

A new species of the genus *Atarphia* (Coleoptera: Nitidulidae) from China

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Abstract. A new species of the genus *Atarphia* Reitter, 1884, *A. cincta* sp. nov., from continental China (provinces Jiangxi, Shaanxi and Sichuan) and Taiwan is described and compared with the closely related allopatric species *A. quadripunctata* Reitter, 1884 from the Far East of Russia and Japan. Precise locality data of *A. fasciculata* Reitter, 1884 from China are presented, and *A. quadripunctata* is excluded from the list of Chinese fauna. A key to *Atarphia* species is also provided.

Key words. Coleoptera, Nitidulidae, Nitidulinae, *Atarphia*, taxonomy, new species China, Palearctic Region

Introduction

Atarphia Reitter, 1884 was described by REITTER (1884) to accommodate two Japanese species, *A. fasciculata* Reitter, 1884 and *A. quadripunctata* Reitter, 1884. The first mentioned species was subsequently designated as the type species of *Atarphia* by LUCAS (1920). Both species occur also in the Russian Far East, and *A. fasciculata* also is present in China (JELÍNEK 1999, JELÍNEK & AUDISIO 2007). JELÍNEK (1999) and JELÍNEK & AUDISIO (2007) recorded *A. quadripunctata* from China, based on a single specimen from Sichuan, which was presumed to be an aberrant specimen of *A. quadripunctata*. However, examination of additional specimens collected since then have revealed that the differences between true *A. quadripunctata* and the specimens from China are constant and allow to separate the Chinese specimens as a distinct species described below as *A. cincta* sp. nov.

Additional species attributed to *Atarphia* were described by KIREJTSHUK (1984, 1986). While the Asian species *A. brunnea* Kirejtshuk, 1984, *A. uhligi* Kirejtshuk, 1984, and tentatively also *A. pallentis* Kirejtshuk, 1984, were transferred to *Physoronia* Reitter, 1884 by JELÍNEK (1999), the new genus *Kryzhanovskiiella* Kirejtshuk, 2006 was proposed for the Australian *A. pecki* Kirejtshuk, 1986 and *A. aequilibris* Kirejtshuk, 1986 by KIREJTSHUK (2006).

Material and methods

The paper is based on specimens from the collection of the National Museum, Prague, Czech Republic (NMPC), Biological Museum of Sun Yat-sen University, Guangzhou, China (SYSU) and Andrzej Lasoń collection of, Białystok, Poland (ALBC).

Exact label data are cited for all type specimens; a double slash (//) divides data on different labels and a single slash (/) divides data in different rows. Other comments and remarks are placed in square brackets: [p] – preceding data are printed, and [hw] – preceding data are handwritten.

Dry-mounted specimens were studied and dissected under a Wild stereomicroscope at 25–50X magnification. For genitalia dissections, specimens were first softened in 5% ammonia solution and dissected genitalia were subsequently embedded in Euparal on a label under each respective specimen. Line drawings were made using a camera lucida attached to an adapted Epignost microscope. Photographs were taken with a Canon EOS 550D digital camera and Canon MP-E 65 mm objective lens. Images of the same specimen at different focal planes were combined using Helicon Focus 5.1.19 software.

Following acronyms are used throughout the paper:

ACLE	length of antennal club;	MTSW	width of metaventricle between its posterior corners;
ACWI	maximum width of antennal club;	WELY	maximum combined width of elytra;
ANLE	length of antenna;	WPR1	distance between posterior pronotal angles;
HWEA	width of head across eyes;	WPR2	maximum width of pronotum;
LELY	maximum length of elytra;	WPR3	distance between anterior pronotal angles.
LEPR	length of pronotum along median axis;		
MTSL	length of metaventricle along median axis;		

Taxonomy

Atarphia cincta sp. nov.

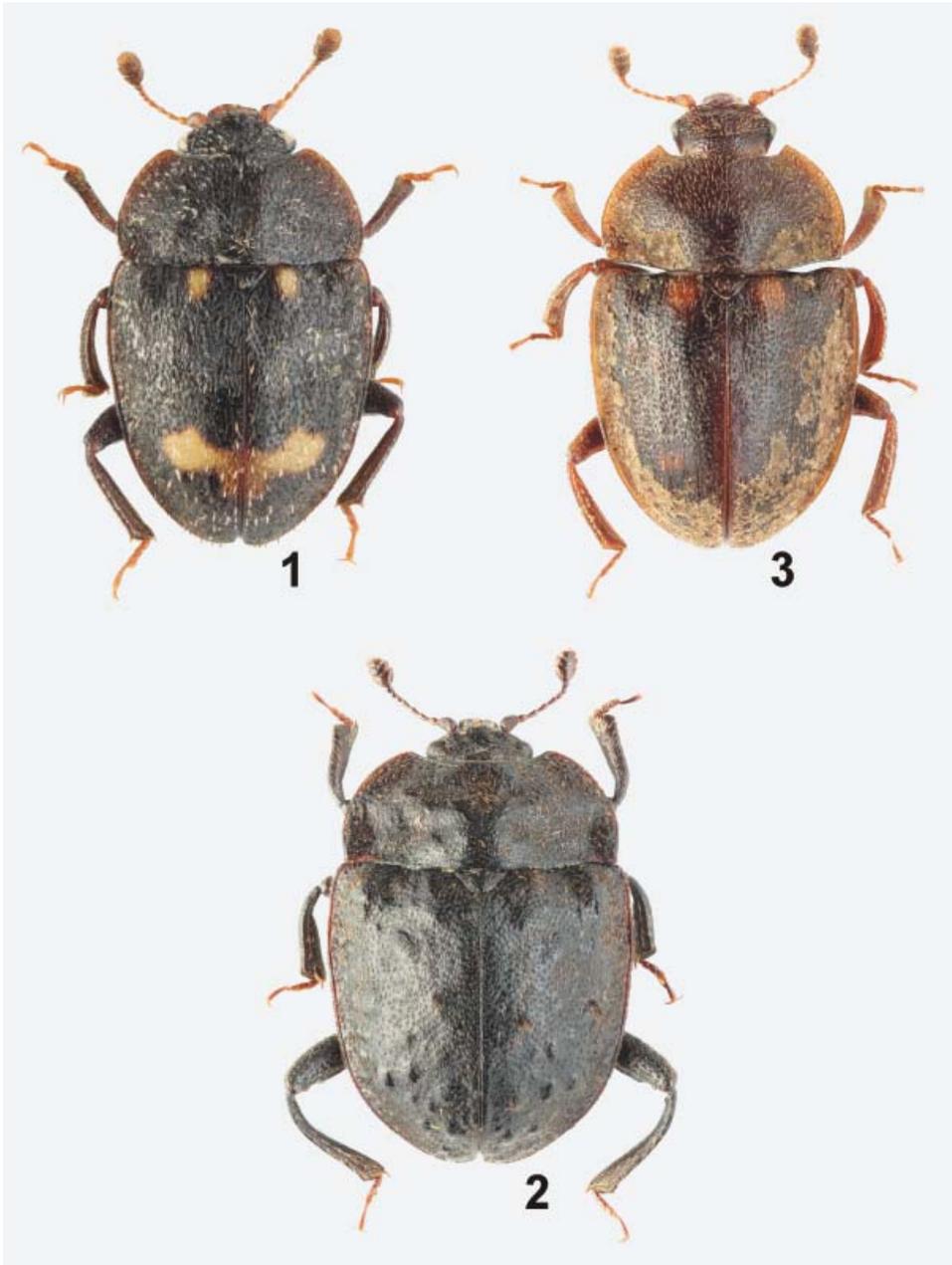
(Figs. 1, 4–8)

Atarphia quadripunctata Reitter, 1884 (partim); JELÍNEK (1999): 262; JELÍNEK & AUDISIO (2007): 471.

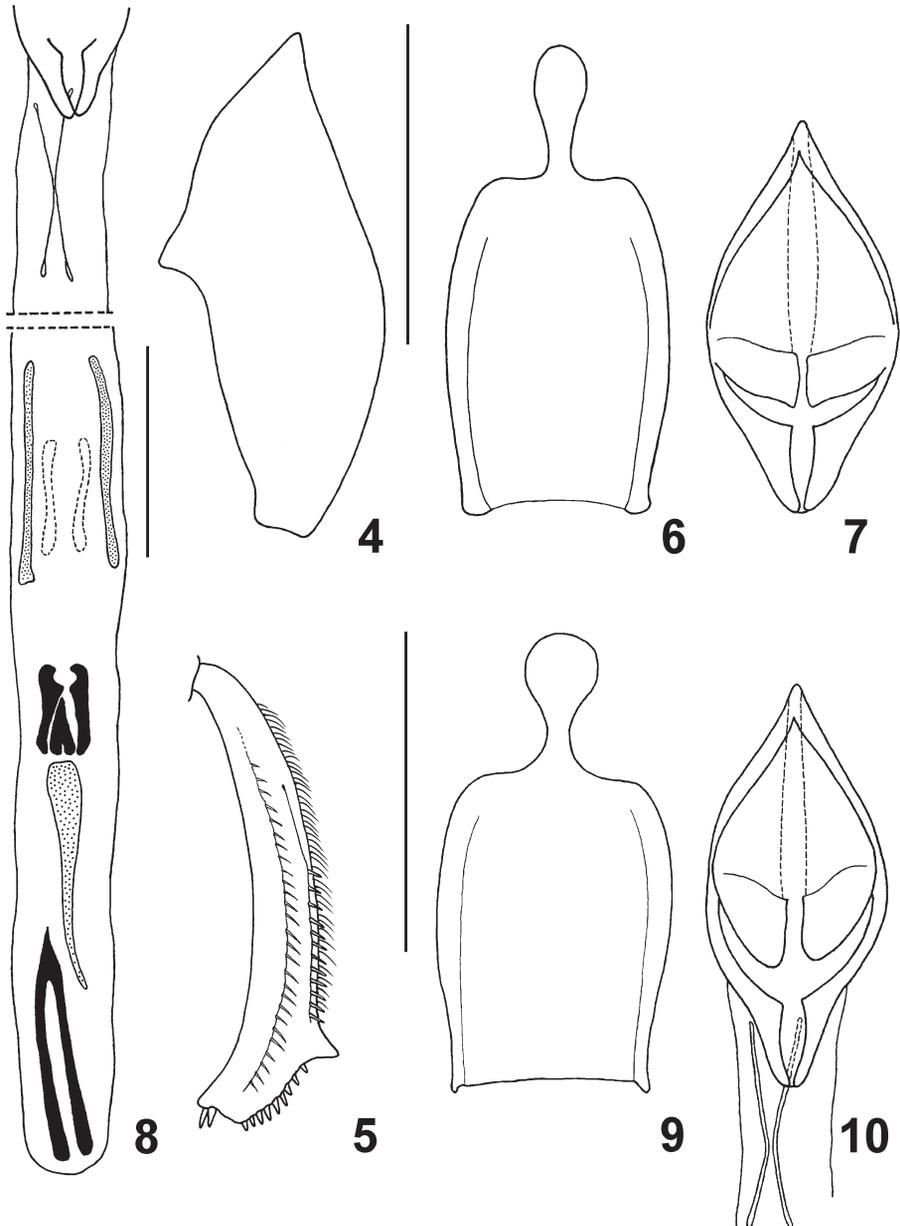
Type locality. China, Sichuan, 200 km SW of Ya'an, Liziping env., near Shimien.

Type material. HOLOTYPE: ♂, 'Liziping env. / near Shimien / 200 km SW Ya'an [p] // CHINA, Sichuan prov. / 27.VI. – 3.VII.1991 / Z. Kejval leg. [p]' (NMPC). PARATYPES: 'CHINA: JIANGXI prov., 27.iv.2011 / Jinggang Shan Mts. / SONGMUPING (stream valley) / 26°34.7'N, 114°04.3'E, 1280 m / M. Fikáček and J. Hájek leg. [p]', 2 ♂♂ 2 ♀♀ (NMPC, SYSU); 'China, SW Shaanxi, 24.V. / Micang Shan, 32°45'N, 106°37'E / LIPING-village, 1500-1600 m / Jaroslav Turna leg. 2009 [p]', 1 ♀ (NMPC); 'China, SW Shaanxi, 30.VI. / Micang Shan, 32°47'N, 106°40'E / LIPING for. park 1500-1600 m / Jaroslav Turna leg. 2011 [p]', 1 ♀ (NMPC); 'Taiwan, Taipei County, Guanshi / S of Taipei, 9.iv.2008 / J. Borowski lgt. [p]', 1 ♀ (ALBC). All specimens are provided with one red label: 'HOLOTYPUS ♂ [or PARATYPUS] [p] / *Atarphia* / *cincta* sp.n. [hw] / des. J. Jelínek, 20 [p] 12 [hw]'.

Description. *Male* (holotype). Ovale, moderately convex, dull, pubescent, elytra with series of semierect setae. Body black, tarsi and antennal flagellum yellow-brown to red-brown, antennal club black. Each elytron with yellow oblong spot besides scutellum, indistinct transverse spot between setose series 1–3 before the midlength of suture, and large spot in posterior third of elytra between setose-series 4–6. Latter spots of both elytra interconnected



Figs. 1–3. Habitus of *Atarphia*. 1 – *Atarphia cincta* sp. nov. (paratype, Jiangxi; 3.5 mm); 2 – *A. fasciculata* Reitter, 1884 (Gansu; 4.7 mm); *A. quadripunctata* Reitter, 1884 (Japan; 4.5 mm).



Figs.4–10. Morphology of *Atarphia*. 4–8 – *Atarphia cincta* sp. nov.: 4 – mesofemur; 5 – mesotibia; 6 – tegmen; 7 – aedeagus; 8 – armature of endophallus. 9–10 – *A. quadripunctata* Reitter, 1884: 9 – tegmen; 10 – aedeagus. Scale bar = 0.5 mm.

by short yellowish portion of suture as to make up a common V-shaped spot. Vestiture long, recumbent, dark, each elytron moreover with eight rows of erect thick setae, whitish on spots and their vicinity, otherwise black (Fig. 1). Body length 4.1 mm, width 2.3 mm.

Head across eyes narrower than anterior pronotal margin. Frons almost flat with feeble tubercles above antennal insertions, shallowly depressed between antennal insertions and along inner margins of eyes. Anterior margin of clypeus truncate, not bordered. Punctures of frons round to oval, much larger than eye-facets, mostly separated by less than one diameter; interspaces smooth. Temples straight, strongly converging posteriad, eyes strongly convex, finely faceted.

Antennae nearly as long as the width of head across eyes, ratio HEAW/ANLE = 1.02; antennal club oval, ACLE/ACWI = 1.50, ACLE/ANLE = 0.30. Ratio length/width of antennomeres I–VIII as 1.5, 1.6, 2.5, 2.0, 2.5, 1.0, 1.0, 0.5.

Pronotum widest at basal third, ratio WPR2/LEPR = 1.93. Anterior margin deeply and broadly arcuately emarginate, bordered, anterior angles prominent, obtuse. Basal margin subtruncate in front of scutellum, broadly and very shallowly concave, almost subtruncate, besides posterior angles and bordered. Posterior angles obtuse, not projecting backwards. Lateral margins strongly arcuate, fringed with short dense black setae, more strongly converging anteriorly than posteriorly, ratio WPR1/WPR3 = 1.70. Flattened sides nearly as wide as eyes. Disc of pronotum broadly convex with broad and markedly raised bulge in front of scutellum and flattened in front of bulge. Bulge, reaching the midlength of pronotum anteriorly, is flanked with round impressions laterally. Round flat punctures nearly as large as on frons, separated by ca. one diameter on disc, becoming closer laterad and posteriad, intermixed with minute simple punctures bearing recumbent long setae; interspaces smooth. Scutellum triangular, narrowly rounded apically, punctate like pronotum.

Elytra wider than pronotum (ratio WELY/WPR2 = 1.11), widest at basal fourth (ratio LELY/WELY = 1.03), simultaneously rounded apically. Humeral angles rounded. Lateral margins arcuate in basal half, less so in apical half, hardly explanate, setose fringe indistinct. Sutural lines indistinct. Surface of elytra moderately convex, punctate like pronotum, diffuse large flat punctures separated by ca. one diameter, at places closer, intermixed with minute simple setiferous punctures, interspaces smooth. Setae thin, recumbent, dark, each elytron with eight rows of rather sparse stout erect setae. Third, fifth and seventh series of erect setae on faint impunctate traces of longitudinal ribs. Pygidium concealed by elytra, rounded apically, apical wall of tergite VIII exposed.

Postmentum shallowly concave, deep punctures nearly equal in size to eye-facets, almost contiguous. Prosternum transversely convex, densely rugosely punctate, interspaces reticulate; prosternal process almost flat, broad, widest at broadly V-shaped apex, punctate like prosternum. Hypomera concave, punctures separated by 1.0–1.5 diameters, interspaces densely isodiametrically reticulate. Distances between pro-, meso- and metacoxae as 14 : 18 : 23. Mesoventrite densely microscopically alutaceous, dull, with impunctate mediolongitudinal stripe, along anterior margins of mesocoxae narrowly canaliculate, shining with series of shallow oval umbilicate punctures. Metaventrite transversely impressed behind mesocoxae; anterior intercoxal process subtruncate, transversely wrinkled, posterior margin between metacoxae broadly concave. Median portion of metaventrite flat, punctures round, shallow,

nearly equal in size to eye-facets, separated by more than one diameter, becoming closer and rasp-like posteriorly; interspaces smooth and shining. Small rhomboidal area behind midlength of metaventrite impunctate. Caudal marginal lines of mesocoxae not interconnected in middle, closely bordering mesocoxal cavities, their recurrent outer portion reaching posterolateral corners of metaventrite. Punctures of abdominal ventrites larger than those of metaventrite, interspaces with traces of reticulation. Anterior margin of ventrite I between metacoxae with broad swollen impunctate rim. Caudal marginal lines of metacoxal cavities arcuate, closely bordering metacoxal cavities, ending in anterolateral corners of ventrite.

Pro-, meso- and metafemora ca. 2.3, 2.7 and 3 times longer than wide respectively; posterior margin of mesofemur with acute prominent tooth before its midlength (Fig. 4). Protibia 4.2 times longer than wide, widest at distal end. Outer margin finely densely denticulate, outer subapical angle rounded, inner margin broadly concave, inner apical angle with two unequal short spurs. Apical margin with ventrally directed comb. Tarsomeres I–III flat, nearly as wide as pedicel, only III shallowly bilobed, V nearly as long as I–III combined; tarsal claws simple. Mesotibia five times longer than wide, moderately arcuately curved, outer margin with prominent subrectangular angle at distal sixth (Fig. 5). Metatibia straight, 5.7 times longer than wide, outer margin with prominent subrectangular angle at distal eighth.

Male genitalia as figured (Figs. 6–8).

Female. Habitus and size not different from male. Anterior margin of protibia without comb.

Variation. Body length 3.7–4.4 mm, width 1.9–2.5 mm. Measurements: WPR2/LEPR = 1.93–2.15, WPR1/WPR3 = 1.69–1.80, LELY/WELY = 1.03–1.08.

Antennal flagellum yellow-brown to red-brown, distal end of particular antennomeres sometimes black, antennal club black, terminal antennomere sometimes lighter. Pair of small spots at midlength of elytra sometimes absent.

Differential diagnosis. *Atarphia cincta* sp. nov. is closely related to *A. quadripunctata* from the Far East of Russia and Japan (KIREJTSHUK 1992). The species differs from the latter by possessing a markedly developed bulge in the posterior half of pronotum and by different colour pattern with spots of the posterior pair larger, situated closer to suture and interconnected (Fig. 1). Metaventrite in *A. quadripunctata* is shorter (ratio MTSW/MTSL ca. 3.10 in *A. quadripunctata*, 2.70 in *A. cincta* sp. nov.), without transverse impression behind mesocoxae and without impunctate patch behind midlength. Elytra in *A. quadripunctata* widest at basal fourth, less narrowed towards the base and comparatively shorter; in *A. cincta* sp. nov. elytra are widest at basal third, more distinctly narrowed towards base and comparatively longer: ratio LELY/WELY = 0.96–1.02 in *A. quadripunctata*, 1.03–1.08 in *A. cincta* sp. nov. (cf. Figs. 1–2). Apical process of tegmen comparatively more slender in *A. quadripunctata* than in *A. cincta* sp. nov. (Figs. 6 and 9).

Etymology. Latin adjective *cinctus*, *-a*, *-um* = girdled, referring to the transverse pale bar on elytra.

Collection circumstances. Specimens from the Jinggang Shan Mts. were collected in broad-leaved forest, in fruiting bodies of an unidentified bracket-fungus growing up on dead tree.

Geographic distribution. The species is so far known from the Chinese provinces Shaanxi, Sichuan and Jiangxi, and from Taiwan. The species appears to be a vicariant taxon of

A. quadripunctata, which is known to occur in Japan and the Far East of Russia (KIREJTSHUK 1992). The record of *A. quadripunctata* from China by JELÍNEK (1999) and JELÍNEK & AUDISIO (2007) was based on the single specimen erroneously considered as an aberrant specimen of *A. quadripunctata*.

Atarphia fasciculata Reitter, 1884

(Fig. 2)

Material examined. **RUSSIA: MARITIME PROVINCE:** Vladivostok, 3.vi.1919, H. Frieb leg., 1 ♀. **JAPAN: HONSHU:** Fukui pref., Yashagaike, 2.–3.vi.1970, H. Sasaji leg., 1 ♂; Gunma pref., Marunuma, 29.vii.1958, 1 ♀, 30.vii.1958, 2 ♀♀, S. Hisamatsu leg.; Gunma pref., Hoshi, vii.1952, Aoki leg., 1 ♀; Aomori pref., Tsuta, Towada, 19.vii.1956, 1 ♂; Yamanashi pref., Masutomi, 24.vii.1956, H. Kamiya leg., 1 ♂; Mie pref., Mie Univ. Forest, 11.vii.1957, A. Ohashi leg., 1 ♂; Tokyo pref., Mitake, Okutama, 7.ix.1946, N. Hayashi leg., 1 ♀. **CHINA: GANSU:** Lazikou valley, 34°05.0'N, 103°54.5'E, 2150 m, 27.v.2005, J. Hájek, D. Král & J. Růžička leg., 1 ♂ 5 ♀♀. **GUIZHOU:** Shibing-Yuntai Shan, 60 km N of Kaili, 21.–26.v.1996, E. Jendek & O. Šauša leg., 1 ♂. **HUBEI-ANHUI border:** Dabieshan Mts., Mt. Wujiashan, 31°04–06'N, 115°46–49'E, 500–1700 m, 21.–23.vii.1995, L. & R. Businský leg., 1 spec. **SHAANXI:** Mt. Hua Shan, 100 km E Xian, 17.–22.vi.1991, Z. Kejval leg., 1 ♀. **SICHUAN:** Liziping env., nr. Shimian, 200 km SW of Ya'an, 27.vi.–3.vii.1991, Z. Kejval leg., 2 ♂♂ (all NMPC).

Notes. JELÍNEK & AUDISIO (2007) mentioned *Atarphia fasciculata* from China without any precise locations. Here we present the first precise data from Gansu, Guizhou, Shaanxi and Sichuan provinces, and from mountain range on Hubei-Anhui border.

Atarphia quadrimaculata Reitter, 1884

(Figs. 3, 9–10)

Material examined. **RUSSIA: MARITIME PROVINCE:** Vladivostok, 1919, Dr. Jureček leg., 2 ♂♂. **JAPAN: HONSHU:** Kyoto, Kurama-yama, 27.iii.2005, Lackner leg., 1 ♂ 1 ♀. **SHIKOKU:** Ehime pref., Omogo, 1.vi.1941, Y. Asikawa leg., 1 ♀ (all NMPC).

Key to the species of *Atarphia*

- 1 (2) Elytra with several rows of tubercles bearing tufts of black setae. Outer subapical angle of protibia obtuse with distinct tip. Posterior margin of mesofemur without prominent tooth. Body concolorous, black. Male: mesotibia curved at base, otherwise straight, abruptly dilated at basal fourth. Tegmen with acutely pointed apex without apical process. Length 3.2–5.5 mm. Japan, Far East of Russia, China (Fig. 2). *A. fasciculata* Reitter, 1884
- 2 (1) Elytra without tubercles, bearing longitudinal series of stout erect setae. Outer subapical angle of protibia rounded, without distinct tip. Posterior margin of mesofemur with acute tooth on proximal half (Fig. 4). Body brown to black, antennal flagellum and tarsi lighter, elytra with yellow spots. Male: mesotibia not abruptly dilated in basal portion, becoming gradually wider distad and moderately curved along its inner margin (Fig. 5). Tegmen with long clavate apical process (Figs. 6, 9).
- 3 (4) Pronotum without prescutellar bulge. Body brown to brown-black. Elytra comparatively shorter and wider (ratio LELY/WELY = 0.96–1.02), posterior light spots of elytra situated at the fifth setose series, widely separated (Fig. 3). Male: tegmen comparatively

- longer, its apical process more slender (Fig. 9). Length 3.2–4.6 mm. Japan, Maritime province of Russia. *A. quadripunctata* Reitter, 1884
- 4 (3) Pronotum with markedly raised bulge between midlength and basal margin in front of scutellum. Elytra comparatively longer and less convex (ratio LELY/WELY = 1.03–1.08), more strongly converging backwards, posterior light spots of elytra interconnected at suture to make up a broadly V-shaped bar (Fig. 1). Male: tegmen comparatively wider, its apical process broadly rounded (Fig. 6). Length 3.7–4.4 mm. China, Taiwan. *A. cincta* sp. nov.

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