

New and little known species of the *Apionidae* from Asia Minor and
Northern India*
(*Coleoptera: Curculionoidea*)

MAREK WANAT

Muzeum Przyrodnicze Uniwersytetu Wrocławskiego, Sienkiewicza 21, 50-335 Wrocław, Poland

ABSTRACT. *Cyanapion burakowskii* n. sp., closely related to *C. alcyoneum* (GERMAR), is described from SE Turkey. *Perapion nuristanicola* (VOSS) from Afghanistan and N India is described in detail; its differential diagnose relative to *P. defensum* (FAUST) is given. *P. himalayense* BHATEJA & PAJANI is synonymized with *P. nuristanicola*.

Key words: entomology, taxonomy, *Coleoptera*, *Curculionoidea*, *Apionidae*, new species, Anatolia, Central Asia.

Thanks to long-standing activity of European coleopterists, recent discoveries of undescribed apionid species in Palaearctic are quite rare events. It is therefore surprising that one of largest Palaearctic apionids remained undescribed for such a long time. Although it should be noted that its native land has always been difficult of access to collectors, the reason was partly coleopterists (few) activity: specifically that, leaving any weevil researcher full of doubts about the status of many superficially and insufficiently described Asiatic representatives of the *Apionidae*. The large group of legume-feeding species classified with the oxystomatine genera *Cyanapion*, *Mesotrichapion*, *Hemitrichapion*, *Holotrichapion* and/or *Eutrichapion* in broad sense, as well as the aplemonine *Perapion* and piezotracheline *Pseudoprotapion* & allies, are among the most confused and being in a dramatic need of an ordering revision.

*Papers Celebrating the 90th Birthday of Dr. Bolesław Burakowski

Note on the measurements: rostrum is always excluded from the body length and its own length does not include mouthparts; length of all body parts was measured in dorsal view, in exactly horizontal position; head width was measured across middle of eyes.

Abbreviations used: f - female; m - male; MW - author's collection.

Cyanapion burakowskii sp. nov.

MATERIAL

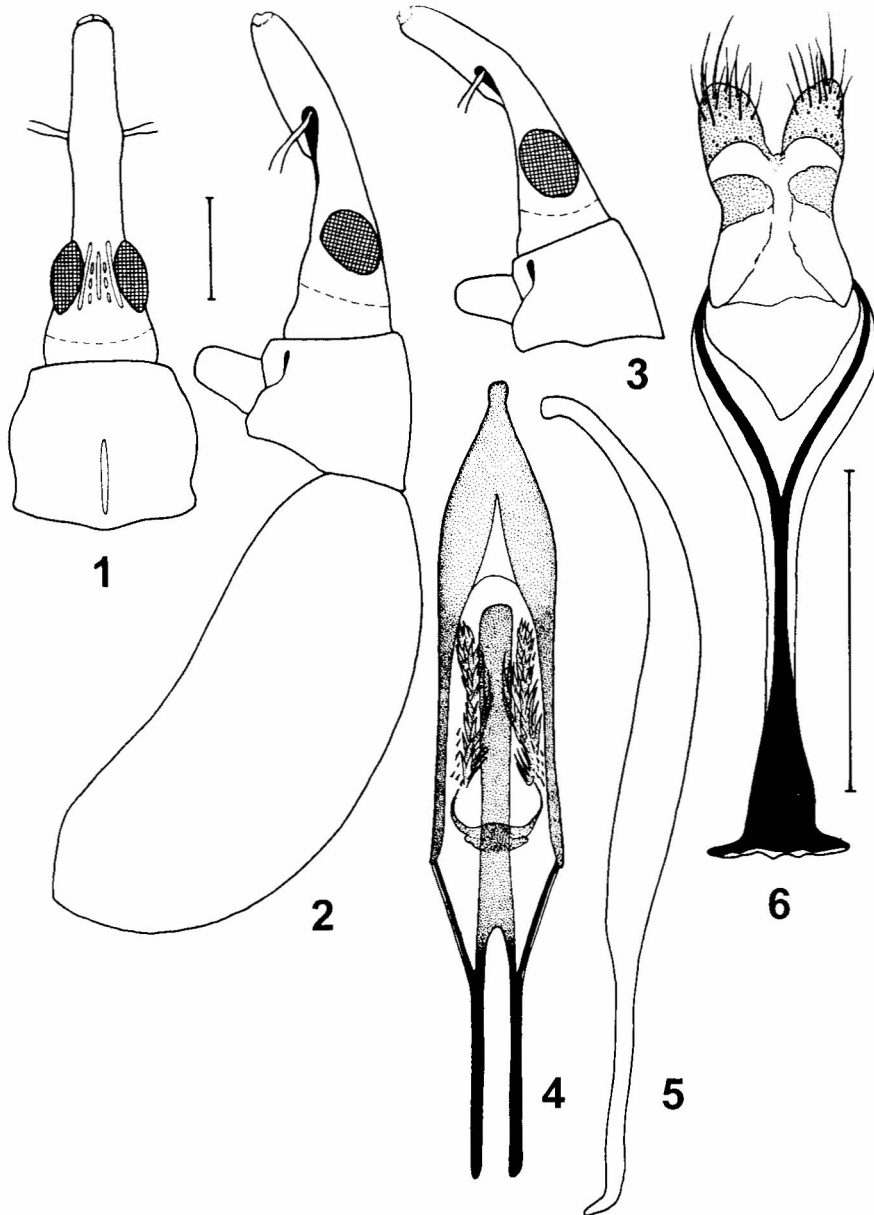
Holotype m labelled: a) Sat-dag: Tal v. Oramar [37°22'N/44°05'E], 1600-2700 m, 15. VII. 1974 b) Südost-Anatolien, HEINZ leg. c) *Apion insidiosum* DBR. DIECKMANN det., coll. Deutsches Entomologisches Institut, Eberswalde (the specimen is devoid of the whole right hind leg, left protarsus and the onychium of right protarsus). Paratypes 3f: SE Turkey, Hakkâri Prov., 25 km S of Yükseskova, 3 VII 1989, leg. BARRIES & CATE (coll. W. SUPPANTSCHITSCH and MW).

DIAGNOSIS

Most similar to *C. alcyoneum* (GERMAR), particularly in the shape and sculpture of head, being important diagnostic characters within the genus, the peculiar setiferous pit on the male metasternum (males of the remaining *Cyanapion* species have there a small, pointed tubercle), and in apparently identical aedeagi. The new species is however distinctly larger (body length 3.8-4.1 mm, vs. 2.7-3.0 in *C. alcyoneum*), has a longer and straighter rostrum - particularly in the female (rostrum/pronotum length *C. burakowskii* f: 1.57-1.73, *C. alcyoneum* f: 1.34-1.45; rostrum length/max. width *C. burakowskii* m: 4.41, f: 5.50-5.92, *C. alcyoneum* m: 4.00-4.06, f: 4.28-4.47) and in distinctly different length ratio of basal rostrum part (from front eye margin to the point of antennal insertion) and the eye (*C. burakowskii* m: 1.49, f: 1.75-1.90, *C. alcyoneum* m: 1.04-1.18, f: 1.33-1.43), which results from both the relatively smaller eye size and longer rostrum in the new species (cf. figs 1, 2, 7, 8 for *C. burakowskii* and figs 3, 9, 10 for *C. alcyoneum*).

DESCRIPTION

Length 3.80-4.10 mm. Head, pronotum and femora black with weak cyaneous tinge, elytra metallic blue, weakly to distinctly shining, depending on the development of the microsculpture; base of antennae variably lightened (yellowish red to dark brown, the whole scape and 1st funicular segment, but sometimes only the base of scape); rostrum, tibiae and tarsi entirely black. Vestiture inconspicuous, composed of greyish, piliform scales not longer than half of maximum breadth of elytral intervals and hardly longer than the diameter of pronotal punctures, in elytral striae the same as on intervals, on the latter arranged in two irregular rows; scales on the venter of body longer (on male abdomen twice as long) and almost pure white, in female slightly, in male distinctly denser on front sides of all coxae, episterna and epimera of mesosternum and on metepisterna.



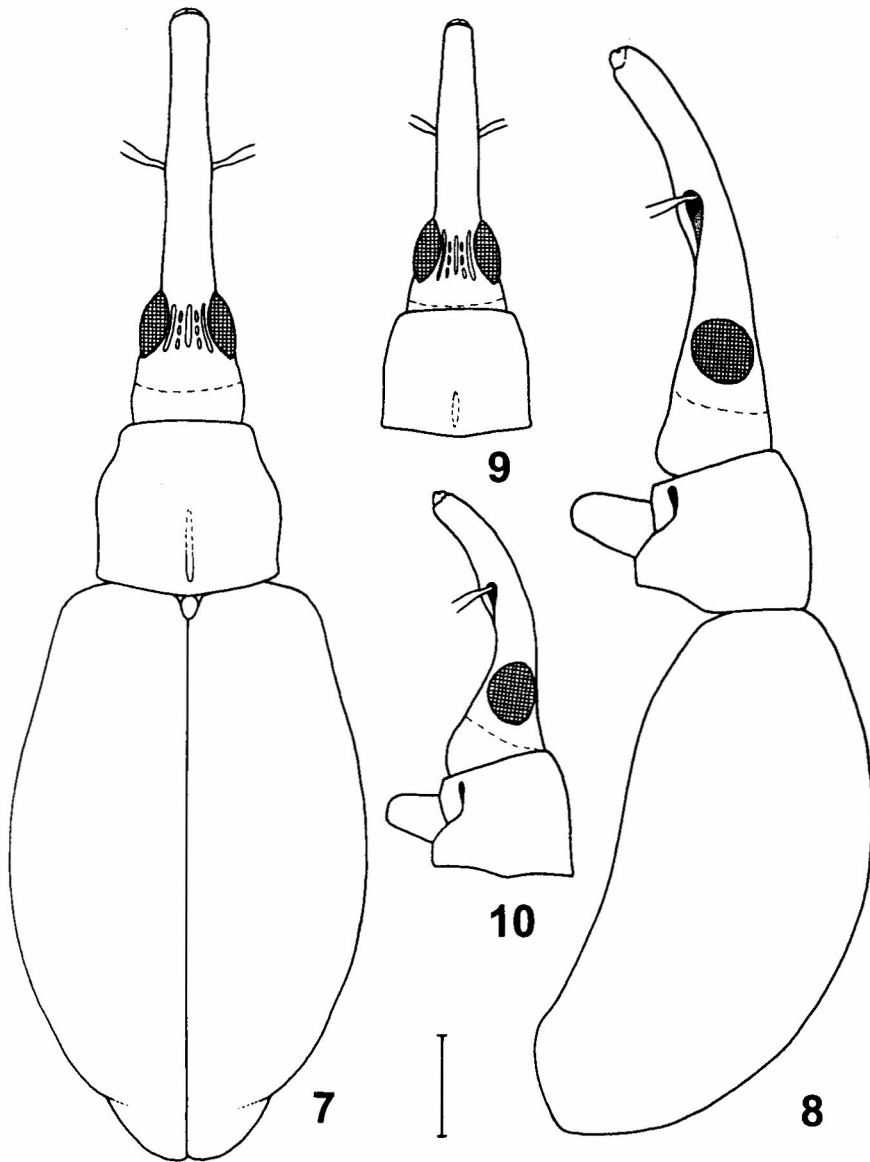
1, 2. *Cyanapion burakowskii* sp. n., male: 1 - head and pronotum in dorsal view; 2 - head, pronotum and elytra in lateral view. 3 - *C. alcyoneum* (Anatolia, no exact locality, leg. C. DELAGRANGE), male head and pronotum in lateral view. 4-6. *C. burakowskii* sp. n.: 4 - median lobe of aedeagus, dorsal view; 5 - outline of the median lobe of aedeagus, lateral view; 6 - tegmen, dorsal view. Scale 0.5 mm

Rostrum weakly arched to nearly porrect, 1.27 (m), 1.57-1.73 (f) \times longer than pronotum, 4.41 (m) or 5.50-5.92 (f) \times longer than mesorostrum maximum breadth, at mesorostrum 1.18-1.29 \times wider than at apex; dorsum and sides of rostrum shallowly punctate to the apex, the punctures of double ommatidium size, elliptical, denser and partly contiguous in male; prorostrum in male with moderately dense, short, piliform scales nearly to the apex, in female devoid of vestiture; the whole female rostrum on sides with microscopic, obliquely protruding brownish setae; venter of prorostrum with two irregular rows of large, scaliferous punctures separated by a complete, raised median rib; antennal pits broadly separated, in profile situated exactly in middle of rostrum height; antennal scrobes shallow but well visible in lateral view.

Antennae inserted at basal 0.42-0.46 of rostrum, filiform; scape 1.03 (m), 1.09-1.32 (f) longer than mesorostrum breadth, in male 4.2 \times , in female 5.0-5.8 \times longer than wide at apex; proportions of antennomeres significantly variable, the length(width) ratio of scape/funicular segments/club in male: 100: 52(19): 55(17): 38(17): 36(19): 28(23): 33(26): 26(28): 112(41); in two measured females: 100: 43-50(17-50): 41-55(14-16): 34-41(15-16): 26-35(15-16): 25-30(17): 25-27 (19-23): 23-27(21-25): 106-114(38-43); the club 2.3-2.8 \times longer than wide; antennal pubescence sparse, very weakly protruding, whitish to cream testaceous.

Head narrow, subconical, 1.22-1.26 \times longer than broad; eyes distinctly shorter than the metarostum (see diagnosis), as long as 0.56-0.63 of the whole visible part of head, larger and more convex in male, in both sexes without subocular fringe of scales; frons as wide as 0.55-0.70 rostrum base, slightly depressed (m) to almost even (f), with three shallow and bare sulci separated by two rows of elongate, scaliferous punctures; vertex flat, coarsely punctate and scale-like microsculptured; temples weakly divergent, the punctate and scaliferous area weakly delimited and varying in range, 0.3-0.5 of eye length; margins of antennal scrobes distinctly convergent backwards, extended onto the end of flattened interocular area as a pair of very fine, close and parallel carinae; venter of head just behind eyes with a few conspicuous, sinuously transverse wrinkles.

Pronotum with relatively thick walls, 0.87-0.94 as long as wide, at base 1.36-1.38 \times wider than at anterior margin, 2.02-2.13 \times wider than head, in male much larger in relation to the elytra than in female and campaniform (fig. 1), in female much weaker rounded in middle to subtrapeziform (fig. 7); the disc weakly convex; the basal flange rudimentary, better developed in male; puncturation coarse and dense, with the interspaces more or less convex and strongly scale-like microsculptured, making pronotal surface uneven, punctures less than 0.5 diameter apart, well deepened and of a size ca. 3 ommatidia; prescutellar fovea hardly broader than one puncture diameter, long and usually reaching or even exceeding middle of the disc; prosternum with a fringe of downturned scales, better developed in male; sternellum forming small, separated tubercle.



7, 8. *Cyanapion burakowskii* sp. n., female body: 7 - dorsal view; 8 - lateral view. 9, 10. *C. alcyoneum* (Austria: Münchendorf), female head and pronotum: 9 - dorsal view; 10 - lateral view. Scale 0.5 mm

Scutellum very small, flat, slightly elongated.

Elytra shaped as in figs 2, 7, 8; weakly (m) or highly elevated above the pronotal disc (f), 3.15 (m), 3.26-3.52 (f) \times longer than pronotum, 1.81 (m), 1.61-1.67 (f) \times longer than max. broad, 1.53 (m), 1.88-1.90 (f) \times broader than pronotum, at widest point 1.13 (m), 1.26-1.31 (f) as wide as at humeri; humeral calli well prominent; intervals flat, 1.8-2.2 \times broader than the striae, without distinct puncturation, often transversely microstrigose, with short, adpressed scales arranged in two, sometimes three confused rows; first interval of each elytron slightly raised along the suture in subapical part; striae shallow and often unclearly margined, septae of punctures weakly depressed.

Middle of metasternum impunctate, in male with a deep round pit bearing a tuft of few testaceous, very stout setae at the bottom.

Metathoracic wings normally developed.

Femora very slender in female, more robust in male; profemur 1.23 (m), 1.07-1.18 (f) as thick as mesorostrum breadth; tibiae straight and thin, protibia hardly widened distad, 1.32-1.48 \times longer than pronotum and 8.27-9.22 \times longer than wide at apex; an average length(width) proportions of protarsal segments in female 100(56): 72(62): 70(84): 105(35), onychium exceeds 3rd segment with 0.6-0.7 of the latter length; tarsal claws more conspicuous in male.

Male tegmen as in fig. 6; apex of the manubrium strongly thickened and the extreme base expanded outwards into narrow arms; the forked basal piece strongly expanded, having reinforced median "veins"; tegminal plate flattened, distinctly constricted at about middle of length; parameroid lobes without membranous apical parts and microchaetae, broadly rounded and completely separated; macrochaetae numerous and variably long - the most conspicuous slightly longer than the whole parameroid lobe, confused throughout the distal half of each lobe; fenestrae contiguous; the dorsal portion of ring and the prostegium broadly broken medially but both parts of each connected with very fine and completely transparent membrane.

Median lobe of aedeagus broad and flattened, with short apophyses, shaped as showed in figs 4, 5; the dorsal lobe very narrow and strongly sclerotized; internal sac armed with a pair of long and thick, cone-like clusters of spines, connected basally with a kind of sclerotized ring. Manubrium of the spiculum gastrale ca. twice as long as the forked part.

Female ovipositor and spermatheca similar as in *C. alcyoneum*, do not provide useful diagnostic characters.

Biology unknown.

Distribution. SE Turkey: Hakkâri Province.

ETYMOLOGY

I have a pleasure to dedicate this species, one of the most conspicuous among Palaearctic apionids, to Dr. Bolesław BURAKOWSKI, our greatest explorer of beetle secrets.

Perapion nuristanicola (Voss, 1959)

Apion (*Perapion*) *defensum* var. *nuristanicola* Voss, 1959: 78.

Perapion himalayensis (sic!) BHATEJA et PAJNL, 1989: 46, **syn. nov.**

MATERIAL

N INDIA. Uttar Pradesh: Badrinath, 3200-3600 m, 1. VIII. 1989, 22 exs, leg. and coll. A. RIEDEL; Kashmir: 1 ex. (det. as *defensum* by H. WAGNER) (coll. Museum and Institute of Zoology PAS, Warsaw); Gulmarg-Tangmarg, 2300-2650 m, 3. VII. 1976, 2 exs, Yusmarg, 2300-2400 m, 5. VII. 1976, 2 exs - leg. W. WITTMER (coll. Natural History Museum, Basel). N PAKISTAN. Swat reg.: Utrot [35°29'N/72°28'E], 2500-2600 m, 13. V. 1983, 4 exs, Mindam, 2400-2500 m, 17. V. 1983, 1 ex. - leg. C. BESUCHET & I. LÖBL (coll. Museum d'Histoire Naturelle, Genève). Type specimens of both nominal species were not examined.

While describing the variety from the Afghan Nuristan, Voss presented only short diagnosis, in which large set of characters differing it from *P. defensum* was accurately emphasised. The recent description of *P. himalayense* (emendation of incorrect original spelling) from the adjacent Indian provinces is more exact, but not accompanied with a diagnosis to any other member of the genus. After examination of larger material of this species, kindly made available to me by Alexander RIEDEL and the museums in Basel and Warsaw, I found that a more precise definition of differences between *P. defensum* and *P. nuristanicola* was needed. Therefore, the diagnoses of both species in the form of key, and the detailed redescription of *P. nuristanicola*, are presented below.

1. Body more shiny, with the vestiture finer, more opalescent and yellowish, giving the beetle somewhat brassy tinge. Rostrum straighter (figs 15, 16), shorter in relation to the pronotum, more constricted before and behind antennal insertion (figs 11, 12), much finer and more transparently pubescent in either sex, thus visibly bare in apical half, in female 2.34-2.73× longer than broad. Head usually more transverse and eyes more prominent. Female antennal scape 3.0-3.5× longer than wide. Elytra widest distinctly behind middle, almost straight at sides in basal half; elytral intervals convex and weakly shiny. Spermatheca as in fig. 23. Distribution: Hindu-Kush Mts., Western Himalaya.

..... *P. nuristanicola* (Voss)

- Body sculpture more obscure, vestiture pure white, distinct throughout whole rostrum. Rostrum stronger curved and relatively longer (figs 17, 18), barely constricted before and behind antennal insertion (figs 13, 14), in female 2.90-3.10× longer than broad. Head longer and more conical in outline, eyes flatter. Female antennal scape over 4× longer than wide. Elytra widest at about middle, more regularly rounded; intervals almost flat, obscurely microsculptured. Spermatheca as in fig. 24. Distribution: Tian-Shan.

..... *P. defensum* (FAUST)

Genital structures of both species are not distinct, except for the the sclerite-like structures in the orificial region of the internal sac of aedeagus, which seem to be longer and have more distinctly separated basal, serrate parts in *P. defensum*, and the very distinct shape of spermathecae. The infraspecific variation of the latter character has not been, however, studied in a larger series of specimens of both species.

DESCRIPTION

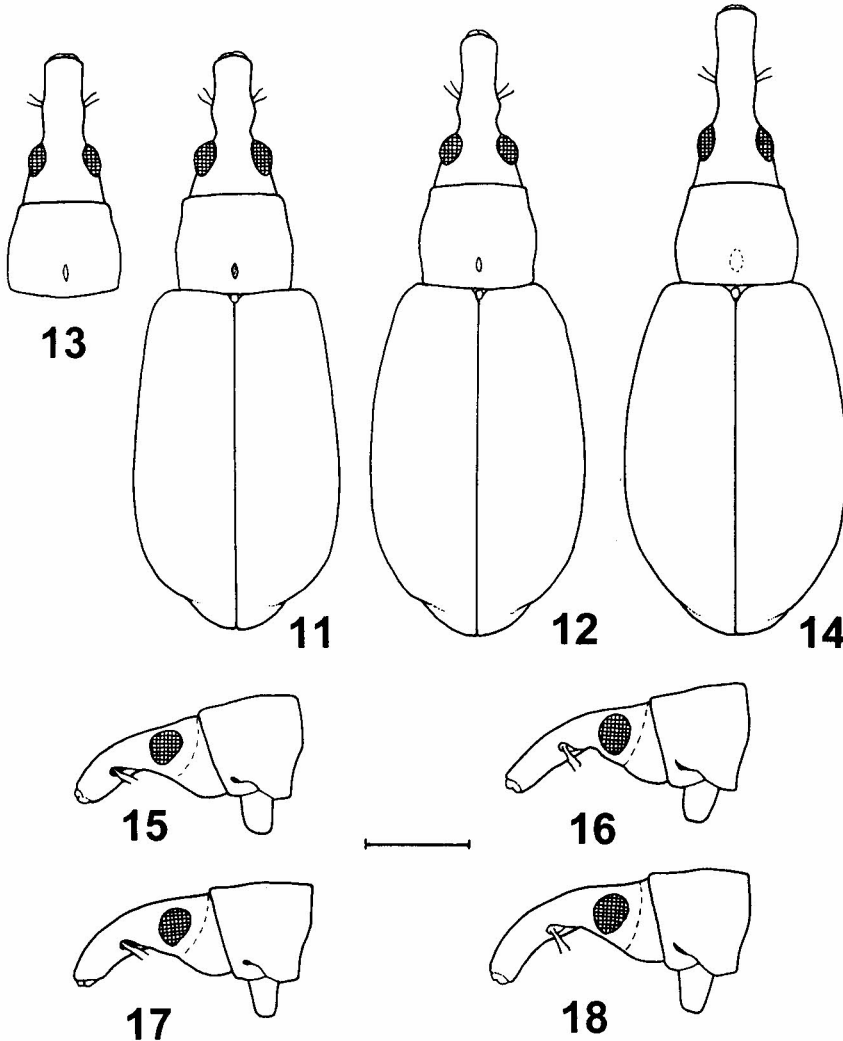
Body length 2.10-2.70 mm. All body parts black, except for the brown-black two distal tarsomeres and dark testaceous to brownish-black antennal scape and greater part of the funicle. The microsculpture of all body parts weaker than in *P. defensum*, leaving especially the rostrum and elytra more shiny. The vestiture composed of thin, hair-like scales, cream to yellowish in colour; scales on the rostrum becoming progressively finer distad leaving the apical half visibly bare; scales on the elytral intervals somewhat longer and usually more confused than those in *P. defensum*.

Rostrum 0.80-0.85 (m), 0.97-1.04 (f) as long as pronotum, 1.90-2.16 (m), 2.34-2.73 (f) \times longer than max. breadth, always obtusely dilated near antennal insertion and narrowed at middle of metarostrum and proximal 1/3 of prorostrum, curved, but weaker and less regularly so than in *P. defensum* (figs 11-18); the breadth ratios in dorsal view as follows: max. mesorostrum/min. metarostrum 1.08-1.16, max. mesorostrum/min. prorostrum 1.23-1.33 (m), 1.13-1.29 (f), max. mesorostrum/apex 1.16-1.33 (m), 1.11-1.17 (f), max. mesorostrum/eye length 1.05-1.20; dorsum and sides of rostrum densely and shallowly punctate, with dense scale-like microsculpture at base, both puncturation and microsculpture distinctly weakening distad and leaving at least apical 1/3 of prorostrum glabrous and impunctate; venter of prorostrum roughly punctate, without a median keel.

Antennae short and thin, inserted at basal 0.36-0.42 (m), 0.32-0.37 (f) of rostrum, as far from the head as 0.80-0.95 (m), 0.90-1.00 of the eye length; the length(width) ratio of antennal segments in male holotype 100(35): 55(35): 40(23): 35(25): 35(25): 30(25): 27(30): 25(37): 160(85); scape 0.51-0.54 (m), 0.56-0.67 (f) as long as max. rostrum breadth (in female of *P. defensum* 0.75-0.78), 3.0-3.5 \times longer than wide (in *P. defensum* 4 \times or more) and funicular segments 3 & 4 less distinctly longer than the distal ones; the club strongly variable in shape (length/width 1.9-2.4); antennal pubescence very fine, semi-transparent and weakly protruding.

Head transverse, 0.7-0.9 as long as broad; eyes variably shaped but usually distinctly prominent, taking 0.6-0.7 total length of head; frons slightly narrower than rostrum base, flat, roughly microsculptured, without delimited punctures or striolae; vertex irregularly punctate throughout, not separated from the frons by any depression; temples distinctly divergent, with scaliferous punctures on a distance less than 0.25 of the eye diameter; genae with sparse, minute punctures; interocular area flat, bare, strongly microsculptured; gular region impunctate, the gular suture forming a chain of shallow, large and almost contiguous punctures.

Pronotum 0.85-0.95 as long as maximally broad, 1.45-1.65× broader than head (the latter measured across middle of eyes), at base 1.11-1.18× broader than at anterior margin, weakly rounded at sides and widest at or slightly behind middle; disc flat, slightly elevated at anterior margin, basal flange rudimentary; puncturation dense, punctures of a size of 2-3 ommatidia, not more than half diameter apart,



11, 12. *Perapion nuristanicola*, body in dorsal view: 11 - male; 12 - female. 13, 14. *P. defensum*, dorsal view: 13 - male head and pronotum; 14 - female body. 15-18. Head and pronotum in lateral view: 15 - *P. nuristanicola*, male; 16 - *P. nuristanicola*, female; 17 - *P. defensum*, male; 18 - *P. defensum*, female. Scale 0.5 mm

interspaces even and microreticulate, only exceptionally more roughly microsculptured; prescutellar fovea variably sized and shaped, usually well delimited; prosternum 0.5-0.6 as long as the postcoxal part of prothorax.

Scutellum rounded, minute, as large as 2-3 pronotal punctures combined.

Elytra only barely wider and more rounded in female, 3.16-3.52 (m), 3.45-3.73 (f) times longer and max. 1.77-1.94 × wider than pronotum, 1.67-1.72 × longer than wide, the widest point lies distinctly behind middle and the elytra are here 1.30-1.35 (m), 1.35-1.45 (f) wider than at humeri, their sides nearly straight and divergent in more than basal half length; humeral calli rudimentary; striae about half as wide as intervals but seemingly wider due to distinct convexity of the latter and the lack of sharp margins, with weakly delimited punctures and the piliform scales well separated from each other, much shorter and finer than those on the intervals; intervals with two confused rows of scales, irregularly punctate and shining; specialized setae absent.

Wings totally reduced, as in *P. defensum*.

Venter evenly and sparsely clothed with hair-like scales, sculptured as in *P. defensum*, but the first two ventrites in both sexes more convex and the 5th ventrite in female with lateral depressions deeper than in the latter species.

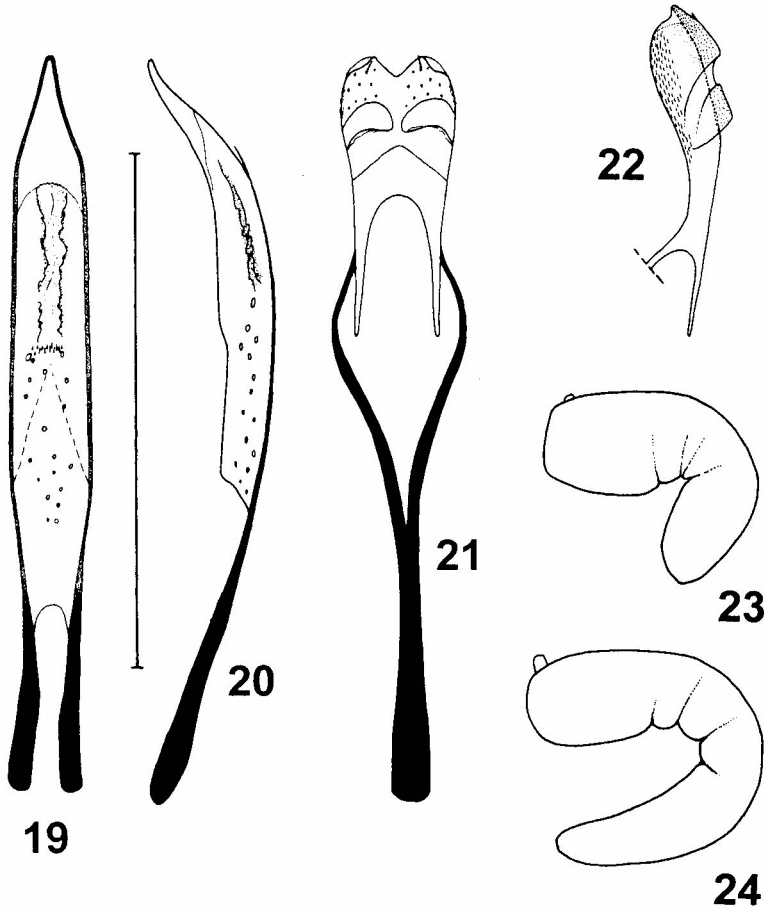
Legs moderately long and slender; profemora 0.73-0.81 (m), 0.78-0.88 (f) as thick as mesorostrum breadth; protibia 0.96-1.14 × longer than pronotum and 6.25-7.70 × longer than broad; male mesotibiae mucronate; tarsi slender, ca. 3.3 × longer than max. width, first segment 1.3, second 1.1 as long as broad, onychium ca. 4 × longer than wide, exceeding 3rd segment by 1.20-1.35 of the latter length.

Genital tegmen with the manubrium slightly longer than the forked basal piece; tegminal plate variably downfolded and enveloping the median lobe; margins of parameroid lobes broadly covered with microchaetae, dorsal part of the lobes with numerous sensory pits and only one pair of subapical, very short and hardly visible macrochaetae; apical membranous lobes rudimentary and devoid of microchaetae; fenestrae well delimited, narrowly separated, transverse and open laterally; prostegium very deeply incised and extended backwards into a pair of very narrow tails (figs 21, 22).

Median lobe of aedeagus shaped as in figs 19, 20; internal sac with hardly defined, tape-like and irregularly toothed, apparently paired but overlapping structures in the orificial region (they could be called folds but they are stronger sclerotized than the remainder of the sac and rather resemble sclerites); middle of the sac with a small, transverse aggregation of microscopic setae visible only under very high magnification; basal half of the sac with irregularly and sparsely distributed small granules. Spiculum gastrale with manubrium at least 4 × longer than the forked arms.

Female ovipositor similar as in *P. defensum* but the spermatheca with much shorter, thicker and more obtuse cornu (fig. 23).

Biology unknown.



19-22. *Perapion nuristanicola*, aedeagus: 19 - median lobe, dorsal view; 20 - median lobe, lateral view; 21 - tegmen, dorsal view; 22 - tegminal plate, lateral view (scale 0.5 mm). 23, 24. Spermathecae: 23 - *P. nuristanicola*; 24 - *P. defensum* (not in scale)

Distribution. Eastern Afghanistan (Nuristan), North Pakistan (Swat), North Western India (Jammu & Kashmir, Himachal Pradesh, Uttar Pradesh). Apparently occurring in high mountain altitudes, from 2200 up to 3600 m.

VARIATION

The species seems to be more variable than *P. defensum*, which concerns most of all body sculpture, shape of the head and, to a lesser extent, the rostrum, and proportions of antennal club. One of males from Badrinarth has the eyes much less prominent and making the head outline almost exactly like that in *P. defensum*.

REMARK

The specimens of *P. defensum* used for differential diagnose and figured came from E Uzbekistan (Chatkalskiy khrebet, Chimgan, 25-27 VI 1980, leg. K. SCHÖN).

ACKNOWLEDGEMENTS

I wish to express my sincere thanks to Mr. L. BEHNE (Deutsches Entomologisches Institut, Eberswalde), Dr. M. BRANCUCCI (Natural History Museum, Basel), Dr. I. LÖBL (Museum d'Histoire Naturelle, Genève), Mr. A. RIEDEL (Friedberg), Ing. W. SUPPANTSCHITSCH (Vienna), Ing. K. SCHÖN (Litvinov) and Dr. S. A. ŚLIPIŃSKI (Museum and Institute of Zoology PAS, Warsaw) for the loan of specimens described above.

REFERENCES

- BHATEJA, B. R., H. R. PAJJI, 1989. One new genus and five new species of *Aplemonini* (Coleoptera: Curculionidae: Apioninae) from the Indian subcontinent. *Colemania*, 5: 41-54.
- VOSS, E., 1959. Afghanistans Curculionidenfauna, nach den jüngsten Forschungsergebnisse zusammengestellt. *Entomol. Bl. Biol. Syst. Kaefer*, 55: 65-162.