



Two new species of the genus *Vekunta* Distant (Hemiptera: Fulgoromorpha: Derbidae) from Korea

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Abstract

Two new derbid species of the genus *Vekunta* Distant, *V. fuscolineata* **sp. nov.** and *V. jahini* **sp. nov.** (Hemiptera: Fulgoromorpha: Derbidae: Cenchreini), are described and illustrated from Korea. They represent the first record of the genus *Vekunta* Distant, 1906 in the Korean fauna. A checklist of species and a key to the known species of the genus are provided.

Key words: Planthoppers, Fulgoroidea, Auchenorrhyncha, new species, Korea

Introduction

The genus *Vekunta* Distant (Hemiptera: Derbidae: Cenchreini) was established by Distant (1906b) for *Vekunta tenella* (Melichar, 1903) from Sri Lanka. Thirty nine species have hitherto been recorded in this diverse genus from Australasian, Oriental and Palearctic regions (Löcker *et al.* 2009; Bourgoin 2011).

While studying the derbid specimens in the Insect Collection of the Kyungpook National University, Korea, we found two undescribed species of *Vekunta* of Cenchreini from Korea: *V. fuscolineata* **sp. nov.** and *V. jahini* **sp. nov.** They represent the first record of the genus *Vekunta* Distant, 1906 in the Korean fauna. The purpose of this paper is to describe the two new derbid species from Korea.

Material and methods

Dried specimens were used for the description and illustration. External and internal morphology was observed under a stereo microscope (Olympus SZX12) and characters were measured with an ocular micrometer. The length of body was measured from the apex of head to tip of tegmina. Illustrations were scanned with HP Scanjet 4850 and imported into Adobe Photoshop CS3 for labeling and plate composition. Spinal formula means the numbers of apical spines of the hind tibiae and 1st and 2nd hind tarsomeres.

Morphological terminology follows Yang and Wu (1993). The term “anal segment” used here means the whole tubular structure of the male genitalia and the “anal style” indicates the process of the anal segment.

Specimens examined in the present study are deposited in the Insect Collection of the School of Applied Biosciences, Kyungpook National University, Daegu, Korea (KNU).

Systematics

***Vekunta* Distant, 1906, New record in Korea**

(Figs 1–24)

Temesa Melichar, 1903: 40, preoccupied by *Temesa* Adams, 1855 (Mullusca).

Vekunta Distant, 1906a: 8, nom. nov. for *Temesa* Melichar, 1903.

Type species. *Temesa tenella* Melichar, 1903: 41, by original designation.

Diagnosis. Head (Figs 1, 13) distinctly angulate in profile. Vertex quadrate, at base wider than at apex, slightly projecting in front of eyes, covered with sensory pits. Antennae (Figs 3, 15) short, second antennomere shortly oval, subantennal process small or absent. Tegmina (Figs 5, 17) with short subcostal cell, R fused with M for a short distance, M with 2 sectors, costal margin and first claval vein covered with setiferous tubercles. Wings (Figs 6, 18) slightly shorter than forewing, M 2-branched, Cu 3-branched. Spinal formula of hind leg 7–6–6.

Checklist of species of *Vekunta* Distant, 1906

***Vekunta albipennis* Matsumura**

Vekunta albipennis Matsumura, 1914: 289.

Distribution: Taiwan.

***Vekunta angusta* Wu et Liang**

Vekunta angusta Wu et Liang, 2001: 512, figs. 1–9.

Distribution: India (S. Coorg).

***Vekunta asymmetrica* Liang et Wu**

Vekunta asymmetrica Liang et Wu, 2001: 513, figs. 10–19.

Distribution: China (Xizang).

***Vekunta atripennis* Matsumura**

Vekunta atripennis Matsumura, 1940: 46.

Distribution: Taiwan.

***Vekunta badia* Muir**

Vekunta badia Muir, 1913: 38.

Distribution: Borneo.

***Vekunta botelensis* Matsumura**

Vekunta botelensis Matsumura, 1940: 46.

Distribution: Taiwan.

***Vekunta bri* Löcker, Löcker et Holzinger**

Vekunta bri Löcker, Löcker et Holzinger, 2009: 15, fig. 8.

Distribution: Seychelles (Mahé, Silhouette).

***Vekunta commendata* Yang et Wu**

Vekunta commendata Yang & Wu, 1993: 126, fig. 60.

Distribution: Taiwan.

***Vekunta deducta* (Walker)**

Cixius deductus Walker, 1857: 149.

Vekunta deducta: Liang, 2000: 235.

Distribution: Borneo.

***Vekunta despecta* (Walker)**

Cixius despectus Walker, 1857: 148.

Vekunta despecta: Liang, 2000: 235.

Distribution: Borneo.

***Vekunta diluta* Yang et Wu**

Vekunta diluta Yang et Wu, 1993: 130, fig. 62.

Distribution: Taiwan.

***Vekunta extima* Yang et Wu**

Vekunta extima Yang et Wu, 1993: 111, fig. 52.

Distribution: Taiwan.

***Vekunta fera* Yang et Wu**

Vekunta fera Yang et Wu, 1993: 128, fig. 61.

Distribution: Taiwan.

***Vekunta flavipes* Muir**

Vekunta flavipes Muir, 1922: 336.

Distribution: India (Assam).

***Vekunta fuscolineata* sp. nov.**

Distribution: Korea.

***Vekunta gracilenta* Yang et Wu**

Vekunta gracilenta Yang et Wu, 1993: 119, fig. 56.

Distribution: Taiwan.

***Vekunta hyalina* Muir**

Vekunta hyalina Muir, 1913: 37, pl. 1, fig. 7.

Distribution: Indonesia (Java).

***Vekunta intermedia* Yang et Wu**

Vekunta intermedia Yang et Wu, 1993: 121, fig. 57.

Distribution: Taiwan.

***Vekunta jahini* sp. nov.**

Distribution: Korea.

***Vekunta kotoshonis* Matsumura**

Vekunta kotoshonis Matsumura, 1940: 47; Yang et Wu, 1993: 100, fig. 46.

Distribution: Taiwan.

***Vekunta lineata* Melichar**

Vekunta lineata Melichar, 1914: 270; Melichar, 1915: 117.

Distribution: Philippines.

***Vekunta lyricen* Fennah**

Vekunta lyricen Fennah, 1956: 484, fig. 12 (female); Yang et Wu, 1993: 100, fig. 45 (male).

Distribution: Taiwan.

***Vekunta maculata* Matsumura**

Vekunta maculata Matsumura, 1914: 288; Schumacher, 1915a: 121; Schumacher, 1915b: 134; Liang et Wu, 1993: 109, fig. 50.

Vekunta albipennis Muir, 1914: 44.

Distribution: Taiwan.

***Vekunta makii* Muir**

Vekunta makii Muir, 1914: 45; Schumacher, 1915a: 121; Yang et Wu, 1993: 111, fig. 51.

Distribution: Taiwan.

***Vekunta malloti* Matsumura**

Vekunta malloti Matsumura, 1914: 288; Muir, 1915: 117; Schumacher, 1915a: 120; Liang et Wu, 1993: 132, fig. 63.

Vekunta okadae Muir, 1914: 45.

Distribution: Japan (Honshu, Kyushu, Shikoku), Taiwan.

***Vekunta memoranda* Yang et Wu**

Vekunta memoranda Yang et Wu, 1993: 104, fig. 48.

Distribution: Taiwan.

***Vekunta nigra* Yang et Wu**

Vekunta nigra Yang et Wu, 1993: 115, fig. 54.

Distribution: Taiwan.

***Vekunta nigrolineata* Muir**

Vekunta nigrolineata Muir, 1914: 44; Schumacher, 1915a: 120; Matsumura, 1940: 47; Yang et Wu, 1993: 134,

fig. 64.

Distribution: Taiwan.

***Vekunta nitida* (Bierman)**

Temesa nitida Bierman, 1910: 18, pl. 1, fig. 7.

Vekunta nitida : Muir, 1926 : 400.

Distribution: Indonesia (Sumatra).

***Vekunta nivea* Fennah**

Vekunta nivea Fennah, 1956: 482, fig. 12.

Distribution: China (Zhejiang).

***Vekunta nutabunda* Yang et Wu**

Vekunta nutabunda Yang et Wu, 1993: 117, fig. 55.

Distribution: Taiwan.

***Vekunta obaerata* Yang et Wu**

Vekunta obaerata Yang et Wu, 1993: 121, fig. 58.

Distribution: Taiwan.

***Vekunta obliqua* Yang et Wu**

Vekunta obliqua Yang et Wu, 1993: 124, fig. 59.

Distribution: Taiwan.

***Vekunta palawanensis* Muir**

Vekunta palawanensis Muir, 1917: 60.

Distribution: Philippines (Palawan).

***Vekunta parca* Yang et Wu**

Vekunta parca Yang et Wu, 1993: 113, fig. 53.

Distribution: Taiwan.

***Vekunta pseudobadia* Muir**

Vekunta pseudobadia Muir, 1915 : 116.

Distribution: Indonesia (Java, Sumatra).

***Vekunta punctula* (Melichar)**

Temesa punctula Melichar, 1903: 41.

Vekunta punctula: Distant, 1906b: 288; Matsumura, 1914: 288; Schumacher, 1915a: 120; Muir, 1923:174.

Distribution: Sri Lanka, Indonesia (Sumatra).

***Vekunta shirakii* Matsumura**

Vekunta shirakii Matsumura, 1914: 289; Schumacher, 1915a: 121; Yang et Wu, 1993: 134.

Distribution: Taiwan.

***Vekunta stigmata* Matsumura**

Vekunta stigmata Matsumura, 1914: 290; Schumacher, 1915a: 121; Yang et Wu, 1993: 102, fig. 47.

Vekunta ishidae Muir, 1914: 45.

Distribution: Taiwan.

***Vekunta sublucida* (Walker, 1870)**

Brixia sublucida Walker, 1870: 107.

Vekunta sublucida: Liang, 2000: 235.

Distribution: New Guinea.

***Vekunta tenella* (Melichar)**

Temesa tenella Melichar, 1903: 41, pl. 3, fig. 11.

Vekunta tenella: Distant, 1906b, fig. 136.

Distribution: Sri Lanka.

***Vekunta triprotrusa* Wu et Liang**

Vekunta triprotrusa Wu et Liang, 2001: 515, figs. 20–31.

Distribution: China (Yunnan).

***Vekunta umbripennis* Muir**

Vekunta umbripennis Muir, 1914: 46; Schumacher, 1915a: 121; Yang et Wu, 1993: 106, fig. 49.

Distribution: Taiwan.

Key to species of the genus *Vekunta* Distant

1. Tegmina with dark brown lining along costal and anal margins (Figs 1, 5) 2
- Tegmina without dark brown lining along costal and anal margins (Figs 13, 17) 4
2. Female genital scale asymmetrical (Yang *et* Wu 1993: Fig. 62E) *V. diluta* Yang *et* Wu
- Female genital scale symmetrical 3
3. Female genital scale with production longer than wide at base (Yang *et* Wu 1993: Fig. 64D) *V. nigrolineata* Matsumura
- Female genital scale with production wider than long at base (Fig. 1D) *V. fuscolineata* **sp. nov.**
4. Tegmina subopaque, yellowish white 5
- Tegmina pale brown, dark or with dark markings 20
5. Wings white or yellow or subhyaline powdered white 6
- Wings infusate with darker veins *V. palawanensis* Muir
6. Head without subantennal process (Distant 1906: Fig. 136; Löcker *et al.* 2009: Fig. 8C) 7
- Head with small subantennal process (Fig. 15) 9
7. Vertex depressed medially, lateral margins with sensory pits 8
- Vertex not depressed medially, thickly covered with sensory pits (Distant 1906: Fig. 136) *V. tenella* (Melichar)
8. A large black spot on propleura *V. punctual* (Melichar)
- No black spot on propleura *V. bri* Löcker, Löcker *et* Holzinger
9. Pygofer with asymmetrical dorsocaudal processes (Fig. 24) 10
- Pygofer with symmetrical dorsocaudal processes (Yang *et* Wu 1993: Fig. 56E) 12
10. Aedeagal shaft with 3 basal processes (Fig. 19) *V. jahini* **sp. nov.**
- Aedeagal shaft with 2 basal processes 11
11. Aedeagus with flagellum not reaching to middle (Yang *et* Wu 1993: Fig. 55H) *V. nutabunda* Yang *et* Wu
- Aedeagus with flagellum reaching to middle (Yang *et* Wu 1993: Figs. 60H–I) *V. commendata* Yang *et* Wu
12. Basal process of aedeagus present 13
- Basal process of aedeagus absent (Yang *et* Wu 1993: Fig. 52G) *V. extrima* Yang *et* Wu
13. Aedeagal shaft with one basal process (Wu *et* Liang 2001: Fig. 9) *V. angusta* Wu *et* Liang
- Aedeagal shaft with two or more basal processes 14
14. Aedeagal shaft with 4–5 processes 15
- Aedeagal shaft with 2 processes 17
15. Aedeagal shaft with 5 processes (Yang *et* Wu 1993: Figs 50G–H) *V. maculata* Matsumura
- Aedeagal shaft with 4 processes 16
16. Aedeagal shaft with paired processes at base (Yang *et* Wu 1993: Fig. 51H); anal segment almost straight apically (Yang *et* Wu 1993: Fig. 51E) *V. makii* Muir
- Aedeagal shaft without paired processes at base (Fennah 1956: Fig. 12D); anal segment abruptly turned downward then cephalad apically (Fennah 1956: Fig. 12E) *V. nivea* Fennah
17. Apical part of anal segment strongly curved in lateral profile 18
- Apical part of anal segment slightly curved in lateral profile 19
18. Aedeagal shaft with 2 relatively short processes near middle (Yang *et* Wu 1993: Fig. 56H) *V. gracilentata* Yang *et* Wu
- Aedeagal shaft with 2 relatively long processes near middle (Yang *et* Wu 1993: Fig. 59H) *V. obliqua* Yang *et* Wu
19. Apical margin of anal segment broadly rounded; left basal process of aedeagal shaft short (Yang *et* Wu 1993: Fig. 57G) *V. intermedia* Yang *et* Wu
- Apical margin of anal segment truncate obliquely; left basal process of aedeagal shaft long (Yang *et* Wu 1993: Fig. 58G) *V. obaerata* Yang *et* Wu
20. Tegmina pale brown; aedeagus, in right lateral view, with a small process near apex and another lobe-like process at middle (Yang *et* Wu 1993: Fig. 53H) *V. parca* Yang *et* Wu
- Tegmina with dark brown or dark pattern; aedeagus not as above 21
21. Tegmina with scattered dark markings 22
- Tegmina uniformly dark except stigma 27
22. Tegmina with a narrow dark band running from radial cross vein to apex *V. hyalina* Muir
- Tegmina without a band running from radial cross vein to apex 23
23. Tegmina with a dark spot adjoining a pallid spot at costal margin 24
- Tegmina without a dark spot adjoining a pallid spot at costal margin 26
24. Tegmina with a hyaline spot on costal margin at node, a dark spot just distad of it, and an oblique pallid stripe adjoining *V. natida* Bierman
- Tegmina color pattern not as above 25
25. Tegmina with a large yellow spot on costa, in which a dark spot is present in center *V. badia* Muir
- Tegmina with a small yellow spot on costa in which no dark spot is present in center *V. pseudobadia* Muir
26. Pygofer with symmetrical dorsocaudal processes; aedeagal shaft with one pair basal processes (Yang *et* Wu 1993: Fig. 45F) *V. lyricen* Fennah
- Pygofer with asymmetrical dorsocaudal processes; aedeagal shaft without basal processes (Yang *et* Wu 1993: Fig. 46G) *V. kotoshonis* Matsumura
27. Wings black 28
- Wings not black 32

28.	Antennae yellow	<i>V. triprotrusa</i> Wu et Liang
-	Antennae brown	29
29.	Tegmina with a small yellow spot at stigma	<i>V. flavipes</i> Muir
-	Tegmina without spot at stigma	30
30.	Dorsocaudal angle of pygofer triangularly produced (Yang et Wu 1993: Fig. 63B)	<i>V. malloti</i> Matsumura
-	Dorsocaudal angle of pygofer not triangularly produced	31
31.	Aedeagus with 2 hooks at basoventral portion (Yang et Wu 1993: Fig. 47G); dorsocaudal angle of pygofer not produced (Yang et Wu 1993: Fig. 47E)	<i>V. stigmata</i> Yang et Wu
-	Aedeagus without hooks at basoventral portion (Yang et Wu 1993: Fig. 48G); dorsocaudal angle of pygofer broadly rounded (Yang et Wu 1993: Fig. 48E)	<i>V. memoranda</i> Yang et Wu
32.	Wings white	33
-	Wings gray	34
33.	Aedeagal shaft with a basal process (Yang et Wu 1993: Fig. 61I); apex of anal segment curved (Yang et Wu 1993: Fig. 61E)	<i>V. fera</i> Yang et Wu
-	Aedeagal shaft without basal process (Wu et Liang 2001: Fig. 19); apex of anal segment straight (Wu et Liang 2001: Fig. 16)	<i>V. asymmetrica</i> Liang et Wu
34.	Pygofer with dorsocaudal angle asymmetrical; aedeagal shaft without basal process (Yang et Wu 1993: Fig. 49G)	<i>V. umbripennis</i> Muir
-	Pygofer with dorsocaudal angle symmetrical; aedeagus with paired processes ventrally at base and two long processes, one at base and another near middle (Yang et Wu 1993: Fig. 54H)	<i>V. nigra</i> Yang et Wu

Vekunta fuscolineata sp. nov.

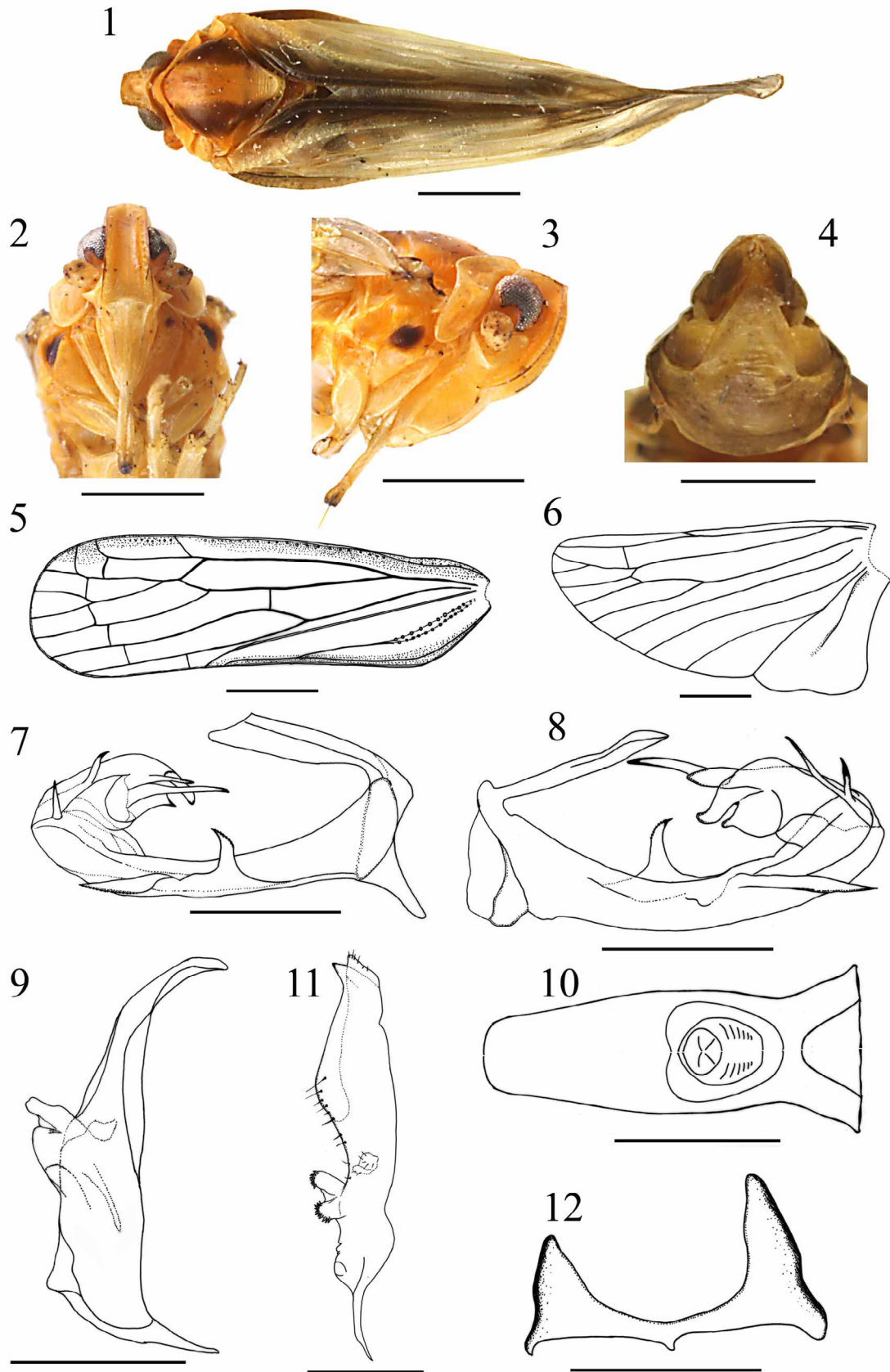
(Figs 1–12)

Description. Body length (including forewing): male 6.2–6.5 mm (N=08), female 7.0–7.2 mm (N=08); forewing length: male 5.1–5.4 mm (N=08), female 5.9–6.1 mm (N=08).

Coloration. General color pale brownish yellow, with dark brown lining along claval and costal area (Fig. 1). Vertex (Fig. 1) with yellow sensory pits, lateral and apical carinae brown to dark brown. Frons (Fig. 2) yellow with lateral margins dark brown. Clypeus yellow to yellowish brown. Rostrum yellow with apex fuscous. Genae yellow. Eyes black, ocelli yellow. Antennae (Fig. 3) yellow brown. Pronotum (Fig. 1) golden yellow. Mesonotum (Fig. 1) distinctly dark brown on each side, golden yellow in middle. Tegmina smoky white to smoky brown except costal and clavus margins from base to near apex, dark brown, longitudinal veins pale white. Wings waxy white with pale brown veins. Thorax with ventral areas yellowish brown, mesopleura with an oval black spot. Legs pale yellow. Each segment of abdomen brown dorsally with dark brown margin posteriorly, ventrally yellow. Genital segment yellowish brown.

Head and thorax. Head with eyes distinctly narrower than pronotum (1:1.51). Vertex wider at base than long in middle line (1.53:1), apex narrower than base (1:1.43), straightly projecting before eyes, excavated medially, lateral margin prominent and flate with numerous sensory pits, posterior margin concave. Frons longer in middle line than wide at widest part (1.79:1), width at level of ocelli narrower than widest part (1:1.14), length shorter than clypeus (1:1.25), disc depressed in entire length, each of lateral margin strongly keeled with a series of granules, median carina absent. Clypeus distinctly carinate medially. Apical segment of rostrum longer than wide. Antennae short, second antennomere oval, flagellum originated from apical point, subantennal process short. Eyes semicircular; ocelli present, adjacent to eyes. Median length of pronotum less than that of vertex (1:1.87), anterior margin between eyes convex, length behind eyes greater than median length (1.6:1), median carinae distinct, transverse carinae strongly elevated, ventral and lateral margins not foliately raised. Mesonotum as long as broad, slightly convex, in lateral view slightly raised above vertex, longitudinal median carina distinct, lateral carinae weakly developed, posterior end triangularly depressed. Tegmina (Fig. 5) narrow, 3.3 times as long as widest part, clavus closed, claval veins with a prominent ridge of setiferous tubercles, base of costal margin curved inward, costal margin granulated, R fused with M for short distance. Wings (Fig. 6) slightly shorter than forewing.

Male genitalia. Anal segment (Fig. 9) in lateral profile long, wider at basal half, slender and curved on apical half, in dorsal view (Fig. 10) longer in middle line than widest part at base (2.53:1), lateral margin subparallel, apex rounded. Aedeagal shaft somewhat curved, in right lateral view (Fig. 7), with two processes at middle, one directed dorso-caudad, margin dented, slightly curved subapically, acute at apex, other directed caudad, straight with dented margin; flagellum with two processes at basal half, visible in both left and right lateral view, the main lobe truncate anteriorly produced into two thin processes, one elongate, extending more than half length of aedeagal shaft, and



FIGURES 1–12. *Vekunta fuscolineata* sp. nov. (1) Dorsal habitus, male. (2) Frons, clypeus and rostrum. (3) Head and thorax, lateral view. (4) Female genital scale. (5) Tegmen. (6) Wing. (7) Aedeagus, right lateral view. (8) Aedeagus, left lateral view. (9) Anal segment of male, lateral view. (10) Anal segment of male, dorsal view. (11) Genital style, lateral view. (12) Dorsocaudal process of pygofer. Scale bars = 1.0 mm (Figs 1–6), 0.5 mm (Figs 7–12).

another one short, half of the longer one. Aedeagal shaft, in left lateral view (Fig. 8), with a long process near middle, acute apically, directed caudad; flagellum with pendent lobe, two finger-like processes apically and a spindle-like process near aedeagal shaft. Genital styles (Fig. 11) in profile large, elongate, reaching slightly over apex of anal segment, narrow at basal half, dilated at apical half, posterior end slightly curved, deeply concave apically; lateroventral margin convex at middle, with a pair of lobed processes at base, spinose apically; inner side of laterodorsal margin with a lobe at base. Pygofer in profile distinctly narrowed medially, dorsocaudal angles (Fig. 12) produced caudad asymmetrically, left angle longer than wide, right angle as long as wide.

Female genitalia. Genital scale (Fig. 4) in ventral view with apical half slender, basal half broadly rounded with production wider at base than long in middle line about 1.12:1.

Type materials. Holotype male, KOREA: Sambongsan, Gyeongsangbuk-do Province, 14 Jul. 1997, Y.J. Kwon (KNU). Paratypes: KOREA: 2 males, same data as holotype; 2 males, 2 females, Hakkasan, Gyeongsangbuk-do Province, 21 Aug. 1998, Y.J. Kwon; 3 males, 4 females, Sisan, Jeollanam-do Province, 18 Aug. 2011, Y.J. Kwon; 1 female, Chirisan, Gyeongsangnam-do Province, 17 Aug. 1990, Y.J. Kwon; 1 female, Daegu city, Gyeongsangbuk-do Province, 6 Sep. 1981, Y.J. Kwon (KNU).

Etymology. The word “*fuscilineata*” is derived from the Latin words *fusco*, meaning “dark” and *lineo*, meaning “line”. This species is named for the presence of the dark lining along claval and costal margin of tegmina.

Remarks. This species is closely related to *V. diluta*, *V. nigrolineata* and *V. kotoshonis*, all from Taiwan, on the basis of wing color pattern, but can be distinguished by the female genital scale (Fig. 4) that is symmetrical (female genital scale asymmetrical in *V. diluta*); the production of female genital scale wider at widest part than long in middle line about 1.15:1 (the production of scale longer in middle line than widest part about 1.13:1 in *V. nigrolineata* and 1.08:1 in *V. kotoshonis*). This species can be easily distinguished from all other species of this genus by the shape of aedeagus, especially the aedeagal shaft with three processes at middle.

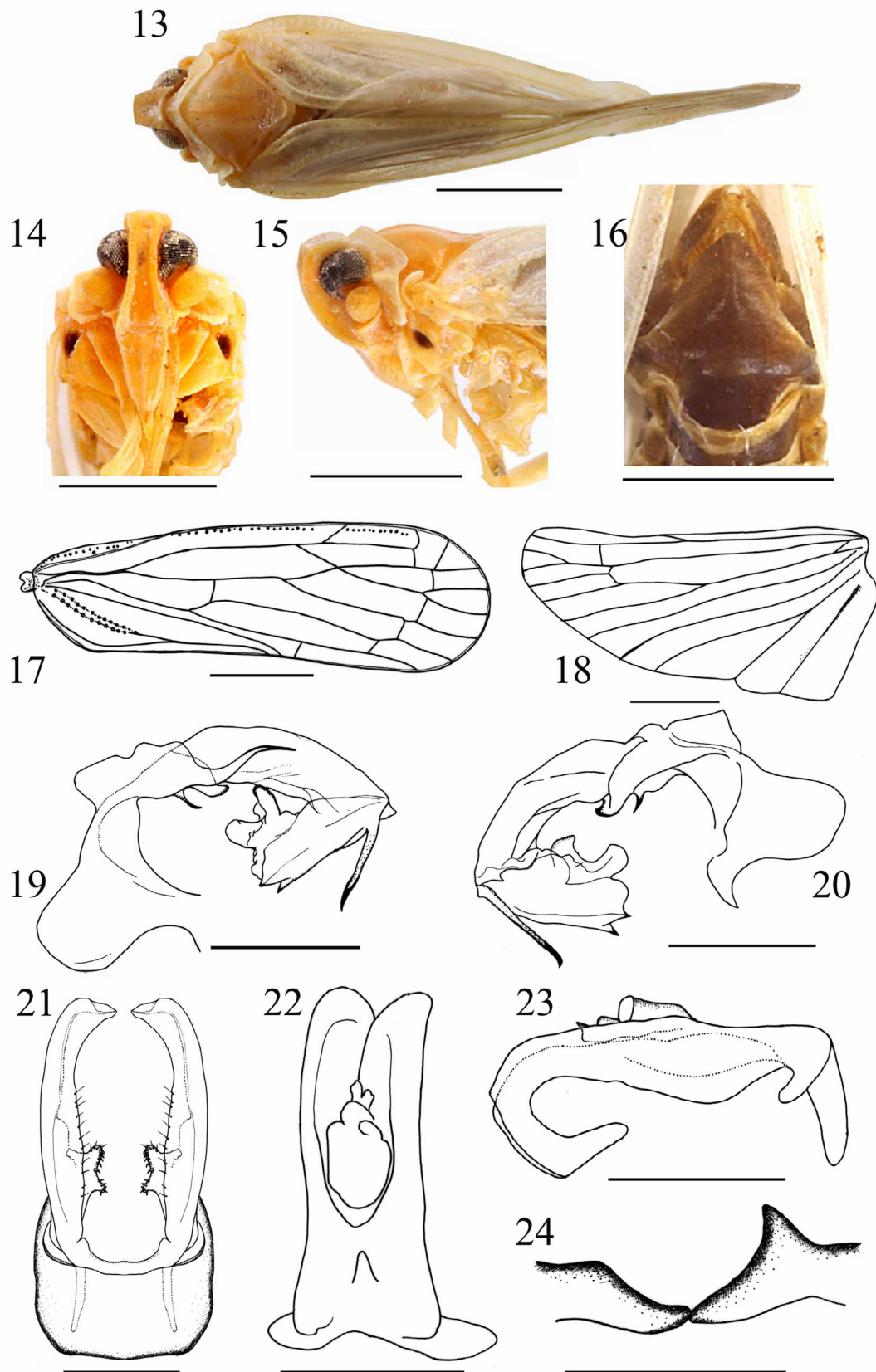
***Vekunta jahini* sp. nov.**

(Figs 13–24)

Description. Body length (including forewing): male 5.4–5.6 mm (N=36), female 6.0–6.2 mm (N=40); forewing length: male 4.4–4.7 mm (N=36), female 5.1–5.3 mm (N=40).

Coloration. General color pale brownish yellow. Vertex (Fig. 13) yellow brown with yellow sensory pits. Frons (Fig. 14) yellowish brown. Clypeus yellow. Rostrum yellow with apex fuscous. Eyes black, ocelli yellow. Antennae (Fig. 15) yellow brown. Pronotum (Fig. 13) pale yellow. Mesonotum (Fig. 13) usually yellowish brown, often tinged with persimmon red lining on median carina and each side of lateral carina. Tegmina pale brown or dirty white with pale yellow longitudinal veins. Wings light brown with waxy powder and brown longitudinal veins. Thorax with ventral areas pale yellow, mesopleura with an oval black spot. Legs pale yellow to yellow brown. Each segment of abdomen dark brown ventrally with yellow margin posteriorly. Genital segment dark brown.

Head and thorax. Head with eyes distinctly narrower than pronotum (1:1.46). Vertex wider at base than long in middle line (1.3:1), apex narrower than base (1:1.44), straightly projecting before eyes, excavated medially, lateral margin prominent and flate with numerous sensory pits, posterior margin concave. Frons longer in middle line than wide at widest part (2.28:1), width at level of ocelli narrower than widest part (1:1.55), length shorter than clypeus (1:1.06), disc depressed in entire length, each of lateral margin strongly keeled with a series of granules, median carina absent. Clypeus tricarinate. Apical segment of rostrum longer than wide. Antennae short, second antennomere oval, flagellum originated from apical point, subantennal process short. Eyes semicircular; ocelli present, adjacent to eyes. Median length of pronotum less than that of vertex (1:1.82), anterior margin between eyes convex, length behind eyes greater than median length (1.47:1), median carinae distinct, transverse carinae strongly elevated, ventral and lateral margins not foliately raised. Mesonotum as long as broad, slightly convex, in lateral view slightly raised above vertex, longitudinal median carina distinct, lateral carinae weakly developed, posterior end triangularly depressed. Tegmina (Fig. 17) narrow, 3.1 times as long as widest part, clavus closed, claval veins with a prominent ridge of setiferous tubercles, base of costal margin curved inward, costal margin also granulated, R fused with M for short distance. Wings (Fig. 18) slightly shorter than tegmina.



FIGURES 13–24. *Vekunta jahini* sp. nov. (13) Dorsal habitus, male. (14) Frons, clypeus and rostrum. (15) Head and thorax, lateral view. (16) Female genital scale. (17) Tegmen. (18) Wing. (19) Aedeagus, right lateral view. (20) Aedeagus, left lateral view. (21) Pygofer with genital styles, ventral view. (22) Anal segment of male, dorsal view. (23) Anal segment of male, lateral view. (24) Dorsocaudal process of pygofer. Scale bars = 1.0 mm (Figs 13–18), 0.5 mm (Figs 19–24).

Male genitalia. Anal segment in lateral profile (Fig. 23) long, wider at basal half, slender and curved on apical half, tined cephalad; in dorsal view (Fig. 22) longer in middle line than wide at base (2.61:1), lateral margin subparallel, slightly converging to apex, apical margin deeply incised medially. Aedeagal shaft curved, in right lateral view (Fig. 19), with three basal processes, one large, elongate, lying alongside shaft, recurved medially, directed caudad, another two short, visible in both left (Fig. 20) and right lateral view, one narrow and directed dorsocaudal, other one wide and directed caudad; flagellum (Figs 19, 20) with a long process extending from base, directed dorsad and widely separated from main body, lobes dorsolaterally concave at apex, with two sublobes, blunt apically, sclerotized, one with dented margin, flagellum reaching to middle of shaft. Genital styles (Fig. 21) in profile large, elongate, reaching over apex of anal segment, dorsal margin convex, posterior end slightly curved, symmetrical; inner margin with a bilobed process at base, spinose apically. Pygofer in profile with dorsocaudal angles (Fig. 24) produced caudad asymmetrically, left side triangularly produced but in right side, not produced.

Female genitalia. Genital scale (Fig. 14) symmetrical, base convex and produced medially, with production longer in middle line than wide at widest part (1.15:1).

Type materials. Holotype male, KOREA: Songnisan, Chungcheongbuk-do Province, 9 Sep. 2001, Y.J. Kwon (KNU). Paratypes: KOREA: 6 males, 9 females, same data as holotype; 3 males, 3 females, Daegu city, Gyeongsangbuk-do Province, 6 Sep. 1981, Y.J. Kwon; 3 males, 4 females, Is. Jindo, Jeollanam-do Province, 19 Jul. 1984, Y.J. Kwon; 5 males, 9 females, Jungmun, Jeju-do Province, 11 Aug. 1984, Y.J. Kwon; 2 males, 2 females, Hwaaksan, Gyeongsangnam-do Province, 6 Aug. 1998, Y.J. Kwon; 2 males, Hwanghaksan, Gyeongsangbuk-do Province, 17 Sep. 1991, Y.J. Kwon; 2 females, same locality, 14 Sep. 1991, Y.J. Kwon; 2 males, 1 female, Jangyu-ri, Jeollanam-do Province, 15 Aug. 2011, Y.J. Kwon; 2 males, 1 female, Is. Hongdo, Jeollanam-do Province, 10 Aug. 1981, Y.J. Kwon; 2 males, Uido, Jeollanam-do Province, 17 Aug. 1998, Y.J. Kwon; 3 females, same locality, 15 Aug. 1998, Y.J. Kwon; 1 male, Hakkasan, Gyeongsangbuk-do Province, 6 Sep. 1998, Y.J. Kwon; 4 males, Hakilsan, Gyeongsangbuk-do Province, 13 Aug. 1997, Y.J. Kwon; 1 male, 1 female, Unjangsan, Jeollabuk-do Province, 28 Aug. 1998, Y.J. Kwon; 1 male, 2 females, Paegunsan, Jeollanam-do Province, 11 Sep. 1999, Y.J. Kwon; 1 male, Sadubong, Jeollabuk-do Province, Korea, 16 Aug. 1997, Y.J. Kwon; 2 females, Gazisan, Gyeongsangbuk-do Province, 1 Oct. 1984, Y.J. Kwon; 1 female, Naejangsan, Jeollabuk-do Province, 14 Aug. 1981, Y.J. Kwon (KNU).

Etymology. This species is named after Jahin Abrar Rahman, the son of the first author of this article.

Remarks. This species is closely related to *V. nutabunda* Yang et Wu, 1993 from Taiwan, but can be distinguished from the latter by the aedeagal shaft (Fig. 19) with three processes (aedeagal shaft with two processes in *V. nutabunda*); flagellum (Fig. 19) with two sclerotized sublobes, one dented, reaching to middle of aedeagal shaft (flagellum without sclerotized sublobes, not reaching to middle of aedeagal shaft in *V. nutabunda*); female genital scale with production longer in middle line than wide at widest part about 1.15:1 (female genital scale with production wider at base than long in middle line about 1.2:1 in *V. nutabunda*).

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