

A REVISION OF THE GENUS *AGROSTEELLA* MEDVEDEV (CHRYSEMELIDAE: CHRYSEMELINAE)¹

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Abstract.—*Agrosteella* Medvedev is elevated to full generic status. The genus contains 8 species: *A. violaceicollis* sp. nov., *A. punctata* sp. nov., *A. jini* sp. nov., *A. biconvexa* sp. nov., *A. cheni* sp. nov., *A. oligotricha* sp. nov., *A. fallaciosa* (Stål), *A. medvedevi* (Daccordi). The male genitalia, pronotum and habitus of two species in this genus are illustrated. The type specimens are deposited in the Institute of Zoology, the Chinese Academy of Sciences, P. R. China (IZCAS).

Key Words.—Insecta, Coleoptera, Chrysomelidae, Chrysomelinae, *Agrosteella*, new genus, new species.

Agrosteella was originally erected as a subgenus of *Agrosteomela*, which was established by Medvedev (1987), the type species being *Agrosteomela fallaciosa* (Stål). Its main character is prosternum and metasternum are in the same plane, but are not connected, the mesosternum is between them, and most species with longitudinal depression in the middle of the prosternum. Body parallel-sided, not very convex, the rows of punctures of elytra distinct, the shape of the male genitalia is very different from the genus *Agrosteomela*. From the discussion above, we think the subgenus *Agrosteella* should be elevated to a full genus. It consists of 8 species, including 2 known species, 6 new species.

GENUS *AGROSTEELLA* MEDVEDEV

Agrosteomela (*Agrosteella*) Medvedev 1987, Ent. Viet. Acad. Nauk SSSR, Moscow: 72.—Daccordi, 2000, Ent. Basil., 25: 1.

Type Species.—*Agrosteomela* (*Agrosteella*) *fallaciosa* (Stål) by monotype.

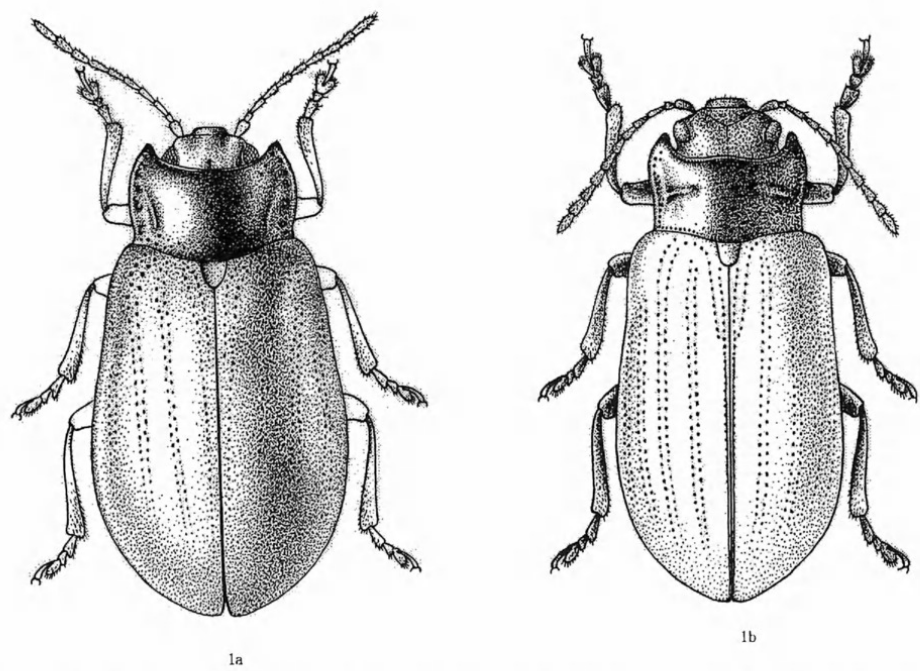
Description.—Body elongate, parallel-sided in outline. Head, thorax mostly metallic dark-green or purple; elytra mostly reddish-brown or yellowish-brown; sternites 3–5 reddish-brown. Clypeus narrow, two apical segments of maxillary palpi robust, and fourth segment truncate at apex. Antennae slender, extending beyond base of pronotum, first segment robust, almost elongate, second segment rounded, third slender, 2 or 2.5 times as long as second, remaining five apical segments slightly broadened apically. Prothorax much narrower at base than elytra, longer than broad, anterior margin widely emarginate with protruding anterior angles; central area of disc slightly convex, with sparse punctures; lateral margins of pronotum rounded or straight, with depression near lateral margins. Elytra striae distinct, interspace with punctures or impunctate; epipleuron broadened basally, strongly narrowed posteriorly, inner edge bearing a row of cilia-like fine hairs only at apex. Most species have longitudinal depression in middle of prosternum, and strongly punctate, apex of metasternum between mid coxae truncate, broadened, not covered mesosternum, this is the most important character of this genus. Anterior coxal cavities open, claws simple. Apical sternite of male trilobate, female pointed. Ventral view of male genitalia narrowing from base to apex, truncate or rounded apically.

Distribution.—Yunnan, Xizang; India, Nepal.

Eight species are presently known.

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Figures 1a–1b. Habitus of *Agrosteella*. Figure 1a. *A. fallaciosa* (Stål). Figure 1b. *A. biconvexa*, NEW SPECIES.

KEY TO THE SPECIES OF *AGROSTEELLA*

- 1. Coronal suture absent 2
- Coronal suture distinct 3
- 2. Metasternal process distinctly margined anteriorly ... *A. violaceicollis* sp. nov.
- Metasternal process not margined anteriorly *A. punctata* sp. nov.
- 3. Interspace between rows of punctures of elytra with fine punctures 4
- Interspace between rows of punctures of elytra without fine punctures ... 5
- 4. Length of longitudinal depression of pronotum extending beyond middle
..... *A. jini* sp. nov.
- Length of longitudinal depression of pronotum not extending beyond mid-
dle *A. fallaciosa* (Stål)
- 5. Middle portion of pronotum with transverse depression
..... *A. biconvexa* sp. nov.
- Middle portion of pronotum without transverse depression 6
- 6. Antennae segment 4 longer than each of 5–10, and shorter than 3
..... *A. cheni* sp. nov.
- Fourth segment of antennae subequal to each of 5–10 7
- 7. Metasternal process distinctly margined anteriorly ... *A. medvedevi* Daccordi
- Metasternal process not margined anteriorly *A. oligotricha* sp. nov.

AGROSTEELLA FALLACIOSA (STÅL), NEW COMBINATION
(Figs. 1a, 2a, 3a)

Paralina fallaciosa Stål, 1862, Nova. Acta. Upsal., 3(4): 5. —Weise, 1916, Col. Cat., Chrysomelinae, 24: 111.
Agrosteomela fallaciosa: Wang & Chen, 1981, Insects of Xizang, 1: 514. —

Chen & Wang, 1988, *In* Huang, F.Sh. (ed.), *Insects of Mt. Namjagbarwa region of Xizang*: 336.

Agrosteomela (Agrosteella) fallaciosa: Medvedev, 1987, *Ent. Viet. Acad. Nauk SSSR*, Moscow: 72. —Daccordi, 2000, *Ent. Basil.*, 25: 1.

Description.—Head, antennae, prothorax, legs, first sternite of abdomen metallic dark-green; two basal segments of antennae at apex, scutellum, elytra, underside of abdomen reddish-brown.

Head deeply inserted in prothorax, with sparse punctures and pubescence, pubescence of clypeus more dense than frons; clypeus divided into two parts by impressed line; between clypeus and labrum depressed emarginated. Maxillary palpi with fourth segment longer than third. Coronal suture distinct. Antennae segment 1 robust, elongate, second small, almost rounded, third longest, 2.5 times as long as second, 4–11 subequal, shorter than 3, longer than 2, 11 pointed at apex. Posterior angle of pronotum slightly blunt; central disc area with sparse punctures, lateral margins slightly rounded, with a shallow depression from posterior angle to anterior angle, not extending beyond middle, deep punctures in depression (Fig. 2a). Scutellum triangular with apex rounded, impunctate. Elytra punctures striae gradually obsolete by apical $\frac{1}{3}$ of apex, interspace with fine, dense punctures; epipleuron inner edge bearing a row of cilia-like fine hairs only at apex. Apex of metasternum not distinctly margined anteriorly. Male genitalia parallel-sided in ventral view, strongly narrowed and rounded apically (Fig. 3a). Length, 12.0 mm, breadth, 8.0 mm.

Material Examined.—India, 1932, 1 female, Clavareau.

Distribution.—India, Nepal (from reference).

AGROSTEELLA MEDVEDEVI (DACCORDI), NEW COMBINATION

(Figs. 2h, 3b)

Agrosteomela (Agrosteella) medvedevi, Daccordi, 2000, *Ent. Basil.*, 25: 1.

Description.—Body bright metallic green, elytra dark reddish-brown; two basal segments of antennae more or less reddish-brown at apex; clypeus pubescent on anterior margin, labrum almost black; abdomen red apically and on sides.

Head flattened, with an impressed line between clypeus and frons, finely and sparsely punctate. Coronal suture distinct, with more dense punctures than labrum. Antennae segment 1 robust, second small, third slender and 2 times as long as second, fourth shorter than third, equal to remaining segments. Central area of pronotum with surface smooth, with a few moderately strong punctures near base, laterally oblique depression with deep punctures between depressions and lateral margins (Fig. 2h). Scutellum triangular with apex rounded, impunctate. Elytra slightly widened behind, without post-basal impression; rows of punctures are distinctly striate, all interspaces smooth, without fine punctures. Underside shiny, almost impunctate and very finely pubescent. Apex of metasternum distinctly margined anteriorly. Male genitalia parallel-sided at base in ventral view, distinctly narrower apically, rounded at apex (Fig. 3b). Length, 11.3 mm, breadth, 6.4 mm.

Distribution.—Nepal.

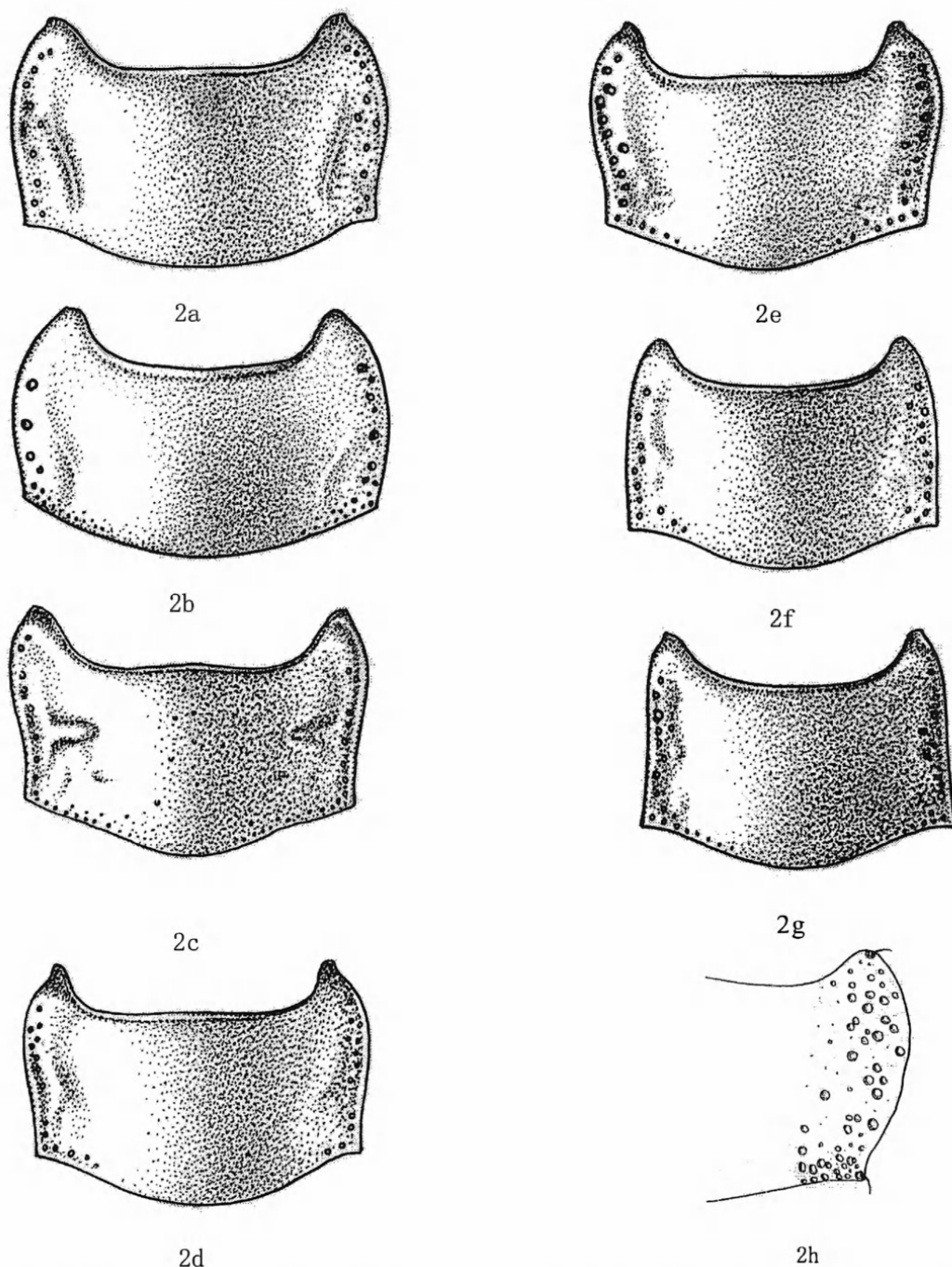
AGROSTEELLA CHENI, NEW SPECIES

(Figs. 2b, 3c)

Types.—Holotype male: China. Xizang, Mêdog, 1310 m, 11 Jul 1980, Jin and Wu. Deposited in the Institute of Zoology, The Chinese Academy of Sciences, P. R. China.

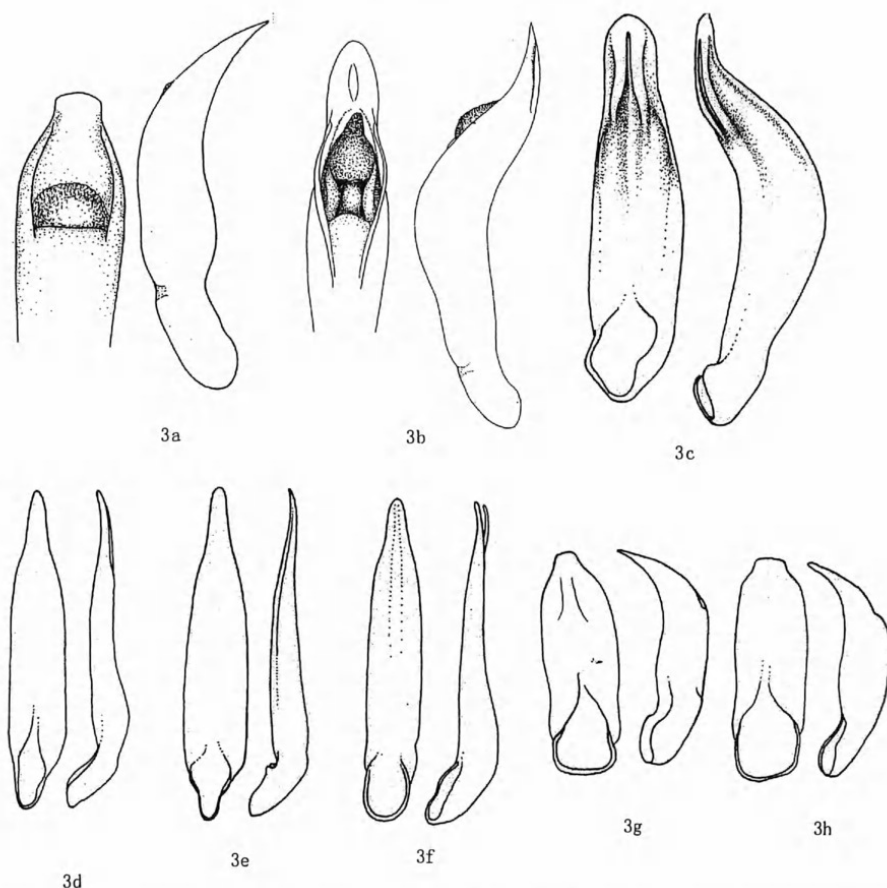
Description.—Head, thorax, legs, scutellum and basal segments of abdomen metallic green; two basal segments of antennae at apex, elytra, three apical segments of abdomen reddish-brown.

Head flat, labrum and frons with deep depression, fine punctures and pubescent. Coronal suture distinct, punctures of vertex closer and more than frons. Maxillary palpi with fourth segment shorter than third. Antennae segment 1 robust, semi-spherical, second small, spherical, third slender, 2 times as long as second, fourth shorter than third, subequal to remaining segments, 6–11 broadened, distinctly serrate. Pronotum with posterior angle straight, slightly bent outward; disc with fine punctures on



Figures 2a–2h. Pronotum of *Agroteella*. Figure 2a. *A. fallaciosa* (Stål). Figure 2b. *A. cheni* NEW SPECIES. Figure 2c. *A. biconvexa* NEW SPECIES. Figure 2d. *A. oligotricha* NEW SPECIES. Figure 2e. *A. punctata* NEW SPECIES. Figure 2f. *A. violaceicollis* NEW SPECIES. Figure 2g. *A. jini* NEW SPECIES. Figure 2h. *A. medvedevi* (Daccordi), from Daccordi.

central area, lateral margins slightly rounded on innerside, with a short deep depression which is shorter than half of length of disc and with strong punctures (Fig. 2b). Scutellum triangular with apex rounded, impunctate. Elytra with punctures distinct in paired striae, not reaching apex of elytra, interspace flat, without fine punctures; epipleuron bearing a row of cilia-like sparse hairs only at apex. Apex of metasternum not distinctly margined anteriorly. Male genitalia parallel-sided (ventral view) with a deep depression, strongly narrowed near apex, rounded at apex, lateral view with a deep depression (Fig. 3c). Length, 10.8 mm, breadth, 6.2 mm.



Figures 3a–3h. Ventral and lateral view of *Agosteella*. Figure 3a. *A. fallaciosa* (Stål), from Daccordi. Figure 3b. *A. medvedevi* (Daccordi), from Daccordi. Figure 3c. *A. cheni* NEW SPECIES. Figure 3d. *A. biconvexa* NEW SPECIES. Figure 3e. *A. oligotricha* NEW SPECIES. Figure 3f. *A. punctata* NEW SPECIES. Figure 3g. *A. violaceicollis* NEW SPECIES. Figure 3h. *A. jini* NEW SPECIES.

Diagnosis.—The new species is similar to *A. fallaciosa* (Stål), but shape of male genitalia is very different.

Distribution.—Xizang.

Etymology.—This new species is named for the late Prof. S. H. Chen.

AGOSTEELLA BICONVEXA, NEW SPECIES

(Figs. 1b, 2c, 3d)

Types.—Holotype male: China. Xizang, Yadong, 1250 m, 25 May 1980, Jin and Wu. Deposited in the Institute of Zoology, The Chinese Academy of Sciences, P. R. China.

Description.—Body elongate, slender in outline; head, thorax, scutellum and legs metallic purple; two basal segments of antennae at apex, elytra and underside of abdomen reddish-brown.

Head flat, between labrum and frons with depression, fine punctures. Coronal suture distinct. Antennae segment 1 robust, slender, second small, spherical, third slender, 2 times as long as second, fourth shorter than third, subequal to each remaining segment, from 5–11 broadened apically, distinctly serrate. Pronotum with posterior angle straight, slightly bent outward; central area of disc with sparse punctures; lateral margins slightly rounded, with a sublateral longitudinal deep depression posteriorly, a short transverse depression on middle portion near lateral margins (Fig. 2c). Scutellum triangular with apex rounded, impunctate. Elytra with punctures very distinctly in paired striae which reach the apex; interspace flat, impunctate; epipleuron bearing a row of cilia-like sparse hairs along apical half. Prosternum with median dense punctures in longitudinal depression; apex of metasternum not dis-

tinctly margined anteriorly. Ventral view of male genitalia parallel-sided, slender, narrowed near apex, rounded apically (Fig. 3d). Length, 11.0 mm, breadth, 6.5 mm.

Diagnosis.—The new species resembles to *A. punctata* sp. nov., but can be distinguished from latter by transverse depression near lateral margins of pronotum and interspace of punctate rows of elytra without fine punctures.

Distribution.—Xizang.

Etymology.—From the Latin, *biconvexa*, meaning two depression.

AGROSTEELLA OLIGOTRICA, NEW SPECIES

(Figs. 2d, 3e)

Types.—Holotype male: China. Xizang, Mêdog, 1200 m, 16 May 1980, Jin and Wu. Deposited in the Institute of Zoology, The Chinese Academy of Sciences, P. R. China.

Description.—Body metallic purple; two basal segments of antennae at apex, elytra, abdomen reddish-brown.

Head flat, with fine punctures, closer apically, a deep depression between labrum and frons. Coronal suture distinct; maxillary palpi with fourth segment shorter than third. Antennae short and broadened, first segment robust, second small, spherical, third slender, 2.5 times as long as second, fourth shorter than third, longer than remaining segments, 5–10 subequal in length, eleventh as long as fourth. Pronotum with posterior angle straight, slightly bent outward; center of disc with fine punctures; lateral margins somewhat straight, inside of which is a deep depression, especially posteriorly, with deep punctures (Fig. 2d). Scutellum triangular with apex rounded, impunctate. Elytra with punctures very distinct in paired striae which reach apex of elytra, interspace flat, impunctate; epipleuron bearing a row of cilia-like sparse hairs only at apex. Apex of metasternum not distinctly margined anteriorly. Male genitalia parallel-sided in ventral view, slender, narrowed near apex, rounded apically (Fig. 3e). Length, 11.5 mm, breadth, 7.0 mm.

Diagnosis.—The new species is similar to *A. biconvexa* sp. nov., but can be distinguished from latter by the depression of pronotum and the shape of male genitalia.

Distribution.—Xizang.

Etymology.—From the Latin, *oligotricha*, meaning sparse hairs.

AGROSTEELLA PUNCTATA, NEW SPECIES

(Figs. 2e, 3f)

Types.—Holotype male: China. Xizang, Mêdog, 1160 m, 7 Jul 1983, Han. Deposited in the Institute of Zoology, The Chinese Academy of Sciences, P. R. China.

Description.—Body dark-green, with metallic purple; clypeus, two basal segments of antennae at apex; elytra and abdomen reddish-brown.

Head flat, with sparse punctures, only clypeus with longer pubescence, deep concavity between labrum and frons. Coronal suture disappeared, maxillary palpi with fourth segment shorter than third. Antennae segment 1 robust, second small, third slender, 2 times as long as second, fourth shorter than third, longer than remaining segment, 5–11 subequal in length. Pronotum with posterior angle straight, slightly bent outward; disc with sparse punctures in central area, lateral margins more rounded apically, with a deep depression near its inner side containing strong punctures, especially at base (Fig. 2e). Scutellum triangular with apex rounded, impunctate. Elytra punctures in paired striae distinctly, reaching apex of elytra; interspace with dense, coarse punctures; epipleuron bearing a row of cilia-like sparse hairs only at apex. Apex of metasternum not distinctly margined anteriorly. Male genitalia parallel-sided in ventral view, slender, narrowed near apex, rounded apically (Fig. 3f). Length, 12.0 mm, breadth, 7.0 mm.

Diagnosis.—This species is similar to *A. biconvexa* sp. nov., but it can be distinguished from latter by punctures in the interspace of the elytra and the depression of pronotum.

Distribution.—Xizang.

Etymology.—From Latin, *punctata*, meaning coarse punctures.

AGROSTEELLA VIOLACEICOLLIS, NEW SPECIES

(Figs. 2f, 3g)

Types.—Holotype male, China. Yunnan, Xishuangbanna, Mengsong, 1600 m, 21 Apr 1959, Hong; allotype female, locality same as holotype, 1200–1400 m, 11 May 1958, Meng; paratype 3 female: locality same as holotype, 1 Jul 1958. Deposited in the Institute of Zoology, The Chinese Academy of Sciences, P. R. China.

Description.—Body dark-green with metallic purple; elytra, abdomen yellowish-brown.

Head flat, with fine punctures and pubescence, a deep depression between clypeus and frons. Coronal suture absent, maxillary palpi with fourth segment shorter than third. Antennae segment 1 robust, second small, spherical, third slender, 2 times as long as second, 4–10 subequal in length, shorter than third, eleventh longer than fourth, but shorter than third. Pronotum with posterior angle straight, slightly bent outward; center of disc with sparse punctures; lateral margins straight, with a deep depression just inside half length of disc and with deep punctures in it, especially at base (Fig. 2f). Scutellum triangular with apex rounded, impunctate. Elytra with punctures distinctly in paired striae, interspace with dense and coarse punctures; epipleuron bearing a row of cilia-like sparse hairs only at apex. Apex of metasternum distinctly margined anteriorly. Male genitalia parallel-sided in ventral view, slender, narrowed near apex, truncate at apex (Fig. 3g). Length, 10.0–11.0 mm, breadth, 6.0–6.5 mm.

Diagnosis.—The new species is similar to *A. jini* sp. nov., but it can be distinguished by shape of male genitalia and punctures of interspace.

Distribution.—Yunnan.

Etymology.—From the Latin, *violaceicollis*, meaning purple.

AGROSTEELLA JINI, NEW SPECIES

(Figs. 2g, 3h)

Types.—Holotype male: China. Xizang, Mêdog, 8 Sep 1979, Jin and Wu. Deposited in the Institute of Zoology, The Chinese Academy of Sciences, P. R. China.

Description.—Head, antennae, pronotum, scutellum, legs, first sternite of abdomen dark-green, with metallic purple; two basal segments of antennae at apex, elytra, and 2–5 sternites dark-brown.

Head flat, with fine punctures and pubescence, a deep depression between clypeus and frons. Coronal suture distinct, maxillary palpi with fourth shorter than third. Antennae segment 1 robust, second small, spherical, third slender, 2 times as long as second, 4–10 subequal in length, eleventh slightly longer than tenth, shorter than third. Pronotum longer than broad, anterior margin deeply emarginated with protruding anterior angles, anterior angles pointed, posterior angle straight, slightly bent outward; center area of disc with sparse punctures; lateral margins straight, with a deep longitudinal depression just inside, which is longer than half of length and with deep punctures, especially at base (Fig. 2g). Scutellum triangular with apex rounded, impunctate. Interspace of elytra with dense, coarse punctures; epipleuron bearing a row of cilia-like sparse hairs at apex. Apex of metasternum not distinctly margined anteriorly. Male genitalia parallel-sided in ventral view, slender, narrowed near apex, truncated at apex (Fig. 3h). Length, 11.2 mm, breadth, 6.8 mm.

Diagnosis.—The new species is similar to *A. violaceicollis* sp. nov., but it can

be distinguished from latter by shape of male genitalia and punctures of interspace of striae on elytra.

Distribution.—Xizang.

Etymology.—This new species is named for Prof. G. T. Jin.

DISCUSSION

Agrosteella belongs originally to a subgenus of *Agrosteomela*, based on the protruding metasternum, which does not cover mesosternum. Furthermore, we found an additional five different characters between *Agrosteella* and *Agrosteomela*, as follows:

1) Body of *Agrosteella* slender, almost parallel-sided, but *Agrosteomela* almost robust and broadened at apex.

2) The lateral margins of pronotum more straight posteriorly in *Agrosteella*, central disc with distinct depression and punctures, but in *Agrosteomela* lateral margins of pronotum rounded, central disc without distinct depression and punctures.

3) The pairs rows of elytral punctures distinct in *Agrosteella*; in *Agrosteomela* not distinct.

4) Epipleuron bearing a row of cilia-like sparse hairs only at apex in *Agrosteella*, but most species in *Agrosteomela* epipleuron bearing a row of cilia-like sparse hairs throughout the length.

5) The shape of male genitalia is very different.

From the discussion above, we think these differences are enough to elevate the subgenus *Agrosteella* to genus status.

According to the comparative morphological research, we primary suggest dividing *Agrosteella* into three groups: the 1 group is *A. violaceicollis* sp. nov., *A. fallaciosa* (Stål) and *A. jini* sp. nov.; the 2 group is *A. punctata* sp. nov., *A. biconvexa* sp. nov., *A. medvedevi* Daccordi and *A. oligotricha* sp. nov.; the 3 group is *A. cheni* sp. nov. From the following figures, it is apparent that the shape of male genitalia is different between groups: in the 1 group, narrowed from the middle to the apex and truncated at apex; in the 2 group, it is slender, rounded at apex; in the 3 group, it is robust, sclerotized strongly, and with a deeply longitudinal depression.

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