strong isodiametric elytral microsculpture, elytral surface much duller than in male; body more elongate, pronotum more strongly narrowed towards base (PW/PL 1.35-1.50, PW/PW_b 1.11-1.22); Georgia, Turkey. ..... *P.* (*H.*) *armenus* (Faldermann, 1836)

9 (8) Female with elytral microsculpture weak, elytral surface shining; body stouter, pronotum less narrowed towards base (PW/PL 1.43-1.57, PW/PW_b 1.09-1.16).

10 (11) Right paramere strongly curved (Fig. 49), longer than in following species; larger and stouter species; Georgia: Adzharia, Turkey (Fig. 90). ..... *P.* (*H.*) *arator* (Faldermann, 1836)

a (b) Third elytral interval on average with five setigerous pores. Georgia: Meskhet Mts., Turkey Karçal and Yalnizçam Mts. ..... *P.* (*H.*) *arator arator* (Faldermann, 1836)

b (a) Third elytral interval on average with three setigerous pores. Turkey: Aras Güneyi Mts. .... [*P.* (*H.*) *arator perlidaghensis* Reitter, 1902]

11 (10) Right paramere shorter than in previous species; body shorter and narrower; third elytral interval on average with four setigerous pores; Georgia: Adzharia. ..... *P.* (*H.*) *meskheticus* Belousov, 1991

12 (7) Sternite VII of male unmodified or its posterior half flattened or with shallow (often irregularly placed) to distinct impression, but always without tubercle, sometimes with low and indistinct longitudinal keel.

13 (18) Pronotum cordiform, sides deeply emarginate before more or less rectangular posterior angles (Figs 20, 58); pronotum strongly narrowed towards basis, pronotal basis as wide as or only slightly wider than anterior angles; $PW/PW_b > 1.20$ (only in some specimens of *P. astutus* only 1.15), PW/PL usually < 1.45.

14 (15) Large species (TL 12.0-18.4 mm); both base of pronotum and elytral striae impunctate; striae deeply impressed, intervals strongly convex. Femora black. Georgia: Eastern Megrelia. ..... *P.* (*H.*) *olegi* Belousov, 1991

a (b) Larger (TL 16.5-18.4 mm); right paramere shorter, reaching only slightly before midlength of distal part of median lobus. River Tekhuri valley, Migaria limestone massif. .... *P.* (*H.*) *olegi olegi* Belousov, 1991

b (a) Smaller (TL 12.0-16.0 mm); right paramere longer, reaching apical third of length of distal part of median lobus. Southern slopes of Askhi plateau. ..... *P.* (*H.*) *olegi askhicus* Belousov, 1991

15 (14) Smaller species (TL 9.2-12.7 mm); base of pronotum punctate, femora brownish.

16 (17) Pronotum (Fig. 20) more strongly constricted towards its base (PW/PW_b 1.22-1.31), space between outer basal fovea and lateral margin flat or only slightly convex, base widely and lateral sides along margin very distinctly punctate; elytral striae more deeply impressed and punctate than in following species. Turkey (Fig. 90). ..... *P.* (*H.*) *pseudoastutus* sp. n.

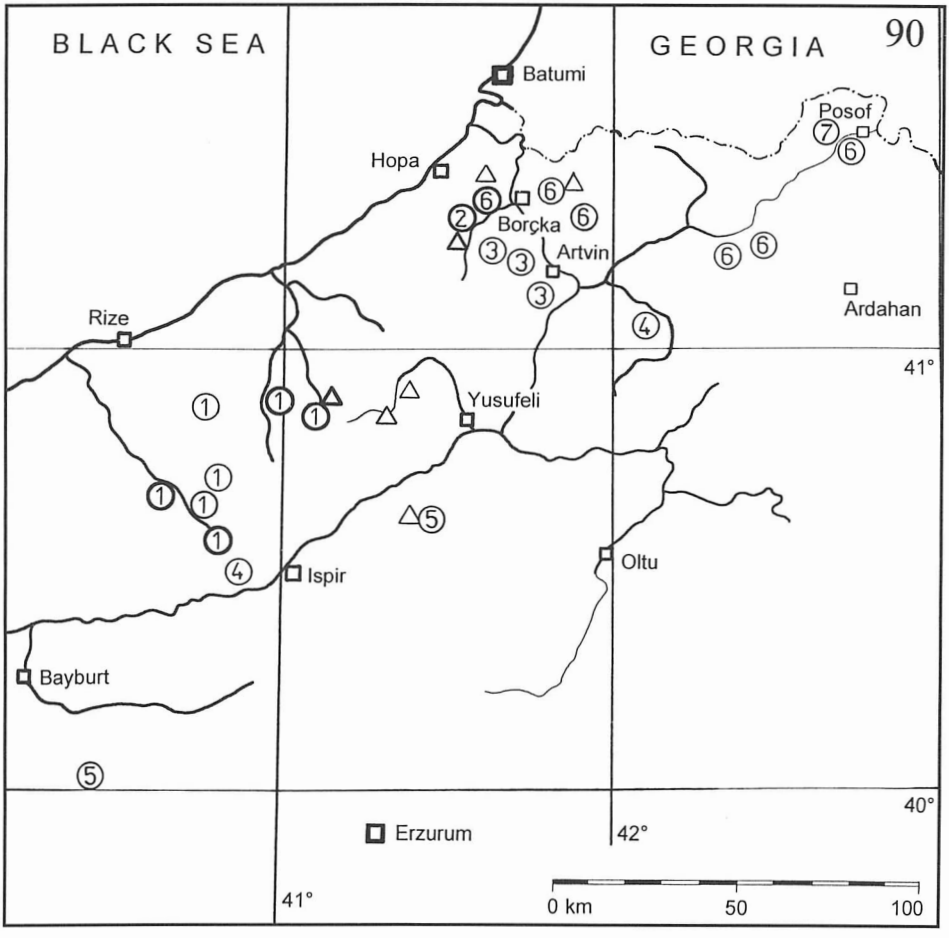


Fig. 90: Distribution of the *Pterostichus* (*Haplomaseus*) species in Turkey, eastern part of Turkish areal: 1 – *P. ikizderensis* sp. n.; 2 – *P. balikliensis* sp. n.; 3 – *P. skoupyi* sp. n.; 4 – *P. pseudoastutus* sp. n.; 5 – *P. astutus* (Tschitschérine); 6 – *P. arator* (Faldermann); △ – *P. woronowi* (Lutshnik).
Obr. 90: Východní část areálu zástupců podrodu *Haplomaseus* v Turecku: 1 – *P. ikizderensis* sp. n.; 2 – *P. balikliensis* sp. n.; 3 – *P. skoupyi* sp. n.; 4 – *P. pseudoastutus* sp. n.; 5 – *P. astutus* (Tschitschérine); 6 – *P. arator* (Faldermann); 7 – *P. armenus* (Faldermann); △ – *P. woronowi* (Lutshnik).

17 (16) Pronotum (Fig. 58) less strongly constricted towards its base (PW/PW_b 1.15-1.21), space between outer basal fovea and lateral margin strongly convex, basal foveae only slightly punctate or punctato-wrinkled, rarely smooth; elytral striae shallow, slightly but distinctly punctate, intervals flat or slightly convex. Turkey (Fig. 90). ..... *P.* (*H.*) *astutus* (Tschitschérine, 1903)

18 (13) Pronotum never deeply emarginate and cordiform; if lateral sides emarginate before posterior angles then pronotal basis always wider than anterior angles (Figs 4, 14, 26, 34, 40, 64, 70, 76 and 77).

19 (22) Pronotum with lateral sides straight or slightly sinuate, distinctly narrowed towards posterior angles, but never deeply incised and cordiform (Figs 26, 64); $PW/PW_b > 1.10$; relatively small and narrow species (TL 9.7-11.1 mm).

20 (21) Base of pronotum smooth; male with symmetrical, relatively deep and distinctly delimited impression on last visible sternite (Fig. 27); aedeagus with distinct bulge on the right side of median lobus (Figs 30-33). Turkey (Fig. 90). ..... *P.* (*H.*) *skoupyi* sp. n.

21 (20) Pronotum punctured in basal foveae; male with only shallow impression on last visible sternite or without impression, only with transverse furrow (Fig. 65); aedeagus without bulge on right side of median lobus, its apex asymmetrically narrowed, long (Figs 68, 69). Turkey (Fig. 89). .... *P.* (*H.*) *consanguineus* (Chaudoir, 1878)

22 (19) Pronotum with lateral sides slightly convex or straight, only slightly narrowed towards posterior angles (Figs 4, 14, 34, 40, 70, 76, 77); PW/PW_b usually < 1.10.

23 (26) Sternite VII of male with relatively deep and sharply delimited, symmetrically placed impression, without transverse furrow or ridge and without longitudinal keel (Figs 15, 71).

24 (25) Pronotum (Fig. 70) subquadrate, only slightly wider than long (PW/PL 1.33-1.46), its lateral margins convexl or straight, narrowed towards posterior angles, not incised; PW/PW_b 1.10-1.16; pronotal disc not convex towards lateral margins but margons distinctly flattened; median lobus of aedeagus as in Figs 72, 74 and 75, right paramere with unusually short distal part (Fig. 73). Turkey (Fig. 89). ..... *P.* (*H.*) *giresuni* Jedlička, 1965

25 (24) Pronotum (Fig. 14) more strongly transverse (PW/PL 1.49-1.60), only very little narrowed towards base (PW/PW_b 1.03-1.06); median lobus of aedeagus as in Figs 16, 18 and 19, right paramere with long distal part (Fig. 17). Turkey (Fig. 90). ..... *P.* (*H.*) *balikliensis* sp. n.

26 (23) Last visible sternite of the male unmodified or its posterior half flattened, or with shallow and indistinctly delimited impression, or with deep, but irregularly placed impression (Figs 12, 35, 41, 78).

27 (28) Pronotum on the basis distinctly punctured, at least on the bottom of both basal impressions; smaller and narrower species (TL 9.3-11.2 mm) with more transverse pronotum (PW/PL 1.46-1.57); male with last visible sternite unmodified or with its posterior half flattened or with shallow and indistinctly delimited impression, rarely with transverse furrow or ridge (Fig. 12); median lobus of aedeagus with strongly, assymmetrically narrowed apex (Figs 10, 11). ..... *P.* (*H.*) *ikizderensis* sp. n. (part)

28 (27) Pronotal base unpunctured or with few punctures (in such case last sternite of male with deep, clearly delimited and assymmetrically placed impression); on average larger species (TL 10.5-13.6 mm) with less transverse pronotum (PW/PL 1.33-1.47); apex of median lobus of aedeagus not so strongly and asymmetrically narrowed (Figs 39, 45, 82).

29 (30) Pronotal disc evenly convex to lateral margins along whole length, sides of pronotum straight or very slightly incised before posterior angles (Figs 76, 77); smaller species (TL 10.5-12.1 mm) with pronotum on average more transverse (PW/PL 1.40-1.47); last visible sternite of the male with symmetrically placed, shallow and indistinctly delimited impression and with longitudinal keel, which is sometimes slight and visible only in lateral lighting; median lobus of aedeagus almost symmetrically narrowed towards apex, its apical part shorter and wider in dorsal view, conical (Fig. 81); Turkey (Fig. 89). ..... *P.* (*H.*) *heinzi* Jedlička, 1965

30 (29) Pronotal disc not evenly convex to lateral margins along whole length; sides of pronotum distinctly incised before posterior angles, rarely stright (Figs 34, 40); larger species (TL 11.0-13.6 mm) with pronotum on average less transverse (PW/PL 1.33-1.47); last visible sternite of the male different (Figs 35, 41) and/or median lobus asymmetrically narrowed towards its apex, which is narrower and longer in dorsal view, almost parallel-sided (Figs 38, 44); distributed more towards the West (Fig. 89).

31 (32) Last visible sternite of the male with deep, clearly delimited and asymmetrically placed impression (Fig. 35); median lobus of aedeagus less asymmetrically narrowed towards wider and shorter apex (Fig. 39); eyes less convex, head on average more narrow than pronotum (PW/HW 1.54-1.65); Turkey (Fig. 89). ... . *P.* (*H.*) *staveni* sp. n.

32 (31) Last visible sternite of the male with shallow, not distinctly delimited and only slightly asymmetrically placed impression (Fig. 41); median lobus of aedeagus more asymmetrically narrowed towards narrower and longer apex (Figs 45); eyes more convex and protruding from outline of head, head on average wider (PW/HW 1.45-1.65); Turkey (Fig. 89). ..... *P.* (*H.*) *tanjae* sp. n.

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SOUHRN

Z jedenácti doposud známých zástupců podrodu *Haplomaseus* Reitter, 1896 (rod *Pterostichus* Bonelli, 1810) bylo z Turecka uváděno sedm druhů – *P. arator* (Faldermann, 1836), *P. armenus* (Faldermann, 1836), *P. astutus* (Tschitschérine, 1903), *P. consanguineus* (Chaudoir, 1878), *P. giresuni* Jedlička, 1965, *P. heinzi* Jedlička, 1965 a *P. woronowi* (Lutshnik, 1916).

Při studiu bohatého dostupného materiálu z území Turecka bylo zjištěno a v anglickém textu této práce je popsáno šest nových druhů podrodu *Haplomaseus*: *P.* (*Haplomaseus*) *ikizderensis* sp. n., *P.* (*H.*) *balikliensis* sp. n., *P.* (*H.*) *pseudoastutus* sp. n., *P.* (*H.*) *skoupyi* sp. n., *P.* (*H.*) *staveni* sp. n. a *P.* (*H.*) *tanjae* sp. n. Nově popsané druhy jsou srovnány s příbuznými druhy a důležité morfologické znaky jsou vyobrazeny. Pro všech sedm již dříve popsaných druhů jsou také vyobrazeny pro determinaci důležité struktury a provedeny jejich redeskripce. Charakteristika podrodu *Haplomaseus* stanovená předchozími autory (podrobnosti viz anglická část práce výše) je zde potvrzena jako správná. Pro všechny dosud známé druhy podrodu *Haplomaseus* je sestaven určovací klíč (s výjimkou kavkazského druhu *P. jugicola* (Lutshnik, 1933) popsaného podle jedné samice, který je autorům znám pouze z původního popisu):

Klíč k určování druhů podrodu Haplomaseus

Vysvětlivky: EL = délka krovek (měřena levá krovka od bazálního vroubení po apex); EW = maximální šířka obou krovek dohromady; HW = maximální šířka hlavy včetně očí; PL = délka štítu (měřená uprostřed štítu); PW = maximální šířka štítu; PW_b = šířka báze štítu (vzdálenost apexů zadních rohů štítu); TL = celková délka těla od apexu levé mandibuly po apex levé krovky.

1 (4) Třetí tykadlový článek bez hustého krátkého ochlupení, pouze s obvyklými dlouhými smyslovými setami na konci.

2 (3) Menší a robustnější druh (9,3-11,2 mm); štít (obr. 4) příčný, není srdčitý, jeho báze širší než přední okraj, PW/PW_b méně než 1,10; samec – špice aedeagu velmi úzká a dlouhá (obr. 9-11); samice se slabou mikro-skulpturou krovek, není výrazně matnější než samec. Turecko (obr. 90). ..... *P.* (*H.*) *ikizderensis* sp. n. (part.)

3 (2) Větší a užší druh (12,1-14,7 mm); štít užší, srdčitý, jeho báze zhruba tak široká jako přední okraj, PW/PW_b více než 1,20; samec – špice aedeagu kratší a širší (obr. 87-88); samice výrazně matnější než samec, se silnou isodiametrickou mikroskulpturou krovek. Nachičevan, Turecko (obr. 89-90). ..... *P.* (*H.*) *woronowi* (Lutshnik, 1916)

4 (1) Třetí tykadlový článek je alespoň na vnitřní straně poslední čtvrtiny své délky hustě ochlupený.

5 (6) Štít pouze s vnitřními bazálními vtlaky nebo vnější bazální vtlaky nezřetelné, mnohem mělčí a kratší než vnitřní vtlaky; velký a robustní druh (13,0-17,3 mm, EL/EW 1,35-1,45); samci i samice se silnou isodiametrickou mikroskulpturou krovek, povrch těla matný; mezirýží krovek plochá, třetí se třemi dorzálními porojamkami; poslední sternit samce s plochým vtiskem. Gruzie: Abcházie, Megrelie. ..... *P.* (*H.*) *andreae* (Tschitschérine, 1896)

6 (5) Oba bazální vtisky štítu zřetelné; alespoň samec se zřetelným leskem, ne matný, jeho mikroskulptura na krovkách méně výrazná; druhy méně robustní a zavalité nebo menší než 13 mm.

7 (12) Poslední sternit samce se zřetelným a symetricky umístěným vtiskem, v jehož přední části je vždy zřetelný hrbolek, který je často protažen v kýl; druhy užší a klenutější, protáhlejší, krovky ± rovnoběžné.

8 (9) Samice se silnou isodiametrickou mikroskulpturou krovek, výrazně matnější než samec; tělo protáhlejší, štít k bázi silněji zúžen (PW/PL 1,35-1,50, PW/PW_b 1,11-1,22). Gruzie, Turecko. ..... *P.* (*H.*) *armenus* (Faldermann, 1836)

9 (8) Samice se slabou mikroskulpturou, povrch krovek lesklý; tělo širší, robustnější, štít na bázi slaběji zúžen (PW/PL 1,43-1,57, PW/PW_b 1,09-1,16).

10 (11) Pravá paramera silně zahnutá, delší než u následujícího druhu (obr. 49); větší a robustnější druh. Gruzie: Adžarie a Turecko (obr. 90). ..... *P.* (*H.*) *arator* (Faldermann, 1836)

a (b) Třetí mezirýží krovek v průměru s pěti dorsálními porojamkami. ..... *P.* (*H.*) *arator arator* (Faldermann, 1836)

b (a) Třetí mezirýží krovek v průměru se třemi dorsálními porojamkami. ..... [*P.* (*H.*) *arator perlidaghensis* Reitter, 1896]

11 (10) Pravá paramera kratší než u předchozího druhu; tělo kratší a širší; třetí mezirýží krovek v průměru se čtyřmi dorzálními porojamkami. Gruzie: Adžarie. ..... *P.* (*H.*) *meskheticus* Belousov, 1991

12 (7) Poslední sternit samce nemodifikovaný nebo v zadní polovině zploštělý nebo s mělkým či hlubším (často nesymetricky umístěným) vtiskem, ale vždy bez hrbolku, někdy s nízkým a slabým podélným kýlem.

13 (18) Štít srdčitý, po stranách dlouze a hluboce vykrojený před ± pravoúhlými zadními rohy (obr. 20, 58), k bázi silně zúžený, jeho báze tak široká jako přední rohy nebo jen málo širší; PW/PW_b více než 1,20 (u některých exemplářů *P.* (*H.*) *astutus* pouze 1,15), PW/PL obvykle méně než 1,45.

14 (15) Velký druh (12,0-18,4 mm); báze štítu a rýhy krovek netečkované; rýhy krovek hluboké, mezirýží silně konvexní; stehna černá. Gruzie: východní Megrelie. ..... *P.* (*H.*) *olegi* Belousov, 1991

a (b) Větší (16,5-18,4 mm); pravá paramera kratší, přesahuje pouze nepatrně polovinu délky distální části aedeagu. Údolí řeky Tekhuri, vápencový masiv Migaria. .... *P.* (*H.*) *olegi olegi* Belousov, 1991

b (a) Menší (12,0-16,0 mm); pravá paramera delší, dosahuje apikální třetiny délky distální části aedeagu. Jižní svahy Aščhi. ..... *P.* (*H.*) *olegi askhicus* Belousov, 1991

15 (14) Menší druhy (9,2-12,7 mm); báze štítu tečkovaná, stehna hnědavá.

16 (17) Štít (obr. 20) silněji zúžen k bázi (PW/PW_b 1.22-1.31), prostor mezi bazálním vtlakem a postranním okrajem štítu plochý nebo jen slabě konvexní, báze a postranní okraj štítu zřetelně tečkované; rýhy krovek hlubší a zřetelněji tečkované než u následujícího druhu. Turecko (obr. 90). ..... *P.* (*H.*) *pseudoastutus* sp. n.

17 (16) Štít (obr. 58) k bázi méně zúžený (PW/PW_b 1.15-1.21), prostor mezi bazálním vtlakem a postranním okrajem štítu silně konvexní, bazální vtlaky pouze slabě tečkované nebo vrásčitě tečkované, vzácněji hladké; rýhy krovek mělké, zřetelně ale jemně tečkované, mezirýží plochá nebo slabě vyklenutá. Turecko (obr. 90). .... *P.* (*H.*) *astutus* (Tschitschérine, 1903)

18 (13) Štít nikdy srdčitý, hluboce a dlouze vykrojený před zadními rohy; je-li před zadními rohy vykrojený, pak je jeho báze vždy širší než přední okraj (obr. 4, 14, 26, 34, 40, 64, 70, 76 a 77).

19 (22) Postranní okraje štítu rovně zúžené nebo slabě před zadními rohy vykrojené, štít k bázi zřetelně zúžený, ale nikdy hluboce vykrojený a srdčitý; PW/PW_b > 1,10 (obr. 26, 64); relativně malé (9,8-11,1 mm) a úzké druhy.

20 (21) Báze štítu hladká; samec se symetrickým, relativně hlubokým a zřetelně ohraničeným vtiskem na posledním sternitu (obr. 27); aedeagus se zřetelným hrbolem na pravé straně, jeho špice širší než u následujícího druhu (obr. 30-33). Turecko (obr. 90). ..... *P.* (*H.*) *skoupyi* sp. n.

21 (20) Bazální vtisky štítu tečkované; samec pouze s mělkým vtiskem na posledním sternitu nebo bez vtisku, pouze s příčnou rýhou (obr. 65); aedeagus bez hrbolu na pravé straně, s apexem asymetricky zúženým, úzkým a dlouhým (obr. 69). Turecko (obr. 89). ..... *P.* (*H.*) *consanguineus* (Chaudoir, 1878)

22 (19) Postranní okraje štítu slabě konvexní nebo rovně zúžené, pouze slabě zúžené k zadním rohům, PW/PW_b obvykle < 1,10 (obr. 4, 14, 34, 40, 70, 76, 77).

23 (26) Poslední sternit samce s poměrně hlubokým a ostře ohraničeným, symetricky umístěným vtiskem, bez podélného kýlu (obr. 15, 71).

24 (25) Štít (obr. 70) pouze slabě příčný (PW/PL 1,33-1,46), jeho postranní okraje nevykrojené, konvexní nebo rovně zúžené k zadním rohům; PW/PW_b 1,10-1,16; disk štítu není klenutý až k postranním okrajům, ale po stranách je zřetelně zploštělý; aedeagus viz obr. 72, 74 a 75, pravá paramera má neobvykle krátkou distální část (obr. 73). Turecko (obr. 89). ..... *P.* (*H.*) *giresuni* Jedlička, 1965

25 (24) Štít (obr. 14) silněji příčný (PW/PL 1,49-1,60), pouze nepatrně zúžený k bázi (PW/PW_b 1,03-1,06); aedeagus viz obr. 16, 18, 19, pravá paramera dlouhá (obr. 17). Turecko (obr. 90). ..... *P.* (*H.*) *balikliensis* sp. n.

26 (23) Poslední sternit samce nemodifikovaný nebo jeho zadní polovina zploštěná nebo s mělkým a nezřetelně ohraničeným vtiskem nebo s hlubokým, ale asymetricky umístěným vtiskem (obr. 12, 35, 41 a 78).

27 (28) Štít na bázi zřetelně tečkovaný alespoň v obou bazálních vtiscích; menší a užší druh (9,3-11,2 mm) s příčnějším štítem (PW/PL 1,46-1,57); poslední sternit samce nemodifikovaný nebo se zadní polovinou zploštělou nebo s mělkým a nezřetelně ohraničeným vtiskem; aedeagus se silně asymetricky zúženým, různě dlouhým, úzkým apexem (obr. 10-11). ..... *P.* (*H.*) *ikizderensis* sp. n. (part.)

28 (27) Štít na bázi netečkovaný nebo s několika málo tečkami (v tom případě samec s hlubokým, zřetelně ohraničeným a asymetricky umístěným vtiskem); větší druhy (10,5-13,6 mm) s méně příčným štítem (PW/PL 1,33-1,47); apex aedeagu není tak silně a asymetricky zúžen (obr. 39, 45, 82).

29 (30) Disk štítu po celé délce rovnoměrně klenutý až k postrannímu okraji, postranní okraje štítu zúžené k bázi rovně nebo jen velmi slabě vykrojené před zadními rohy (obr. 76, 77); menší druh (10,5-12,1 mm) se štítem v průměru příčnějším (PW/PL 1,40-1,47); poslední sternit samce se symetricky umístěným, mělkým a nezřetelně ohraničeným vtiskem a s podélným kýlem, někdy velmi slabě vyvinutým a viditelným pouze při bočním osvětlení; apex aedeagu téměř symetricky zúžený, při pohledu shora je apikální část kratší a širší, kónická (obr. 81). Turecko (obr. 89). ..... *P.* (*H.*) *heinzi* Jedlička, 1965

30 (29) Disk štítu není po celé délce rovnoměrně klenutý až k postrannímu okraji; postranní okraje štítu jsou před zadními rohy zřetelně vykrojené, vzácně přímé (obr. 34, 40); větší druhy (11,0-13,6 mm) se štítem v průměru méně příčným (PW/PL 1,33-1,47); poslední sternit samce rozdílný a/nebo apex aedeagu asymetricky zúžený, při dorzálním pohledu užší a delší, téměř rovnoběžný (obr. 38, 44); druhy rozšířené západněji (obr. 89).

31 (32) Poslední sternit samce s hlubokým, zřetelně ohraničeným a asymetricky umístěným vtiskem (obr. 35); apex aedeagu méně asymetricky zúžený, širší (obr. 39); oči méně klenuté, poměr šířky hlavy a pronota v průměru vyšší (PW/HW 1,54-1,65). Turecko (obr. 89). ..... *P.* (*H.*) *staveni* sp. n.

32 (31) Poslední sternit samce s mělkým, nezřetelně ohraničeným a pouze mírně asymetricky posunutým vtiskem (obr. 41); apex aedeagu silněji asymetricky zúžený, užší (obr. 45); oči klenutější, více vyčnívají z obrysu hlavy, hlava v průměru větší a širší (PW/HW 1,45-1,65). Turecko (obr. 89). ..... *P.* (*H.*) *tanjae* sp. n.