

Pygmy grasshoppers (Orthoptera: Tetrigidae) of Vietnam: genus *Hebarditettix* Günther, 1938

Прыгунчики (Orthoptera: Tetrigidae) Вьетнама: род *Hebarditettix* Günther, 1938

S.YU. STOROZHENKO

С.Ю. СТОРОЖЕНКО

S.Yu. Storozhenko, Federal Scientific Center of the East Asia Terrestrial Biodiversity, Far Eastern Branch of the Russian Academy of Sciences, Vladivostok 690022, Russia. E-mail: storozhenko@ibss.dvo.ru

Nine species of the genus *Hebarditettix* are found in Vietnam; *H. chamensis* sp. nov., *H. fuscus* sp. nov., *H. gibbus* sp. nov., *H. intermedius* sp. nov., *H. magnus* sp. nov., and *H. oculatus* sp. nov. are described from this country. A key to Vietnamese species of *Hebarditettix* is provided.

Для Вьетнама приводятся девять видов рода *Hebarditettix*; описаны новые для науки *H. chamensis* sp. nov., *H. fuscus* sp. nov., *H. gibbus* sp. nov., *H. intermedius* sp. nov., *H. magnus* sp. nov. и *H. oculatus* sp. nov. Дана определительная таблица видов *Hebarditettix* фауны Вьетнама.

Key words: pygmy grasshoppers, taxonomy, fauna, Vietnam, Orthoptera, Tetrigidae, Scelimeninae, *Hebarditettix*, new species

Ключевые слова: прыгунчики, таксономия, фауна, Вьетнам, Orthoptera, Tetrigidae, Scelimeninae, *Hebarditettix*, новые виды

INTRODUCTION

Up to now 40 species in 26 genera and six subfamilies of pygmy grasshoppers (Orthoptera: Tetrigidae) are known from Vietnam (Storozhenko, 2013, 2014; Kim & Pham, 2014; Storozhenko, 2015; Storozhenko & Pushkar, 2015; Storozhenko, 2016; Cigliano et al., 2017).

Hancock (1915) described three species of the pygmy grasshoppers with the narrow vertex and the eyes more or less elevated above the pronotum from India and Myanmar in the genus *Bolotettix* Hancock, 1907 (*B. armatus* Hancock, 1915, *B. quadratus* Hancock, 1915 and *B. triangularis* Hancock, 1915), and transferred the Indian *Criotettix exsertus* Bolívar, 1902 and *Systolederus lobatus* Hancock, 1912 to *Bolotettix*. Later, Hebard (1930) described the genus *Systolotettix* Hebard, 1930 (type species *C. exsertus*, by original designation). This genus origi-

nally included type species, and Hancock's *B. armatus*, *B. triangularis*, *B. lobatus* and *B. quadratus*. Günther (1938) considered *Criotettix exsertus* as a synonym of *Eucriotettix tricarinatus* (Bolívar, 1887) and synonymized *Systolotettix* with *Eucriotettix* Hebard, 1930. Also he placed the rest species of Hebard's *Systolotettix* in the new genus *Hebarditettix* Günther, 1938 due to its well developed prozonal and humero-apical carinae of pronotum and triangular fastigium of vertex, which is strongly attenuate and anteriorly not truncate (Günther, 1938). The refined diagnosis of *Hebarditettix* and descriptions of Indian species were given by Shishodia (1991). Recently, *H. quadratus* was recorded from Nepal (Ingrisch, 2001); *H. armatus* and *H. triangularis* were found in South China (Liang & Zheng, 1998; Zheng, 2005); *H. brachynotus* Deng et Zheng, 2013, *H. dolichonota* Zheng, 2008 and *H. vallis* Zha et Wen, 2016 were described from this

country as new taxa (Zheng, 2008; Deng & Zheng, 2013; Zha et al., 2016). In the latter paper, the redescription of *Hebarditettix* and a key to its species were also published. Thus, this genus has not been recorded from Vietnam until now.

The present paper is based on the specimens collected in Vietnam by Russian entomologists S.A. Belokobylskij, V.G. Bezborodov, I.S. Darevsky, D.N. Fedorenko, A.V. Gorochoy, L.K. Johansen and N.L. Orlov in 1986–2014. All photographs were made using a Canon EOS D6 digital camera with EF 100 mm f/2.8L Macro IS USM macro lens, Falcon Eyes Slk-2400S flash, and the Combine ZM imaging software. The morphological terminology follows Storozhenko et al. (2015), except for the detailed terminology of the carinae that follows Devriese (1999). Length of body is measured from the frontal ridge to the apex of subgenital plate; all the other measurements are standardized for Tetrigidae (Tumbrinck, 2014) and given for the Vietnamese specimens only. The holotypes and paratypes of the new species are deposited in the Zoological Institute of the Russian Academy of Sciences, St Petersburg (ZIN).

SYSTEMATICS

Family **TETRIGIDAE** Rambur, 1838

Subfamily **SCELIMENINAE** Bolívar, 1887

Genus ***Hebarditettix*** Günther, 1938

Hebarditettix Günther, 1938: 121 (key), 201 (description); Steinmann, 1970: 224; Shishodia, 1991: 56; Blackith, 1992: 82; Yin et al., 1996: 873; Otte, 1997: 82; Liang & Zheng, 1998: 83, 241; Zheng, 2005: 92, 452; Deng et al., 2007: 90, 410; Deng & Zheng, 2013: 546; Zha et al., 2016: 5.

Type species *Bolotettix quadratus* Hancock, 1915, by original designation.

Differential diagnosis. The genus *Hebarditettix* occupies intermediate position between the subfamilies Metrodorinae and Scelimeninae due to variability in the shape of lower part of its pronotal lateral lobes,

while traditionally it is placed in the latter subfamily. In *Hebarditettix* the lower part of the lateral lobes in dorsal view may be an obliquely truncate (typical for Metrodorinae), angularly pointed (rare observed in Scelimeninae), or forming a long spine (typical for Scelimeninae). *Hebarditettix* is similar to the genera *Bolotettix* Hancock, 1907 and *Eucriotettix* Hebard, 1930 (subfamily Scelimeninae), as well as to *Systolederus* Bolívar, 1887 and *Xistra* Bolívar, 1887 (subfamily Metrodorinae), which are characterized by the eyes considerably elevated above the pronotum in lateral view (Günther, 1938; Liang & Zheng, 1998; Zheng, 2005). *Hebarditettix* differs from the above-mentioned genera in the strong transverse carinae of vertex which reaching anteriorly the median carina and forming the triangular fastigium of vertex (Figs 2, 3), while in the majority of Oriental genera of Tetrigidae the anterior margin of fastigium distinctly truncate. *Hebarditettix* is similar to *Xistra* in the raised transverse carinae of vertex which are usually visible above eyes in lateral view, but in the type species of latter genus, *X. gogorzae* Bolívar, 1887 from Philippines, the vertex is an extremely deeply excised in frontal view (see Bolívar, 1887: Fig. 18a), while in *Hebarditettix* the vertex with low excision (Fig. 1). The genus *Eucriotettix* differs from *Hebarditettix* in the widened vertex, the width of which is almost equal to the width of each eye in dorsal view (in the latter genus, this vertex distinctly narrower than each eye). *Hebarditettix* is similar to *Systolederus* in the narrow fastigium of vertex, but in the first genus, the vertex between the anterior margins of eyes is 1.4–2.4 as wide as the first antennal segment (in *Systolederus*, this vertex is as wide as the first antennal segment). *Hebarditettix* is most closely related to *Bolotettix* but differs in the highly developed prozonal and humero-apical carinae (Figs 12–17), while in the type species of latter genus, *Bolotettix validispinus* Hancock, 1907 from Borneo, these carinae are vestigial (Hancock, 1907).

Composition. At the present time the genus consists of seven species distributed in Oriental region, namely *H. armatus* (Hancock, 1915) from Myanmar and China, *H. brachynotus* Deng et Zheng, 2013 from China, *H. dolichonota* Zheng, 2008 from China, *H. lobatus* (Hancock, 1912) from India, *H. quadratus* (Hancock, 1915) from India and Nepal, *H. triangularis* (Hancock, 1915) from India and China, and *H. vallis* Zha et Wen, 2016 from China. Nine species of *Hebarditettix* are found in Vietnam, six of which are new and described below.

Note. The species *Systolederus lobatus* from West Bengal was placed in the genus *Bolotettix* by Hancock (1915). Later it was transferred to *Hebarditettix* by Günther (1938) and again returned to *Bolotettix* without any comments by Blackith (1992). This species is placed here in the genus *Hebarditettix* because it is similar to *H. quadratus*. Moreover, Shishodia (1991) considers that *H. quadratus* might be a synonym of *H. lobatus*, as both taxa differ only in the length of their pronotum.

Key to Vietnamese species

- 1(10) Lower part of lateral lobes of pronotum obliquely truncate (Figs 12–15).
- 2(3) Fastigium of vertex as wide as one compound eye (Fig. 2). Hind tibia slender, 3.4–3.5 times as long as wide ***H. quadratus***
- 3(2) One compound eye 1.2–1.8 times as wide as fastigium of vertex (Fig. 3). Hind tibia broad, 2.7–3.2 times as long as wide.
- 4(7) Posterior process of pronotum with large tubercles (Fig. 13).
- 5(6) Median carina of pronotum straight in profile (Fig. 4). One compound eye in male 1.6–1.7 times, in female 1.5–1.6 times as wide as fastigium of vertex. Mid femur 1.7 times as wide as visible part of tegmen ***H. oculatus* sp. nov.**
- 6(5) Median carina of pronotum raised before shoulders (Fig. 5). One compound eye in male 1.5 times, in female 1.3–1.4 times as wide as fastigium of vertex. Mid femur 1.2–1.5 times as wide as visible part of tegmen ***H. gibbus* sp. nov.**
- 7(4) Posterior process of pronotum with indistinct tubercles or smooth (Figs 14, 15).
- 8(9) One compound eye 1.2–1.3 times as wide as fastigium of vertex. Male subgenital plate without apical excision (Fig. 9). Tarsal segments light brown ***H. magnus* sp. nov.**
- 9(8) One compound eye 1.6–1.8 times as wide as fastigium of vertex. Apex of male subgenital plate with excision (Fig. 10). Tarsal segments whitish ***H. chamensis* sp. nov.**
- 10(1) Lower part of lateral lobes of pronotum with spine (Fig. 16) or angularly pointed (Fig. 17).
- 11(12) Lower part of lateral lobes of pronotum with short spine (Fig. 16). One compound eye 1.6 times as wide as fastigium of vertex. Hind tibia brown ***H. brachynotus***
- 12(11) Lower part of lateral lobes of pronotum angularly pointed (Fig. 17). One compound eye 1.1–1.2 times as wide as fastigium of vertex. Hind tibia black.
- 13(14) Frontal ridge wide, its width near base of antennae equal to width of first antennal segment; in lateral view, this ridge weakly excised between lateral ocelli (Fig. 6) ***H. intermedius* sp. nov.**
- 14(13) Frontal ridge narrow, first antennal segment 1.2–1.6 times as wide as this ridge near base of antennae; in lateral view, this ridge with deep excision between lateral ocelli (Fig. 7).
- 15(16) Fore tibia shorter than mid tibia. Hind tibia 3.0–3.3 times as long as wide. Male subgenital plate with shallow apical excision (Fig. 11) ***H. triangularis***
- 16(15) Fore tibia as long as mid tibia. Hind tibia 3.4–3.7 times as long as wide. Male subgenital plate with deep apical excision (Fig. 8) ***H. fuscus* sp. nov.**

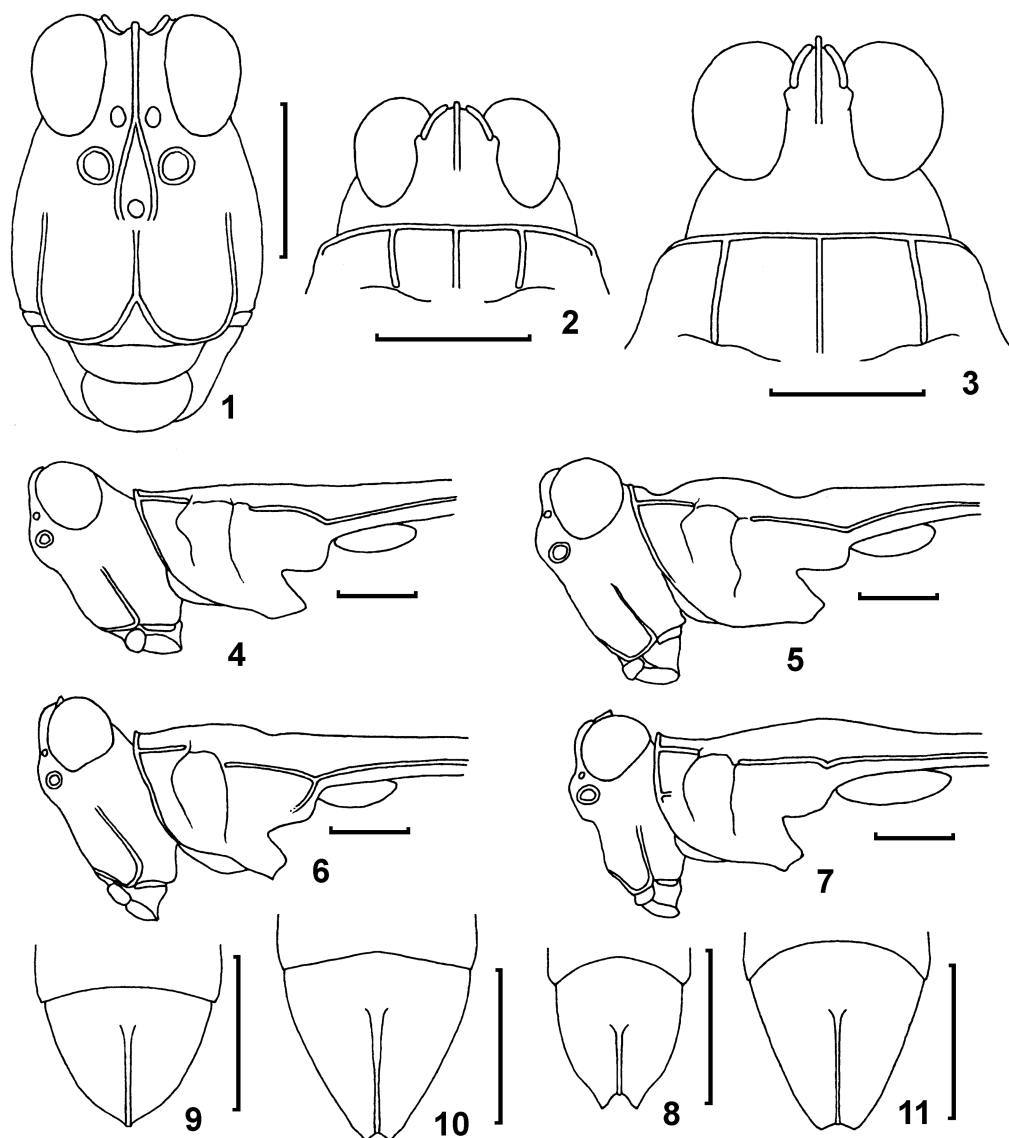
Hebarditettix quadratus (Hancock, 1915) (Figs 1, 2, 12)

Bolotettix quadratus Hancock, 1915: 79 (holotype – female, India: West Bengal, Dajeeling District, Singla).

Systolotettix quadratus Hebard, 1930: 580.

Hebarditettix quadratus: Günther, 1938: 202; Shishodia, 1991: 57, Pl. 11, figs. 4, 5; Blackith, 1992: 82; Yin et al., 1996: 873; Otte, 1997: 82; Ingrisch, 2001: 148; Deng & Zheng, 2013: 546; Tumbrinck, 2015: 283; Zha et al., 2016: 6. *Xistrella dohrni*: Steinmann, 1970: 229 (part.).

Material examined. Vietnam: 2 males, Quang Binh Province, Phong Nha National Park, forest, 3–19 July 2003, N.L. Orlov (ZIN).



Figs 1–11. *Hebarditettix* Günther. 1, 2, *H. quadratus*, male (1, head, frontal view; 2, head and anterior part of pronotum, dorsal view); 3, 4, *H. oculatus* **sp. nov.**, female (3, head and anterior part of pronotum, dorsal view; 4, same, lateral view); 5, *H. gibbus* **sp. nov.**, female head and anterior part of pronotum, lateral view; 6, *H. intermedius* **sp. nov.**, male head and anterior part of pronotum, lateral view; 7, 8, *H. fuscus* **sp. nov.** (7, female head and anterior part of pronotum, lateral view; 8, male subgenital plate, ventral view); 9, *H. magnus* **sp. nov.**, male subgenital plate, ventral view; 10, *H. chamensis* **sp. nov.**, same; 11, *H. triangularis*, same. Scale bars: 1 mm.

Differential diagnosis. This species is most similar to *H. lobatus*, but the latter species smaller (length in mm: pronotum of male 10–10.5, of female 11–14; hind femur of male 5–5.2, of female 5.7–5.8). The shape

of pronotum and vertex, as well as the color of body, legs and wings in Vietnamese specimens are almost the same as described by Hancock (1915) and Shishodia (1991) for *H. quadratus*, but the size is gentle larger

(length in mm for Indian specimens: pronotum of male 11–12.5, of female 13.5–14; hind femur of male 5.4–5.8, of female 6.2–6.5). This species differs from *H. armatus*, *H. dolichonota* and *H. vallis* in the lower part of pronotal lateral lobes obliquely truncate (in the three latter congeners, the lateral lobes with spine). The differences of *H. quadratus* from Vietnamese congeners are given in a key.

Measurements (length in mm, male). Body 8.6–9.2; pronotum 10.6–10.7; antenna 5.5; tegmen 0.4; fore femur 2.2–2.3; mid femur 2.4–2.5; hind femur 5.9–6.1.

Distribution. India (West Bengal, Sikkim, Arunachal Pradesh), Nepal (Syaklung), Vietnam (new record).

Note. Steinmann (1970) synonymized *Hebarditettix quadratus* with *Xistrella dohni* Günther, 1939 by mistake, but Shishodia (1991) resurrected *H. quadratus*. Here this species is firstly recorded from Vietnam where it is found in the Quang Binh Province situated along north-central coast of this country.

***Hebarditettix oculatus* Storozhenko, sp. nov.**

(Figs 3, 4, 13, 18–20)

Holotype. Female; **Vietnam:** Ha Son Binh Province, Da Bac, Tuly, 200 m, 16–23 October 1990, A.V. Gorochov (ZIN).

Paratypes. Six males and 4 females, same data as for holotype (ZIN); 1 female, same locality, forest, 19 October 1990, S.A. Belokobylskij (ZIN).

Description. Female. Body medium-sized for this genus. Antennae filiform, 15-segmented, 1.6–1.7 times as long as fore femur; middle segments (seventh–ninth) 6.5–8 times as long as wide. Antennal sockets situated between lower margins of eyes. One compound eye 1.5–1.6 times as wide as fastigium of vertex which 1.6–2 times as wide as frontal ridge between antennal sockets; anterior margin of vertex slightly projected before eyes; median carina of vertex reaching middle of eyes; transverse carinae almost reaching anteriorly median carina;

supraocular lobes present. Compound eyes considerably elevated above pronotum in lateral view. Lateral ocelli situated between lower thirds of these eyes. Frontal ridge in lateral view broadly rounded between antennal sockets and distinctly excised below median ocellus; in frontal view, this ridge almost parallel-side between and below antennal sockets. First antennal segment 1.1–1.2 times as wide as frontal ridge near base of antennae. Pronotum in dorsal view with almost straight anterior margin; posterior process of pronotum narrow, surpassing apex of hind femora by 1.0–1.1 mm. Disc of pronotum with a pair of shallow impressions situated behind shoulders (humeral angles); posterior process of pronotum with a few large tubercles; apex of this process weakly excised. Lateral sides of shoulders angularly rounded in dorsal view. Median carina of pronotum in profile low and straight. Lateral carinae in prozona well defined; prozona transverse, 1.4–1.5 times as wide as long. Humero-apical carinae distinct; interhumeral carinae weak. Hind margin of lateral lobes of pronotum with deep tegminal sinus; lower part of lateral lobe of pronotum in dorsal view forming obliquely truncate lobule. Tegmina narrowly ovate; visible part of tegmen 3.1–3.2 times as long as wide, and mid femur 1.7 times as wide as this tegminal part. Hind wings reaching apex of posterior process of pronotum. Fore and mid femur 4.2–4.3 times as long as wide; upper and lower side of fore and mid femora straight. Hind femur 2.7–2.8 times as long as wide. Upper side of hind tibia with 5 outer and 4–5 inner teeth, with margins finely serrated in basal part. First tarsal segment of hind leg as long as third one; ventral side of first tarsal segment with three equal triangular pads; third tarsal segment not swollen. Epiproct triangular, with pointed apex. Subgenital plate 1.1–1.2 times as long as wide; posterior margin of plate near middle with angular posterior process. Cerci conical, with blunt apices, two times as long as wide near cercal base. Valves of ovipositor narrow, dentate; length of upper valve 4.3–

4.5 times as great as its maximum width; length of lower valve 5.2–6 times as great as its maximum width.

General colouration of body blackish brown. Head blackish brown with black postocular bands; antennae brown with light rings near apical parts of third–tenth segments and with black apical segments; eyes blackish brown. Disc of pronotum blackish brown; lateral lobes black with brownish black lower parts. Tegmina and hind wings black. Fore and mid femora light brown with indistinct blackish marks. Fore and mid tibia brown. Hind femora brown with black marks; median external area with oblique black stripe near base; ventral external area completely black. Hind tibiae black with brown apical third. Tarsal segments light brown with blackish apices. Tergites blackish brown; sternites brown. Epiproct blackish brown. Cerci light brown. Subgenital plate blackish brown. Ovipositor shining brown.

Male. General appearance similar to that of female but smaller. Antennae 14–15-segmented; middle segments 7–8.7 times as long as wide. One compound eye 1.6–1.7 times as wide as fastigium of vertex which 1.6–2 times as wide as frontal ridge between antennal sockets; carinae of vertex as in female. First antennal segment 1.2–1.3 times as wide as frontal ridge near base of antennae. Pronotum as in female. Tegmina narrow; visible part of tegmen 2.9–3.1 times as long as wide, and mid femur 1.7 times as wide as this tegminal part. Legs as in female, but fore femur 4.2–4.4 times, mid femur 3.8–4 times, hind femur 2.8 times as long as wide. Epiproct triangular, with pointed apex. Subgenital plate 1.5–1.6 times as long as wide; its apex with small excision. Cerci as in female.

General colouration of body as in female, but tergites light brown with black spots. Sternites blackish. Epiproct, subgenital plate and cerci light brown.

Measurements (length in mm). Body: male 9.0–9.5, female 9.7–10.2; pronotum: male 9.7–10.1, female 10.8–11.1; antenna:

male 3.9–4.0, female 3.8–4.0; fore femur: male 2.1–2.2, female 2.3–2.4; mid femur: male 2.3–2.4, female 2.5–2.6; hind femur: male 5.8–5.9, female 6.5–6.6; ovipositor 1.4–1.5.

Distribution. Northern Vietnam (central part).

Comparison. The differences of this species from Vietnamese congeners are given in the above key.

Etymology. This species name is the Latin adjective “*oculatus*” (eyed).

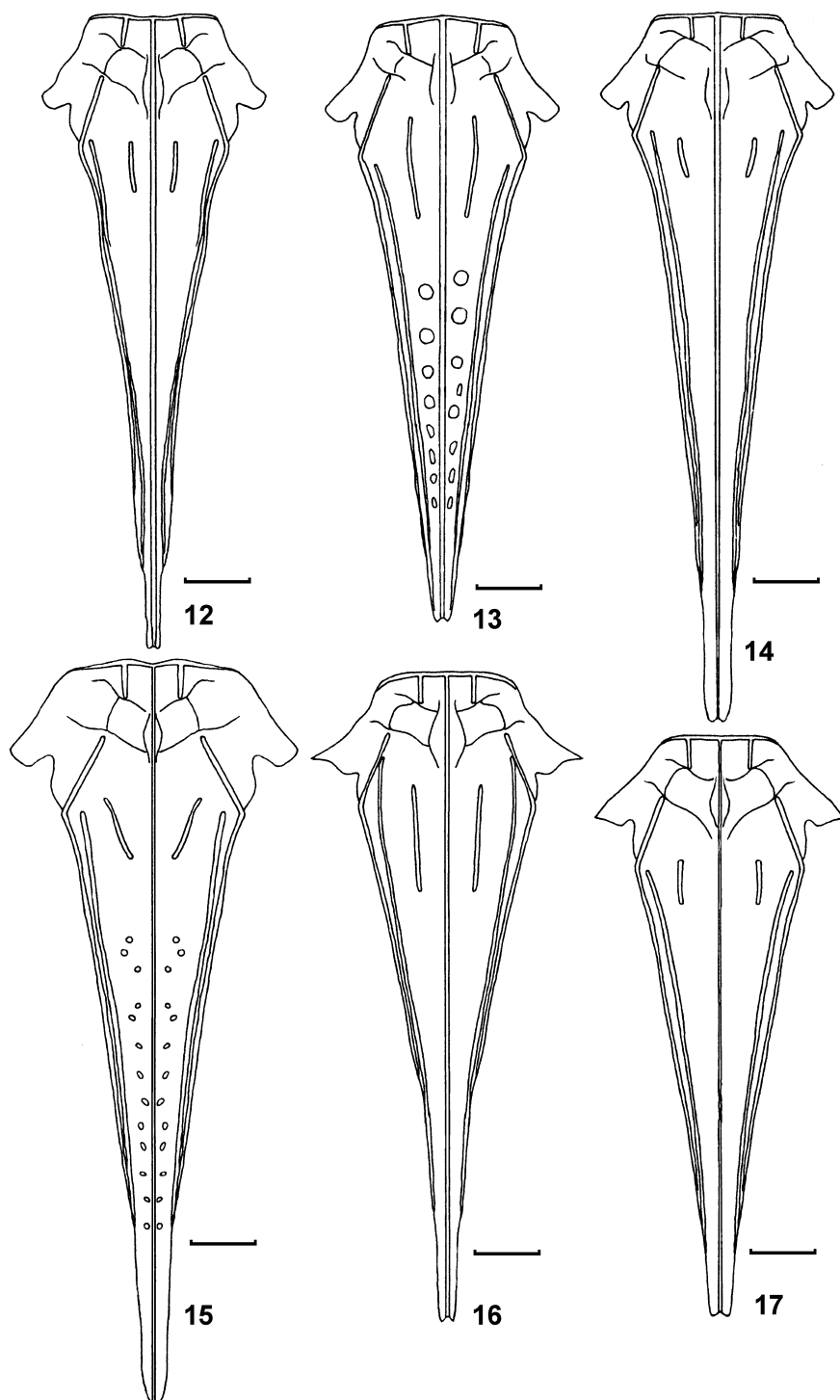
***Hebarditettix gibbus* Storozhenko, sp. nov.**

(Figs 5, 21–23)

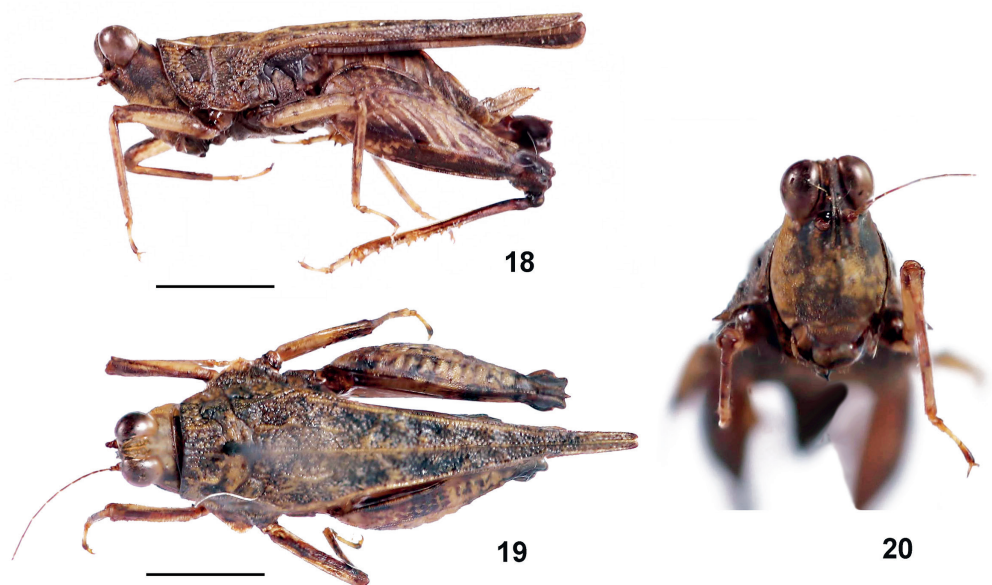
Holotype. Female; **Vietnam:** Vinh Phuc Prov., Tham Dao National Park, 17 May 1995, A.V. Gorochoy (ZIN).

Paratypes. One male and 1 female, same data as for holotype (ZIN).

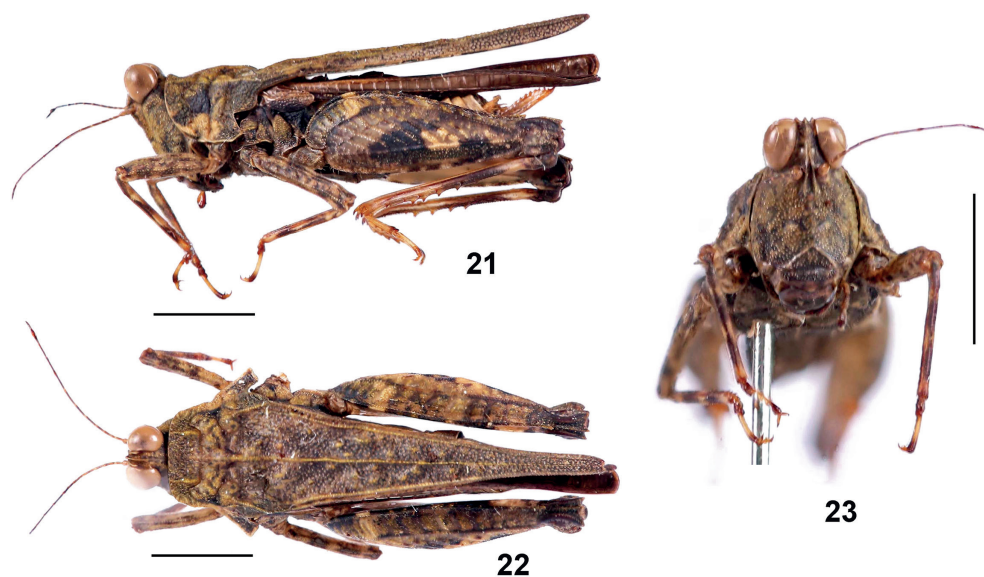
Description. Female. Body medium-sized for this genus. Antennae filiform, 14–15-segmented, 1.75 times as long as fore femur; middle segments (seventh–ninth) 7.5–9.1 times as long as wide. Antennal sockets situated between lower margins of eyes. One compound eye 1.3–1.4 times as wide as fastigium of vertex which 2 times as wide as frontal ridge between antennal sockets; anterior margin of vertex slightly projected before eyes; median carina of vertex reaching middle of eyes; transverse carinae almost reaching anteriorly median carina; supraocular lobes absent. Compound eyes considerably elevated above pronotum in lateral view. Lateral ocelli situated between middles of these eyes. Frontal ridge in lateral view broadly rounded between antennal sockets and weakly excised below median ocellus; in frontal view, this ridge distinctly widened below antennal sockets. Width of frontal ridge near base of antennae 1.2–1.3 times as great as width of first antennal segment. Pronotum in dorsal view with almost straight anterior margin; posterior process of pronotum narrow, surpassing apex of hind femora by 1.5 mm. Disc of pronotum with two pairs of impressions



Figs 12–17. *Hebarditettix* Günther, pronotum, dorsal view. 12, *H. quadratus*, male; 13, *H. oculatus* **sp. nov.**, male; 14, *H. magnus* **sp. nov.**, male; 15, *H. chamensis* **sp. nov.**, male; 16, *H. brachynotus*, female; 17, *H. triangularis*, female. Scale bars: 1 mm.



Figs 18–20. *Hebarditettix oculatus* sp. nov., female holotype. 18, body, lateral view; 19, same, dorsal view; 20, same, frontal view. Scale bars: 1 mm.



Figs 21–23. *Hebarditettix gibbus* sp. nov., female holotype. 21, body, lateral view; 22, same, dorsal view; 23, same, frontal view. Scale bars: 1 mm.

situated before and behind shoulders (humeral angles); posterior process of pronotum with a few large tubercles; apex of posterior process weakly excised. Lateral sides of shoulders broadly rounded in dorsal view. Median carina of pronotum in profile low, gently raised near anterior margin of pronotum, slightly excised near middle of prozona, again raised before shoulders, and low and almost straight in posterior process. Lateral carinae in prozona well defined; prozona transverse, 1.4–1.5 times as wide as long. Humero-apical carinae distinct; interhumeral carinae absent. Hind margin of lateral lobes of pronotum with deep tegminal sinus; lower part of lateral lobes of pronotum in dorsal view obliquely truncate. Tegmina narrowly ovate; visible part of tegmen 2.6–3 times as long as wide, and mid femur 1.2–1.5 times as wide as this tegminal part. Hind wings extending apex of posterior process of pronotum. Fore femur 4 times, mid femur 4.5 times as long as wide; upper and lower side of fore and mid femora straight. Hind femur 3.1–3.2 times as long as wide. Upper side of hind tibia with 6–7 outer and 4–5 inner teeth, with margins finely serrated in basal part. First tarsal segment of hind leg as long as third one (without claws); ventral side of first tarsal segment with three equal triangular pads; third tarsal segment not swollen. Epiproct triangular, with pointed apex. Subgenital plate subsquare; its posterior margin near middle with angular posterior process. Cerci conical, with pointed apices, 2.0–2.2 times as long as wide near cercal base. Valves of ovipositor narrow, dentate; length of upper valve 4.0–4.2 times as great as its maximum width; length of lower valve 5.7–5.8 times as great as its maximum width.

General colouration of body blackish brown. Head dark brown without marks; antennae brown with light rings near apical parts of third–tenth segments and with black apical segments; eyes light brown. Disc of pronotum blackish; lateral lobes blackish with yellowish spot near anterior margin. Tegmina and hind wings black.

Fore and mid femora blackish with indistinct light marks. Fore and mid tibia black with three light brown rings. Hind femora brown with black marks; median external area with oblique black stripe near middle; ventral external area black with yellowish spots. Hind tibiae brown with black rings at base and near middle. Tarsal segments light brown with black apices. Tergites and sternites blackish brown. Epiproct and cerci brown. Subgenital plate blackish brown. Ovipositor shining brown.

Male. General appearance similar to that of female. Antennae 14-segmented; middle segments 6.4–6.6 times as long as wide. One compound eye 1.5 times as wide as fastigium of vertex which 2 times as wide as frontal ridge between antennal sockets; carinae of vertex as in female. Frontal ridge near base of antennae 1.25 times as wide as first antennal segment. Pronotum as in female. Tegmina narrow; visible part of tegmen 2.75 times as long as wide, and mid femur 1.2 times as wide as this tegminal part. Legs as in female, but fore femur 4.2 times, mid femur 4.6 times, hind femur 2.9 times as long as wide, and hind tibia with 6 outer and 5 inner teeth. Epiproct triangular, with pointed apex. Subgenital plate 1.2 times as long as wide; its apex with small excision. Cerci as in female.

General colouration of body as in female, but tergites, epiproct and subgenital plate brown. Hind femora with more contrast black stripes. Hind tibia light brown with black basal ring and blackish ring near middle.

Measurements (length in mm). Body: male 9.2, female 10.2–10.3; pronotum: male 9.2, female 11.1–11.5; antenna: male 4.0, female 4.2–4.4; tegmen: male 1.1, female 1.3; fore femur: male 2.1, female 2.4–2.5; mid femur: male 2.3, female 2.7; hind femur: male 5.7, female 6.7–6.8; ovipositor 1.6–1.7 mm.

Distribution. Northern Vietnam (central part).

Comparison. The new species is similar to *H. quadratus*, *H. oculatus* **sp. nov.**, *H. magnus* **sp. nov.** and *H. chamensis* **sp.**

nov. in the shape of pronotal lateral lobes; its differences from these species are given in the above key.

Etymology. This species name is the Latin adjective “gibbus” (gibbous).

***Hebarditettix magnus* Storozhenko,**

sp. nov.

(Figs 9, 14, 24–26)

Holotype. Female; **Vietnam:** Hua Thien Hue Province, Bach Ma National Park, 22–23 September 2008, V.G. Bezborodov (ZIN).

Paratype. Male; **Vietnam:** Gia Lai Province, 50–60 km N of Kannak Town, Con Cha Rang, 1000–1200 m, 14–15 April 1995, A.V. Gorochoy (ZIN).

Description. Female. Body large for this genus. Antennae filiform, 15-segmented, 2.1 times as long as fore femur; middle segments (seventh–ninth) 9.5–10.8 times as long as wide. Antennal sockets situated slightly below lower margins of eyes. One compound eye 1.3 times as wide as fastigium of vertex which 2 times as wide as frontal ridge between antennal sockets; anterior margin of vertex not projected before eyes; median carina of vertex reaching middle of eyes; transverse carinae reaching anteriorly median carina; supraocular lobes absent. Compound eyes elevated above pronotum in lateral view. Lateral ocelli situated between lower quarters of eyes. Frontal ridge in lateral view broadly rounded between antennal sockets and weakly excised below median ocellus and above lateral ocelli; in frontal view, this ridge gentle widened below lateral ocelli. Frontal ridge near base of antennae 1.2 times as wide as first antennal segment. Pronotum in dorsal view with almost straight anterior margin in profile; posterior process of pronotum narrow, surpassing apex of hind femora by 2.1 mm. Disc of pronotum with two pairs of impressions situated before and behind shoulders; posterior process of pronotum without tubercles; apex of posterior process weakly excised. Lateral sides of shoulders angularly rounded in dorsal view. Median carina of pronotum in profile low, slightly sinuate near shoulders,

low and straight in posterior process. Lateral carinae in prozona well defined; prozona transverse, 1.5 times as wide as long. Humero-apical and interhumeral carinae distinct. Hind margin of lateral lobes of pronotum with deep tegminal sinus; lower part of lateral lobes of pronotum obliquely truncate. Tegmina narrowly ovate; visible part of tegmen 3.5 times as long as wide, and mid femur 1.75 times as wide as this tegminal part. Hind wings extending apex of posterior process of pronotum. Fore femur 3.7 times, mid femur 5 times as long as wide; upper and lower edges of fore and mid femora weakly sinuate. Hind femur 3 times as long as wide. Upper side of hind tibia with 4–5 outer and 4 inner teeth, with margins finely serrated in basal part. First tarsal segment of hind leg as long as third one; ventral side of first tarsal segment with three almost equal triangular pads; third tarsal segment not swollen. Epiproct triangular, with pointed apex. Subgenital plate elongated, 1.3 times as long as wide; its posterior margin near middle with angular posterior process. Cerci conical, with attenuated apices, 2.2 times as long as wide near their bases. Valves of ovipositor narrow, dentate; length of upper valve 4 times as great as its maximum width; length of lower valve 6.2 times as great as its maximum width.

General colouration of body brownish black. Occiput and vertex brown; head in frontal view blackish without marks; antennae dark brown with light brown rings near apical parts of third–tenth segments and with black apical segments; eyes dark brown. Disc of pronotum black; lateral lobes black without light spots. Tegmina black with light brown apices; hind wings black. Fore and mid femora black with indistinct light marks. Fore and mid tibiae blackish with three light brown rings. Hind femora black with light marks; median external area in apical third with whitish spot; ventral external area with light brown base and black apex. Hind tibiae black with light brown apices. Tarsal segments of fore and mid legs light brown with black apices; seg-



Figs 24–26. *Hebarditettix magnus* sp. nov., female holotype. 24, body, lateral view; 25, same, dorsal view; 26, same, frontal view. Scale bars: 1 mm.

ments of hind leg light brown. Tergites light brown with black spots; sternites black. Epiproct, cerci, subgenital plate and ovipositor light brown.

Male. General appearance similar to that of female but smaller. Antennae 14-segmented; middle segments 11–13 times as long as wide. One compound eye 1.2 times as wide as fastigium of vertex which 2 times as wide as frontal ridge between antennal sockets; carinae of vertex as in female. Width of frontal ridge near base of antennae equal to width of first antennal segment. Pronotum as in female. Tegmina narrow; visible part of tegmen 2.7 times as long as wide, and mid femur 1.3 times as wide as this tegminal part. Legs as in female, but fore femur 4 times, mid femur 4.5 times, hind femur 3.2 times as long as wide, and hind tibia with 4–6 outer and 4 inner teeth. Epiproct triangular, with pointed apex. Subgenital plate 1.1 times as long as wide; its apex without excision. Cerci with attenuated apices, 2.5 times as long as wide near cercal base.

General colouration of body as in female, but antennae brown, visible part of tegmina black with light brown stripe along upper edge, fore and mid femora brown with less distinct light rings, and subgenital plate light brown.

Measurements (length in mm). Body: male 9.0, female 10.8; pronotum: male 10.8, female 12.9; antenna: male 6.1, female 5.4; tegmen: male 1.2, female 1.4; fore femur: male 2.4, female 2.6; mid femur: male 2.7, female 3.0; hind femur, male and female 6.8; ovipositor 1.7.

Distribution. Central Vietnam.

Etymology. This species name is the Latin adjective “magnus” (large).

***Hebarditettix chamensis* Storozhenko, sp. nov.**

(Figs 10, 15, 27–29)

Holotype. Male; **Vietnam:** Quang Nam Province, Cham Islands near Da Nang, Cu Lao Cham, 28–29 March 1987, I.S. Darevsky (ZIN).

Paratype. One male, same data as for holotype (ZIN).

Description. Male. Body large for this genus. Antennae filiform, 14-segmented, 2 times as long as fore femur; middle segments (seventh–ninth) 8.8–10 times as long as wide. Antennal sockets situated slightly below lower margins of eyes. One compound eye 1.6–1.8 times as wide as fastigium of vertex which 1.4–1.6 times as wide as frontal ridge between antennal sockets; anterior margin of vertex not projected before eyes; median carina of vertex reaching middle of eyes; transverse carinae reaching anteriorly median carina; supraocular lobes absent. Compound eyes elevated above pronotum in lateral view. Lateral ocelli situated between lower quarters of eyes. Frontal ridge in lateral view broadly rounded between antennal sockets and weakly excised below median ocellus and above lateral ocelli; in frontal view, this ridge is widened below lateral ocelli. Width of frontal ridge near base of antennae almost equal to width of first antennal segment. Pronotum in dorsal view with almost straight anterior margin; posterior process of pronotum narrow, surpassing apex of hind femora by 3.0–3.5 mm. Disc of pronotum with two pairs of shallow impressions situated before and behind shoulders; posterior process of pronotum with a few small tubercles; apex of posterior process rounded. Lateral sides of shoulders angularly rounded in dorsal view. Median carina of pronotum in profile low; slightly sinuate near shoulders, low and straight in posterior process. Lateral carinae in prozona well defined; prozona transverse, 1.6–1.8 times as wide as long. Humero-apical and interhumeral carinae distinct. Hind margin of lateral lobes of pronotum with deep tegminal sinus; lower part of lateral lobes of pronotum in dorsal view obliquely truncate. Tegmina narrow; visible part of tegmen 2 times as long as wide, and mid femur 1.1 times as wide as this tegminal part. Hind wings extending apex of posterior process of pronotum. Fore femur 3.1 times, mid femur 3.8 times as long as wide; upper

and lower edges of fore and mid femora almost straight. Hind femur 2.9 times as long as wide. Upper side of hind tibia with 4–5 outer and 4 inner teeth, with margins finely serrated in basal part. First tarsal segment of hind leg as long as third one; ventral side of first tarsal segment with three almost equal triangular pads; third tarsal segment not swollen. Epiproct triangular, with pointed apex. Subgenital plate as long as wide; its apex with excision. Cerci conical, with blunt apices, 2.0–2.3 times as long as wide near cercal base.

General colouration of body brownish black. Head blackish; antennae light brown with black apical segments; eyes brown. Disc of pronotum black; upper part of lateral lobes black, but their lower part yellowish with black marks. Tegmina light brown with narrow black stripe along upper edge; hind wings black. Fore and mid femora light brown with indistinct black marks. Fore and mid tibia blackish brown. Hind femora light brown with black marks; median external area brown with oblique blackish stripe in apical part; ventral external area with yellowish base and black apex. Hind tibiae blackish with brown ring near base and light brown apices. Tarsal segments of fore and mid legs whitish with black apices; tarsal segments of hind leg whitish. Tergites black with yellowish spots; sternites light brown. Epiproct blackish. Cerci light brown. Subgenital light brown with blackish lateral spots near base of this plate.

Female unknown.

Measurements (length in mm). Body 10.0–10.8; pronotum 12.0; antenna 4.5; tegmen 1.2; fore femur 2.2; mid femur 2.3; hind femur 6.1–6.2.

Distribution. Central Vietnam.

Comparison. New species is most similar to *H. magnus* but differs from the latter species in the blunt apices of cerci and characteristic colouration of hind tibiae, as well as in the characters given in the above key.

Etymology. This species is named after its type locality (Cham Island).



Figs 27–29. *Hebarditettix chamensis* sp. nov., male holotype. 27, body, lateral view; 28, same, dorsal view; 29, same, frontal view. Scale bars: 1 mm.

***Hebarditettix brachynotus* Deng
et Zheng, 2013**
(Fig 16)

Hebarditettix brachynotus Deng & Zheng, 2013: 547, figs. 1–4 (holotype – female, China: Guizhou, Shibing [=Yuntaishan]); Zha et al., 2016: 6.

Material examined. **Vietnam:** 2 females, Thai Nguyen Province, Phu Luong District, Kuang Chu, 15–23 April 1986, A.V. Gorochov (ZIN).

Differential diagnosis. This species is similar to *H. armatus*, *H. vallis* and *H. dolichonota* in the lower part of pronotal lateral lobes forming a spine, but differs in the shape and direction of this spine. In *H. armatus* and *H. vallis*, the spine is directed outwards and very long; in *H. dolichonotus*, the spine is relatively short and directed backwards; but in *H. brachynotus*, the spine is short and directed outwards (Fig. 16). The differences of *H. brachynotus* from the Vietnamese congeners are given in the above key.

Measurements (length in mm, female). Body 8.1–8.5; pronotum 10.5–10.7; antenna 4.5–4.6; tegmen 0.5; fore femur 2.2–2.3;

mid femur 2.3–2.4; hind femur 5.9–6.1; ovipositor 1.4–1.5.

Distribution. China (Guizhou), Vietnam (new record).

Note. Male of this species is unknown. This species is found in the central part of Northern Vietnam.

***Hebarditettix intermedius* Storozhenko,
sp. nov.**
(Figs 6, 30–32)

Holotype. Male; **Vietnam:** Vinh Phuc Prov., Tham Dao National Park, 800–900 m, 17–31 June 1995, A.V. Gorochov (ZIN).

Paratypes. Two males, same data as for holotype but 17 May and 1–11 June 1995, A.V. Gorochov (ZIN).

Description. Male. Body medium-sized for this genus. Antennae filiform, 14–15-segmented, 1.7–1.8 times as long as fore femur; middle segments (seventh–ninth) 8.0–8.7 times as long as wide. Antennal sockets situated between lower margins of eyes. One compound eye 1.1–1.2 times as wide as fastigium of vertex which 2–2.5 times as wide



Figs 30–32. *Hebarditettix intermedius* sp. nov., male holotype. 30, body, lateral view; 31, same, dorsal view; 32, same, frontal view. Scale bars: 1 mm.

as frontal ridge between antennal sockets; anterior margin of vertex not projected before eyes; median carina of vertex reaching middle of eyes; transverse carinae reaching anteriorly median carina; supraocular lobes small. Compound eyes elevated above pronotum in lateral view. Lateral ocelli situated between lower thirds of eyes. Frontal ridge in lateral view broadly rounded between antennal sockets, distinctly excised below median ocellus, and weakly excised near lateral ocelli; in frontal view, this ridge distinctly widened below lateral ocelli. Width of frontal ridge near base of antennae 1.1–1.2 times as great as width of first antennal segment. Pronotum in dorsal view with straight anterior margin; posterior process of pronotum narrow, surpassing apex of hind femora by 2.2–2.3 mm. Disc of pronotum before and behind shoulders without impressions; posterior process of pronotum smooth; apex of posterior process gently excised. Lateral sides of shoulders angularly rounded in dorsal view. Median carina of pronotum in profile low, almost straight, gently raised near anterior margin of pronotum and slightly excised near shoulders. Lateral carinae in

prozona well defined; prozona transverse, 1.3–1.4 times as wide as long. Humero-apical carinae distinct; interhumeral carinae weak. Hind margin of lateral lobes of pronotum with deep tegminal sinus; lower part of lateral lobes of pronotum in dorsal view angularly pointed. Tegmina narrow; visible part of tegmen 2.8–3 times as long as wide, and mid femur 1.4–1.5 times as wide as this tegminal part. Hind wings not reaching apex of posterior process of pronotum by 0.2 mm. Fore femur 3.8–3.9 times, mid femur 4.0–4.2 times as long as wide; upper and lower side of fore and mid femora almost straight. Hind femur 2.8–2.9 times as long as wide. Upper side of hind tibia with 5–6 outer and 3–4 inner teeth, with margins finely serrated in basal part. First tarsal segment of hind leg as long as third one (without claws); ventral side of first tarsal segment with three equal triangular pads; third tarsal segment not swollen. Epiproct triangular, with pointed apex. Subgenital plate 1.5–1.7 times as long as wide; its apex with narrow excision. Cerci conical, with pointed apices, 2.0 times as long as wide near cercal base.

General colouration of body brownish black. Head light brown with distinct black postocular bands; antennae brown with indistinct light rings near apical parts of third–tenth segments and with black apical segments; eyes light brown. Disc of pronotum blackish brown; upper part of lateral lobes black, but their lower part yellow. Tegmina and hind wings black. Fore and mid femora brown with blackish marks. Fore and mid tibia brown. Hind femora light brown with black marks; median external area with basal oblique black stripe; dorsal external area with three blackish spots; ventral external area with yellowish base and black apex. Hind tibiae brown with light rings near base. Tarsal segments light brown with blackish apices. Tergites black with light brown spots. Sternites blackish brown. Epiproct and cerci light brown. Subgenital plate blackish brown.

Female unknown.

Measurements (length in mm). Body 9.6–10.0; pronotum 11.0–11.8; antenna 4.0–4.1; tegmen 1.1–1.2; fore femur 2.2–2.3; mid femur 2.4–2.5; hind femur 5.8–6.1 mm.

Distribution. Northern Vietnam (central part).

Comparison. The differences of this new species from the Vietnamese congeners are given in the above key.

Etymology. This species name is the Latin adjective “*intermedius*” (intermediate).

***Hebarditettix triangularis* (Hancock, 1915)**

(Figs 11, 17)

Bolotettix triangularis Hancock, 1915: 80 (syn-types – male and females, India: Assam, Sivasagar [=Sivasagar]).

Systolotettix triangularis Hebard, 1930: 580.

Hebarditettix triangularis: Günther, 1938: 202; Steinmann, 1970: 224; Shishodia, 1991: 57, Pl. 11, fig. 1; Blackith, 1992: 82; Otte, 1997: 82; Liang & Zheng, 1998: 84; Zheng, 2005: 92, 452, figs. 192–194; Deng & Zheng, 2013: 546; Zha *et al.*, 2016: 6.

Material examined. **Vietnam:** 1 female, Lao Cai Province, Sa Pa District, Fan Si Pan Mt,

22°18′59″N, 103°49′16″E, 1200 m, 12–25 May 1999, N.L. Orlov; 1 female, same mountain, 22°18′56″N, 103°49′35″E, 1400–1500 m, 26 May – 6 June 1999, N.L. Orlov; 1 male, 1 female, Lang Son Province, Huu Lien National Park, 200 m, primary forest, 23–30 July 2003, N.L. Orlov (ZIN).

Differential diagnosis. The specimens from Vietnam are conspecific with *H. triangularis* from India by the lower part of pronotal lateral lobes angularly pointed and similar in this aspect to the described here from Southern Vietnam *H. fuscus* **sp. nov.** Differences from the latter species are given below.

Measurements (length in mm). Body: male 7.3, female 7.8–8.0; pronotum: male 10.5, female 9.1–9.5; tegmen: male 1.2, female 1.2–1.3; fore femur: male 1.8, female 2.0–2.1; mid femur: male 2.1, female 2.2; hind femur: male 4.9, female 5.5–5.6; ovipositor 1.4–1.5.

Distribution. India (Assam), China (Yunnan), Vietnam (new record).

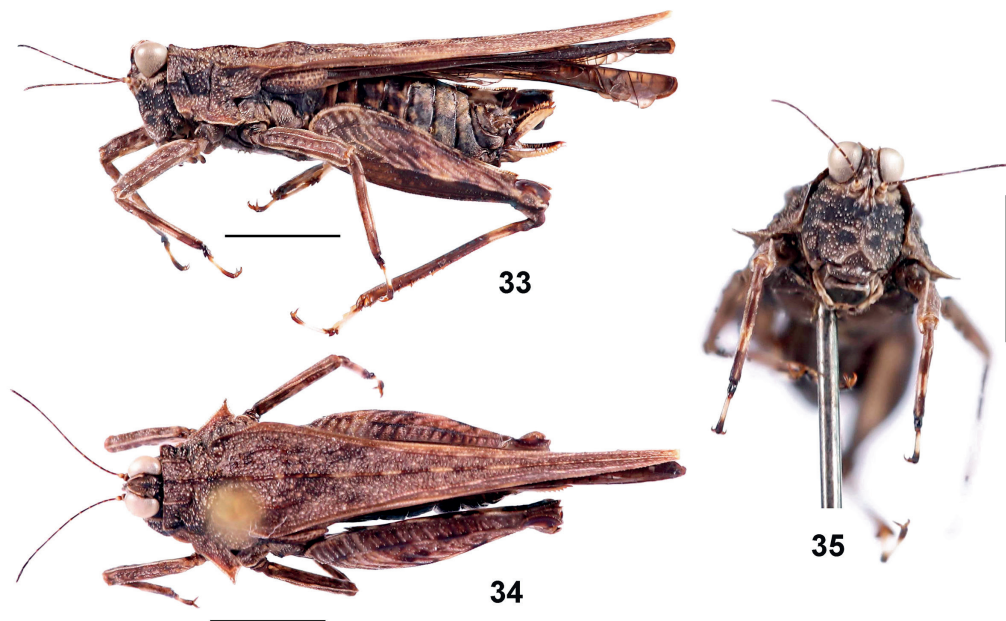
***Hebarditettix fuscus* Storozhenko, sp. nov.**

(Figs 7, 8, 33–35)

Holotype. Female; **Vietnam:** Kon Tum Prov., Kon Plong Distr., Kon Plong Vill., 14°35′N, 108°25′E, 1170 m, 1–14 June 2014, L.K. Johansen, N.L. Orlov (ZIN).

Paratypes. **Vietnam:** 2 males, 2 females, same data as for holotype (ZIN); 1 male, Lam Dong Prov., 25 km NNW of Bao Loc, environs of Loc Bao, 11°44′N, 107°42′E, 800 m, 5–9 April 2013, D.N. Fedorenko (ZIN).

Description. Female. Body large for this genus. Antennae filiform, 15–16-segmented, 1.3–1.4 times as long as fore femur; middle segments 6.2–7.1 times as long as wide. Antennal sockets situated between lower margins of eyes. One compound eye 1.1 times as wide as fastigium of vertex which 2 times as wide as frontal ridge between antennal sockets; anterior margin of vertex slightly projected before eyes; median carina of vertex reaching middle of eyes; transverse carinae reaching anteriorly median carina; supraocular lobes present. Compound eyes elevated



Figs 33–35. *Hebarditettix fuscus* sp. nov., female holotype. 33, body, lateral view; 34, same, dorsal view; 35, same, frontal view. Scale bars: 1 mm.

above pronotum in lateral view. Lateral ocelli situated between middles of eyes. Frontal ridge in lateral view rounded between antennal sockets and distinctly excised below median ocellus and near lateral ocelli; in frontal view, this ridge narrow between antennal sockets and distinctly widened near median ocellus. First antennal segment 1.3–1.6 times as wide as frontal ridge near base of antennae. Pronotum in dorsal view with almost straight anterior margin; posterior process of pronotum narrow, surpassing apex of hind femora by 3.2–4.5 mm. Disc of pronotum with two pairs of shallow impressions situated before and behind shoulders; posterior process of pronotum without tubercles; apex of this process rounded. Lateral sides of shoulders broadly rounded in dorsal view. Median carina of pronotum in profile low, gently raised near anterior margin of pronotum, slightly excised near shoulders, again raised behind shoulders, and low and almost straight in posterior process. Lateral carinae in prozona well defined; prozona transverse, 1.8–1.9 times as wide as long. Humero-apical and interhumeral carinae distinct. Hind

margin of lateral lobes of pronotum with deep tegminal sinus; lower part of lateral lobes of pronotum in dorsal view angularly pointed. Tegmina ovate; visible part of tegmen 2.8–3 times as long as wide, and mid femur 1.2 times as wide as this tegminal part. Hind wings extending apex of posterior process of pronotum. Fore and mid femora 4–4.2 times as long as wide; upper and lower edges of femora weakly sinuate. Hind femur 3.4–3.5 times as long as wide. Upper side of hind tibia with 4–5 outer and 4–5 inner teeth, with margins finely serrated. First tarsal segment of hind leg as long as third one (without claws); ventral side of first tarsal segment with three triangular pads, two basal pads short, apical pad distinctly longer than other pads; third tarsal segment not swollen. Epiproct triangular, with pointed apex. Subgenital plate 1.2–1.3 times as long as wide, its posterior margin near middle with angular posterior process. Cerci conical, with blunt apices, 1.8–2 times as long as wide near cercal base. Valves of ovipositor narrow, dentate; length of upper valve 4.7 times as great as its maximum width; length

of lower valve 6–7 times as great as its maximum width.

General colouration of body blackish brown. Head blackish without marks; antennae black with brown rings near apical parts of third–eleventh segments; eyes brown. Disc of pronotum blackish brown; upper part of lateral lobes black, but their lower part blackish brown. Tegmina and hind wings black. Fore and mid femora dark brown. Fore and mid tibia blackish with two light brown rings. Hind femora brown; median external area with blackish spot near middle; ventral external area black. Hind tibiae black with light brown ring near base. Tarsal segments of fore and mid legs black with whitish base of second segment; hind tarsi whitish, but basal part of first and second segments and apex of third segment black. Tergites, sternites, epiproct, cerci, and subgenital plate black. Ovipositor whitish with brown base.

Male. General appearance similar to that of female. Antennae 14-segmented; middle segments 6–7 times as long as wide. One compound eye 1.1–1.2 times as wide as fastigium of vertex which 2–2.2 times as wide as frontal ridge between antennal sockets; carinae of vertex as in female. First antennal segment 1.3 times as wide as frontal ridge near base of antennae. Pronotum as in female. Visible part of tegmen 2.8–3 times as long as wide, and mid femur 1.3–1.5 times as wide as this tegminal part. Legs as in female, but fore femur 3.8–4 times, mid femur 3.3–3.5 times, hind femur 3.4–3.7 times as long as wide, and hind tibia with 3–5 outer and 3–4 inner teeth. Epiproct triangular, with pointed apex. Subgenital plate 1.1–1.2 times as long as wide; its apex with deep excision. Cerci as in female but 2.1–2.2 times as long as wide near cercal base.

General colouration of body as in female but hind tibiae completely black.

Measurements (length in mm). Body: male 8.1–8.5, female 9.8–10.0; pronotum: male 10.2–12.4, female 12.9–14.0; antenna: male 2.9–3.0, female 3.2–3.5; tegmen: male 1.2–1.4, female 1.7; fore femur: male

1.9–2.0, female 2.4–2.6; mid femur: male 1.9–2.1, female 2.4–2.5; hind femur: male 5.1–5.4, female 6.3–6.4; ovipositor 1.5–1.6.

Distribution. Southern Vietnam.

Comparison. The new species is most similar to *H. triangularis* but differs from the latter in the following characters: the equal length of fore and mid tibia; slender hind tibia, 3.4–3.7 times as long as wide; posterior process of female pronotum considerably surpassing the apex of hind femora; upper valves of ovipositor narrow; and male subgenital plate widely excised at the apex (in *H. triangularis*, the mid tibia is distinctly longer than the fore tibia, hind tibia is 3.0–3.3 times as long as wide, posterior process of female pronotum surpasses the apex of hind femora by 0.7–1.5 mm, length of upper valve of ovipositor is 4.2–4.3 times as great as its maximum width, and apex of male subgenital plate is narrowly excised). Moreover, *H. fuscus* is described from Southern Vietnam while *H. triangularis* is found only in the northern provinces of this country situated near the Vietnamese-Chinese border.

Etymology. This species name is the Latin adjective “fuscus” (brown, dark).

CONCLUSION

Thus, the genus *Hebarditettix* consists of 13 species distributed in India, Nepal, China, Myanmar and Vietnam. Four species are widespread in this region: *H. quadratus* is distributed in North-East India, Nepal and along the northern-central coast of Vietnam; *H. triangularis*, in North-East India, South China and North Vietnam; *H. brachynotus*, in South China and North Vietnam; and *H. armatus* is recorded from Myanmar and South China. Other seven species are possibly endemic to different regions of India, China and Vietnam.

ACKNOWLEDGEMENTS

The author would like to express gratitude to Dr A.V. Gorochov (Zoological Institute, St Petersburg, Russia) for the possibility to examine the specimens deposited in ZIN.

REFERENCES

- Blackith R.E.** 1992. *Tetrigidae (Insecta: Orthoptera) of South-East Asia: Annotated catalogue with partial translated keys and bibliography*. Wicklow (Ireland): JAPAGA, "Rockbottom", Ashford Co. 248 p.
- Bolívar I.** 1887. Acridiens de la tribu des Tetrigidae. *Annales de la Société Entomologique de Belgique*, **31**: 175–313.
- Deng W.A., Zheng Z.M. & Wei S.Z.** 2007. *Fauna of the Tetrigoidea from Yunnan and Guangxi*. Nanning: Guangxi Science & Technology Press. 458 p. [In Chinese with English summary].
- Deng W.A. & Zheng Z.M.** 2013. A new species of the genus *Hebarditettix* Günther from Guizhou, China (Orthoptera, Tetrigoidea, Scelimenidae). *Acta Zootaxonomica Sinica*, **38**(3): 546–548.
- Devriese H.** 1999. Revision des Xerophyllini d'Afrique (Orthoptera, Tetrigidae). *Belgian Journal of Entomology*, **1**(1): 21–99.
- Cigliano M.M., Braun H., Eades D.C. & Otte D.** 2017. Orthoptera Species File Online. Version 5.0/5.0 Available from: <http://Orthoptera.SpeciesFile.org>. [visited 27 January 2017].
- Günther K.** 1938. Revision der Acrydiinae (Orth.) II. Scelimenae spuriae. *Stettiner Entomologische Zeitung*, **99**: 117–148, 161–230, pls 1–8.
- Hancock J.L.** 1907. Studies of the Tetriginae (Orthoptera) in the Oxford University Museum. *Transactions of the Royal Entomological Society of London*, **2**: 213–244.
- Hancock J.L.** 1915. Indian Tetriginae (Acrydiinae). *Records of the Indian Museum*, **11**: 55–137, pl. 14.
- Hebard M.** 1930. Acrydiinae (Orthoptera, Acrididae) of Southern India. *Revue Suisse de Zoologie*, **36**(19): 565–592.
- Ingrisch S.** 2001. Tetrigidae from Nepal in the Zoologische Staatssammlung München. *Spixiana*, **24**(2): 147–155.
- Kim T.W. & Pham H.T.** 2014. Checklist of Vietnamese Orthoptera (Saltatoria). *Zootaxa*, **3811**(1): 53–82.
- Liang G.Q. & Zheng Z.M.** 1998. *Fauna Sinica, Insecta, Vol. 12, Orthoptera, Tetrigoidea*. Beijing: Science Press. 278 p. [In Chinese with English summary].
- Otte D.** 1997. *Orthoptera Species File 6. Tetrigoidea and Tridactyloidea (Orthoptera: Caelifera) and Addenda to OSF Vols 1–5*. Philadelphia: Orthopterists' Society & Academy of Natural Sciences of Philadelphia. 261 p.
- Shishodia M.S.** 1991. Taxonomy and zoogeography of the Tetrigidae (Orthoptera: Tetrigoidea) of North Eastern India. *Records of the Zoological Survey of India. Occasional Paper*, **140**: 1–204.
- Steinmann H.** 1970. Check-list of the Tetricidae (Orthoptera) of the Oriental faunal region. *Acta Zoologica Academiae Scientiarum Hungaricae*, **16**(1–2): 215–240.
- Storozhenko S.Yu.** 2013. New and little-known species of the genus *Zhengitettix* Liang, 1994 (Orthoptera: Tetrigidae, Scelimeninae) from Southeast Asia. *Zoosystematica Rossica*, **22**(2): 204–223.
- Storozhenko S.Yu.** 2014. A new species of the genus *Falconius* Bolívar, 1898 (Orthoptera: Tetrigidae, Scelimeninae) from Vietnam. *Zoologicheskij Zhurnal*, **93**(4): 167–170. [In Russian; English translation: *Entomological Review*, 2014, **94**(4): 602–604].
- Storozhenko S.Yu.** 2015. New species of the genus *Rhopalotettix* Hancock, 1910 (Orthoptera: Tetrigidae, Metrodorinae) from Vietnam. *Zoosystematica Rossica*, **24**(1): 90–93.
- Storozhenko S.Yu.** 2016. Pygmy grasshoppers (Orthoptera: Tetrigidae) of Vietnam: genus *Austrohancockia* Günther, 1938. *Zoosystematica Rossica*, **25**(1): 144–150.
- Storozhenko S.Yu., Kim T.W. & Jeon M.J.** 2015. *Monograph of Korean Orthoptera*. Incheon: Doohyun Publishing Co. 377 p.
- Storozhenko S.Yu. & Pushkar T.I.** 2015. A new genus of pygmy locusts (Orthoptera, Tetrigidae, Metrodorinae) from Vietnam. *Annales Zoologici, Warszawa*, **65**(1): 65–69.
- Tumbrinck J.** 2014. Taxonomic revision of the Cladonotinae (Orthoptera: Tetrigidae) from the islands of South-East Asia and from Australia, with general remarks to the classification and morphology of the Tetrigidae and descriptions of new genera and species from New Guinea and New Caledonia: 345–396, pl. 64–91. In: **D. Telnov** (Ed.) *Biodiversity, biogeography and nature conservation in Wallacea and New Guinea. Volume II*. Riga: Entomological Society of Latvia.
- Tumbrinck J.** 2015. Weitere Dornschröcken (Insecta: Orthoptera: Tetrigidae) aus Nepal in der Sammlung des Naturkundemuseums Erfurt. In: **M. Hartmann & J. Weipert** (Eds.) *Biodiversität und Naturlandschaft im Himalaya*, **5**: 275–286. Erfurt.

- Yin X.C., Shi J.P. & Yin Z.** 1996. *A synonymic catalogue of grasshoppers and their allies of the World. Orthoptera: Caelifera*. Beijing: China Forestry Publishing House. 1266 p.
- Zha L.S., Yu F.M., Wen T.C. & Hyde K.D.** 2016. A new species in the genus *Hebarditettix* (Orthoptera: Tetrigoidea: Scelimenidae) from the Lengshuihe Nature Preserve, Guizhou. *Entomotaxonomia*, **38**(1): 5–9.
- Zheng Z.M.** 2005. *Fauna of Tetrigoidea from Western China*. Beijing: Science Press. 501 p. [In Chinese with English summary].
- Zheng Z.M.** 2008. Two new species of Scelimenidae from southwest Yunnan (Orthoptera: Tetrigoidea). *Acta Zootaxonomica Sinica*, **33**(1): 133–135.

Received 16 March 2017 / Accepted 25 April 2017