

**A revision of the *Anthaxia (Haplanthaxia) collaris* species-group
(Coleoptera: Buprestidae)**

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Abstract. The *Anthaxia (Haplanthaxia) collaris* species-group from the Oriental region is revised including keys and illustrations. *A. lubopetra* sp. n. from Vietnam is described and new synonyms are proposed: *Anthaxia auricollis* Kerremans = *A. achardi* Obenberger, syn. n., = *A. serenissima* Obenberger, syn. n.; *A. virescens* Kerremans = *A. strandiella* Obenberger, syn. n.

INTRODUCTION

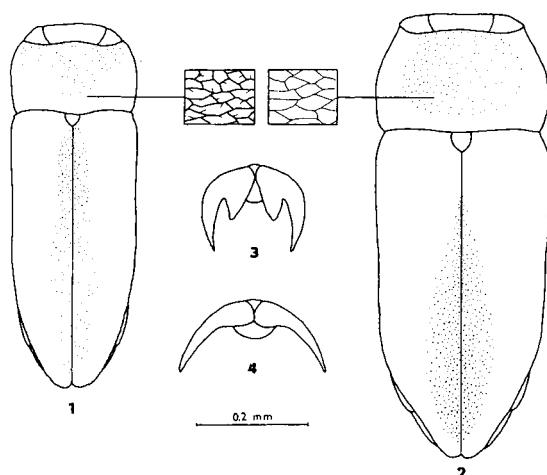
The present paper follows a series of previous papers revising some Oriental species groups of *Anthaxia* (Bílý, 1989, 1990, 1993). This revision was initiated by the discovery of a new species from Vietnam and new synonyms in this group.

Abbreviations used in the following text: ABCN – A. Baudon's collection, Narbonne; BMNH – The Natural History Museum, London; NMPC – National Museum, Prague; MNHN – Muséum National d'Histoire Naturelle, Paris.

Anthaxia collaris Kerremans species-group

The *A. collaris* Kerremans species-group is one of the best defined groups within the subgenus *Haplanthaxia* Reitter due to the form of the tarsal claws which bear a large basal tooth, unique within *Anthaxia*. Simple claws only slightly enlarged at the base (Fig. 4) are most probably plesiomorphic character of the tribe Anthaxiini and related tribes as defined by Schaefer (1949) and Cobos (1986). The unique form of claws in the *A. collaris* species group may be an adaptation to the life on leaves in the forest canopy because all species of the group are inhabitants of canopy, while the rest of *Anthaxia* species are flower visitors.

Apart from the unique form of tarsal claws, the group is characterized by the following combination of characters, each of which can be shared separately with another species-group: medium sized, usually metallic green, blue or bronze species; dorsal side including head with microscopic, nearly indistinct white pubescence; head flat or slightly convex, eyes rather small, not projecting beyond outline of head, vertex 1.0–1.2 times as wide as width of eye; antennae rather short, segments 6–10 trapezoidal, wider than long; pronotum 1.6–1.8 times as wide as long, slightly vaulted, laterobasal pronotal depressions small and shallow; pronotal sculpture consisting of very small rounded and polygonal cells without central grains but with fine basal microsculpture; elytra 1.8–2.2 times as long as wide at humeral part, wedge-shaped with very fine and dense, rugose sculpture; humeral swellings small, basal transverse depression long and deep; apical part of elytral margins very finely serrate, nearly smooth; elytral epipleura not extending to elytral apex; scutellum very



Figs 1–4. 1 – *Anthaxia* (*Haplanthaxia*) *lubopetra* sp. n., holotype, 4.8 mm; 2 – *A. (H.) auricollis* Kerremans, holotype, 5.0 mm; 3 – claws of *A. (H.) lubopetra* sp. n.; 4 – claws of *A. (H.) laotica* Baudon.

small, subtriangular or subpentagonal; anal sternum of both sexes rounded or slightly truncate with very slightly serrate lateral margins; legs long and slender, male metatibiae slightly incurved on inner margin preapically with several very fine inner teeth near apex; tarsi long (hind tarsi nearly as long as metatibiae), claws strongly bent with large, conspicuous basal tooth (Fig. 3); aedeagus spindle-shaped or subparallel, rather short; parameres with or without lateral spines (Figs 5–9).

Sexual dichromatism well-developed: males golden green or bronze-green with darkened elytral suture and nearly entire pronotum; females blue, blue-violet or nearly black with blue lustre, dark bronze or bicolourous: head and pronotum red-orange or bright-red, elytra black or dark blue; ventral side of both sexes black, in male with greenish lustre on the apex of prosternal process and on metepimera.

Biology unknown but all specimens of *A. coomani*, *A. dahoi* and *A. lubopetra* sp. n. were collected in the forest canopy (mainly from *Castanopsis* sp., Fagaceae). Two specimens of *A. auricollis* were cut from an old, dead and fallen unidentified trunk 80 cm in diameter in East Nepal and one studied specimen of this species was reared from *Bauhinia vahlii* (Fabaceae).

Distribution (Fig. 10). It is possible to distinguish two different subgroups; the first, western subgroup which includes *A. collaris*, *A. auricollis* and *A. virescens*, and occurs in the Indian subcontinent (more robust, larger and lustrous species with spiny parameres) and the second, eastern subgroup, which includes *A. coomani*, *A. dahoi* and *A. lubopetra* sp. n., and occurs in south-east Asia (smaller, slender species with silky lustre and simple parameres).

Key to species

- 1(6) Smaller, less robust, slender species with distinct silky lustre; elytra 2.0–2.1 times as long as wide in humeral region; apex of elytra with regularly arched margins (Fig. 1); pronotal margins nearly regularly arched; parameres without lateral spines (Figs 5–7); south-east Asia.
- 2(3) Smaller species, elytral suture darkened only in apical two thirds; golden-rose lustre of pronotum and elytra more distinct; pronotum 1.8 times as wide as long; aedeagus short and stout, parameres

- enlarged laterally (Fig. 5); 4.0–5.0 mm; Laos, northern Vietnam, northern Thailand; female unknown *A. coomani* Baudon
- 3(2) Larger species, whole elytral suture darkened; pronotum and elytra with very slight golden lustre, pronotum 1.6 times as wide as long; aedeagus longer, spindle-shaped, parameres not enlarged (Figs 6, 7); sexual dichromatism more or less developed.
- 4(5) More robust species, elytra 2.0 times as long as wide; darkened sutural part of elytra indistinctly outlined; sexual dichromatism less developed: male golden green with golden-black anterior and central part of pronotum and elytral suture, female blue-green (very rarely blue) with black anterior and central part of pronotum and elytral suture; pronotal sculpture more transverse; aedeagus more parallel (Fig. 6); 4.5–5.6 mm; Laos, northern Thailand, northern Vietnam *A. dahoi* Baudon
- 5(4) Distinctly slender species, elytra 2.1–2.2 times as long as wide; darkened sutural part of elytra well-outlined; sexual dichromatism well-developed: male colouration similar to that of *A. dahoi*, female blue or blue-violet (very rarely blue-green), elytral suture and pronotum except posterior angles black; pronotal sculpture somewhat transverse only on prescutellar part; aedeagus less subparallel (Fig. 7), parameres more enlarged; 3.8–5.4 mm; southern Vietnam *A. lubopetra* sp. n.
- 6(1) Larger and more robust, lustrous species with distinctly finer sculpture; elytra 1.8–1.9 times as long as wide; apical region of elytral margins slightly incurved, elytra somewhat caudiform (Fig. 2); pronotal margins less rounded, posteriorly nearly parallel-sided; parameres with lateral spines (Figs 8, 9); Indian subcontinent.
- 7(8) Frons distinctly convex, antennal segment 4–11 yellow-brown; black, head and pronotum bright-red; somewhat slender species; male unknown; 4.5 mm; Bengal *A. collaris* Kerremans
- 8(7) Frons nearly flat, entire antennae dark with metallic lustre; more robust, golden green, blue, blue-green or bronze species.
- 9(10) Male golden green with darkened elytral suture and pronotal disc; female dark blue or blue-violet, pronotum nearly black; aedeagus more parallel (Fig. 8); 4.6–6.1 mm; India, Nepal *A. auricollis* Kerremans
- 10(9) Male bronze with green tinge along elytral suture and lateral margins; female more or less bicolorous: elytra bronze with darkened suture, head and pronotum golden-bronze or red-bronze; aedeagus less pointed, more spindle-shaped (Fig. 9); India, Ceylon *A. virescens* Kerremans

Anthaxia (Haplanthaxia) collaris Kerremans, 1893

Anthaxia collaris Kerremans, 1893: 334–335.

Described from one female labelled “Bengale”, male unknown. This species is characterized by its vaulted frons, bright red head and pronotum and by its yellow-brown antennae (not teneral specimen).

MATERIAL STUDIED: Holotype (BMNH).

DISTRIBUTION (Fig. 10). East India (Bengal).

Anthaxia (Haplanthaxia) auricollis Kerremans, 1903

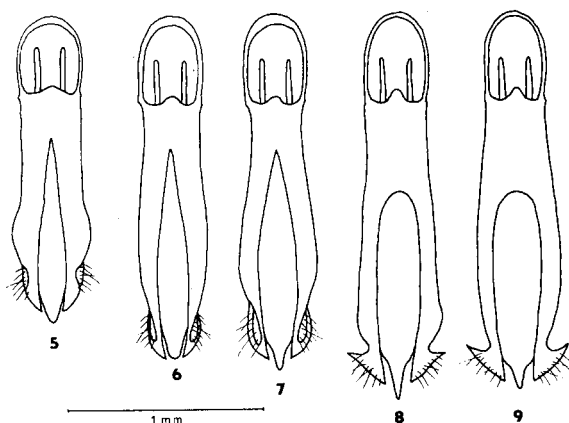
(Figs 2, 8)

Anthaxia auricollis Kerremans, 1903: 174.

Anthaxia achardi Obenberger, 1926: 237–238, syn. n.

Anthaxia serenissima Obenberger 1938: 207, syn. n.

Described after one male labelled “Bengale, Barway”. Having studied Kerremans’ type and Obenberger’s two types (both labelled “Himalaya occ.”) I failed to find any difference and I consider them to be conspecific. The holotype of *A. serenissima* is a male which is virtually identical to the holotype of *A. auricollis*. The holotype of *A. achardi* is a female with dark blue-violet coloration.



Figs 5–9. 5 – aedeagus of *Anthaxia (Haplanthaxia) coomani* Baudon, 6 – the same, *A. (Hapl.) dahoi* Baudon; 7 – the same, *A. (Hapl.) lubopetra* sp. n., holotype; 8 – the same, *A. (Hapl.) auricollis* Kerremans, holotype; 9 – the same, *A. (Hapl.) virescens* Kerremans, holotype.

MATERIAL STUDIED: Holotypes of *A. auricollis* (BMNH), *A. achardi* (NMPC), *A. serenissima* (NMPC) and 10 following specimens from NMPC, MNHN and BMNH: E Nepal, Mulghat, 30.iv.1988, 400 m, S. Bílý leg. (♂); C Nepal, Janakpur, Tamba Koshi Khola, SE Charikot, 5.–10.vi.1987, 900–1,200 m, C. Holzschuch leg. (2♂); W Nepal, Kali Gandaki, Tatopani, Khola Bakhta, 22.–24.v.1984, 1,100–1,200 m (♀); E Nepal, Arun V., Phalicot, 13.vi.1983, 550 m, M. Brancucci leg. (♀); India, Chota Nagpore, Barway, vi.–viii.1896, R.P. Cardon leg. (2♀); India, U.P., Dehra Dun, Lachiwala, 5.vii.1930, J.C.M. Gardner leg. (♂, ♀); India, Jhajra, Dehra Dun, 19.vii.1924, M. Bose leg., ex *Bauhinia vahlii* (♂).

DISTRIBUTION (Fig. 10). Southern slopes of the Himalayas from Kashmir to Sikkim.

Anthaxia (Haplanthaxia) virescens Kerremans, 1893

(Fig. 9)

Anthaxia virescens Kerremans, 1893: 335–336.

Anthaxia strandiella Obenberger, 1926: 238, syn. n.

Described from one male labelled “Belgaum”. Having studied the types of *A. virescens* and *A. strandiella* (♀ labelled “Himalaya occ.”), I consider *A. strandiella* to be conspecific with *A. virescens* and thus a junior synonym.

MATERIAL STUDIED: Holotypes of *A. virescens* (BMNH), *A. strandiella* (NMPC), 1♀ labelled “Ceylon, E Prov., Arugam Bay, 5.–17.vii.1985, Ole Mehl leg.”, and two males “India, Jhajra, Dehra Dun, 19.vii.1929, M. Bose leg., ex *Bauhinia vahlii*” – both from NMPC.

DISTRIBUTION (Fig. 10). Ceylon, western India.

Anthaxia (Haplanthaxia) coomani Baudon, 1962

(Fig. 5)

Anthaxia coomani Baudon, 1962: 72–74.

Described from one female labelled “Laos, Vientiane, 7.iv.1962”. Very similar to *A. dahoi* Baudon from which it differs by smaller and more slender body, narrower pronotum, form of aedeagus and slightly by its coloration (see key).

MATERIAL STUDIED: The holotype (ABCN) and one male labelled “Thailand, Lansang N.P., 16.48 N 98.57 E, 18.–24.iv.1991, 500 m, D. Král et V. Kubáň leg.”.

DISTRIBUTION (Fig. 10). Laos, northern Thailand.

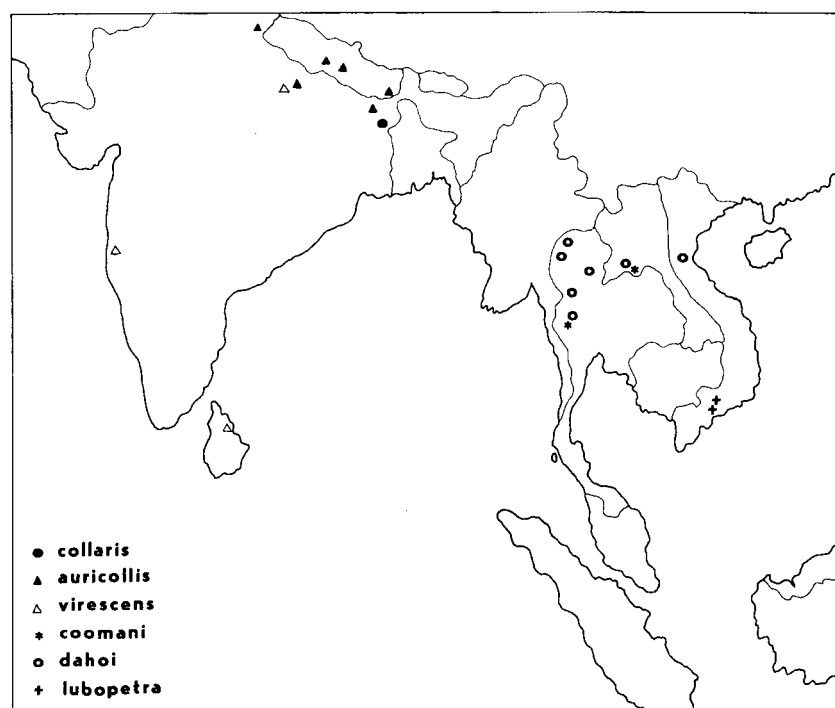


Fig. 10. Distribution of the *Anthaxia (Haplanthaxia) collaris* species-group.

Anthaxia (Haplanthaxia) dahoi Baudon, 1966
(Fig. 6)

Anthaxia dahoi Baudon, 1966: 63–64.

Described from one male labelled “Laos, Kong Sédone, 20.v.1965”. Very similar to *A. coomani* (see above and the key) and to *A. lubopetra* sp. n. from which it differs only by a different shape of the aedeagus, somewhat more robust body, slightly different pronotal sculpture and less developed sexual dichromatism. Only 5 of 17 males studied were blue-green or blue and the rest were dark golden green with a blue tinge. On the contrary females of *A. lubopetra* sp. n. are blue or blue-violet and only exceptionally golden green with blue lustre.

MATERIAL STUDIED: Holotype (ABCN), 1 ♂ and 1 ♀ from N Vietnam (Hoa Binh) and 41 specimens from various localities in NW Thailand: Umphang, Lansang, Chiang Dao, Mae Hong Son, Chiang Mai, Timongtha, Soppong and Pai.

DISTRIBUTION (Fig. 10). Laos, northern and western Thailand, northern Vietnam.

Anthaxia (Haplanthaxia) lubopetra sp. n.
(Figs 1, 3, 7)

Medium sized, elongate somewhat wedge-shaped species (Fig. 1); male golden green with black-bronze, not well-limited stripe along the elytral suture, darkened pronotal disc

and vertex; female blue, blue-violet, exceptionally dark golden green with blue lustre, head, pronotal disc and slightly undefined elytral sutural stripe black; ventral side of both sexes black, apex of prosternal process, metepimera, metacoxae and lateral margins of abdomen of male with golden lustre; both dorsal and ventral side with sparse, white, microscopic pubescence, elytra with silky lustre.

Head small, frons very slightly convex; vertex narrow, 1.0 (♂)–1.2 (♀) times as wide as width of eye; eyes large, reniform but not projecting beyond outline of head; sculpture of head consisting of small but rough polygonal cells with small central grains on frons and fine polygonal cells without grains on vertex; antennae rather short, segments 3 + 4 triangular, slightly longer than wide, segments 5–10 trapezoidal, wider than long; last segment short, ovoid.

Pronotum nearly regularly vaulted with very small and shallow laterobasal depressions, 1.6 times as wide as long; both anterior and posterior pronotal margins slightly bisinuous, lateral margins nearly regularly rounded (Fig. 1); pronotal sculpture consisting of small, oval and polygonal cells without central grains; these cells are somewhat transversely enlarged on prescutellar part of pronotum; bottom of pronotal cells only slightly rugose, rather lustrous. Scutellum small, nearly flat, triangular or subcordiform, about as wide as long.

Elytra wedge-shaped (Fig. 1), regularly vaulted, arcuately tapering posteriorly, 2.1–2.2 times as long as wide at humeral part; humeral swellings small, transverse basal depression well-developed, reaching scutellum; apical part of elytral margins very slightly serrate, each elytron separately, obtusely rounded; entire elytra with fine and dense rugose sculpture, epipleura black, not reaching elytral apex.

Entire ventral side with sparse, superficial reticulation, each cell bearing small but sharp central grain. Anal sternite slightly serrate laterally, regularly rounded (♀) or slightly truncate (♂). Legs long and slender, male metatibiae only slightly modified, somewhat flattened, weakly incurved on inner margin with a few indistinct spines near apex. Tarsi long, claws with large, conspicuous teeth at the base (Fig. 3).

Aedeagus (Fig. 7) widely spindle-shaped, parameres slightly enlarged on posterior two thirds.

Sexual dimorphism. Expressed mainly by strong sexual dichromatism (see above); moreover female differs from the male by her unmodified metatibiae and rounded anal sternite.

Variability. No variability in males, except size; females somewhat variable in coloration – from 46 females studied 3 specimens were dark golden green with blue lustre.

Length 3.7–5.3 mm (holotype 4.8 mm); width 1.3–1.9 mm (holotype 1.6 mm).

TYPE MATERIAL. Holotype (♂): S Vietnam, 21.–27.iv.1994, Dalat City, P. Pacholátko et L. Dembický leg. (NMPC). Allotype (♀): The same data (NMPC). Paratypes: The same data (69♂, 44♀); S Vietnam, 28.–30.iv.1994, 12 km N of Dalat, Lang Bian, P. Pacholátko et L. Dembický leg. (19♂, 3♀). Paratypes deposited in NMPC and in coll. P. Pacholátko and L. Dembický (Brno).

NAME DERIVATION. The specific name is derived from the first names of both collectors - Luboš and Petr.

A. lubopetra sp. n. is very similar to *A. dahoi* Baudon, from which it differs only by its smaller and less robust body, well-developed sexual dichromatism, less transverse pronotal sculpture and by the form of the aedeagus (see key).

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