

Aphodiinae from the Himalayas, Assam and Sri Lanka
(Col., Scarabaeidae)

by **Z. Stebnicka**

Abstract: *Aphodius kazirangensis* n.sp. and *Caelius zojilae* n.sp. are described as new and complementary descriptions for two little known species are added. 28 species are listed, 10 of them representing new geographical records as follows: 4 for India, 3 for Sikkim, 2 for Bhutan and 1 for Nepal.

Thanks to the courtesy of Dr Walter Wittmer of the Naturhistorisches Museum in Basel I received for study the material of Aphodiinae, collected mainly on expeditions in the Himalayan region by staff of the Museum. The material examined is deposited in the collections of the Naturhistorisches Museum in Basel and the Institute of Systematic and Experimental Zoology (ISEZ), Polish Academy of Sciences in Kraków.

1. *Aphodius (Pleuraphodius) lewisi* Waterh.

Material: India: Uttar Pradesh. Bhimtal. 1.-15. VI. 1975. F. Smetacek.

Oriental species, widely distributed.

2. *Aphodius (Carinaulus) dierli* Balth.

Material: Nepal: Thame, 3800 m, 1976. W. Wittmer.

This very characteristic species has been described from Nepal-Khumjung, 3800 m (BALTHASAR, 1967).

3. *Aphodius (Loboparius) mirificus* Balth.

Material: India: Himachal Pradesh, Katrain, 1450 m, 11. V. 1977, W. Wittmer.

Recorded from China, Indochina, Burma and Nepal.

4. *Aphodius (Loboparius) scheibei* Balth.

Material: Sikkim: Gyalzing, 1600 m; Choka, 840 m, 5.-12. IV. 1978, Bhakta Bahadur.

Recorded from Afghanistan and West Pakistan.

5. *Aphodius (Loboparius) immarginatus* A. Schm.

Material: Sikkim: Gyalzing, 1600 m; Reshi, 400 m; Choka. 840 m, 6.–15.IV.1978; vicinity of Kalimpong, 10.V.1977, Bhakta Bahadur.

Recorded from China, Indochina, Burma, Nepal and India.

6. *Aphodius (Pharaphodius) marginellus* (F.)

Material: Nepal: Godavari, 25.V.1976; Kathmandu, 24.V.–21.VI.1976; Bhutan: Phuntsholing, 400 m, VIII.1975, W. Wittmer and C. Baroni Urbani.

Widespread species.

7. *Aphodius (Pharaphodius) robustus* Walk.

Material: Sri Lanka: Polonnaruwa. 9.III.1976, Ziegler and Zöllig.

Recorded from Sri Lanka, India, Pakistan and Afghanistan (DELLACASA, 1977).

8. *Aphodius (Pharaphodius) jodhpurensis* Petr.

Material: Bhutan: Ongsha, 1.IX.1976, Dorjee Khandu.

Known hitherto only from North India (PETROVITZ, 1958; DELLACASA, 1979).

9. *Aphodius (Pharaphodius) orientalis* Har.

Material: India: Assam, Kaziranga. 75 m, 7.–9.V.1976, W. Wittmer and C. Baroni Urbani.

East-Asiatic, widely distributed species.

10. *Aphodius (Pharaphodius) dindigalensis* Balth.

Material: Nepal: Kathmandu. 1300 m. 22.V.1977, W. Wittmer.

Known from India and Nepal.

11. *Aphodius (Alocoderus) milvus* Balth.

Material: Sikkim: Gyalzing. 1600 m. 12.IV.1978; Choka. 840 m. 5.IV.1978, Bhakta Bahadur.

Probably widespread species, known hitherto from Afghanistan, W. Pakistan, Nepal and North Vietnam.

12. *Aphodius (Aganocrossus) urostigma* Har.

Material: Nepal: Kathmandu. 24.V.–21.VI.1976; Kirantishap Balua. 5.VI.1976, W. Wittmer and C. Baroni Urbani; Sikkim: Lage Shap. 500–600 m. 14.IV.1978, Bhakta Bahadur; India: Darjeeling, Singla, 450 m. 19.IV.1978, W. Wittmer.

Oriental species, widely distributed.

13. *Aphodius (Aganocrossus) khuntianus* Balth.

Material: Nepal: Godavari, 25.V.1976; Kathmandu, 24.V.–21.VI.1976, W. Wittmer and C. Baroni Urbani.

Known from India and Nepal.

14. *Aphodius (Aganocrossus) amoenus* Boh.

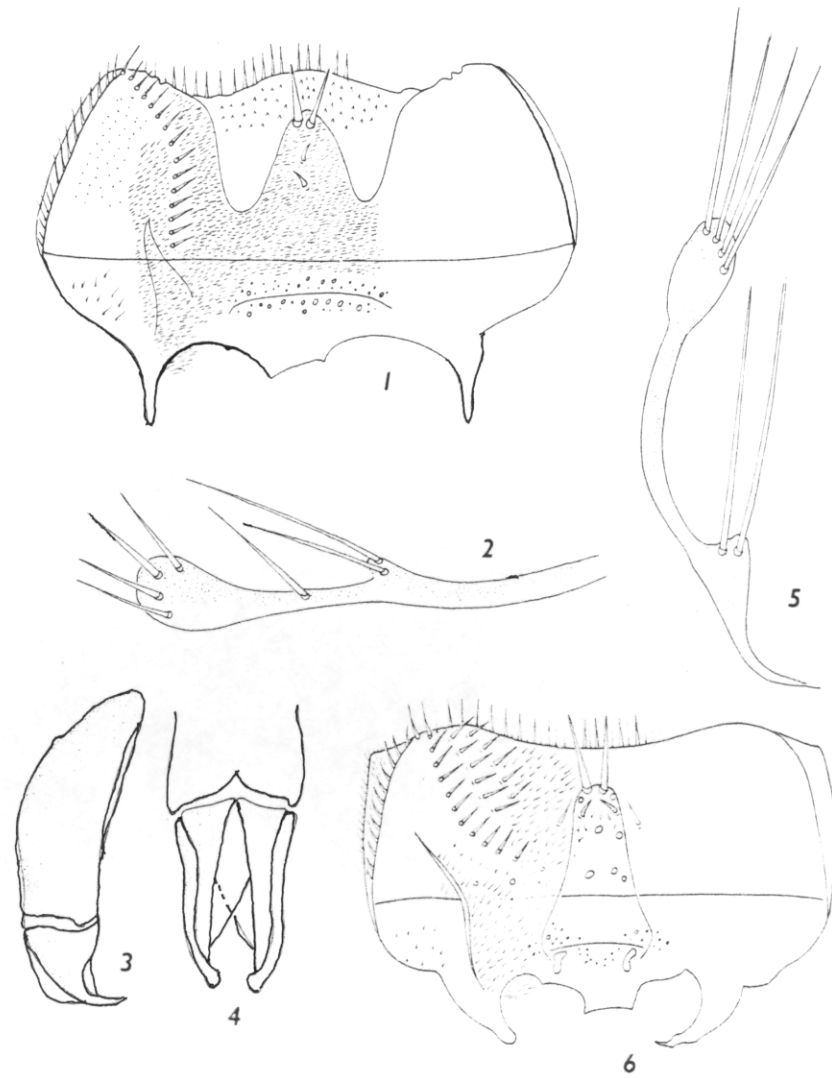
Material: Sri Lanka: Polonnaruwa, 9.III.1976, Ziegler and Zöllig.

Widespread species.

15. *Aphodius (Trichaphodius) kazirangensis* n. sp. Figs 1–4.

Description: Length 5.1–6.0 mm, greatest width 2.5–3.0 mm. Body oblong-oval, slightly flattened, moderately shining, castaneous without spots; frontal suture, occiput and disc of pronotum slightly darkened. Head only moderately convex, distinctly reflexed, setaceous clypeal margin obtusely rounded anteriorly, sides weakly arcuate to small, rounded genae; clypeal surface smooth, finely evenly punctate, the punctures separated by about twice their diameters. Pronotum slightly convex, anterior angles obtuse, posterior angles broadly rounded, sides arcuate, margined, base of pronotum without marginal line; surface with mixed moderately coarse and very fine to fine punctures throughout, discal area with rather dense, fine punctures separated by about two or three their diameters and irregularly spaced, more coarse punctures closer at sides. Scutellum narrow, triangular, finely punctate. Elytra flattened, surface distinctly alutaceous, sides and apical part with yellow, conspicuous setae not closely distributed and protruding; striae distinctly impressed, minutely punctate, the punctures not crenating or very weakly crenating the inner margins of the intervals; intervals convex, very finely punctate. Metasternum shining with fine, scattered punctures and impressed midline; abdominal sterna alutaceous, very finely punctate and piliferous. Hind femora slightly alutaceous with a few fine punctures bearing yellow hairs; upper side of anterior tibia distinctly punctate, three lateral teeth small, obtuse; apical setae of middle and hind tibia unequal in length; upper spur of posterior tibia slightly hooked at apex, first tarsal segment about one-fourth longer than upper spur, about equal to following three segments combined. Male aedeagus as in figures 3–4.

Female: Apical spur of fore tibia more acute than in male. Stylus as in figure 2.



Figs 1–6: 1–4. *Aphodius (Trichaphodius) kazirangensis* n. sp.: 1, epipharynx. 2, stylus. 3, aedeagus, lateral view. 4, aedeagus, dorsal view. 5–6. *A. (T.) assamensis* Petr.: 5, stylus. 6, epipharynx.

Epipharynx: Acanthoparia and acroparia with moderately long and moderately thick setae nearly equal in size as those of chaetoparia; the remaining surface of paria with very closely distributed, very fine setae.

Types: Holotype ♂: India: Assam, Kaziranga, 75 m, 7.–9.V. 1976, W. Wittmer and C. Baroni Urbani (Museum in Basel). Paratypes: 1 ♂ and 3 ♀, the same data as holotype (Museum in Basel and ISEZ-Kraków).

Affinity: Superficially, *Aphodius kazirangensis* n. sp. is very close to *A. hepaticolor* Qued., distributed in Africa (Cameroun, Congo, Uganda, Angola, Guinea) but differs in having elytral striae more deeply impressed, intervals more convex, the setation longer covering also the sides of elytra.

16. *Aphodius (Trichaphodius) assamensis* Petr. Figs 5–6.

Material: 1 male and 3 females, India, Assam, Kaziranga, 75 m, 7.–9.V. 1976, W. Wittmer and C. Baroni Urbani.

Type locality: India, Assam, Patkai Mts. The species has been described on the basis of male specimens (Petrovitz, 1976).

Complementary description: Length 5.5–6.5 mm, greatest width 2.5–3.0 mm.

Male: Elytral intervals densely, distinctly punctate, surface setaceous except basal area. Apical spur of anterior tibia obtusely pointed, posterior tibia rather long, strongly widened toward the apex.

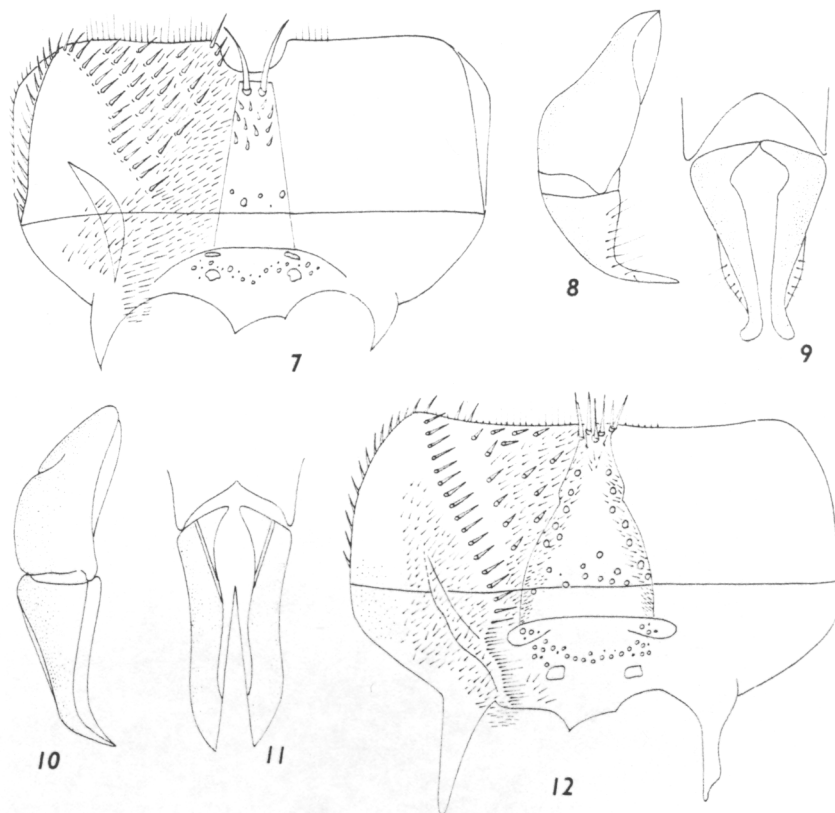
Female: Elytral intervals finely, indistinctly punctate, short inconspicuous setae occur only along lateral margin and apex of elytra. Apical spur of anterior tibia sharply pointed, posterior tibia slender. Stylus as in figure 5.

Epipharynx: Acroparia with long, mixed thin and moderately thick setae gradually decreasing in size toward shortly setaceous acanthoparia; the bristles of chaetoparia moderately long and moderately thick; 12–14 bristles of chaetopodia the same length as those of chaetoparia, somewhat thicker; the remaining setae of paria thin, shorter than those of chaetoparia.

17. *Aphodius (Trichaphodius) jirianus* Balth. Figs 7–9.

Material: Nepal: Jiri-Thodung, 1800–1900 m, 28.V. 1976; Danda Pakhar, 1600–2500 m, 2.VI. 1977, W. Wittmer and C. Baroni Urbani; India: Uttar Pradesh, Bhimtal, 1400–1500 m, 1.–15.VI. 1978, F. Smetacek; Darjeeling, Singmari-Bharapatea Bung, 10.V. 1975, W. Wittmer.

Type locality: Nepal, vicinity of Jiri, 1900 m, (BALTHASAR, 1965).



Figs 7–12: 7–9. *Aphodius (Trichaphodius) jirianus* Balzh.: 7, epipharynx. 8, aedeagus, lateral view. 9, aedeagus, dorsal view. 10–12. *Caelius zojilae* n. sp.: 10, aedeagus, lateral view. 11, aedeagus, dorsal view. 12, epipharynx.

Complementary description. Epipharynx: Acroparia with long, mixed thin and moderately thick setae gradually decreasing in size toward acanthoparia; the bristles of chaetoparia moderately long and moderately thick; 12–14 bristles of chaetopedia the same length as those of chaetoparia, somewhat thicker; the remaining setae of paria thin.

Male aedeagus as in figures 8–9.

This species was known hitherto only from Nepal.

18. *Aphodius (Trichaphodius) segmentaroides* A. Schm.

Material: India: Uttar Pradesh, Bhimtal, 1400–1500 m, 1.–15. V. 1978, W. Wittmer.

Rare species, distributed in India and Indochina.

19. Aphodius (Trichaphodius) nigrovirgatus A. Schm.

Material: Nepal: Godavari, 25.V.1976; Kathmandu, 24.V.–21.VI.1976, W. Wittmer and C. Baroni Urbani; India: Uttar Pradesh, Bhimtal, 1400 m, 10.VII.1978, F. Smetacek.

Widespread species, locally numerous, known hitherto from South China, Vietnam, Philippines and Celebes.

20. Aphodius (Balthasarianus) gregori Balth.

Material: Bhutan: Thang, VIII.1976, Kunzang; Karsumphe, 2730 m, VI.1977, F. Maurer; V.1977, W. Roder and L. Caminada; Batbalithan (Bumthang), 2600–2800 m, 16.–23.V., 31.V.–6.VI., 1.–31.VII.1976, W. Roder and L. Caminada; Chasilakha, 6425', 1978, Dorjee Khandu; Phuntsholing-Thimphu, 24.V. Exp. 1972; Faguding and vicinity of Thimphu, 11.VIII.1975; Charee, 16.VIII.1975, Dorjee Khandu; Gogona, 3100 m, 12.VIII.1976, W. Roder; India: Darjeeling, Jupi, 1300–1400 m, 17.V.1975; Singmari Barapatea Bung, 10.V.1975, W. Wittmer; Nepal: Mure, 6.VI.1976; Jiri Thodung, 1800–1900 m, 25.–27.V.1976, W. Wittmer and C. Baroni Urbani; Phul-Choki, 2000 m, 7.VI.1977, W. Wittmer.

Himalayan species, locally numerous, known hitherto from Nepal and Sikkim.

21. Aphodius (Calaphodius) moestus F.

Material: India: Assam, Kaziranga, 75 m, 7.–9.V.1976, W. Wittmer and C. Baroni Urbani; Sri Lanka: Polonnaruwa, 9.III.1976, Ziegler and Zöllig.

22. Aphodius (s. str.) irregularis Westw.

Material: India: Darjeeling, Tiger Hill, 2500 m, 7.V.1975, W. Wittmer.

Himalayan species, widely distributed.

23. Aphodius (s. str.) fasciger Har.

Material: India: Darjeeling, vicinity of Kalimpong, 18.II.1975; Sikkim, Choka 840 m, 5.IV.1978, Bhakta Bahadur.

24. Aphodius (s. str.) fimetarius (L.)

Material: West Pakistan: Swat, Matiltan, 2250–2650 m, 15.VI.1978, W. Wittmer; Khagan 1450–1800 m, 14.VI.1977, W. Wittmer and M. Brancucci.

25. Aphodius (Loraphodius) kashmirensis Sharp

Material: India: Kashmir, Sonamarg, 2600–2750 m, 17.VII.1976, W. Wittmer.

This species is known only from Kashmir.

26. Aphodius (Nialus) lividus (Oliv.)

Material: India: Kashmir, Srinagar, 1600 m, 24.–25.VI.1976, W. Wittmer.

27. *Aphodius (Nialus) insularis* Petr.

Material: Sri Lanka: Polonnaruwa, 10.III.1976, Ziegler and Zöllig.

Known only from Sri Lanka.

28. *Aphodius (Paradidactylia) haafi* Petr.

Material: India: Darugiri, Garo Hills, 450 m; Meghalaya, 19.V.1976, W. Wittmer and C. Baroni Urbani.

This species described by PETROVITZ (1961) in the subgenus *Phalacrothous* Motsch. is known hitherto from India and Sri Lanka.

29. *Caelius zojilae* n.sp.

Figs 10–12.

Description: Length 4.2–4.3 mm, greatest width 2.0–2.1 mm. Body oval, convex, moderately shining, black, anterior of head, apex and suture of elytra and legs dark reddish-brown. Head large, moderately convex, clypeus rounded each side of shallow median emargination, sides weakly arcuate to right-angled genae; middle of clypeus slightly convex, edge finely reflexed, frontal suture very weakly marked; clypeal surface slightly alutaceous anteriorly, upper clypeus and frontal area evenly, finely punctate, occiput with somewhat larger punctures separated by one or two times their diameters. Pronotum convex, sides visible from directly above, anterior angles rounded, sides narrowly margined and slightly arcuate in front, shallowly concave, emarginate and crenate before sharply prominent posterior angles; base with strong marginal line, distinctly emarginate and crenate near posterior angles; middle basal area with weakly impressed vertical line, surface with mixed punctures, finely evenly punctate over anterior median area with additional scattered, moderately coarse punctures irregularly spaced in middle basal area, more concentrated laterally. Scutellum triangular, impunctate. Elytra oval, widest at middle, convex, humeri distinctly dentate; humeral tubers vanishing, wings reduced, elytral suture coalescent; elytral striae strongly impressed, moderately coarse distant punctures weakly crenating inner margins of the intervals; two lateral intervals more convex and distinctly alutaceous, the remaining intervals moderately shining, minutely alutaceous, impunctate. Metasternum convex, slightly concave medially, line feebly impressed, the punctures coarse and close, concentrated in middle basal area. Abdominal sterna dark brown, alutaceous, very finely punctate. Middle and hind femora narrow with a few fine punctures bearing yellow hairs; lateral teeth of fore tibia small, sharply pointed; middle

and hind tibia slender with evident transverse ridges, apical setae unequal in length, apical spurs slender and thin; first posterior tarsal segment one-third longer than the upper tibial spur and about equal to following three segments combined. Male aedeagus as in figures 10–11.

Female: Apical spur of anterior tibia more straight than in male.

Epipharynx: The setae of acanthoparia short, moderately thick, these of acroparia longer, thin; the bristles of chaetoparia moderately long, rather thin; 11–13 bristles of chaetopodia shorter and somewhat thicker than those of chaetoparia; the remaining setae of paria short and thin.

Types: Holotype ♂: India: Ladakh, Zojila, 3300–3500 m, 25.VII.1976, W. Wittmer (Museum Basel). Paratype ♀: the same data as holotype (ISEZ-Kraków).

Affinity: *Caelius zojilae* n.sp. resembles *C. nepalensis* Petr. but the differences concerning the color, punctation of elytra and general shape of body clearly separate the two species.

30. *Sybacodes lutulentus* Fairm.

Material: India: Assam, Kaziranga, 75 m, 7.–9.V.1976; Medalaya, Songsak, Garo Hills, 19.V.1976, W. Wittmer and C. Baroni Urbani.

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