

On the taxonomy and classification of the genus *Psylliodes* Latreille, 1825 (Coleoptera, Chrysomelidae, Galerucinae)

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Abstract. A review of the subgenus *Eupus* Wollaston, 1854 is provided. The composition of the subgenus and its position in the genus *Psylliodes* Latreille, 1825 are discussed. A redescription of the subgenus, diagnoses and key to all species are given. A new species *Psylliodes wollastoni* sp.nov. from Madeira is described and added to the subgenus *Eupus*. The lectotype of *Psylliodes tarsatus* Wollaston, 1854 is designated. A new subgenus *Minicnema* subgen.nov. is established for *Psylliodes ellipticus* Allard, 1861 and *Psylliodes belarbi* Döberl, 1990. The position of the new subgenus and its relations within the genus are discussed. *Psylliodes manobioides* sp.nov. from Kenya belonging to the *montanus* species group is described. A redescription of the *montanus* species-group is given and its position within the genus is discussed. The new *altimontanus* species group is established for *Psylliodes altimontanus* L. Medvedev, 2004 and *Psylliodes globosus* sp.nov. from the Nepalese Himalayas; the new group is compared with European “minotoid” species of the genus. *Psylliodes azoricus* Jacobson, 1922 is synonymized with *Psylliodes vehemens* Wollaston, 1854; the lectotype of *Psylliodes vehemens* is designated. *Psylliodes aereus austriacus* Heikertinger, 1911 and *Psylliodes araraticus* lablokoff-Khnzorian, 1968 are synonymized with *Psylliodes aereus* Foudras, 1860. *Psylliodes napi flavicornis* Weise, 1888 is synonymized with *Psylliodes napi* (Fabricius, 1792).

Key words. Coleoptera – Chrysomelidae – *Psylliodes* – *Eupus* – *Minicnema* – new subgenus – new species – species-groups – new synonyms – lectotype

Introduction

A revision study of the genus *Psylliodes* Latreille, 1825 provided by author resulted in the development of a classification of the genus, including reconsideration and changes in the composition of the species groups and subgenera, descriptions of new species and species groups, establishment of a new subgenus, and clarification of the status of some species and subspecies. Some results of this study are presented in this paper.

Abbreviations

NHML	.....	Natural History Museum, London
NHMB	.....	Naturhistorisches Museum Basel
ZMHU	.....	Zoologisches Museum, Humboldt Universität, Berlin
DEI	.....	Deutsches Entomologisches Institute, Müncheberg
IRSNB	.....	Institute Royal des Sciences Naturelles, Bruxelles
ZMUH	.....	Zoological Museum, University of Helsinki
NHMP	.....	National Museum, Prague
ZMUC	.....	Zoologisk Museum, Universitets Kfbenhavn
MNHB	.....	Természettudományi Múzeum, Budapest
ZIN	.....	Zoological Institute, St. Petersburg
MD	.....	M. Döberl collection, Abensberg

Methods

All observations, preparation and figures were made using an MBS-9 dissecting microscope. The photographs of the female genitalia were made from glycerine preparations using a Motic BA450 light microscope and a Canon EOS 350D digital camera. The figures of the male genitalia were made from glycerine-gelatine preparations. Measurements were made using an ocular micrometer.

The terminology for the structure of the spermatheca follows DÖBERL (1986). The species distribution follows GRUEV & DÖBERL (1997).

Abbreviations for measurements:

PI	pronotal index (maximum length/maximum width of pronotum)
EI	elytral index (maximum length/maximum width of elytra)
LI	pronotal-elytral length index (maximum length of pronotum : maximum length of elytron)
BI	body length-to-width index (length/width of body)

Review of the subgenus *Eupus*

The monotypic subgenus *Eupus* was the first to be established within the genus *Psylliodes* (WOLLASTON 1854). Its status and composition remained unchanged for more than 150 years. A study of the species described by T. Wollaston and H. Lindberg from the Madeira and the Canary Islands has resulted in a revision of the subgenus. The changes in the composition require a redescription of the subgenus and a key to the species.

Eupus Wollaston, 1854

Eupus Wollaston, 1854: 452.

Type species: *Psylliodes tarsata* Wollaston, 1854 (by monotypy).

Redescription. Body oval or elongate-oval (Figs 1, 2, 4). Body coloration variable: bicolored (head and prothorax yellow-reddish, elytra brown) or unicolorous, brown with bronze lustre.

Head large, eyes small, slightly convex. Vertex rather wide, slightly convex or flattened; covered with punctures small, shallow, superficial, often irregular, interspaces smooth-shagreened to distinct, uneven, convex sculpture. Ocular sulci not developed, usually presented at apices of frontal calli, where a setiferous impression is situated. Frontal calli not elevated or weakly convex, separated from the vertex by more or less developed sulci; apices of the calli narrow, elongate, joined with convex area at inner margin of eye. Frontal ridge rather wide, rectangular, weakly convex. Antennal sockets widely spaced, at a distance from eye margin of about 0.5 to 1 diameter of socket. Antennal furrow shallow. Labrum large, wide, trapezoid, transversally roof-shaped medially; 4 inner setiferous pores well developed, large and deep. Antennae short to deep, with segments long and thin or short and thick.

Prothorax large, rather convex; sides weakly rounded and weakly convergent; anterolateral callosity small, not swollen, and poorly protruding from contour to more or

less developed and protruding distinctly; callosity with no acute denticle at setiferous pore. Punctures of pronotal disc small and sparse to moderately large, distinct and dense; interspaces flat, surface smoothly shagreened to distinctly shagreened. Elytra with humeral calli and hind wings reduced. Punctures in elytral striae mid-sized or large; striae not impressed or slightly impressed; interspaces between striae flat or weakly convex; secondary punctation very small, superficial and indistinct to more or less large and distinct; interspaces between punctures smoothly shagreened to distinctly shagreened. Tarsal segment 1 of male fore tarsus small and slightly widened to large and rather wide. Hind tibia usually narrow, long, serriform, viewed from above straight or slightly curved inward (Figs 14, 15, 17); tarsal articulation of hind tibia situated medially or close to mid-length of tibia; distal half of tibia covered with small and dense denticles.

Tegmen modified (Fig. 32). Spermatheca with collo short and narrow, nodulus short and drop-shaped, ductus short, not coiled (Fig. 44).

Differential diagnosis. The subgenus *Eupus* differs from the subgenus *Semicnema* Weise, 1893 in the shape of the body (somewhat wider, with no parallel sides), prothorax larger, structure of the mandibles (wide, slightly curved, not falciform), character of the body punctation (punctures shallower and smaller, elytral striae not impressed). Tegmen modified. Both subgenera are similar in the structure of the hind tibia (serrate, narrow, straight, tarsal articulation situated medially). From the nominotypical subgenus it differs in the structure of the labrum (with the exception of the *gibbosus*, *cucullatus*, *glaber*, and *vehemens* species groups), prothorax larger, head larger and with other structure, other structure of the hind legs.

Discussion. There are two morphological series within the subgenus, which probably reveal something of the relationship links within the subgenus. In the first series the shape of the 1st segment of the male fore-tarsus is distinctive and consists of three ordered states of characters. *Psylliodes stolidus* Wollaston, 1860 and *P. aemulans* H. Lindberg, 1953 have a relatively narrow, slightly widened and small 1st segment (Fig. 24); *Psylliodes amplicollis* Wollaston, 1865 has a wider and larger 1st segment (Fig. 25); *Psylliodes tarsatus* Wollaston, 1854 and *Psylliodes wollastoni* sp.nov. have the widest and largest 1st segment (Figs 26, 27). In the second series the shape of the hind tibia is distinctive; this series consists of the two character states. *P. stolidus* has the hind tibia less straight and slightly curved in lateral view, and slightly curved inward when viewed from above (Fig. 17). The remaining species have the hind tibia straight and narrow (Figs 14, 15). The less specialized characters are both presented in *P. stolidus*. Thus, there is a directed morphological series showing the course of the morphologic development of the species of the subgenus. The character states of *P. stolidus*, as well as the shape of the head and the body (Fig. 5), are similar to those of the species of the *cucullatus* species group and this species is probably transitional between these groups. These characters are possibly evidence of the relationship links of the subgenus *Eupus* and the *cucullatus* species group.

Distribution. All species of the subgenus are endemic to the Canary Islands and Madeira.

Key to the species of the subgenus *Eupus*

1. Body bicolorous: head and pronotum yellowish-red, elytra dark blue to almost black or brown, with metallic lustre, segment 1 of male fore-tarsus strongly widened (Figs 26, 27). 2.
 - Body unicolorous, brownish with bronzy lustre, segment 1 of male fore-tarsus weakly or moderately widened (Figs 24, 25). 3.
2. Segment 1 of male fore-tarsus widest (Fig. 27); frontal calli more prominent and delineated especially from frons; pronotum more transverse medially and less convex basally in lateral view, fore- and mid-tibia wider (Fig. 22); punctures of elytral striae denser and more deeply impressed; segment 1 of hind tarsus distinctly widened basally (Fig. 20). Aedeagus – Fig. 8. ***P. tarsatus* Wollaston**
 - Segment 1 of male fore-tarsus less wide (Fig. 26); frontal calli less prominent and delineated from frons; pronotum longer medially and more convex basally in lateral view, fore- and mid-tibia almost non-widened (Fig. 23); punctures of elytral striae sparser and not impressed; segment 1 of hind tarsus narrowed basally (Fig. 21). Aedeagus – Fig. 9. ***P. wollastoni* sp.nov.**
3. Body larger (2.5 mm), elongate (Fig. 2), segment 1 of male fore-tarsus moderately wide (Fig. 25); head rather large; eyes small; anterofrontal ridge and labrum very wide; vertex covered with rather small, sparse punctures and shagreened surface, punctures indistinct; anterolateral callosity of pronotum not strongly protruding from the contour; pronotal surface covered with small, shallow, dense punctation, interspaces almost smooth, flat, lustrous; punctures in elytral striae moderately large and dense, striae weakly impressed, secondary punctation small but distinct, spaces between punctures smoothly shagreened; hind tibia straight (Fig. 14). Aedeagus – Fig. 6. ***P. amplicolis* Wollaston**
 - Body smaller (2.0 mm), elliptical, convex (Fig. 5), head smaller; eyes large; segment 1 of male fore-tarsus weakly widened (Fig. 24); anterofrontal ridge and labrum narrower; pronotum covered with distinctly shagreened surface, punctation dense and small, interspaces convex. 4.
4. Shagreen of vertex moderate; frontal ridge almost not elevated; pronotum narrower anteriorly; hind tibia slightly curved in lateral view (Fig. 17); hind tibial apices narrow when viewed from above; antennae shorter, with segments thicker. Aedeagus – Fig. 7. ***P. stolidus* Wollaston**
 - Shagreen of vertex well developed, distinctly granular; frontal ridge more prominent; pronotum wider, especially anteriorly and dorsally; hind tibia straight in lateral view; hind tibial apices wider when viewed from above; antennae longer, with segments thinner. ***P. aemulans* H. Lindberg**

***Psylliodes tarsatus* Wollaston, 1854**

Psylliodes tarsata Wollaston, 1854: 451.

Type material. Lectotype, designated here, male, (NHML), (labels numbered): 1. "Type", 2. "Syntype", 3. "Madeira The Madeira Is. T.V. Wollaston Coll. BM 1855-7", 4. "Psylliodes tarsata, type Woll.", 5. "Lectotypus Psylliodes tarsatus Wollaston Nadein K. des. 2006". Paralectotypes: 3 male, (NHML): 1. "Syntype", 2. "Madeira The Madeira Is. T.V. Wollaston Coll. BM 1855-7", 3. "Syntype Standing as Psylliodes tarsata Woll.", 4. "Paralectotypus Psylliodes tarsata Wollaston Nadein K. des. 2006".

Other material. MADEIRA: "I. Madeira" 1 spec. (ZIN); "Port. W-Madeira Rabaçal 3.x.1994 leg. Döberl" 4 spec. (ZIN); "Madeira, Rabaçal, 1000 m Laurisilva-Gesiebe 23.iii.1996, leg. Zerche" 1 spec. (DEL); "Madeira Tarsata Wollast" 2 spec. (ZMUC); "Madeira" 10 spec. (NHML).

Differential diagnosis. Close to *P. wollastoni* sp.nov. from which differs in the structure of aedeagus, frontal calli more prominent and delineated, pronotum more transverse and less convex basally, fore- and mid-tibia wider, elytral striae denser and impressed, 1st segment of the male fore-tarsus wider, segment 1 of the hind tarsus distinctly widened basally.

Distribution. Madeira.

***Psylliodes amplicollis* Wollaston, 1865**

Psylliodes amplicollis Wollaston, 1865: 56.

Type material. Holotype, male, (NHML), (labels numbered): 1. "Psylliodes amplicollis W (unique)", 2. "Baly coll.", 3. "Psylliodes amplicollis Woll. Madeira (type)".

Differential diagnosis. This species has an intermediate position in the subgenus between *P. stolidus* and *P. aemulans* and *P. tarsatus* and *P. wollastoni* sp.nov. From the first species it differs in the shape of the aedeagus, body more elongate, 1st segment of the male fore-tarsus wider and larger, hind tibia narrower, straight. From the latter two it differs in the shape of genitalia, body narrower, 1st segment of the male fore-tarsus smaller and narrower, body unicolorous, brown with bronze lustre.

Distribution. Madeira.

***Psylliodes stolidus* Wollaston, 1860**

Psylliodes stolidus Wollaston, 1860: 11.

Type material. Lectotype, male, (NHML), (labels numbered): 1. "Lectotype", 2. "Type", 3. "Syntype", 4. "Lanzarote The Canary Is. T.V. Wollaston, B.M. 1864-80.", 5. "Psylliodes stolidus, type Woll.", 6. "Lectotypus Psylliodes stolidus Wollaston, 1860 M. Biondi des. 1986"; Paralectotype: 1 female, with labels 1 and 2 the same as 3 and 4 of lectotype (NHML).

Other material. "Baly coll.", "Psylliodes stolidus Woll. Lanzarote" 1 spec. (NHML).

Differential diagnosis. This species is closely related to *P. aemulans*, from which it differs in the pronotum being narrower towards the front; shagreen of vertex weaker; frontal ridge almost not elevated; hind tibia slightly curved in lateral view; hind tibial apices narrow when viewed from above; antennae shorter, with segments thicker.

Psylliodes stolidus is similar to the species of the *cucullatus* species-group in habitus and hind tibia slightly curved inward when seen from above. It is possible that this species is transitional between the *cucullatus* species group and the subgenus *Eupus*.

Distribution. Canary Islands (Lanzarote, Fuerteventura), Madeira (Selvages).

***Psylliodes aemulans* H. Lindberg, 1953**

Psylliodes aemulans H. Lindberg, 1953: 12.

Type material. Paratype, female, (NHML), (labels numbered): 1. "Paratype" [museum label]; 2. "Gran Canaria Cruz de Tejedo 1450 m 8.iii.50 Lindberg"; 3. "Brit. Mus. 1951-318."; 4. "Psylliodes aemulans n.sp. Harald Lindberg det.".

Differential diagnosis. This species is closely related to *P. stolidus*, from which it differs in the pronotum being wider towards the front; well developed, distinctly granular shagreen of vertex; frontal ridge more prominent; hind tibia straight in lateral view; hind tibial apices wider when viewed from above; antennae longer, with segments thinner.

Distribution. Canary Islands.

***Psylliodes wollastoni* sp.nov.**

Type material. Holotype, male: "Mus. Westerm", "Madeira. Tarsata. Wollast." (ZMUC).

Type locality. Madeira.

Description. Body oval, convex. Head, prothorax, legs (except metafemora) and segments 1–3 of antennae yellow-reddish; metafemora, elytra and segments 4–10 of antennae brown.

Head large; eyes small, flattened, almost round. Vertex very wide, convex, covered with small, sparse punctuation and with a smooth, shagreened surface. Ocular sulci almost not developed, more distinct at frontal calli apices, wide and shallow, covered with setiferous pores forming a wide impression. Frontal calli wide, rather weakly elevated, surface smoother than vertex, separated from vertex by shallow and moderately wide sulcus, apices of calli elongate and joined with convex area at inner margin of eye. Frontal ridge wide, almost not convex, slightly impressed basally; anterofrontal ridge convex. Antennal sockets widely spaced, situated half a socket diameter from eye margin. Antennal grooves shallow, with a shagreened surface. Labrum large, wide, 4 setiferous, well developed, large and deep pores.

Prothorax convex, sides of pronotum weakly rounded and rather weakly converging apically. Anterolateral callosity well developed, distinctly protruding from contour, not swollen, with no acute denticle at setiferous pore. Pronotal punctuation small, sparse, punctures superficial, distance between punctures 2 times their diameter, interspaces flat, with fine shagreened surface. Elytral humeral calli; hind wings reduced. Punctures of elytral striae not large, but larger than on the head and pronotum, distance between punctures nearly the same as their diameter, distance between striae is about 2–3 times puncture diameter; interspaces between striae weakly convex, striae rather weakly

impressed; secondary punctation very small, sparse, confused, superficial; interspaces between elytral punctures covered with smooth shagreen-like sculpture; striae toward elytral apices shallower and punctures smaller. Elytral apices very weakly rounded to suture, sutural angle almost 90°. Tarsal segment 1 of male fore-tarsi rather large and widened (Fig. 26); hind tibia narrow, serrate; hind tarsus articulated medially; outer ridge from tarsal articulation to apex covered with small denticles; tarsal segment 1 of hind tarsus long, straight, weakly widened basally (Fig. 21).

Tegmen modified. Aedeagus (Fig. 9).

Measurements. Length – 2.94 mm, width – 1.45 mm. PI – 1.34; EI – 3.10; LI – 2.60; BI – 2.04.

Derivatio nominis. The species is named in honour of T. Wollaston, a prominent researcher of the beetles of Madeira and the Canary Islands.

Differential diagnosis. The new species is closely related to *P. tarsatus* from which differs in the structure of aedeagus (Fig. 9), the shape of the male fore-tarsal segment 1 (Fig. 26), less prominent and delineated frontal calli, pronotum longer and more convex basally, fore- and mid-tibia almost not widened (Fig. 23), punctures of elytral striae sparser and not impressed, segment 1 of the hind tarsus narrow basally (Fig. 21).

The new subgenus *Minicnema* subgen.nov.

The number of the subgenera in the genus *Psylliodes* is relatively small compared to the number of the species. This is partly related to neglect in the classification of the genus and partly to the tradition in the establishment of species groups. However, detailed examination of little-known species such as *Psylliodes ellipticus* and *Psylliodes belarbitii* demonstrates their significant differences from other species and subgenera and indicates a basis for establishing this new subgenus.

***Minicnema* subgen.nov.**

Type species: *Psylliodes ellipticus* Allard, 1861.

Description. Body small, 1.8–2.3 mm, short, cylindrical, elliptical, moderately convex; head large; eyes small, almost round, convex; vertex covered with granular shagreen; frontal calli well delineated; ocular sulci not developed; frontal ridge large, wide, almost quadrate, more or less flattened; antennal grooves shallow; anterofrontal ridge weakly elevated; labrum very large, wide and long, roof-shaped transverse before centre, 4 large and deep setiferous pores, 2 other pores, rather small, close to centre (Fig. 34); mandibles large, narrow, falciform, curved, middle tooth rather long (Fig. 35).

Prothorax moderately large; elytral punctation large, striae with a tendency to be confused, not impressed. Elytra slightly shortened. Hind wings reduced. Pygidium triangular, with median furrow shallow and indistinct (Fig. 37), visible from above, protruding beyond elytra to almost half of pygidium length. Hind tibia curved inwards, its distal third widened, covered with sparse, sharp, rather long denticles (Fig. 18); apical spur long and narrow; hind tarsi articulated at third of tibial length from apex.

Tegmen modified (Fig. 30). Spiculum ventrale with apical blade oval (Fig. 36); vaginal palpi small, short, with narrow apex (Fig. 39); spermatheca small, nodulus short, drop-shaped, duct rather short and thick, not coiled (Fig. 38).

Differential diagnosis. The new subgenus differs from the subgenus *Semicnema* in the structure of the hind legs (short, curved, not serrate, hind tarsal articulation situated at distal third not at middle, distal third widened), body shape short, elliptical, elytral punctation with a tendency to be confused, striae not impressed, and the structure of the female genitalia. The narrow, curved, and falciform mandibles (Figs 35, 45) are similar in the structure to those of the subgenus *Semicnema*. This character probably appeared in these subgenera independently because of the absence of any other similar characters (with exception of the labrum). From the subgenus *Eupus* the new one differs in the structure of the hind legs (as well as from *Semicnema*), the structure of the head, mandibles, and poorly developed sexual dimorphism in the shape of male fore-tarsal segment 1. From *Psylliodes* s.str. it differs in the structure of the labrum, head (with exception of the *gibbosus*, *cucullatus*, *glaber*, and *vehemens* species groups), structure of the female genitalia (shape of tignum and vaginal palpi), and especially in the mandibles that are always differently shaped in the nominotypical subgenus: wide, less curved, and never falciform. *Minicnema* subgen.nov. is the closest to the species groups *gibbosus*, *cucullatus*, *vehemens* and *glaber* in the structure of the labrum, head, habitus, and hind legs. The new subgenus and these groups as well as the subgenera *Semicnema* and *Eupus*, constitute the complex of closely related groups.

Distribution. Morocco, Israel, Jordan, Syria, Turkey.

Key to species of the subgenus *Minicnema* subgen.nov.

1. Body strongly lustrous; eyes small, convex; vertex flat; pronotal disc almost smooth; elytral apices strongly rounded at suture; hind tibia with distinct constriction of the distal third and covered with long denticles; fore- and mid-tibia reddish-yellowish. Aedeagus – Fig. 11. *P. ellipticus* Allard
- Body darker more weakly lustrous, eyes large; vertex slightly convex; pronotal disc distinctly and coarsely shagreened; elytral apices weakly rounded at suture, hind tibia almost without constriction of the distal third, denticles shorter; fore- and mid-tibia brown, darkened medially. Aedeagus – Fig. 10. *P. belarbi* Döberl

Psylliodes ellipticus Allard, 1861

Psylliodes elliptica Allard, 1861: 340.

Psylliodes nitidula Heikertinger, 1940: 561 [synonymized by FURTH (1983)].

Material. JORDAN: “Jordanien 28.iii.63. leg. Klapperich” 2 males (ZMHU); “Jordanien 8.iii.63. leg. Klapperich” 3 males, 9 females (ZMHU); the same label, 1 female (MD); “S Jordan J. Klapperich Madaba 957 13. 1.600 m” 1 male, 1 female (NHMP); “Jordanien Wadi Sir b. Amman 10.iii.1956 leg. Klapperich” 1 male (DEI); “Jordanien 8.iii.63. keg. Klapperich” 5 males, 1 female (DEI). ISRAEL: “Palestine Jerusalem F.S. Bodenheimer B.M. 1929-516.” 24 spec. (NHML); “Palestine Daganjah auf Jehreide 29.i.1925 F.S.

Bodenheimer" 2 spec. (NHML); "Palestine Bodenheimer" 1 spec. (NHML); "Palestine 29.i.1925 Bodenheimer" spec. (NHML); "Palestine summer 1922 F.S. Bodenheimer" 1 spec. (NHML); "Jerusalem 12.iii.29. Palestine" 1 spec. (NHML); "Palestine Jerusalem 1931" 2 spec. (NHML); " Turkey Karaman 10.v.1956. B.M. 1957-259." 2 spec. (NHML).

Distribution. Israel, Jordan, Syria, Turkey.

Psylliodes belarbi Döberl, 1990

Psylliodes belarbi Döberl, 1990: 337.

Type material. Paratypes: 1 male, 1 female (ZIN): "Marocco Khenifra 15. Dez. 1987 leg. A. Belarbi".

Distribution. Morocco.

Review of *montanus* species group

The *montanus* species group was established by BIONDI (1996) for *Psylliodes montanus* Weise, 1910, *Psylliodes kikuyuanus* Biondi, 1996, and *Psylliodes masari* Biondi, 1996. The description of this species group is very short. A study of the material from MNHB allows me to give more complete description of the group and describe the new species belonging to it.

montanus species group

Redescription. Body oval, distinctly constricted medially between prothorax and elytra, convex (Fig. 3). Body colour variable: unicolorous, brown or black with green metallic lustre; head and elytral apices reddish-brownish or bicolorous, head and prothorax black with bronzy-greenish metallic lustre, elytra yellow-reddish to light brown.

Head small, eyes medium-sized, not convex. Vertex neither wide nor very convex, or almost flat, punctuation indistinct, punctures small or vertex punctured distinctly; interspaces covered with not coarse, rather distinct, granular shagreen. Ocular sulci not wide and shallow, reaching frontal calli apices, separated from eye margin by interspaces; setiferous impression usually not developed. Frontal calli small, weakly to scarcely elevated, separated from vertex indistinctly to well delineated. Frontal ridge triangular, narrow or wider, weakly convex or flat; anterofrontal ridge slightly convex. Labrum moderately large, wide, 2 median setiferous pores developed, widely spaced, not very large and not very shallow. Antennae moderately long, with segments thin and long. Prothorax large and convex; sides weakly rounded, slightly diverging anteriorly, almost parallel or slightly converging posteriorly. Anterolateral callosity more or less developed, distinctly protruding from contour, with no acute denticle at setiferous pore.

Pronotal punctuation medium-sized, distinct, more or less deep, dense; interspaces usually convex, rarely flat, covered with shagreen indistinct to distinct. Elytra strongly narrowed basally and strongly expanded beyond base (swollen), strongly tapered to apices; pygidium completely or partly covered. Humeral calli and hind wings reduced. Elytral striae not impressed to distinctly impressed, partly confused close to scutellum,

punctures in striae not very large; interstices flat to convex; secondary punctuation very small and sparse to distinct, moderately large, punctures sometimes arranged in 1–2 confused striae; interspaces between punctures almost smooth and flat to uneven, covered with sparse, fine wrinkles. Legs long, narrow; segment 1 of male fore-tarsi moderately large, widened. Hind tibia narrow, straight; hind tarsus articulated rather close to apex, at about 1/5 of tibial length (Fig. 16).

Tegmen typically Y-shaped (Fig. 33). Spermatheca with collo narrow and long, nodulus long and narrow, ductus rather long, and strongly coiled in laps (Fig. 43); spiculum ventrale with rather large and wide apical blade, rectangular transversally and with rounded margins, stalk at blade base bifurcated (Fig. 41); vaginal palpi (Fig. 42).

Distribution. All species of the group are known from the Afrotropical region from Tanzania (Kilimanjaro, Tanganyika), and Kenya.

Differential diagnosis and discussion. The *montanus* species group differs from the other species-group and subgenera of the genus *Psylliodes*. The shapes of the body, prothorax and elytra, and especially the structure of the female genitalia, are evidence of its separate position. Therefore, it is difficult to compare this group with the other species groups. The structure of the female genitalia is somewhat similar to that of the species of *sauleyi*, *aneolus* and *obscurofasciatus* species groups from Asia (NADEIN 2005a, 2006), but the *montanus* group differs from other groups in many characters, such as shape of the body, the structure of the head, hind tibia, etc. Similarities in the structure of the female genitalia have obviously occurred in parallel and independently; they cannot be considered a relationship marker.

***Psylliodes montanus* Wiese, 1910**

Psylliodes montana Wiese, 1910: 223.

Distribution. Tanzania (Kilimanjaro).

***Psylliodes kikuyuanus* Biondi, 1996**

Psylliodes kikuyuanus Biondi, 1996: 262.

Distribution. Kenya, Tanzania.

New record. *Psylliodes kikuyuanus* was known from the type locality in Elburgon, Kenya. New material: “Tanganyika: Mt. Meru, W slope, Olkokola, 8700 feet, coll. Dr. J. Szunyogh”, “beaten material 12–14.xii.1965” 3 males, 1 females (MNHB).

***Psylliodes masai* Biondi, 1996**

Psylliodes masai Biondi, 1996: 258, 260.

Distribution. Kenya.

***Psylliodes manobioides* sp.nov.**

Type material. Holotype: male, (MNHB): “Kenya, Mt. Kenya Nat. P., Met. Station, 3040 m, bamboo (*Arundinaria alpina*) thicket”, “swept, No.527, 2.ii.1993, O. Merkl”. Paratypes: 5 males, 3 females, the same labels as holotype, (MNHB).

Type locality. Kenya (Mt. Kenya).

Description. Body oval, convex, distinctly constricted medially between prothorax and elytra (Fig. 3). Head and pronotum black with distinct bronzy-greenish metallic lustre or with weak lustre; head usually with bronzy lustre; elytra light brown or reddish-yellow, elytral suture narrowly darkened; antennal segments 1–3, fore- and mid-legs, and hind tibia yellow to light brown, with femora sometimes dark brown and tibial apices sometimes darkened, hind femora dark brown to black, 4–11 darkened.

Head small, eyes medium sized, not convex. Vertex not wide, almost flat to slightly convex, punctures small, shallow, somewhat irregular, distance between punctures about 1.5 times their diameter, interspaces covered with not large, rather distinct, granular shagreen. Ocular sulci not wide, shallow, reaching to apices of frontal calli, near calli separated from eye margin by interspace; setiferous pores usually not developed into impression. Frontal calli weak or scarcely elevated, not separated from vertex, more distinctly separated from frons, covered with finer shagreen than on vertex. Frontal ridge triangular and narrow to wider, rectangular, usually short. Anterofrontal ridge weakly convex. Antennal sockets situated half a socket diameter from eye margin. Antennal grooves rather shallow, covered with shagreen. Labrum moderately large, wide, 2 median setiferous pores developed, widely spaced, not large, shallow. Antennae moderately long, segments thin and long.

Pronotum large, convex; sides weakly rounded, slightly divergent, pronotal base narrower than apex. Side margins wide; anterolateral callosity well developed, distinctly protruding, slightly swollen, at setiferous pore not forming acute denticle; posterolateral callosity comparatively large, slightly protruding; basal margin well developed, convex. Punctures of pronotal disc medium-sized, as in vertex or slightly larger, dense, distance between punctures about 0.5–1 times their diameter (usually 1 time), interspaces convex, sometimes flat, covered with distinct or smooth shagreen; often pronotal disc with narrow, longitudinal, median impunctate stripe. Elytra strongly narrowed basally and strongly widened just beyond base, moderately narrowed apically, elytral apices narrow, strongly rounded at suture, sutural angle forming a denticle. Humeral calli and hind wings reduced. Elytral striae not engraved or only shallowly so, punctures not larger, slightly larger than those in pronotum, distance between punctures in striae about half their diameter, distances between striae about 1–2 times larger than diameter of punctures, usually 1.5 times; interspaces between striae flat to convex; secondary punctation developed, punctures small to moderately large, sometimes arranged in 1–2 confused striae; interspaces between punctures almost smooth to uneven, slightly convex, covered with opaque shagreen-like sculpture. Basally interspace between 9th and 10th striae distinctly convex, 8th and 7th striae usually concave. Legs long, thin. Hind tibia (Fig. 16) narrow, straight; wide when viewed from above; outer ridge covered with small, obtuse denticles; hind tarsus articulated rather closely to apex.

Male. segment 1 of male fore-tarsus relatively large, widened (Fig. 29). Aedeagus (Fig. 12). Tegmen typical (Fig. 33).

Female. Spermatheca (Fig. 43) with collo moderately narrow and long, nodulus long and narrow, ductus rather long and strongly curved, overlapping. Spiculum ventrale (Fig. 41) with apical blade large and wide, transversally rectangular with rounded angles, stalk at blade base bifurcated. Vaginal palpi (Fig. 42). Pygidium (Fig. 40).

Measurements. Holotype: length – 2.89 mm, width – 1.45 mm. Paratypes: male: length – 2.75–2.92 mm, width – 1.48–1.56 mm; female: length – 3.06–3.26 mm, width – 1.67–1.77 mm.

Male (n=6): PI – 1.27–1.32 (1.30); EI – 2.79–3.07 (2.88); LI – 2.55–2.69 (2.61); BI – 1.86–2.00 (1.90). Female (n=2): PI – 1.29–1.35; EI – 2.80–2.83; LI – 2.69–2.83; BI – 1.84–1.85.

Derivatio nominis. The specific epithet refers to the shape of the body, unusual for a species of the genus *Psylliodes* and similar to species of the genus *Manobia* Jacoby, 1885.

Differential diagnosis. The new species is similar to *Psylliodes kikuyuanus* from which it differs in the colour of body (bicolourous: head and pronotum black with or with no metallic lustre, elytra yellow to light brownish with narrow sutural stripe dark), structure of the male and female genitalia, punctuation of the head and pronotum, and structure of the hind tibia.

New species of the “minotoid” morpho-ecological group from the Nepalese Himalayas

Species of the genus *Psylliodes* belonging to the “minotoid” morpho-ecological group (NADEIN 2005b) known from the mountains of Europe: the Alps, Pyrenees, Carpathians, Dinaric Mountains and Caucasus. The new species below belongs to a “minotoid” group found in the Nepalese Himalayas.

***Psylliodes globosus* sp.nov.**

Type material. Holotype: male, (ZIN): “Nepal Himalaya SE Annapurna mts. Telbrung Danda”, “*Abies-Rhododendron*-forest, 10.vi.1997, 3200 m, lg. Jäger”.

Type locality. Nepal (Annapurna Mts.).

Description. Body ovate, strongly convex (Fig. 4). Colour black, shining, with bluish metallic lustre, more distinct on elytra; legs brown, fore- and mid-tibia medially, fore- and mid-femora basally, darker; metafemora dark brown.

Head small, eyes small, flattened. Vertex weakly convex; with large and small punctures situated medially between eyes, moderately dense, somewhat irregular; interspaces almost flat, covered with distinct shagreen. Ocular sulci wide and deep, their margins gently sloping from lateral margin of vertex, bottom uneven, wrinkled and with setiferous pores not impressed. Frontal calli not large, moderately convex, separated from vertex by thin, rather shallow, indistinct sulci; separated from frons more distinctly. Frontal ridge moderately wide, short, convex; anterofrontal ridge not convex. Antennal

sockets half a socket diameter from eye margin; antennal grooves not very deep, covered with shagreen. Labrum not large, 2 medial setiferous pores developed, not deep, widely spaced. Antennae short, the segments short and wide.

Prothorax large, strongly convex, sides almost straight, weakly convergent towards the front. Anterofrontal callosity developed, distinctly protruding from contour, not swollen, protruding more strongly near setiferous pore, not forming acute denticle. Pronotal punctation medium-sized, punctures as large as punctures on vertex, smaller than those of the elytral striae; interspaces flat, covered with smooth shagreen, almost smooth. Elytra strongly convex, distinctly narrowed apically; apices slightly rounded at suture; sutural angle forming small denticle. Humeral calli and hind wings reduced. Punctures in striae large and deep, distance between punctures in striae about half of their diameter; striae slightly impressed, but apically superficial and slightly confused, distance between punctures larger; interspaces between striae convex, distance between striae about 1–1.5 times puncture diameter; secondary punctation small, punctures shallow, with tendency towards a confused stria; interspaces between punctures flat, almost smooth. Legs short, thickened; segment 1 of male fore-tarsus widened (Fig. 28). Hind tibia (Fig. 19) straight, inner ridge with 1 large denticle before tarsal articulation; hind tarsi articulated at some distance from apex; apex beyond tarsal articulation narrowed.

Aedeagus (Fig. 13). Tegmen typical (Fig. 31).

Measurements. length – 2.43 mm, width – 1.45 mm. PI – 1.40; EI – 2.45; LI – 2.40; BI – 1.68.

Derivatio nominis. The specific epithet refers to the strongly convex and ovate shape of the body.

Differential diagnosis. Among all the species known from Nepal the new one may be compared and related with *Psylliodes altimontanus* L. Medvedev, 2004, from which it differs in the shorter and more strongly convex body, with bluish metallic lustre; legs thicker, anterolateral callosity of pronotum well developed, protruding from outline; setiferous pore area at head not impressed; and in the structure of the aedeagus.

Discussion. The short and convex body, thickened and with short legs and antennae, reduced hind wings and high-altitude habitat establish this species as part of the “minotoid” morpho-ecological group (NADEIN 2005b). *Psylliodes altimontanus*, another species described from the Nepalese Himalayas by MEDVEDEV (2004), also belongs to this group, and makes up the new *altimontanus* species group along with *Psylliodes globosus* sp.nov. The description of this group resembles that of the new species with some differences attributed to *P. altimontanus* – body moderately convex and longer, setiferous pore area at head impressed, anterolateral callosity of pronotum poorly developed, not protruding from contour, legs longer and thinner. The species that belong to the “minotoid” group are known from the mountains of Europe – the Alps, Balkans, Pyrenees, Carpathians and Caucasus. There are several phylogenetically independent lineages of the European species represented by different species groups (*glaber*, *validus*, *subaeneus*). The *altimontanus* species group is probably of independent origin from the European species as well as the single Nearctic “minotoid” species *Psylliodes appalachianus* Konstantinov et Tishechkin, 2004 from the Appalachians.

Synonymic notes

Psylliodes vehemens Wollaston, 1854

Psylliodes vehemens Wollaston, 1854: 451.

Psylliodes vehemens normandi Heikertinger, 1916: 34.

Psylliodes canarius Jacobson, 1922: 528 [synonymized by HEIKERTINGER (1926)].

Psylliodes storai Uyttenboogaart, 1935: 12 [synonymized by HEIKERTINGER (1940)].

Psylliodes azoricus Jacobson, 1922: 528 **syn.nov.**

Type material. *Psylliodes vehemens vehemens*: Lectotype: designated here, female, (NHML), (labels numbered): 1. "564", 2. "Type", 3. "Syntype", 4. "Psylliodes vehemens, type Woll.", 5. "Madeira The Madeira Is. T.V. Wollaston Coll. BM 1855-7", 6. "Syntype Standing as Psylliodes vehemens Woll.", 7. "Lectotype Psylliodes vehemens Wollaston Nadein K. des. 2006". Paralectotypes: with labels 1-3 the same as 3, 5, 6, and 7 as lectotype, 2 males, 2 females (NHML).

Psylliodes vehemens normandi: Holotype: female, (NHMB), (labels numbered): 1. "T. Fond.-Djedid Dr. Normand", 2. "nov. sp.?", 3. "Psylliodes Normandi m. type! det. Heiktgr.", 4. "Psylliodes Normandi m. Type!", 5. "1953 Coll. Heikertinger".

Psylliodes azoricus: Holotype: male, (ZIN), (labels numbered): 1. golden ring, 2. "Holotypus Psylliodes azoricus Jacobson" [red, printed, museum label].

Psylliodes canarius: Holotype: female, (ZIN), (labels numbered): 1. "I. Canariae", 2. "Psylliodes vehemens Woll.", 3. "Psylliodes canarica Jacobs. typ G. Jacobson det.".

Other material. MADEIRA: "Madeira" 1 spec. (ZIN); "Madeira" 2 spec. (DEI); "Madeira, Straße nach Achada do Teixeira, 1750 m, Erica-Gesiebe 29.iii.1996, leg. Zerche" 1 spec. (DEI); "Madeira Vill. 1983 Levada Serra d. Fetal Umg. Queimada Cha 820 m leg. Erber" 2 spec. (DEI); "Madeira Vehemens Wollast" 1 spec. (ZMUC); "Funchal poa Bjorgene" 2 spec. (ZMUC); "Funchal Bjor.gene." 1 spec. (ZMUC). CANARY ISLANDS: "Tenerife La Esperanza 23.xii.1985, 640 m leg. J. Wiesner" 1 spec. (ZIN); "Teneriffa La Esperanza 27.xii.79 leg. J. Wiesner" 1 spec. (ZIN); "Islas Canariae Rierro Valverde 19.ix.1991 leg. Hai." 1 spec. (ZIN); "Spanien / La Palma Barlovento 19.iv.89 Kessutat" 1 spec. (ZIN); "Coll. R.I.Sc.N.B. Iles Canaries Tenerife Les Mercedes 10.iv.1950 J.M. Fernandez" 1 spec. (IRSNB); "Tenerife (Alluaud)" 1 spec. (NHMB); "Canaria" 1 spec. (NHMB); "Palma" 1 spec. (NHMB); "Tarifa. Canaria 22.iv.1872 Fritsch et Rein" 1 spec. (DEI); "Isl. Can. Tenerife Anaga, 3 km W Chamorga, Ginster 750 m 5.iv.1992 leg. Zerche" 1 spec. (DEI); "E. Can. Isl.: El Hierro b.oc.: unterhalb Sabinosa 95 m," "27°45'02N 18°05'41E 27.i.1998, Eonium gesiebt leg. Behne" 1 spec. (DEI); "E. Isl. Can., Tenerife, Agua Garcia Madre del Agua Laurisilva, 850 m 9.vii.95 leg. Zerche" 1 spec. (DEI); "Isl. Pico del Ingles NO-Seite, Moos unter Erica arborea, 960 m 15.iv.92 leg. Zerche" 6 spec. (DEI); "E. Gran Canaria, 3750 m N Cruz de Tejada, Str. Nach Pinos de Caldar, 1370 m," "28.00.58N 15.36.06 W, Wiese mit Pinus canariensis 4.ii.1998 leg. Zerche" 3 spec. (DEI).

Discussion. *Psylliodes azoricus* was described as a distinct species, and later HEIKERTINGER (1926) changed its status to a subspecies of *Psylliodes vehemens*. According to LEONARDI (1970) this form is a good species. This conclusion was based on the following characters: structure of spermatheca (duct not coiled and overlapping), pronotal sides parallel and a different structure of aedeagus. Nonetheless, his opinion was not based on study of the type material. I have studied the type material of *Psylliodes vehemens* (NHML) and additional material, and the holotype of *Psylliodes azoricus* (ZIN). Detailed examination of the type specimens reveals no differences between these forms. *P. azoricus* – male, small-sized specimens, entirely yellow, probably colourless immediately after emergence. The dark pattern in *P. vehemens* is often present, but sometimes, especially in males, it is reduced. It is worth mentioning that *Psylliodes canarius* described by Jacobson from the Canary Islands was placed in synonymy with *Psylliodes vehemens normandi* by HEIKERTINGER (1926). Comparison of the types of both *P. azoricus* and *P. canarius* reveals that they are conspecific and male

and female respectively. Thus, *P. azoricus* is a synonym of *P. vehemens*. The specimens studied by Leonardi possibly belong to another species. The statuses of *P. vehemens vehemens* and *P. vehemens normandi* should be the subject of a special study. The differences between them are indistinct and their distribution is insufficiently studied. *P. vehemens vehemens* may be endemic to Madeira but the distribution of *P. vehemens normandi* is significantly wider and this form is known from the Canary Islands, North Africa and Spain.

***Psylliodes aereus* Foudras, 1860**

Psylliodes aerea Foudras, 1860: 150.

Psylliodes aereus austriacus Heikertinger, 1911: 21 **syn.nov.**

Psylliodes araratica Iablokoff-Khnzorian, 1968: 265 **syn.nov.**

Type material. *Psylliodes aereus austriacus*: Syntype, 1 spec., (NHML), (labels numbered): 1. "Mödling, A. i. Heikertinger"; 2. "Brit. Mus. 1924-314. 3. "cotype!"; 4. "Psylliodes aerea austriaca m. det. Heiktg. 1924 cotype! ".

Psylliodes araratica: Syntypes, 2 spec., (NHML), (labels numbered): 1. "Erevan Khosrov ASSR. 25.6.64"; 2. "Brit. Mus. 1969-412."; 3. "Psylliodes araratica Khnz. Khnzorian det.".

Other material. FRANCE: "Alpes Ht. Queyras Abričs, 1550 m. 9-vii-65 G. Tempère" 1 spec. (MD); "Coll. R.I.Sc.N.B. France Luz 19-vi-1854 Pandellé" 4 spec. (IRSNB); "Coll. R.I.Sc.N.B. France Bigne Ex. Coll. P. Jolivet" 2 spec. (IRSNB). AUSTRIA: "Umgeb. Wien Heikertinger" 1 spec. (ZIN); "Umgeb. Wien Heikertinger" 3 spec. (MNHB) ARMENIA: "Armenia: site 121 Coll on Cardaria Draba vii.2001 A. Gassmann" 1 spec. (ZIN); "Armenia near Vedy, Gorvan Vill. on Lythrum sp. 11.vi.1998 leg. P. Romantsov" 6 spec. (ZIN).

Discussion. The reduced hind wings of *Psylliodes aereus austriacus* constitute its only difference from the nominotypical subspecies. Wing polymorphism in beetles is especially widely distributed in species from mountains and islands. For example, among the species of the genus *Psylliodes*, wingless forms (with no subspecific status) are known in *Psylliodes kiesenwetteri* Kutschera, 1864 *P. inflatus* Reiche et Saulcy, 1858, and *P. cucullatus* (Illiger, 1807). Wingless forms are known in other alticine beetles, e.g., in the genus *Longitarsus* Berthold, 1827 (FURTH 1980). In my opinion, the reduction of the hind wings is not a true basis for subspecies rank. The subspecies *P. aereus austriacus* is distributed in the Carpathians, the nominotypical subspecies is distributed westward (GRUEV & DÖBERL 1997); the territories shared by both forms (Austria, Germany, Rumania, and Ukraine) mentioned can be erroneous or questionable. This situation probably arises out of insufficient knowledge of the distribution of these forms, and may be evidence of their sympatric distribution in Europe. At the same time both wingless and winged forms occur in Armenia in the same locality. The morphological differences between these forms, i.e. the reduction of the hind wings in *P. aereus austriacus*, are probably in response to its mountain habitat. Taking into account the above-mentioned facts, I consider *P. aereus austriacus* not a subspecies but a mountain wingless form.

In the original description, *Psylliodes araraticus* was compared with *P. napi* (Fabricius, 1792), *P. dulcamarae* (Koch, 1803), and *P. pallidicornis* Heikertinger, 1921 which belong to other species groups. Examination of the type material of *P. araraticus* has revealed that it is conspecific with *P. aereus*.

***Psylliodes napi* (Fabricius, 1792)**

Galleruca napi Fabricius, 1792: 29.

Psylliodes napi flavicornis Weise, 1888: 808 **syn.nov.**

Material examined. FRANCE: “Coll. R.I.Sc.N.B. France Maubourguet Ex coll. Pandellé” 1 spec. (IRSNB). ITALY: “Coll. R.I.Sc.N.B. Italie Pavie de Bertolini” 1 spec. (IRSNB). GERMANY: “Germania”, 2 spec. (ZIN); “Saxonia” 1 spec. (ZIN). SLOVENIA: “Slo Vintgart Sp. Gorje 6.vii.99 B.Drovenik leg.” 2 spec. (MD). AUSTRIA: “3 M. 717 Austr. P. napi” 6 spec. (ZIN); “Carinthia Christen” 1 spec. (ZIN); “Schneeberg” 1 spec. (ZMUH). BOSNIA: “Bosnia 1902 Maklen-Pass O. Leonhard” 1 spec. (ZIN). BYELORUSSIA: “Minsk” 1 spec. (ZIN). UKRAINE: “Zakarpatsaya Reg. Rakhovskiy Distr. Vill. Tchernaya Tisa, h=800 m, in evening 21.00–23.30, sweeping 6.vii.2000 K. Nadein” 1 spec. (ZIN); “Ukraine, E Carpathians Zakarpattya Reg. Velyka Ugol’ka Vill., nr. Plyaiskiy Riv. 19.vii.2001 K.S. Nadein leg.” 1 spec. (ZIN); “Ukraine, E Carpathians Zakarpattya, nr Velyka Ugol’ka Vill. karst, 19. vii.2001 N.N. Yunakov”; “Ukraine, Crimea between Foros & Baydarskie Vorota Pass, E slope of Kyzyl-Kaya & Foros Mt., forest slope, glades 1.v.2002 K.S. Nadein” 1 spec. (ZIN); “Crimea, Chatyr-Dagh E border of lower plateau at night in mount. steppe h 1000 m 19.vi.2003 Nadein K.” 1 spec. (ZIN); “Crym Gurzuf Artek N 4. Derbeneva 29.v.56.” 1 spec. (ZIN); “Ukraine Kharkovskaya Reg. env. Izyum Severkiy Donets Riv. Valley, 16.vii.2000 A. Drogvalenko” 1 spec. (ZIN); RUSSIA: “Russia Krasnodarskiy Terr. 26 km E Krasnodar Kubanskoe Sea shore 12.v.1980 B. Korotyayev” 1 spec. (ZIN); “Russia Krasnodarskiy Terr. 8 km S Krasnodar 1–2 km S Enem Vill. 5.v.1980 B. Korotyayev” 3 spec. (ZIN); “Russia Krasnodarskiy Terr. 3 km N Novorossiysk 30.iv.1980 B. Korotyayev” 1 spec. (ZIN); “Bazaikha bliz Krasnoyarska. Ulrich 95.” 1 spec. (ZIN); “Leningr. Reg. SW Vyritsy 6.vi.1987 Kabakov” 1 spec. (ZIN); “Irgizla Orenb. g. 1, 2 vii.99 Yakobs & Schmidt.” 1 spec. (ZIN). GEORGIA: “Georgia Vill. Lidzava near Pitsunda, 21.ix.1982 D. Kasparyan leg.” 2 spec. (ZIN).

Discussion. *Psylliodes napi flavicornis* was described by J. Weise as a variation of *Psylliodes napi*; the status of this form was to change several times later. First, Heikertinger considered it of subspecies rank (HEIKERTINGER 1930: 1350); then he elevated its status to a distinct species (HEIKERTINGER & CSIKI 1940: 551). In the catalogue of the Alticinae of Palaearctic Region (GRUEV & DÖBERL 1997), this form is a subspecies once more, with a remark about its unclear status. DOGUET (1994) assumed that *P. napi flavicornis* was an ecological race because its host plant (*Lunaria rediviva* L.) differs from that of the nominotypical subspecies. The range of the distribution of this form lies completely within the range of *Psylliodes napi napi* and this suggests that it is not a geographical race. It is worthy of mention that *P. napi flavicornis* is distributed in mountainous regions. It is common that beetles from mountain inhabitants are somewhat different from the forms inhabiting lowland territories (e.g., in the reduction of the hind wings). The morphological differences between the forms, in my opinion, are superficial. Therefore, the absence of morphological or distributional differences prevents me from recognizing the validity of this subspecies. I agree with opinion of S. Doguet and propose to recognize this form as an ecological race inhabiting mountainous regions.

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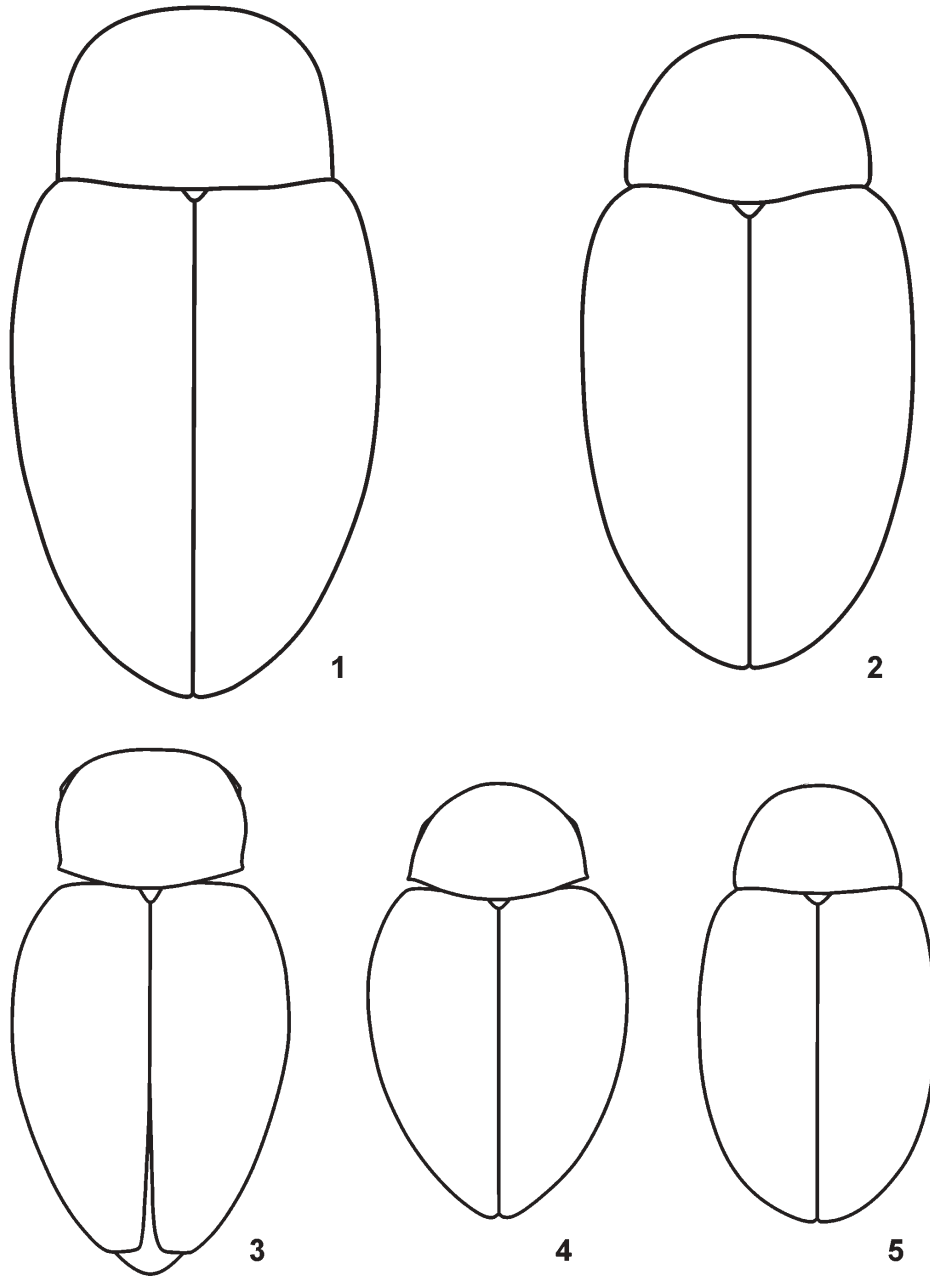
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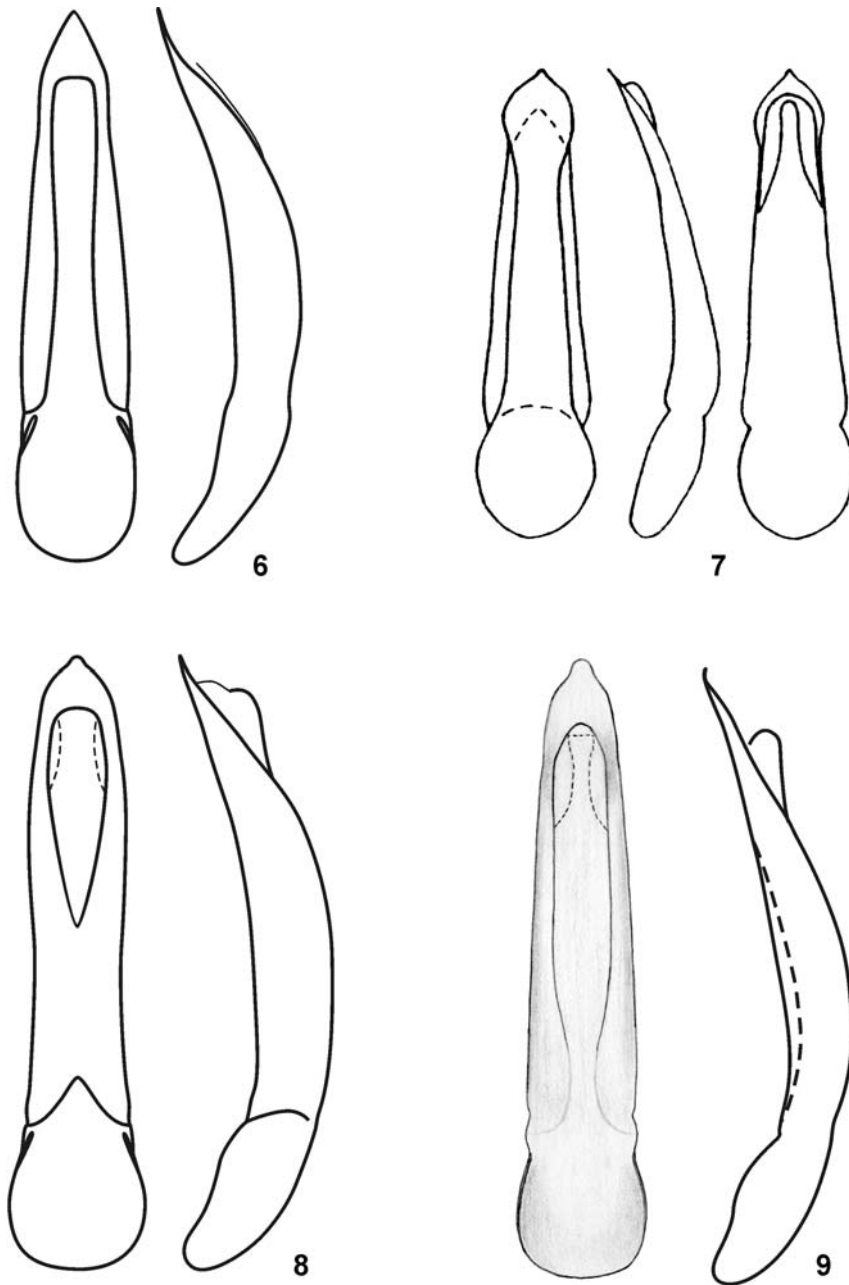
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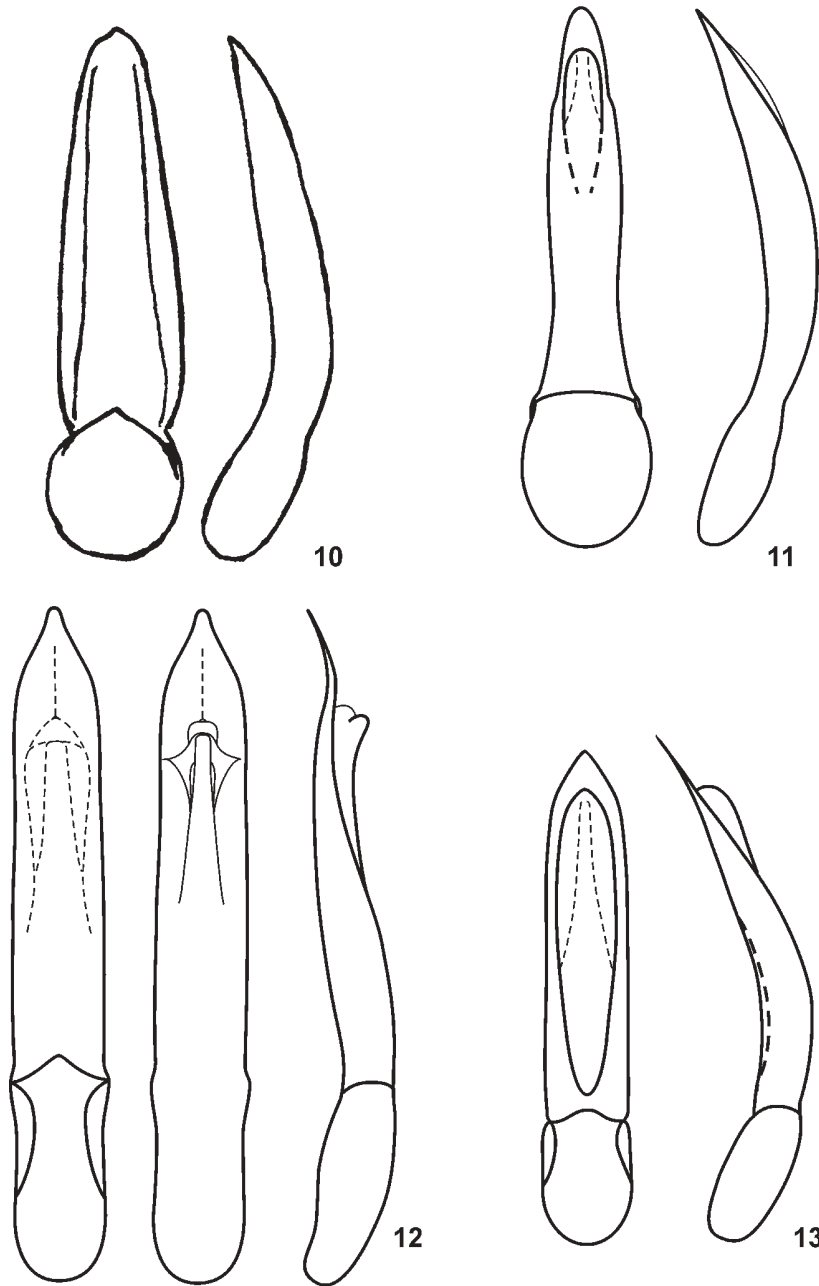
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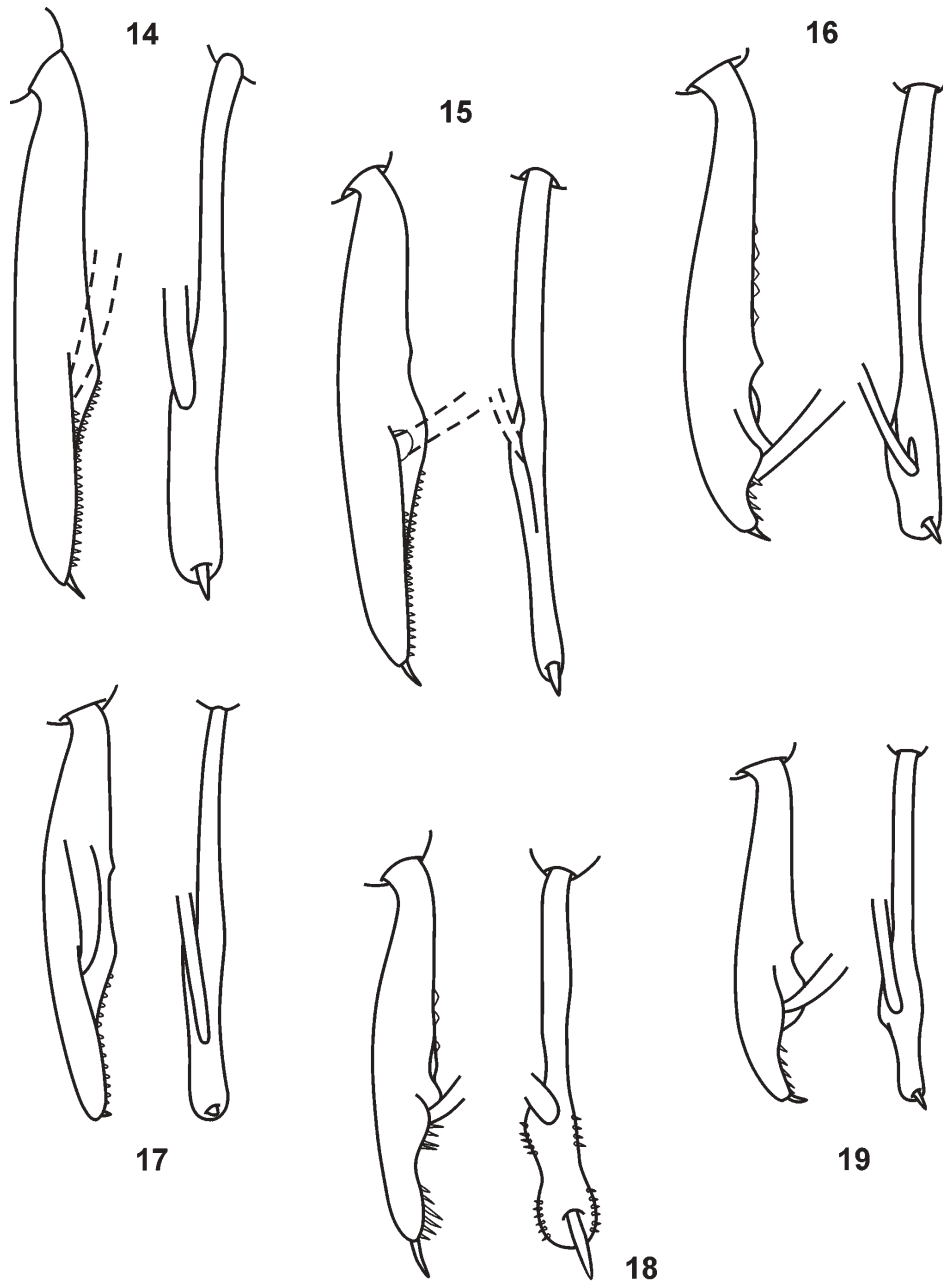
Figs 1–5. Body outline: 1, *Psylliodes tarsatus* Wollaston; 2, *Psylliodes amplicollis* Wollaston; 3, *Psylliodes manobioides* sp.nov.; 4, *Psylliodes globosus* sp.nov.; 5, *Psylliodes stolidus* Wollaston.



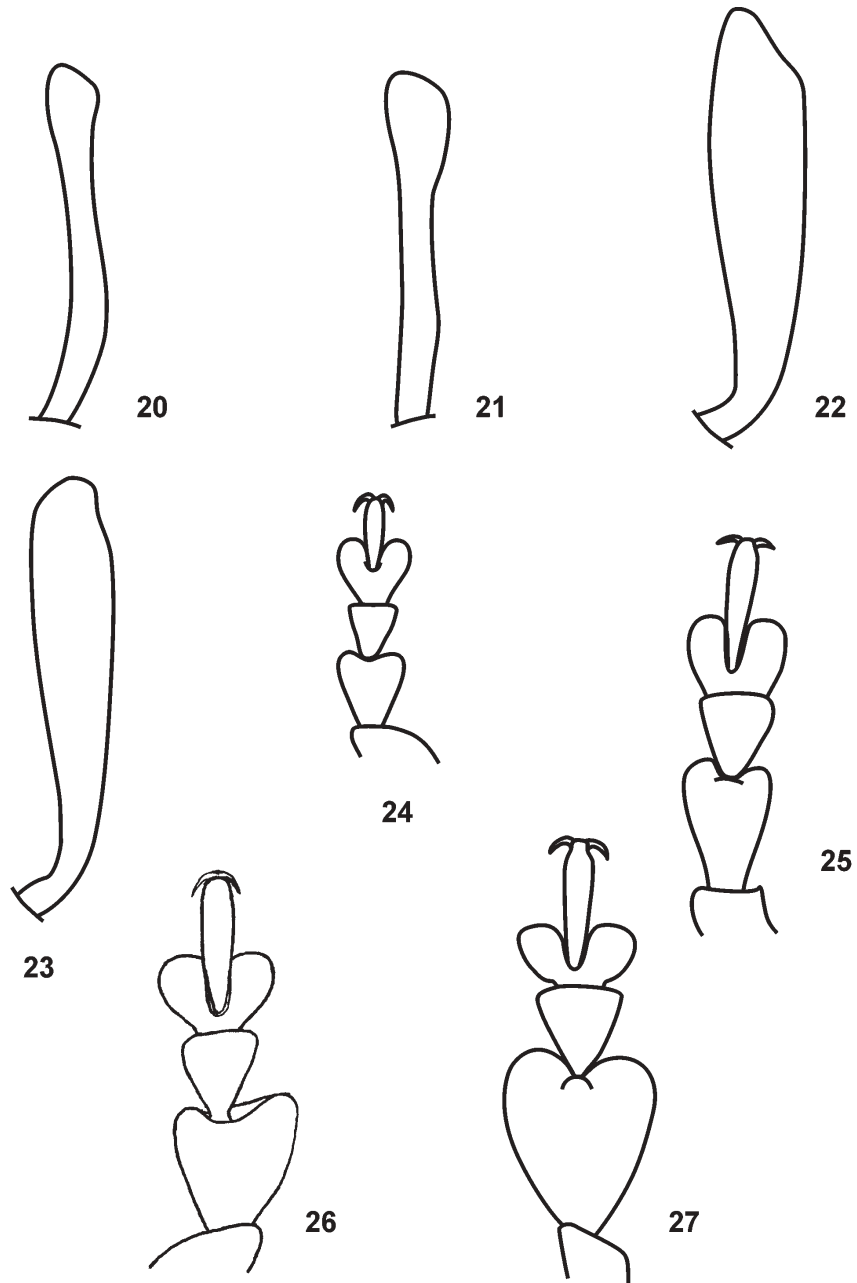
Figs 6–9. Aedeagus, ventral and lateral views: 6, *Psylliodes amplicollis* Wollaston; 7, *Psylliodes stolidus* Wollaston (after BIONDI 1995); 8, *Psylliodes tarsatus* Wollaston; 9, *Psylliodes wollastoni* sp.nov.



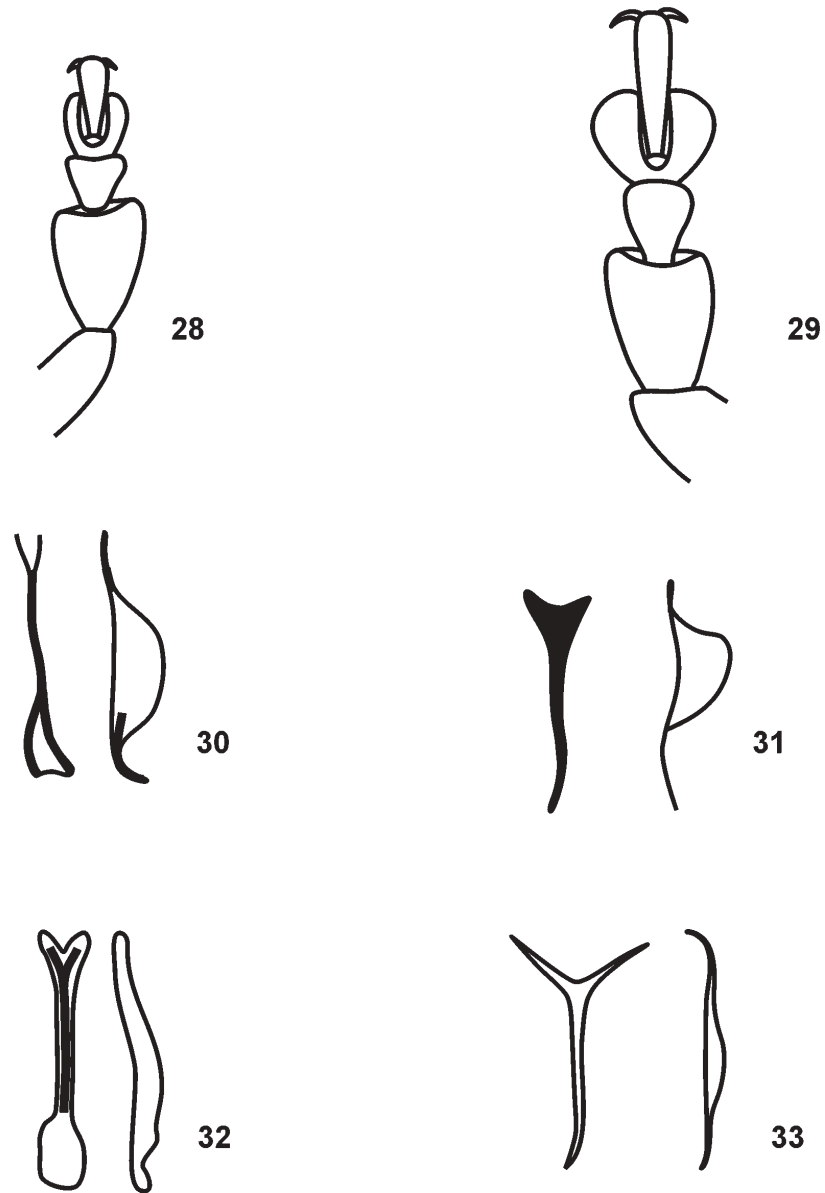
Figs 10–13. Aedeagus, ventral and lateral views: 10, *Psylliodes belarbi* Döberl (after DÖBERL 1990); 11, *Psylliodes ellipticus* Allard; 12, *Psylliodes manobioides* sp.nov.; 13, *Psylliodes globosus* sp.nov.



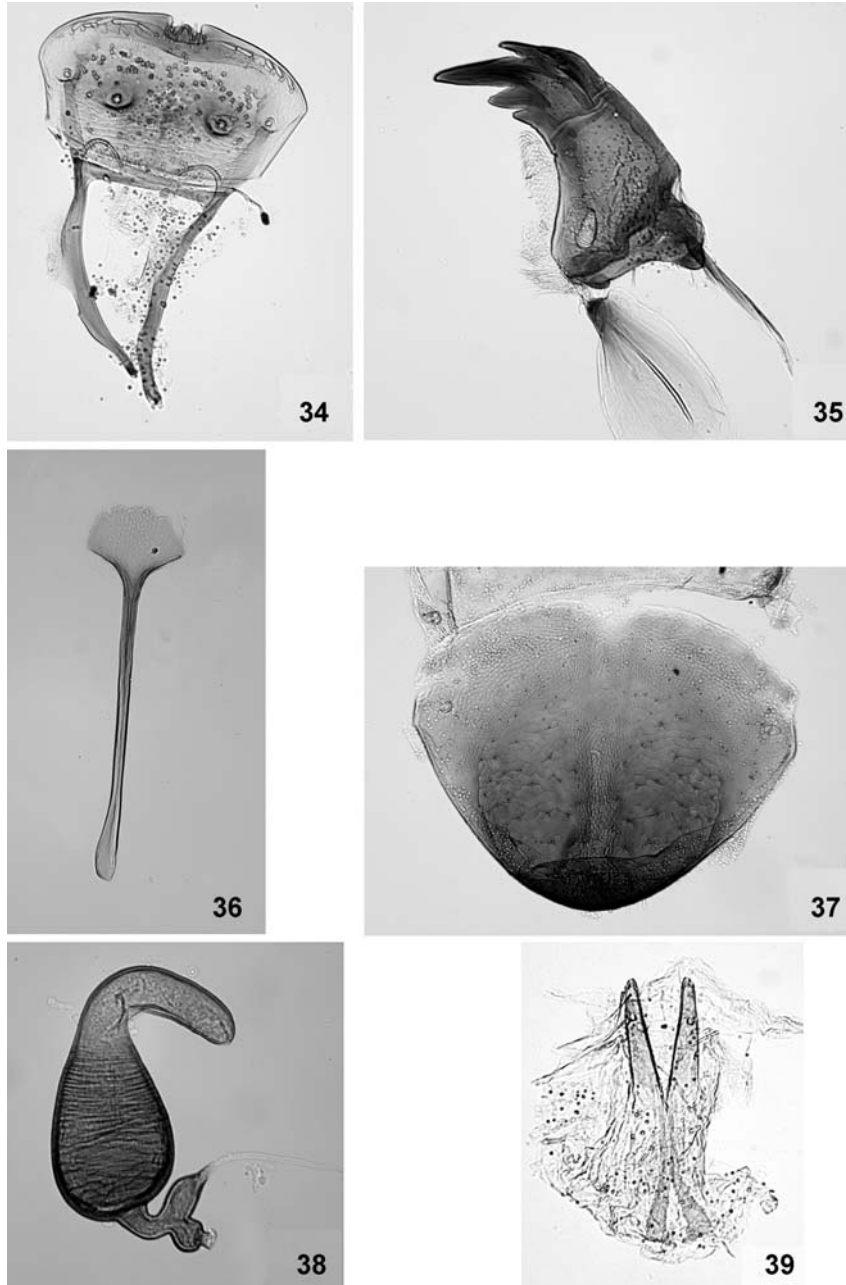
Figs 14–19. Hind tibia, lateral and dorsal views: 14, *Psylliodes amplicollis* Wollaston; 15, *Psylliodes tarsatus* Wollaston; 16, *Psylliodes manobioides* sp.nov.; 17, *Psylliodes stolidus* Wollaston; 18, *Psylliodes ellipticus* Allard; 19, *Psylliodes globosus* sp.nov.



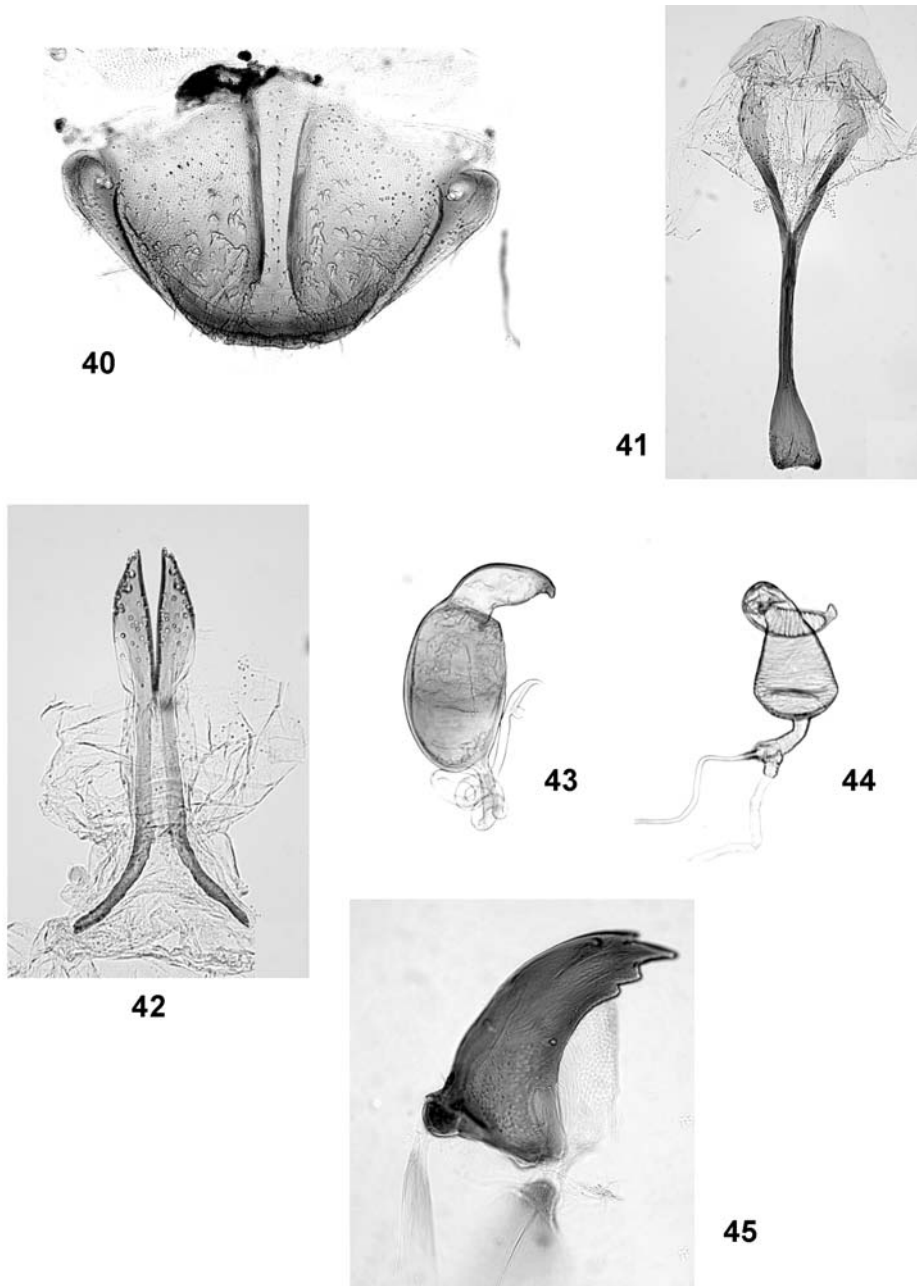
Figs 20–27. 20, 21 – tarsal segment I of hind tarsus; 22, 23 – male fore-tibia; 24–27 – male fore-tarsus: 20, *Psylliodes tarsatus* Wollaston; 21, *Psylliodes wollastoni* sp.n.; 22, *Psylliodes tarsatus* Wollaston; 23, *Psylliodes wollastoni* sp.n.; 24, *Psylliodes stolidus* Wollaston; 25, *Psylliodes amplicollis* Wollaston; 26, *Psylliodes wollastoni* sp.nov.; 27, *Psylliodes tarsatus* Wollaston.



Figs 28–33. 28, 29 – male fore-tarsus; 30–33 – tegmen, dorsal and ventral views: 28, *Psylliodes globosus* sp.nov.; 29, *Psylliodes manobioides* sp.nov.; 30, *Psylliodes ellipticus* Allard; 31, *Psylliodes globosus* sp.nov.; 32, *Psylliodes tarsatus* Wollaston; 33, *Psylliodes manobioides* sp.nov.



Figs 34–39. *Psylliodes ellipticus* Allard: 34, labrum, dorsal view; 35, mandibula; 36, spiculum ventrale; 37, pygidium, female, dorsal view; 38, spermatheca; 39, vaginal palpi.



Figs 40–45. 40–43 – *Psylliodes manobioides* sp.nov.; 44 – *Psylliodes tarsatus* Wollaston; 45 – *Psylliodes macellus* (Weise): 40, pygidium, dorsal view; 41, spiculum ventrale; 42, vaginal palpi; 43, spermatheca; 44, spermatheca; 45, mandibula.