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On the Aphodiinae of the Nepal-Himalayas (Coleoptera: Scarabaeidae)

By Dirk Ahrens, Rostock and Zdzisława Stebnicka, Cracow

With 19 figures

Summary

52 species of Aphodiinae are recorded from the central-Nepal Himalaya (Dhaulagiri-Annapurna area), including three species described as new to science: *Aphodius* (*Aparammoecius*) *lamjungii* sp. n., *A. (A.) kaskiensis* sp. n. and *A. (Phaeaphodius) himalorectus* sp. n.

Zusammenfassung

Im Ergebnis mehrerer entomologischer Expeditionen in den Nepal-Himalaya (Annapurna- und Dhaulagiri-Gebiet) in den Jahren 1992 bis 1994 wurden 52 Arten aus etwa 8200 Individuen der Aphodiinae ausgewertet. Darunter befanden sich 3 bisher unbekannte Arten: *Aphodius* (*Aparammoecius*) *lamjungii* sp. n., *A. (A.) kaskiensis* sp. n. und *Aphodius* (*Phaeaphodius*) *himalorectus* sp. n.

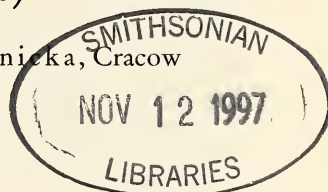
Contents

1. Introduction	1
2. Acknowledgments	3
3. List of the species	3
4. References	16

1. Introduction

The following contribution is a continuation of a series of papers dealing with Himalayan Aphodiinae (STEBNICKA, 1985, 1986, 1989, 1990, 1994) and presents the results of the entomological expeditions to the Central-Nepal Himalaya (Dhaulagiri-Annapurna massifs) in the years 1992–1994 (J. SCHMIDT: IX, X/1992; J. SCHMIDT, A. KOWALKOWSKI, A. DOBBERTIN, D. AHRENS: V, VI/1993; D. AHRENS: II, III/1994; J. SCHMIDT: V, VI/1994). The samples were taken at altitude from 700 to 5000 m above sea level (collecting localities see Fig. 1).

The material consists of approximately 8200 specimens of mostly coprophagous Aphodiinae belonging to 52 species among which three species are here described as new to science.



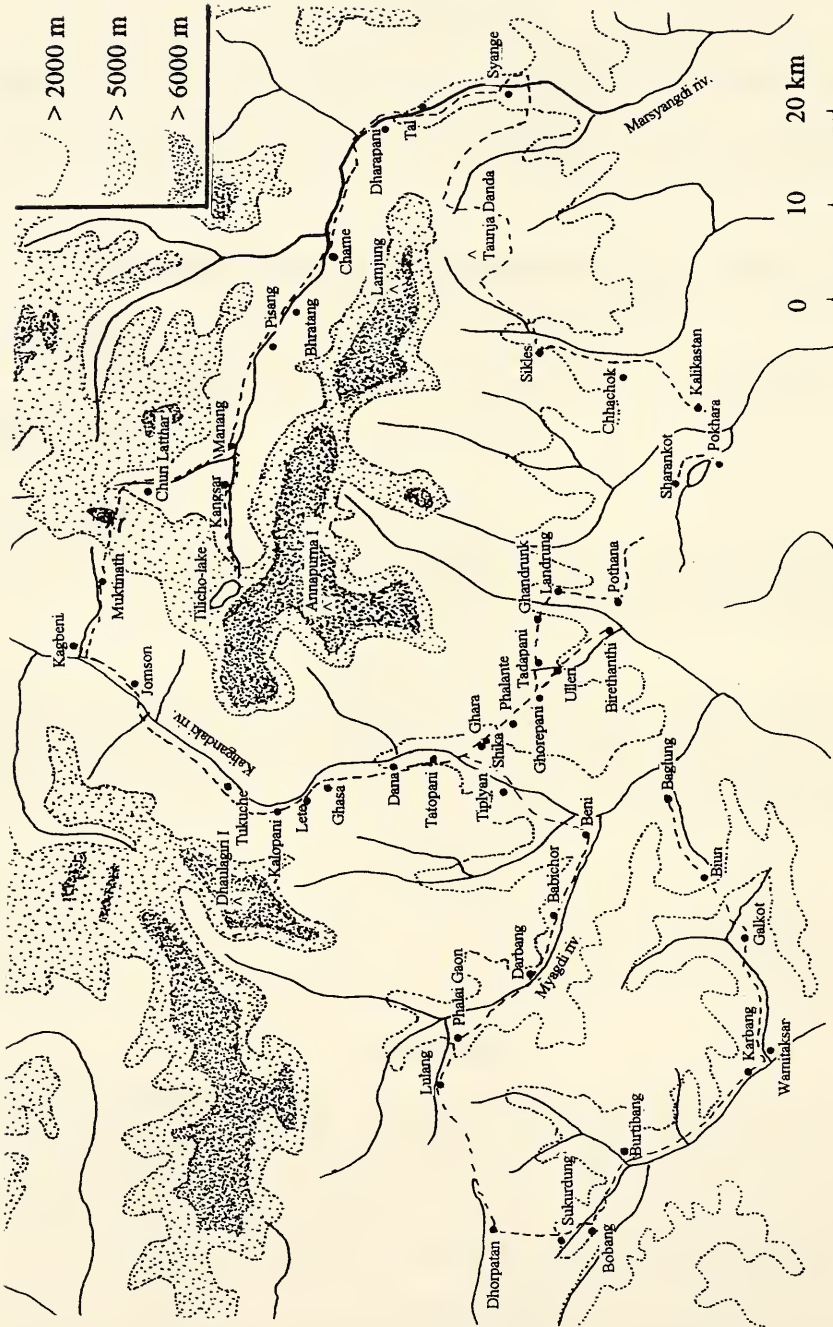


Fig. 1. Routes of the expeditions in the years 1992–1994 in Central Nepal by D. AHRENS, J. SCHMIDT et alii.

Abbreviations employed below for the depositories of material and of relevant type-specimens are listed as follows:

CA:	Collection of DIRK AHRENS (Rostock);
DEI:	Deutsches Entomologisches Institut (Eberswalde-Finow);
ISEA:	Institute of Systematics and Evolution of Animals, Polish Academy of Sciences (Cracow);
MHNG:	Muséum d'Histoire Naturelle (Genève);
NME:	Naturkundemuseum Erfurt;
SMNS:	Staatliches Museum für Naturkunde (Stuttgart);
SMTD:	Staatliches Museum für Tierkunde (Dresden);
ZMHUB:	Zoologisches Museum der Humboldt-Universität (Berlin);
ZSM:	Zoologische Staatssammlung (München).

2. Acknowledgments

We wish to express our thanks to J. SCHMIDT (Rostock) for collecting Scarabaeidae during his trips as well as to Dr. W. SCHAWALLER (SMNS, Stuttgart), Dr. L. ZERCHE and L. BEHNE (DEI, Eberswalde), Dr. I. LÖBL (MHNG, Genève) for borrowing material and to the companions A. DOBBERTIN (Rostock) and A. KOWALKOWSKI (Berlin) for supporting our collecting activity.

3. List of the species

3.1. *Aphodius (Acrossus) angustiarum* Balthasar

Material: Annapurna Mts., Chame to Bhratang, 2700–2900 m, 29. V. 1993, 4 ex.; – Annapurna Mts., SW Taunja Danda, 4000 m, 20. 5. 1993, 8 ex., leg. AHRENS.

3.2. *Aphodius (Acrossus) eberti* Balthasar

Material: Annapurna Mts., Pisang to Manang, 3000–3300 m, 30. V. 1993, 9 ex.; – Annapurna Mts., Tukuche to Kalopani, 2500 m, 11. VI. 1993, 10 ex.; – Annapurna Mts., Chame to Bhratang, 2700–2900 m, 29. V. 1993, 41 ex., leg. AHRENS. – E-Annapurna Mts., between Bhratang and Pisang, 3000 m, 27. IX. 1992, 5 ex.; – Annapurna Mts., Nhar Khola Area, N-Chame, 2700–3000 m, 10. VI. 1994, 3 ex.; – Annapurna Mts., Namun La N-slope Temang, 2600–3100 m, 25. V. 1994, 1 ex., leg. SCHMIDT.

3.3. *Aphodius (Acrossus) jubingensis* Balthasar

Material: Kaski distr., Pothana 10 km NW Pokhara, 1800–2200 m, 27. III. 1994, 2 ex., leg. AHRENS. – Annapurna Mts., Tukuche to Kalopani, 2500 m, 11. VI. 1993, 19 ex.; – Annapurna Mts., Chame to Bhratang, 2700–2900 m, 29. V. 1993, 25 ex.; – Annapurna Mts., Ghara Dhaulagiri (Mustang distr.), Kaligandaki river, 1700–2000 m, 12. VI. 1993, 3 ex.; – Annapurna Mts., Tal-Dharapani Marsyangdi river / Gandaki, 1500–2000 m, 28. V. 1993, 1 ex., leg. AHRENS. – Annapurna Mts., Nhar Khola valley, N-Chame, 2700–3000 m, 10. VI. 1994, 1 ex.; – Annapurna Mts., Bargachap, 2200 m, 31. V. 1994, 1 ex., leg. SCHMIDT.

3.4. *Aphodius (Acrossus) ritsemai* A. Schmidt

Material: Annapurna Mts., Muktinath, 3200–3700 m, 6. VI. 1993, 1 ex., leg. AHRENS. – N-Annapurna Mts., W-Manang env. Kangsar, 3500–4400 m, 1.–3. X. 1992, 2 ex.; – Annapurna Mts., Churi Latthar N-Manang, 4100–4900 m, 7. VI. 1993, 1 ex., leg. SCHMIDT.

Remarks: The species occurs at high altitudes of inner valleys of the Central-Himalayas.

3.5. *Aphodius (Aganocrossus) pallidicornis* Walker

Aphodius amoenus Bohemann, 1857 (partim): Ins. Caffr., II: 354.

Aphodius khuntianus Balthasar, 1940: Ent. Bl. Biol. Syst. Käf. 36: 38.

Material: Annapurna Mts., Pokhara envir./Pame, 900 m, 5.–8. V. 1993, 14 ex.; – Annapurna Mts., Ghara to Shika SE Tatopani, 1700–1900 m, 14. VI. 1993, 4 ex.; – Annapurna Mts., Tatopani, 1100 m, 13. VI. 1993, 11 ex.; – Annapurna Mts., Syange, Marsyangi Khola, 1100 m, 27. V. 1993, 2 ex.; – Annapurna Mts., Sikles envir./Gandaki (Kaski distr.), 1600–2000 m, 12.–16. V. 1993, 10 ex.; – Annapurna Mts., Dana, Kaligandaki valley, 1500 m, 12. VI. 1993, 2 ex., leg. AHRENS. – Kaski distr., Pokhara/Phewa lake, 800 m, 26.–28. II. 1994, 7 ex.; – Kaski distr., Pokhara/Phewa lake, 800 m, 28.–31. III. 1994, 103 ex.; – Kaski distr., Tatopani, 1100 m, 18. III. 1994, 4 ex., leg. AHRENS.

Remarks: The valid name of this species has been stated by BORDAT (1992). *Aphodius pallidicornis* is distributed from Ceylon throughout the Indian subcontinent to the Himalayas; the records from Japan and Indonesia are doubtful and most probably relate to one of the numerous forms of *A. urostigma* Harold.

3.6. *Aphodius (Aganocrossus) urostigma* Harold

Material: Annapurna Mts., Pokhara envir./Pame, 900 m, 5.–8. V. 1993, 188 ex.; – Annapurna Mts., Pokhara envir., 900 m, 17.–18. VI. 1993, 78 ex.; – Annapurna Mts., Ghara to Shika, SE Tatopani, 1700–1900 m, 14. VI. 1993, 18 ex.; – Annapurna Mts., Tatopani, 1100 m, 13. VI. 1993, 4 ex.; – Annapurna Mts., Kalikasthan, 10 km E Pokhara, 1000 m, 9. V. 1993, 1 ex.; – Annapurna Mts., Syange, Marsyangi Khola, 1100 m, 27. V. 1993, 7 ex.; – Annapurna Mts., Ulleri, 10 km SE Ghorepani, 2000 m, 16. VI. 1993, 1 ex.; – Annapurna Mts., Sikles envir./Gandaki (Kaski distr.), 1600–2000 m, 12.–16. V. 1993, 3 ex.; – Annapurna Mts., Chhachok-Taprang Madi Khola, Gandaki (Kaski distr.), 1300–1700 m, 11. V. 1993, 37 ex.; – Annapurna Mts., Dana, Kaligandaki valley, 1500 m, 12. VI. 1993, 13 ex., leg. AHRENS. – Kaski distr., Pokhara/Phewa lake, 800 m, 26.–28. II. 1994, 4 ex.; – Kaski distr., Pokhara/Phewa lake, 800 m, 28.–31. III. 1994, 251 ex.; – Myagdi distr., Tiplyan, Kaligandaki river, 1000 m, 17. III. 1994, 1 ex.; – Myagdi distr., Babichor-Beni, 900–1000 m, 16. III. 1994, 9 ex.; – Myagdi distr., Babichor, Myagdi Khola, 1000 m, 15. III. 1994, 1 ex.; – Myagdi distr., Ghara, 1700 m, 19.–20. III. 1994, 1 ex.; – Myagdi distr., Karbang-Burtibang, 700–1000 m, 4. III. 1994, 1 ex., leg. AHRENS. – Annapurna Mts., SW-Annapurna area, between Tatopani and Beni, 1000 m, X. 1992, 2 ex.; – W-Annapurna, between Lete and Dana, 1400–2400 m, X. 1992, 1 ex., leg. SCHMIDT.

3.7. *Aphodius (Agrilinus) monicae* Stebnicka

Material: N-Annapurna area, W-Manang, envir. Kangsar, 3500–4400 m, 1.–3. X. 1992, 10 ex.; – N-Annapurna area, N-Manang, between Kutsuan and Thorung Phedi, 4000–4500 m, 16. X. 1992, 1 ex., leg. SCHMIDT. – Myagdi distr., Dhorpatan, 3000–3500 m, 6.–10. III. 1994, 10 ex., leg. AHRENS.

Remarks: *A. monicae* is closely related to *A. fasciatus* (Ol.) (= *putridus* Hbst.) in the subgenus *Planolinus* sensu DELLACASA (1983). Some melanistic specimens of *A. monicae* are entirely black, while the type material has the elytra brown or yellowish brown.

3.8. *Aphodius (Alocoderus) holdereri* Reitter

Material: E-Annapurna Mts., between Bhratang and Pisang, 3000 m, 27. IV. 1992, 1 ex., leg. SCHMIDT.

3.9. *Aphodius (Alocoderus) teyrovskiyi* Balthasar

Material: Kaski distr., Pokhara/Phewa lake, 800 m, 26.–28. II. 1994, 83 ex.; – Kaski distr., Pokhara/Phewa lake, 800 m, 28.–31. III. 1994, 12 ex., leg. AHRENS. – Kaski distr., Ghandrunk,

1800 m, 25. III. 1994, 25 ex.; – Kaski distr., Ghandrunk-Landrung, 1500 m, 26. III. 1994, 42 ex.; – Kaski distr., Sharankot near Pokhara, 1500 m, 28. II. 1994, 6 ex.; – Myagdi distr., Tiplyan, Kaligandaki river, 1000 m, 17. III. 1994, 4 ex.; – Myagdi distr., Babichor, Myagdi Khola, 1000 m, 15. III. 1994, 5 ex.; – Myagdi distr., Ghara, 1700 m, 19.–20. III. 1994, 138 ex.; – Myagdi distr., Lulang-Phalai Gaon, 1820–2100 m, 12. III. 1994, 5 ex.; – Myagdi distr., Bhujj Khola, below Bobang, 1600 m, 5. III. 1994, 16 ex.; – Myagdi distr., Tatopani, 1100 m, 18. III. 1994, 14 ex.; – Myagdi distr., Darbang, Myagdi Khola, 1000 m, 13.–14. III. 1994, 35 ex.; – Myagdi distr., Phalai Gaon-Takum, 1700–2100 m, 13. III. 1994, 36 ex.; – Myagdi distr., Babichor-Beni, 900–1000 m, 16. III. 1994, 38 ex.; – Annapurna Mts., Sikles envir./Gandaki (Kaski distr.), 1600–2000 m, 12.–16. V. 1993, 1 ex., leg. AHRENS.

3.10. *Aphodius (Alocoderus) wolfgangi* Stebnicka

Material: Kaski distr., Pothana, 10 km NW Pokhara, 1800–2200 m, 27. III. 1994, 19 ex.; – Kaski distr., Ghandrunk-Landrung, 1500 m, 26. III. 1994, 4 ex.; – Kaski distr., above Ghandrunk, 2200 m, 25. III. 1994, 3 ex., leg. AHRENS.

Remarks: *A. wolfgangi* occurs in *Castanopsis-Quercus* forests during a short period before the rainy season (March–April).

3.11. *Aphodius (Aparammoecius) annapurnae* (Stebnicka) (Fig. 8)

Material: Annapurna Mts., S Lamjung Himal spring area of Khudi Khola, 4000 m, 23. V. 1993, 4 ex.; – Annapurna Mts., SW Taunja Danda, 4000 m, 20. V. 1993, 5 ex., leg. AHRENS. – Annapurna Mts., NW Rambrong Danda, 4900 m, 24./25. V. 1993, 9 ex.; – Annapurna Mts., Lamjung, Namun La, N-slope above Temang, 3200–3500 m, 24. V. 1994, 1 ex., leg. SCHMIDT.

3.12. *Aphodius (Aparammoecius) lamjungii* sp. n. (Figs. 2–5)

Holotype (♂): Nepal-Himalaya, S-Annapurna Mts./Lamjung Himal between Taunja Danda and Taprang, 3500 m, 21. V. 1993, leg. AHRENS (SMNS).

Paratypes (1 ♂, 8 ♀♀): Same data as holotype (SMNS, CA, ISEA).

Description: Length 4.6–5.5 mm, greatest width 2.1–2.3 mm. Body oblong oval, convex, shining, colour black, apex of elytra and legs reddish, antennal club dark.

Head moderately convex, clypeal margin sharply angulate to dentate on each side of wide, shallow median emargination, sides nearly straight to small, rounded genae; clypeal surface strongly alutaceous, almost mat, slightly wrinkled on sides, punctures very weakly defined, frontal suture slightly elevated laterally; vertex slightly shining with scattered, fine punctures.

Pronotum moderately convex, basal marginal line distinct, slightly grooved with row of close punctures; surface punctures mixed minute and moderate in size, the latter separated by 1–3 times their diameter on the disc become closer toward sides, here separated by about their own diameter.

Scutellum triangular, impunctate.

Elytra widest just behind the middle, humeral denticles small, acute, humeral tubers well developed; discal striae moderately impressed with nearly contiguous punctures distinctly crenating margins of intervals, 3 lateral striae deep with larger punctures; intervals on the disc slightly convex, shining, impunctate, 3 lateral intervals strongly elevated.

Metasternal disc coarsely punctate, midline impressed; abdominal sternites shagreened, finely piliferous.

Legs moderate in length; middle and hind femora coarsely punctate; middle and hind tibiae with transverse ridges; lower apical spur of mesotibia very short, spiniform, straight in both sexes; apical setae of metatibia unequal in length, apical spurs thin; basal segment of metatarsus 1/3 longer than upper tibial spur and nearly equal in length to following three tarsal segments combined. Epipharynx as in Fig. 2.

Male: Metasternal disc concave; penultimate abdominal sternite shorter than in female; genitalia as in Figs. 4–5.

Female: Head and pronotum with coarser sculpture than that of male.

Remarks: *A. lamjungii* sp. n. belongs to the *A. yaralensis*-group and it is closest to *A. bagmatiensis* Stebnicka. It may be easily distinguished from the other *Aparammoecius*-species by its denticulate clypeus (Fig. 3).

3.13. *Aphodius* (*Aparammoecius*) *phulcokiensis* Stebnicka (Figs. 6–7)

Material: Myagdi distr., Phalante, 2100–2300 m, 20. III. 1994, 2 ex.; – Kaski distr., Pothana, 10 km NW Pokhara, 1800–2200 m, 27. III. 1994, 25 ex.; – Kaski distr., Banthanti-Tadapani, 2400–2700 m, 24.–25. III. 1994, 2 ex., leg. AHRENS.

3.14. *Aphodius* (*Aparammoecius*) *kaskiensis* sp. n. (Figs. 9–10)

Holotype (♂): Nepal, Kaski distr., Banthanti-Tadapani, 2400–2700 m, 24.–25. III. 1994, leg. AHRENS (SMNS).

Paratypes (16 ♂♂ and ♀♀): Same data as holotype, 7 ex.; – Myagdi distr., Bhuji Khola over Sukurdung, 2000–2500 m, 6. III. 1994, 9 ex., leg. AHRENS (SMNS, SMTD, ISEA, CA).

Description: Length 4.2–5.5 mm, greatest width 2.1–2.3 mm. Body oblong oval, convex, shining; colour black, in most specimens humeral tubers with yellowish spot or/and apex of elytra reddish brown; antennal club dark.

Head trapezoid with small convexity medially; clypeal margin finely reflexed, obtusely rounded on each side of distinct median emargination, sides slightly sinuate before small, rounded gena; frontal suture feebly indicated by line, surface everywhere densely, roughly punctate, punctures nearly contiguous.

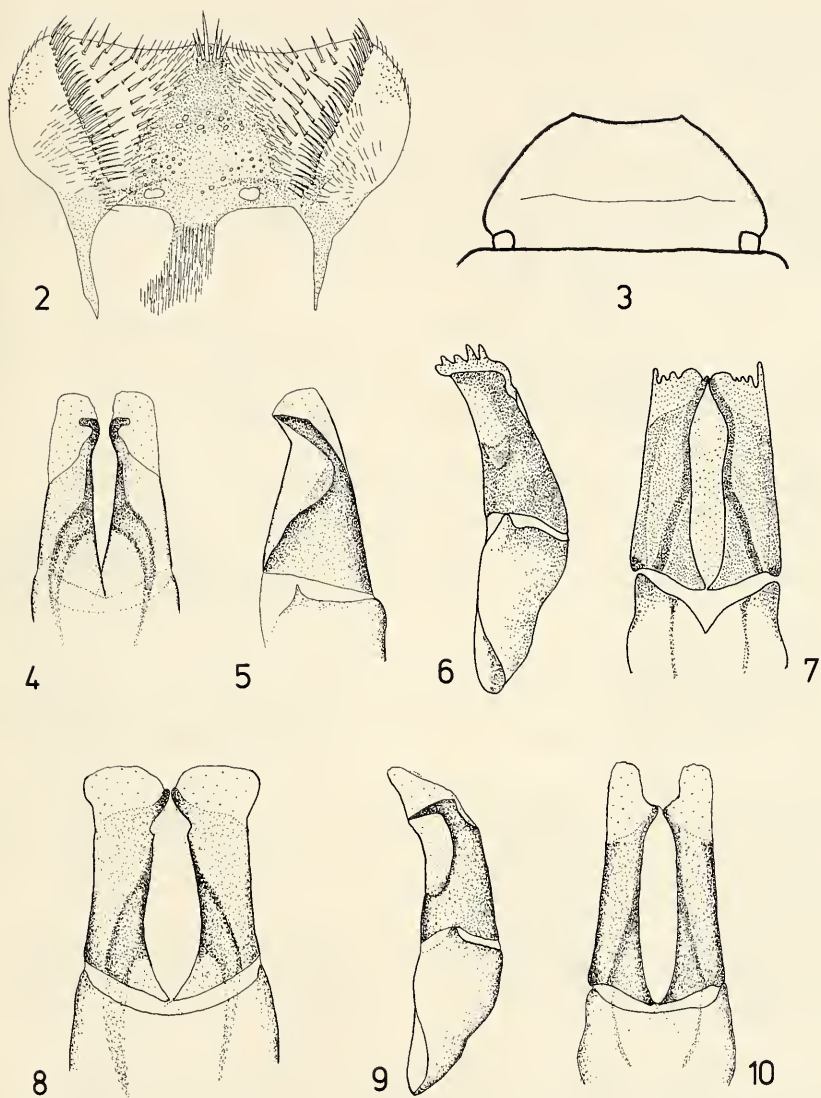
Pronotum convex, in some specimens disc strongly elevated with fine longitudinal furrow in posterior half, basal marginal line strong, slightly grooved with row of coarse punctures; surface punctures mixed minute and moderate, the latter separated by their own diameter, slightly closer on sides.

Scutellum triangular, impunctate.

Elytra strongly convex, widest just behind the middle, humeral denticles small, acute, humeral tubers well defined, wings functional; elytral striae distinctly impressed with row of round punctures crenating margins of intervals, 3–4 lateral striae deep with larger punctures; intervals moderately convex, surface punctures minute, scattered.

Ventral sclerites strongly alutaceous; punctures of metasternum fine, dense, separated by less than their diameter; abdominal sternites almost impunctate.

Legs moderate in length; middle and hind femora fusciform, closely punctate, punctures same size as those of metasternum; lateral teeth of fore tibia separated, terminal spur short, acutely pointed, in both sexes slightly directed downward; middle and hind tibiae slender, transverse ridges distinct, apical setae short, unequal in length, apical spurs thin, equal in length; tarsi as long as tibiae, basal segment of metatarsus two times as long as tibial spurs and shorter than following three tarsal segments combined. Epipharyngeal structures similar to those of *A. phulcokiensis*.



Figs. 2–5. *Aphodius* (*Aparammoecius*) *lamjungii* sp. n. – 2. Epipharynx; – 3. caput; – 4–5. aedeagus (lateral and ventral view).

Figs. 6–7. *Aphodius* (*Aparammoecius*) *phulcokiensis* Stebnicka, aedeagus (lateral and dorsal view).

Fig. 8. *Aphodius* (*Aparammoecius*) *annapurnae* Stebnicka, aedeagus (dorsal view).

Figs. 9–10. *Aphodius* (*Aparammoecius*) *kaskiensis* sp. n., aedeagus (lateral and dorsal view).

Male: Pronotum usually more convex and wider than in female; lower spur of middle tibia short, bent inwardly at the tip; metasternum slightly concave. Genitalia as in Figs. 9–10.

Female: Punctures of pronotum closer than in male; lower spur of middle tibia straight.

Remarks: *A. kaskiensis* sp. n. is closely allied to *A. phulcokiensis*. It differs from that species by the colour, by the longer pronotum and by the shape of the male genitalia; the ventral sclerites of the parameres is prolonged and acute apically, while in *A. phulcokiensis* it is shorter and obtuse (Figs. 6–7).

3.15. *Aphodius* (*Balthasarianus*) *fruhstorferi* Petrovitz (Figs. 11–13, 15)

Material: Darjeeling, June, leg. FRUHSTORFER (Paratype ♀) (MHNG); – Nepal-Himalaya Annapurna Mts., Birethanthi Modi Khola, 900 m, 17. VI. 1993, 1 ♂, leg. Ahrens. – Tenasserim Tadong, 4000 feet, May, leg. FRUHSTORFER (Burma), 1 ♀ (ZMHUB).

Redescription: Length 6.0 mm (male), 7.2–7.7 mm (female). Body plump, shining, reddish brown or castaneous, entirely covered with pale hairs.

Head almost flat, clypeal margin thickened, slightly reflexed, arcuate to widely rounded gena; surface punctures moderately large, deep, separated by their diameter.

Pronotum moderately convex, sides margined, base sinuate without maginal line; surface punctures about two times larger than those of head, everywhere distributed, separated by their diameter.

Scutellum triangular with few punctures at base.

Elytra egg-shaped, rounded apically, humeri finely denticulate; striae narrow with fine punctures slightly crenating margins of intervals; intervals flat, densely punctate.

Metasternal disc with fine punctures in anterior half; abdominal sterna closely punctate and piliferous; meso- and metafemora distinctly punctate. Epipharynx as in Fig. 13.

External sexual differences are apparent in the size and the shape of the tibiae and are similar to those described for the *Balthasarianus*-group of species. Male genitalia as in Figs. 11–12.

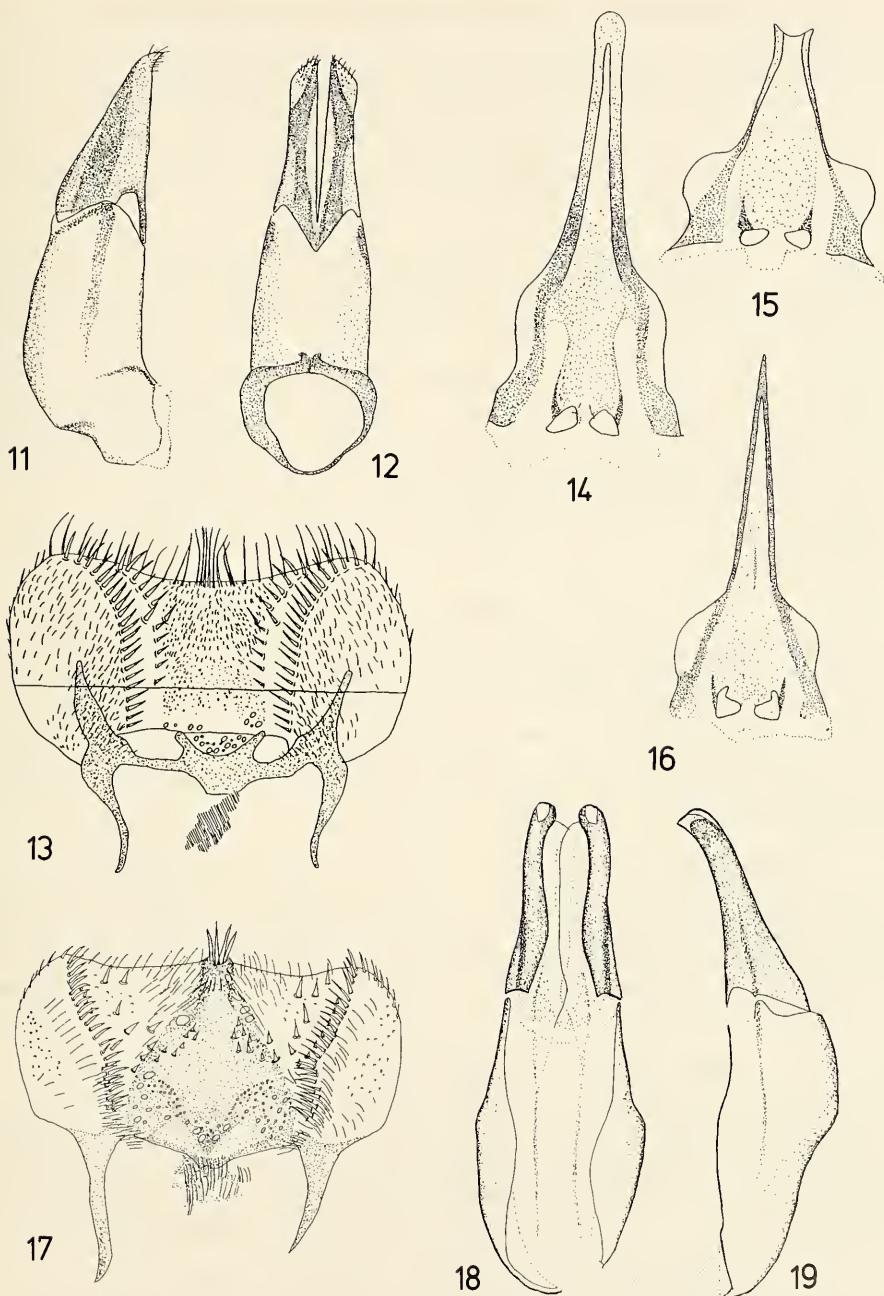
Remarks: The species of *Balthasarianus* are difficult to distinguish both by the characters of the external morphology and the shape of male genitalia. The group needs a separate revision.

3.16. *Aphodius* (*Balthasarianus*) *gregori* Balthasar (Fig. 14)

Material: Annapurna Mts., Ghorepani, 2800 m, 14. VI. 1993, 44 ex.; – Annapurna Mts., Ghara to Shika, SE Tatopani, 1700–1900 m, 14. VI. 1993, 20 ex.; – Annapurna Mts., Syange, Marsyangi Khola, 1100 m, 27. V. 1993, 1 ex.; – Annapurna Mts., Chame to Bhatang, 2700–2900 m, 29. V. 1993, 23 ex.; – Annapurna Mts., 5 km NE Sikles, Bachra Kharka, 2000 m, 17. V. 1993, 7 ex.; – Annapurna Mts., Ghasa, Dhaulagiri (Mustang distr.), Kaligandaki river, 1700–2000 m, 12. VI. 1993, 21 ex.; – Annapurna Mts., Tal-Dharapani, Marsyangdi river / Gandaki, 1500–2000 m, 28. V. 1993, 93 ex.; – Annapurna Mts., Sikles env./Gandaki (Kaski distr.), 1600–2000 m, 12.–16. V. 1993, 336 ex.; – Annapurna Mts., Dana, Kaligandaki valley, 1500 m, 12. VI. 1993, 19 ex., leg. AHRENS. – W-Annapurna between Lete and Dana, 1400–2400 m, X/1992, 1 ex., leg. SCHMIDT.

3.17. *Aphodius* (*Balthasarianus*) *nainiensis* Petrovitz (Fig. 16)

Material: Kaski distr., Pokhara/Phewa lake, 800 m, 28.–31. III. 1994, 1 ex.; – Annapurna Mts., Tatopani, 1100 m, 13. VI. 1993, 4 ex.; – Annapurna Mts., Kalikasthan, 10 km E Pokhara,



Figs. 11–13, 15. *Aphodius (Balthasarianus) fruhstorferi* Petrovitz. – 11–12. Aedoeagus (lateral and ventral view); – 13. epipharynx; – 15. spiculum gastrale.
 Fig. 14. *Aphodius (Balthasarianus) gregori* Balthasar, spiculum gastrale.
 Fig. 16. *Aphodius (Balthasarianus) nainensis* Petrovitz, spiculum gastrale.
 Figs. 17–19. *Aphodius (Phaeaphodius) himalorectus* sp. n. – 17. Epipharynx; – 18.–19. aedoeagus (lateral and ventral view).

1000 m, 9. V. 1993, 1 ex.; – Annapurna Mts., Syange, Marsyangi Khola, 1100 m, 27. V. 1993, 45 ex., leg. AHRENS.

3.18. *Aphodius (Bodilus) furvus* A. Schmidt

Material: Kaski distr., Pokhara/Phewa lake, 800 m, 26.–28. II. 1994, 4 ex., leg. AHRENS.

Remarks: The species was hitherto known to occur in the Kumaon Himalaya and in Pakistan.

3.19. *Aphodius (Carinaulus) dierli* Balthasar

Material: Annapurna Mts., Lamjung Himal, W Taunja Danda, 5 km NE Sikles, 2200–3000 m, 19. V. 1993, 1 ex., leg. AHRENS.

3.20. *Aphodius (Koshantschikovius) peculator* Balthasar

Material: Annapurna Mts., Ghara to Shika, SE Tatopani, 1700–1900 m, 14. VI. 1993, 16 ex.; – Annapurna Mts., Syange, Marsyangi Khola, 1100 m, 27. V. 1993, 2 ex.; – Annapurna Mts., Ghara, Dhaulagiri (Mustang distr.), Kaligandaki river, 1700–2000 m, 12. VI. 1993, 25 ex.; – Annapurna Mts., Tal-Dharapani, Marsyangdi river / Gandaki, 1500–2000 m, 28. V. 1993, 2 ex.; – Annapurna Mts., Sikles enviro./Gandaki (Kaski distr.), 1600–2000 m, 12.–16. V. 1993, 1 ex., leg. AHRENS.

3.21. *Aphodius (Liothorax) jhavanicus* Balthasar

Material: Annapurna Mts., Pokhara enviro./Pame, 900 m, 5.–8. V. 1993, 2 ex.; – Annapurna Mts., Pokhara enviro., 900 m, 17.–18. VI. 1993, 2 ex.; – Annapurna Mts., Chhachok-Taprang, Madi Khola, Gandaki (Kaski distr.), 1300–1700 m, 11. V. 1993, 2 ex.; – Annapurna Mts., Tatopani, 1100 m, 13. VI. 1993, 21 ex.; – Kaski distr., Pokhara / Phewa lake, 800 m, 28.–31. III. 1994, 3 ex.; – Myagdi distr., Babichor, Myagdi Khola, 1000 m, 15. III. 1994, 4 ex.; – Myagdi distr., Babichor-Beni, 900–1000 m, 16. III. 1994, 2 ex.; – Myagdi distr., Darbang, Myagdi Khola, 1000 m, 13.–14. III. 1994, 10 ex., leg. AHRENS.

3.22. *Aphodius (Loboparius) immarginatus* A. Schmidt

Material: Annapurna Mts., Pokhara enviro./Pame, 900 m, 5.–8. V. 1993, 1 ex.; – Annapurna Mts., Chhachok-Taprang, Madi Khola, Gandaki (Kaski distr.), 1300–1700 m, 11. V. 1993, 1 ex.; – Annapurna Mts., Ghara to Shika, SE Tatopani, 1700–1900 m, 14. VI. 1993, 1 ex.; – Annapurna Mts., Tatopani, 1100 m, 13. VI. 1993, 11 ex.; – Annapurna Mts., Kalikasthan, 10 km E Pokhara, 1000 m, 9. V. 1993, 4 ex.; – Annapurna Mts., Syange, Marsyangi Khola, 1100 m, 27. V. 1993, 13 ex.; – Annapurna Mts., Ulleri, 10 km SE Ghorepani, 2000 m, 16. VI. 1993, 1 ex.; – Annapurna Mts., Ghara, Dhaulagiri (Mustang distr.) Kaligandaki river, 1700–2000 m, 12. VI. 1993, 1 ex.; – Annapurna Mts., Dana, Kaligandaki valley, 1500 m, 12. VI. 1993, 5 ex.; – Kaski distr., Pokhara/Phewa lake, 800 m, 26.–28. II. 1994, 59 ex.; – Kaski distr., Pokhara/Phewa lake, 800 m, 28.–31. III. 1994, 33 ex.; – Kaski distr., Sharankot near Pokhara, 1500 m, 28. II. 1994, 15 ex.; – Kaski distr., Ghandrunk, 1800 m, 25. III. 1994, 37 ex.; – Kaski distr., Pothana, 10 km NW Pokhara, 1800–2200 m, 27. III. 1994, 20 ex.; – Kaski distr., above Ghandrunk, 2200 m, 25. III. 1994, 6 ex.; – Kaski distr., Ghandrunk-Landrung, 1500 m, 26. III. 1994, 55 ex.; – Myagdi distr., Tiplyan, Kaligandaki river, 1000 m, 17. III. 1994, 8 ex.; – Myagdi distr., Phalante, 2100–2300 m, 20. III. 1994, 6 ex.; – Myagdi distr., Ghara, 1700 m, 19.–20. III. 1994, 90 ex.; – Myagdi distr., Lulang-Phalai Gaon, 1820–2100 m, 12. III. 1994, 45 ex.; – Myagdi distr., Bhujhi Khola, below Bobang, 1600 m, 5. III. 1994, 13 ex.; – Myagdi distr., Karbang-Burtibang, 700–1000 m, 4. III. 1994, 14 ex.; – Myagdi distr., Darbang, Myagdi Khola, 1000 m, 13.–14. III. 1994, 29 ex.; – Myagdi distr., Tatopani, 1100 m, 18. III. 1994, 84 ex.; – Myagdi distr., above Biun, W-Baglung, 1850–2100 m, 2. III. 1994, 6 ex.; – Myagdi distr., Phalai Gaon-Takum, 1700–2100 m, 13. III. 1994, 26 ex.; – Myagdi distr., Galkot-Wamitaksar, 700–1100 m, 3. III. 1994, 57 ex.; – Myagdi distr., Babichor-Beni, 900–1000 m, 16. III. 1994, 4 ex., leg. AHRENS.

3.23. *Aphodius (Loboparius) mirificus* Balthasar

Material: Myagdi distr., Ghara, 1700 m, 19.–20. III. 1994, 1 ex.; – Myagdi distr., Bhuiji Khola, below Bobang, 1600 m, 5. III. 1994, 4 ex.; – Myagdi distr., Darbang, Myagdi Khola, 1000 m, 13.–14. III. 1994, 100 ex.; – Myagdi distr., Tatopani, 1100 m, 18. III. 1994, 13 ex., leg. AHRENS.

3.24. *Aphodius (Loboparius) scheibei* Balthasar

Material: Kaski distr., Pokhara/Phewa lake, 800 m, 26.–28. II. 1994, 5 ex.; – Kaski distr., Pokhara/Phewa lake, 800 m, 28.–31. III. 1994, 3 ex.; – Kaski distr., Sharankot near Pokhara, 1500 m, 28. II. 1994, 2 ex.; – Myagdi distr., Tiplyan, Kali-Gandaki river, 1000 m, 17. III. 1994, 1 ex.; – Myagdi distr., Bhuiji Khola, below Bobang, 1600 m, 5. III. 1994, 5 ex.; – Myagdi distr., Karbang-Burtibang, 700–1000 m, 4. III. 1994, 8 ex.; – Myagdi distr., Darbang, Myagdi Khola, 1000 m, 13.–14. III. 1994, 1 ex.; – Myagdi distr., Tatopani, 1100 m, 18. III. 1994, 1 ex.; – Myagdi distr., upper Biun, W-Baglung, 1850–2100 m, 2. III. 1994, 2 ex.; – Myagdi distr., Galkot-Wamitaksar, 700–1100 m, 3. III. 1994, 15 ex.; – Myagdi distr., Babichor-Beni, 900–1000 m, 16. III. 1994, 12 ex., leg. AHRENS.

3.25. *Aphodius (Loboparius) scherereri* Petrovitz

Material: Kaski distr., Ghandrunk, 1800 m, 25. III. 1994, 2 ex.; – Kaski distr., Pothana 10 km NW Pokhara, 1800–2200 m, 27. III. 1994, 13 ex.; – Kaski distr., Ghandrunk-Landrung, 1500 m, 26. III. 1994, 35 ex.; – Annapurna Mts., Ghara to Shika, SE Tatopani, 1700–1900 m, 14. VI. 1993, 1 ex.; – Annapurna Mts., Tatopani, 1100 m, 13. VI. 1993, 1 ex.; – Annapurna Mts., Ghasa, Dhaulagiri (Mustang distr.), Kaligandaki river, 1700–2000 m, 12. VI. 1993, 1 ex.; – Annapurna Mts., Dana, Kaligandaki valley, 1500 m, 12. VI. 1993, 2 ex., leg. AHRENS.

3.26. *Aphodius (Calaphodius) moestus* (Fabricius)

Material: Annapurna Mts., Pokhara envir./Pame, 900 m, 5.–8. V. 1993, 3 ex.; – Annapurna Mts., Ghara to Shika, SE Tatopani, 1700–1900 m, 14. VI. 1993, 1 ex.; – Annapurna Mts., Tatopani, 1100 m, 13. VI. 1993, 2 ex.; – Annapurna Mts., Chhachok-Taprang, Madi Khola, Gandaki (Kaski distr.), 1300–1700 m, 11. V. 1993, 2 ex.; – Kaski distr., Pokhara/Phewa lake, 800 m, 26.–28. II. 1994, 2 ex.; – Kaski distr., Pokhara/Phewa lake, 800 m, 28.–31. III. 1994, 12 ex.; – Myagdi distr., Ghara, 1700 m, 19.–20. III. 1994, 5 ex.; – Myagdi distr., Lulang-Phalai Gaon, 1820–2100 m, 12. III. 1994, 1 ex.; – Myagdi distr., Bhuiji Khola, below Bobang, 1600 m, 5. III. 1994, 1 ex.; – Myagdi distr., Phalai Gaon-Takum, 1700–2100 m, 13. III. 1994, 1 ex., leg. AHRENS. – Annapurna Mts., Begnas valley, E-Pokhara, 800 m, 15. VI. 1994, 1 ex., leg. SCHMIDT.

3.27. *Aphodius (Nialus) hoabinhensis* Balthasar

Material: Myagdi distr., Tiplyan, Kali-Gandaki river, 1000 m, 17. III. 1994, 2 ex.; – Myagdi distr., Babichor, Myagdi Khola, 1000 m, 15. III. 1994, 4 ex.; – Myagdi distr., Galkot-Wamitaksar, 700–1100 m, 3. III. 1994, 7 ex.; – Myagdi distr., Babichor-Beni, 900–1000 m, 16. III. 1994, 2 ex.; – Annapurna Mts., Tatopani, 1100 m, 13. IV. 1993, 2 ex.; – Annapurna Mts., Dana, Kali-Gandaki valley, 1500 m, 12. IV. 1993, 2 ex., leg. Ahrens.

3.28. *Aphodius (Nialus) lividus* (Olivier)

Material: Myagdi distr., Tiplyan, Kaligandaki river, 1000 m, 17. III. 1994, 1 ex.; – Myagdi distr., Babichor, Myagdi Khola, 1000 m, 15. III. 1994, 1 ex.; – Myagdi distr., Karbang-Burtibang, 700–1000 m, 4. III. 1994, 2 ex.; – Myagdi distr., Galkot-Wamitaksar, 700–1100 m, 3. III. 1994, 2 ex.; – Annapurna Mts., Chhachok-Taprang, Madi Khola, Gandaki (Kaski distr.), 1300–1700 m, 11. V. 1993, 1 ex.; – Annapurna Mts., Dana, Kali-Gandaki valley, 1500 m, 12. VI. 1993, 1 ex., leg. AHRENS. – SW-Annapurna Mts., between Tatopani and Beni, 1000 m, X/1992, 10 ex., leg. SCHMIDT.

3.29. *Aphodius (Paradidactylia) kathmandui* Stebnicka

Material: Annapurna Mts., Pokhara envir./Pame, 900 m, 5.–8. V. 1993, 4 ex.; – Annapurna Mts., Dana, Kaligandaki valley, 1500 m, 12. VI. 1993, 1 ex., leg. AHRENS.

3.30. *Aphodius (Paulianellus) decoctor* Balthasar

Material: Annapurna Mts., Ghorepani, 2800 m, 14. VI. 1993, 13 ex.; – Annapurna Mts., SW Taunja Danda, 4000 m, 20. V. 1993, 5 ex., leg. AHRENS.

3.31. *Aphodius (Paulianellus) mureensis* Stebnicka

Material: Kaski distr., above Ghandrunk, 2200 m, 25. III. 1994, 1 ex.; – Kaski distr., Ghandrunk, 1800 m, 25. III. 1994, 1 ex.; – Kaski distr., Pothana, 10 km NW Pokhara, 1800–2200 m, 27. III. 1994, 3 ex.; – Kaski distr., Ghandrunk-Landrung, 1500 m, 26. III. 1994, 1 ex.; – Annapurna Mts., Tukuhe to Kalopani, 2500 m, 11. VI. 1993, 27 ex.; – Annapurna Mts., Chame to Bhadratung, 2700–2900 m, 29. V. 1993, 10 ex.; – Annapurna Mts., Ghasa Dhau-lagiri (Mustang distr.), Kaligandaki river, 1700–2000 m, 12. VI. 1993, 16 ex.; – Annapurna Mts., Tal-Dharapani, Marsyangdi river/Gandaki, 1500–2000 m, 28. V. 1993, 4 ex.; – Annapurna Mts., Dana, Kaligandaki valley, 1500 m, 12. VI. 1993, 1 ex., leg. AHRENS.

3.32. *Aphodius (Paulianellus) nepalensis* Balthasar

Material: Kaski distr., above Ghandrunk, 2200 m, 25. III. 1994, 7 ex.; – Kaski distr., Ghorepani, 2840–3200 m, 21.–22. III. 1994, 76 ex.; – Kaski distr., Banthanti-Tadapani, 2400–2700 m, 24.–25. III. 1994, 55 ex.; – Myagdi distr., Ghorepani, 2700–2840 m, 23. III. 1994, 24 ex.; – Myagdi distr., Jajala Pass, E-Dhorpatan, 3400 m, 10. III. 1994, 1 ex.; – Annapurna Mts., Ghorepani, 2800 m, 14. VI. 1993, 179 ex.; – Annapurna Mts., Ulleri, 10 km SE Ghorepani, 2000 m, 16. VI. 1993, 1 ex.; – Annapurna Mts., 5 km NE Sikles, Bachra Kharka, 2000 m, 17. V. 1993, 9 ex.; – Annapurna Mts., Lamjung Himal, W Taunja Danda, 5 km NE Sikles, 2200–3000 m, 19. V. 1993, 41 ex.; – Annapurna Mts., SW Taunja Danda, 4000 m, 20. V. 1993, 17 ex., leg. AHRENS. – Annapurna Mts., Temang, 2700–3100 m, 29. V. 1994, 118 ex., leg. SCHMIDT.

3.33. *Aphodius (Phaeaphodius) himalorectus* sp. n. (Figs. 17–19)

Holotype (♂): Nepal-Himalaya Annapurna Mts., Ghorepani, 2800 m, 14. VI. 1993, leg. AHRENS (SMNS).

Paratypes (519 ♂♂, ♀♀): Kaski distr., above Ghandrunk, 2200 m, 25. III. 1994, 2 ex.; – Kaski distr., Ghandrunk, 1800 m, 25. III. 1994, 6 ex.; – Kaski distr., Banthanti-Tadapani, 2400–2700 m, 24.–25. III. 1994, 14 ex.; – Myagdi distr., Phalante, 2100–2300 m, 20. III. 1994, 490 ex.; – Ghorepani, 2700–2840 m, 23. III. 1994, 6 ex.; – Annapurna Mts., 5 km NE Sikles, Bachra Kharka, 2000 m, 17. V. 1993, 1 ex., leg. AHRENS (SMNS, CA, ISEA, SMTD, NME, MHNG, ZSM, DEI, ZMHUB).

Description: Length 5.5–6.0 mm, greatest width 2.7 mm. Body oblong oval, strongly shining; colour piceous, in some specimens elytra brownish black, in some slightly lightened at suture and at apex, legs and antennal club reddish brown.

Head trapezoid, clypeal margin rounded on each side of wide median emargination, sides straight, genae right-angled with clump of pale setae; clypeal surface above emargination with arcuate ridge that is more or less strongly indicated, frontal suture with slight traces of tubercles, punctures coarse, dense, confluent laterally.

Pronotum moderately convex, sides and posterior angles margined, fringed with pale setae, base sinuate, lobed at middle with widely broken marginal line; surface punctures mixed fine and moderate, the latter near the same size as those of head, separated by 1–2 times their diameter, closer on sides.

Scutellum triangular with arcuate sides and few punctures at base.

Elytra moderately convex, edge fringed with scarce, pale setae, humeral denticles lacking, humeral tubers inconspicuously pubescent; striae impressed with large, distant punctures crenating margins of distinctly punctate intervals.

Metasternum smooth with few scattered punctures, midline narrowly impressed; abdominal sternites shagreened with shallow punctures bearing short pale hairs.

Legs moderate in length; middle and hind femora with fine, irregularly spaced punctures; transverse ridges of middle and hind tibiae distinct, apical setae unequal in length; basal segment of metatarsus equal in length to upper tibial spur and to next three tarsal segments combined. Epipharynx as in Fig. 17.

Male: Terminal spur of anterior tibia S-shaped, thicker than in female; metasternum slightly concave. Genitalia as in Figs. 18–19.

Female: Pronotum narrower than in male, punctures larger and closer, terminal spur of anterior tibia thinner, less curved; metasternal disc plane.

Remarks: *A. himalorectus* sp. n. is closest to *A. pupillus* Balth. from Afghanistan, but it differs from that species by having larger and denser punctures on the head and pronotum and deeper elytral striae with coarser punctures.

3.34. *Aphodius* (*Pharaphodius*) *costatulus* A. Schmidt

Material: Annapurna Mts., Pokhara envir./Pame, 900 m, 5.–8. V. 1993, 2 ex.; – Annapurna Mts., Pokhara envir., 900 m, 17.–18. VI. 1993, 10 ex.; – Annapurna Mts., Tatopani, 1100 m, 13. VI. 1993, 142 ex.; – Annapurna Mts., Chhachok-Taprang, Madi Khola, Gandaki (Kaski distr.), 1300–1700 m, 11. V. 1993, 11 ex.; – Annapurna Mts., Dana, Kaligandaki valley, 1500 m, 12. VI. 1993, 62 ex., leg. AHRENS.

3.35. *Aphodius* (*Pharaphodius*) *crenatus* Harold

Material: Annapurna Mts., Pokhara envir./Pame, 900 m, 5.–8. V. 1993, 8 ex.; – Annapurna Mts., Pokhara envir., 900 m, 17.–18. VI. 1993, 2 ex.; – Annapurna Mts., Kalikasthan, 10 km E Pokhara, 1000 m, 9. V. 1993, 1 ex.; – Annapurna Mts., Chhachok-Taprang, Madi Khola, Gandaki (Kaski distr.), 1300–1700 m, 11. V. 1993, 1 ex.; – Annapurna Mts., Syange, Marsyangi Khola, 1100 m, 27. V. 1993, 1 ex.; – Kaski distr., Pokhara/Phewa lake, 800 m, 26.–28. II. 1994, 28 ex.; – Kaski distr., Pokhara/Phewa lake, 800 m, 28.–31. III. 1994, 33 ex.; – Kaski distr., Shankot near Pokhara, 1500 m, 28. II. 1994, 1 ex., leg. AHRENS.

3.36. *Aphodius* (*Pharaphodius*) *marginellus* (Fabricius)

Material: Annapurna Mts., Pokhara envir./Pame, 900 m, 5.–8. V. 1993, 26 ex.; – Annapurna Mts., Pokhara envir., 900 m, 17.–18. VI. 1993, 6 ex.; – Annapurna Mts., Kalikasthan, 10 km E Pokhara, 1000 m, 9. V. 1993, 1 ex.; – Annapurna Mts., Chhachok-Taprang, Madi Khola, Gandaki (Kaski distr.), 1300–1700 m, 11. V. 1993, 4 ex.; – Annapurna Mts., Syange, Marsyangi Khola, 1100 m, 27. V. 1993, 3 ex.; – Annapurna Mts., Ghara to Shika, SE Tatopani, 1700–1900 m, 14. VI. 1993, 1 ex.; – Kaski distr., Pokhara/Phewa lake, 800 m, 28.–31. III. 1994, 16 ex., leg. AHRENS.

3.37. *Aphodius* (*Pharaphodius*) *redargutus* Balthasar

Material: Annapurna Mts., Pokhara envir./Pame, 900 m, 5.–8. V. 1993, 18 ex.; – Annapurna Mts., Pokhara envir., 900 m, 17.–18. VI. 1993, 20 ex.; – Annapurna Mts., Chhachok-Taprang Madi Khola, Gandaki (Kaski distr.), 1300–1700 m, 11. V. 1993, 1 ex., leg. AHRENS.

3.38. *Aphodius* (*Pharaphodius*) *pereirai* Balthasar

Material: Kaski distr., Pokhara/Phewa lake, 800 m, 28.–31. III. 1994, 1 ex., leg. AHRENS.

3.39. *Aphodius (Plagiogonus) ramamiensis* Stebnicka

Material: Myagdi distr., Ghara, 1700 m, 19.–20. III. 1994, 1 ex.; – Myagdi distr., Lulang-Phalai Gaon, 1820–2100 m, 12. III. 1994, 30 ex.; – Myagdi distr., Bhuji Khola, below Bobang, 1600 m, 5. III. 1994, 21 ex.; – Myagdi distr., env. Lulang, Dhara Khola, 2160–2400 m, 11. III. 1994, 6 ex., leg. AHRENS.

3.40. *Aphodius (Pleuraphodius) ilamensis* Stebnicka

Material: Kaski distr., Pothana, 10 km NW Pokhara, 1800–2200 m, 27. III. 1994, 1 ex., leg. AHRENS.

3.41. *Aphodius (Pleuraphodius) lewisi* Waterhouse

Material: Annapurna Mts., Pokhara env./Pame, 900 m, 5.–8. V. 1993, 23 ex.; – Annapurna Mts., Pokhara env., 900 m, 17.–18. VI. 1993, 1 ex.; – Annapurna Mts., Ghara to Shika, SE Tatopani, 1700–1900 m, 14. VI. 1993, 1 ex.; – Annapurna Mts., Tatopani, 1100 m, 13. VI. 1993, 79 ex.; – Annapurna Mts., Dana Kaligandaki valley, 1500 m, 12. VI. 1993, 2 ex.; – Annapurna Mts., Birethanthi Modi Khola, 900 m, 17. VI. 1993, 3 ex.; – Annapurna Mts., Syange, Marsyangi Khola, 1100 m, 27. V. 1993, 1 ex.; – Annapurna Mts., Chhachok-Taprang, Madi Khola, Gandaki (Kaski distr.), 1300–1700 m, 11. V. 1993, 4 ex., leg. AHRENS.

3.42. *Aphodius (Pseudacrossus) kuskai* Stebnicka

Material: N-Annapurna Mts., W-Manang, env. Kangsar, 3500–4400 m, 1.–3. X. 1992, 8 x.; – N-Annapurna Mts., Churi Latthar, N-Manang, 4100–4900 m, 7. VI. 1993, 2 ex., leg. SCHMIDT.

3.43. *Aphodius* (s. str.) *fasciger* Harold

Material: Kaski distr., Ghandrunk, 1800 m, 25. III. 1994, 3 ex.; – Kaski distr., Pothana, 10 km NW Pokhara, 1800–2200 m, 27. III. 1994, 11 ex.; – Kaski distr., Ghandrunk-Landrung, 1500 m, 26. III. 1994, 16 ex.; – Myagdi distr., Phalante, 2100–2300 m, 20. III. 1994, 10 ex.; – Myagdi distr., Ghara, 1700 m, 19.–20. III. 1994, 5 ex.; – Myagdi distr., Lulang-Phalai Gaon, 1820–2100 m, 12. III. 1994, 43 ex.; – Myagdi distr., Phalai Gaon-Takum, 1700–2100 m, 13. III. 1994, 3 ex.; – Annapurna Mts., Ghara to Shika, SE Tatopani 1700–1900 m, 14. VI. 1993, 2 ex.; – Annapurna Mts., Sikles env./Gandaki (Kaski distr.), 1600–2000 m, 12.–16. V. 1993, 36 ex., leg. AHRENS.

3.44. *Aphodius* (s. str.) *fimetarius* (Linnaeus)

Material: Myagdi distr., Bhuji Khola, above Sukurdung, 2000–2500 m, 6. III. 1994, 7 ex.; – Myagdi distr., Phalante, 2100–2300 m, 20. III. 1994, 2 ex.; – Myagdi distr., Dhorpatan, 3000–3500 m, 6.–10. III. 1994, 52 ex.; – Myagdi distr., Ghara, 1700 m, 19.–20. III. 1994, 11 ex.; – Myagdi distr., Lulang-Phalai Gaon, 1820–2100 m, 12. III. 1994, 2 ex.; – Myagdi distr., Bhuji Khola, below Bobang, 1600 m, 5. III. 1994, 1 ex.; – Myagdi distr., Tatopani, 1100 m, 18. III. 1994, 3 ex.; – Myagdi distr., Babichor-Beni, 900–1000 m, 16. III. 1994, 1 ex.; – Kaski distr., Ghandrunk, 1800 m, 25. III. 1994, 11 ex.; – Kaski distr., Pothana, 10 km NW Pokhara, 1800–2200 m, 27. III. 1994, 1 ex.; – Kaski distr., Ghandrunk-Landrung, 1500 m, 26. III. 1994, 3 ex.; – Annapurna Mts., Ghara to Shika, SE Tatopani, 1700–1900 m, 14. VI. 1993, 4 ex.; – Annapurna Mts., Jomson to Tukuche, 2500–2700 m, 10. VI. 1993, 1 ex.; – Annapurna Mts., Pisang to Manang, 3000–3300 m, 30. V. 1993, 75 ex.; – Annapurna Mts., W Kangsar, 10 km W Manang, 4400 m, 31. V. 1993, 36 ex.; – Annapurna Mts., Kalikasthan, 10 km E Pokhara, 1000 m, 9. V. 1993, 1 ex.; – Annapurna Mts., Syange, Marsyangi Khola, 1100 m, 27. V. 1993, 3 ex.; – Annapurna Mts., Chame to Bhutang, 2700–2900 m, 29. V. 1993, 4 ex.; – Annapurna Mts., Ulleri, 10 km SE Ghorepani, 2000 m, 16. VI. 1993, 1 ex.; – Annapurna Mts., Ghasa, Dhaulagiri (Mustang distr.), Kaligandaki river, 1700–2000 m, 12. VI. 1993, 1 ex.; – Annapurna Mts., Tal-Dharapani, Marsyangdi river/Gandaki, 1500–2000 m, 28. V. 1993, 6 ex., – Annapurna Mts.,

Sikles envir./Gandaki (Kaski distr.), 1600–2000 m, 12.–16. V. 1993, 1 ex.; – Annapurna Mts., Dana, Kaligandaki valley, 1500 m, 12. VI. 1993, 1 ex.; – Annapurna Mts., Manang, 3300 m, 4. VI. 1993, 2 ex., leg. AHRENS.

3.45. *Aphodius* (s. str.) *irregularis* Westwood

Material: Myagdi distr., Bhuji Khola, above Sukurdung, 2000–2500 m, 6. III. 1994, 109 ex.; – Myagdi distr., Phalante, 2100–2300 m, 20. III. 1994, 182 ex.; – Myagdi distr., Dhorpatan, 3000–3500 m, 6.–10. III. 1994, 144 ex.; – Myagdi distr., Ghorepani, 2840–3200 m, 21.–22. III. 1994, 125 ex.; – Myagdi distr., Ghorepani, 2700–2840 m, 23. III. 1994, 25 ex.; – Myagdi distr., Ghara, 1700 m, 19.–20. III. 1994, 1 ex.; – Myagdi distr., env. Lulang, Dhara Khola, 2160–2400 m, 11. III. 1994, 145 ex.; – Myagdi distr., Lulang-Phalai Gaon, 1820–2100 m, 12. III. 1994, 9 ex.; – Myagdi distr., Bhuji Khola, below Bobang, 1600 m, 5. III. 1994, 1 ex.; – Myagdi distr., Phalai Gaon-Takum, 1700–2100 m, 13. III. 1994, 2 ex.; – Myagdi distr., above Biun, W-Baglung, 1850–2100 m, 2. III. 1994, 1 ex.; – Kaski distr., above Ghandrunk, 2200 m, 25. III. 1994, 116 ex.; – Kaski distr., Ghandrunk, 1800 m, 25. III. 1994, 2 ex.; – Kaski distr., Pothana, 10 km NW Pokhara, 1800–2200, 27. III. 1994, 44 ex.; – Kaski distr., Ghandrunk-Landrung, 1500 m, 26. III. 1994, 2 ex.; – Kaski distr., Banthanti-Tadapani, 2400–2700 m, 24.–25. III. 1994, 22 ex.; – Annapurna Mts., Ghorepani, 2800 m, 14. VI. 1993, 23 ex.; – Annapurna Mts., Ghara to Shika, SE Tatopani, 1700–1900 m, 14. VI. 1993, 17 ex.; – Annapurna Mts., Jomson to Tukuche, 2500–2700 m, 10. VI. 1993, 1 ex.; – Annapurna Mts., Tukuche to Kalopani, 2500 m, 11. VI. 1993, 10 ex.; – Annapurna Mts., Chame to Bhratang, 2700–2900 m, 29. V. 1993, 90 ex.; – Annapurna Mts., 5 km NE Sikles, Bachra Kharka, 2000 m, 17. V. 1993, 2 ex.; – Annapurna Mts., Ghasa, Dhaulagiri (Mustang distr.), Kaligandaki river, 1700–2000 m, 12. VI. 1993, 7 ex.; – Annapurna Mts., Tal-Dharapani, Marsyangdi river/Gandaki, 1500–2000 m, 28. V. 1993, 5 ex.; – Annapurna Mts., Sikles envir./Gandaki (Kaski distr.), 1600–2000 m, 12.–16. V. 1993, 52 ex., leg. AHRENS. – W-Annapurna between Lete and Dana, 1400–2400 m, X/1992, 2 ex., leg. SCHMIDT.

3.46. *Aphodius* (*Teuchestes*) *analis* (Fabricius)

Material: Kaski distr., Pokhara/Phewa lake, 800 m, 26.–28. II. 1994, 46 ex.; – Kaski distr., Pokhara/Phewa lake, 800 m, 26.–28. II. 1994, 9 ex.; – Kaski distr., Ghandrunk, 1800 m, 25. III. 1994, 7 ex.; – Kaski distr., Ghandrunk-Landrung, 1500 m, 26. III. 1994, 15 ex.; – Kaski distr., Sharankot near Pokhara, 1500 m, 28. II. 1994, 1 ex.; – Myagdi distr., Tiplyan, Kaligandaki river, 1000 m, 17. III. 1994, 3 ex.; – Myagdi distr., Karbang-Burtibang, 700–1000 m, 4. III. 1994, 1 ex.; – Myagdi distr., Phalai Gaon-Takum, 1700–2100 m, 13. III. 1994, 1 ex.; – Myagdi distr., Galkot-Wamitaksar, 700–1100 m, 3. III. 1994, 3 ex.; – Annapurna Mts., Kalikasthan, 10 km E Pokhara, 1000 m, 9. V. 1993, 5 ex.; – Annapurna Mts., Syange, Marsyangi Khola, 1100 m, 27. V. 1993, 2 ex.; – Annapurna Mts., Sikles envir./Gandaki (Kaski distr.), 1600–2000 m, 12.–16. V. 1993, 2 ex., leg. AHRENS.

3.47. *Aphodius* (*Trichaphodius*) *hindustanicus* Balthasar

Material: Annapurna Mts., Ghorepani, 2800 m, 14. VI. 1993, 4 ex.; – Annapurna Mts., Tukuche to Kalopani, 2500 m, 11. VI. 1993, 116 ex.; – Annapurna Mts., Ghasa, Dhaulagiri (Mustang distr.), Kaligandaki river, 1700–2000 m, 12. VI. 1993, 153 ex.; – Annapurna Mts., Dana, Kaligandaki valley, 1500 m, 12. VI. 1993, 137 ex.; – Annapurna Mts., Chame to Bhratang, 2700–2900 m, 29. V. 1993, 1 ex.; – Annapurna Mts., Ghara to Shika, SE Tatopani, 1700–1900 m, 14. VI. 1993, 372 ex.; – Annapurna Mts., Ulleri, 10 km SE Ghorepani, 2000 m, 16. VI. 1993, 2 ex.; – Annapurna Mts., Tal-Dharapani, Marsyangdi river/Gandaki, 1500–2000 m, 28. V. 1993, 4 ex.; – Annapurna Mts., Sikles envir./Gandaki (Kaski distr.), 1600–2000 m, 12.–16. V. 1993, 569 ex.; – Annapurna Mts., Tatopani, 1100 m, 13. VI. 1993, 84 ex.; – Annapurna Mts., Chhachok-Taprang, Madi Khola, Gandaki (Kaski distr.), 1300–1700 m, 11. V. 1993, 162 ex., leg. AHRENS.

Remarks: The species is closely related to the African *A. humilis* Roth.; both species are characterized by a great variability and occur in a number of coloured

forms. *A. hindustanicus* is widely distributed in the Indian subcontinent and it is one of the most common species inhabiting the Oriental zone of the Himalayas. The species varies greatly in size and proportions of the body.

One of us (STEBNICKA) has studied a rather numerous series of various forms of Ethiopian *humilis* and Indian *hindustanicus*, and there is no reason to assign them the rank of separate species.

Colour variation of *A. hindustanicus* Balthasar: 1. Forma typica: head and pronotum black, elytra black with longitudinal yellow markings. – 2. Body entirely black without yellow markings or sides of pronotum yellowish brown. – 3. Head brownish black with yellow spots, elytra brownish yellow with dark markings.

3.48. *Aphodius* (*Trichaphodius*) *nigrovirgatus* A. Schmidt

Material: Annapurna Mts., Pokhara envir./Pame, 900 m, 5.–8. V. 1993, 3 ex.; – Annapurna Mts., Ghara to Shika SE Tatopani, 1700–1900 m, 14. VI. 1993, 24 ex.; – Annapurna Mts., Tatopani, 1100 m, 13. VI. 1993, 134 ex.; – Annapurna Mts., Kalikasthan, 10 km E Pokhara, 1000 m, 9. V. 1993, 2 ex.; – Annapurna Mts., Birethanthi, Modi Khola, 900 m, 17. VI. 1993, 8 ex.; – Annapurna Mts., Syange, Marsyangi Khola, 1100 m, 27. V. 1993, 3 ex.; – Annapurna Mts., Ulleri, 10 km SE Ghorepani, 2000 m, 16. VI. 1993, 1 ex.; – Annapurna Mts., Dana, Kaligandaki valley, 1500 m, 12. VI. 1993, 3 ex., leg. AHRENS.

3.49. *Aphodius* (*Trichaphodius*) *rangoonensis* Petrovitz

Material: Annapurna Mts., Pokhara envir., 900 m, 17.–18. VI. 1993, 6 ex., leg. AHRENS.

3.50. *Oxyomus miliaris* A. Schmidt

Material: Annapurna Mts., Tukuche to Kalopani, 2500 m, 11. VI. 1993, 1 ex., leg. AHRENS.

3.51. *Oxyomus nubigenus* Petrovitz

Material: Annapurna Mts., Tatopani, 1100 m, 13. VI. 1993, 3 ex.; – Annapurna Mts., Ghasa, Dhaulagiri (Mustang distr.), Kaligandaki river, 1700–2000 m, 12. VI. 1993, 3 ex.; – Annapurna Mts., Sikles envir./Gandaki (Kaski distr.), 1600–2000 m, 12.–16. V. 1993, 1 ex.; – Annapurna Mts., Dana, Kaligandaki valley, 1500 m, 12. VI. 1993, 3 ex., leg. AHRENS.

3.52. *Aegialia* (*Silluvia*) *simbuae* Stebnicka

Material: Annapurna Mts., Namun La, N-slope, above Temang, 3200–3500 m, 24. V. 1994, 1 ex., leg. SCHMIDT.

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