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Hepneriana Dworakowska (Hemiptera: Cicadellidae: Typhlocybinae: Erythroneurini), first record from China, with descriptions of eleven new species

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Abstract

A redescription of the erythroneurine leafhopper genus *Hepneriana* Dworakowska and a key to Chinese species of the genus are provided. Eleven new species, *Hepneriana applanata*, *H. bicruris*, *H. concava*, *H. euryaedeaga*, *H. longa*, *H. menglunensis*, *H. paragamma*, *H. prostrata*, *H. robusta*, *H. taibaoensis* and *H. undulata* **spp. nov.** are described and *H. joannae* (Dworakowska) is newly recorded from China.

Key words: Homoptera, Auchenorrhyncha**,** taxonomy, morphology

Introduction

Ahmed (1971) established the leafhopper genus *Mandera* with *M. heterostyla* Ahmed as its type species and Dworakowska (1972) erected genus *Hepneriana* with type species *H. wroblewskae* Dworakowska. Subsequently Dworakowska & Viraktamath (1975) treated *Hepneriana* Dworakowska as a junior synonym of *Mandera* Ahmed. Dmitriev & Dietrich (2006) noted that *Mandera* Ahmed was a junior homonym of *Mandera* Fauvel, and therefore replaced the former with its junior synonym *Hepneriana* Dworakowska. Fifteen species have been described so far (Ahmed 1971; Dworakowska 1972, 1980, 1981, 1984, 1994; Sohi, 1977), mainly distributed on the Indian subcontinent but also in Southeast Asia. Previous host records and information in this study indicate this group has a wide range of host plants, including *Erythrina* spp., Magnoliaceae, *Aphanamixis polystanchya*, *Lagerstroemia tomentosa* and even grasses. In the present work, this genus is reported from China for the first time, eleven new species are described and one additional species is newly recorded from China.

Nomenclature of wings follows Dworakowska (1993) and other terminology follows Zhang (1990). All the specimens examined are deposited in the collection of the Entomological Museum of Northwest A&F University (NWAFU), China.

Hepneriana Dworakowska, 1972

Type species: *Mandera heterostyla* Ahmed, 1971, by original designation
Mandera Ahmed, 1971b: 190; Dworakowska & Viraktamath, 1975a: 529 (Preoc.: *Mandera* Fauvel, 1899)
Hepneriana Dworakowska, 1972j: 114; Dmitriev & Dietrich, 2006a: 36

Ground color yellowish. Head approximately as wide as pronotum. Crown slightly produced in dorsal view, anterior margin subparallel to posterior margin, coronal suture distinct. Face with lorum and frontoclypeus broad. Pronotum with anterior margin produced and posterior margin distinctly concave. Fore wing with four apical cells subequal in length, 1st and 4th apical cell slightly wider, AA and AP veins distinct. Hind wing as usual for Erythroneurini, subcostal vein present.

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Abdominal apodemes short to long. Sternite IX developed, bouquet-shaped, base narrow, apex broad and with median longitudinal internal ridge. Anal tube appendage usually short, footlike.

Male genitalia: Pygofer with posterior margin not extended to apex of subgenital plate; with group of long hairlike microsetae at lower basal angle and several near hind margin; dorsal appendage short, sticklike, extended from dorsal inner ridge of pygofer side, immovably fused to pygofer side; ventral appendage absent. Subgenital plate usually truncate apically, with group of stout setae on outer margin near base, row of short microsetae from near base to apex, several macrosetae in oblique row medially. Style massive, branched apically, ventral branch club-shaped, curved laterad, dorsal branch lamellate, broadening towards apex; basal part thin and short; preapical lobe bearing several microsetae. Connective lamellate, bell-shaped. Aedeagal shaft tubular, usually with pair of processes on sides; preatrial process well developed, longer than shaft, dorsal apodeme moderately developed. Gonopore apical.

Remarks. This genus is similar to *Singapora* Mahmood in body shape, length of the 4th apical cell, enlarged setae on the basal outer margin of the subgenital plate and the well developed aedeagal preatrial process, but can be distinguished from the latter by the presence of a pygofer dorsal appendage, truncate subgenital plate, shorter and branched style, and bell-shaped connective.

Distribution. China (Yunnan); India; Java; Malaysia; Nepal; Pakistan; Singapore.

Key to males of *Hepneriana* from China

1. Anal tube appendage long, exceeding hind margin of pygofer side (Fig. 6a) . . . . . *H. longa* **sp. nov.**
- Anal tube appendage short, not reaching hind margin of pygofer side (Figs 1a, 2a, 3a, 4a, 5a, 8a, 9a, 10a, 11a, 12a) 2
2. Aedeagal shaft without process (Figs 9d, f) . . . . . *H. prostrata* **sp. nov.**
- Aedeagal shaft with pair of processes (Figs 1d, 2d, 3d, 4d, 5d, 7d, 8f, h, 10e, 11d, 12e). 3
3. Aedeagal shaft with pair of basal processes, directed apically (Figs 10e, f). . . . . *H. robusta* **sp. nov.**
- Aedeagal shaft with pair of apical or subapical processes, directed basad (Figs 1d, 2d, 3d, 4d, 5d, 7d, 8f, h, 11d, 12e). 4
4. Processes of aedeagal shaft bifurcated apically (Figs 2d, e). . . . . *H. bicruris* **sp. nov.**
- Processes of aedeagal shaft not bifurcated (Figs 1d, 3d, 4d, 5d, 7d, 8f, h, 11d, 12e) 5
5. Aedeagal shaft with pair of apical processes (Figs 3d, 12e) 6
- Aedeagal shaft with pair of subapical processes (Figs 1d, 4d, 5d, 7d, 8f, h, 11d) 7
6. Aedeagal shaft with pair of triangular extensions subapically (Figs 12e, f). . . . . *H. undulata* **sp. nov.**
- Aedeagal shaft without extension subapically (Figs 3d, e). . . . . *H. concava* **sp. nov.**
7. Aedeagal shaft with subequal thickness in lateral view as in caudal view (Figs 11d, e) . . . . . *H. taibaoensis* **sp. nov.**
- Aedeagal shaft in caudal view much broader than in lateral view (Figs 1d, e, 4d, e, 5d, e, 7d, f, 8f–i) 8
8. Aedeagal shaft with paired processes short and smooth (Figs 5d, e, 7d, f) 9
- Aedeagal shaft with paired processes long and serrated on outer margin (Figs 1e, 4d, 8f, h) 10
9. Aedeagal processes almost straight, directed basad (Fig. 5d). . . . . *H. joannae* (Dworakowska)
- Aedeagal processes distinctly curved laterad (Fig. 7d). . . . . *H. menglunensis* **sp. nov.**
10. Apex of aedeagal shaft distinctly produced (Fig. 4d) . . . . . *H. euryaedeaga* **sp. nov.**
- Apex of aedeagal shaft slightly rounded, without protrusion (Figs 1d, 8f, h) 11
11. Aedeagal shaft with paired processes curved laterad distinctly in caudal view (Figs 8f, h). . . . . *H. paragamma* **sp. nov.**
- Aedeagal shaft with paired processes not curved laterad in caudal view (Fig. 1d) . . . . . *H. applanata* **sp. nov.**

Hepneriana applanata sp. nov.

(Fig. 1)

Description. Body yellowish, eyes black medially and yellowish marginally.

Abdominal apodemes (Fig. 1f) broad, apical margin rounded, extended to middle part of 3rd sternite. Anal tube appendage (Fig. 1a) short, with ventral margin concave.

Subgenital plate (Fig. 1b) truncate apically, without distinct protrusion on outer margin. Style (Fig. 1c) with club-shaped process much shorter than lamellar process, lamellar process relatively broad, with distinct triangular ridge perpendicular to lamella on ventral side, apical margin rounded with sides expanded. Aedeagal shaft (Figs 1d, e) broad and depressed, lateral sides curved caudad, with flange on meso-dorsal margin, paired subapical processes broad and serrated on outer apical margin; preatrial process relatively slim, apical part S-shaped.

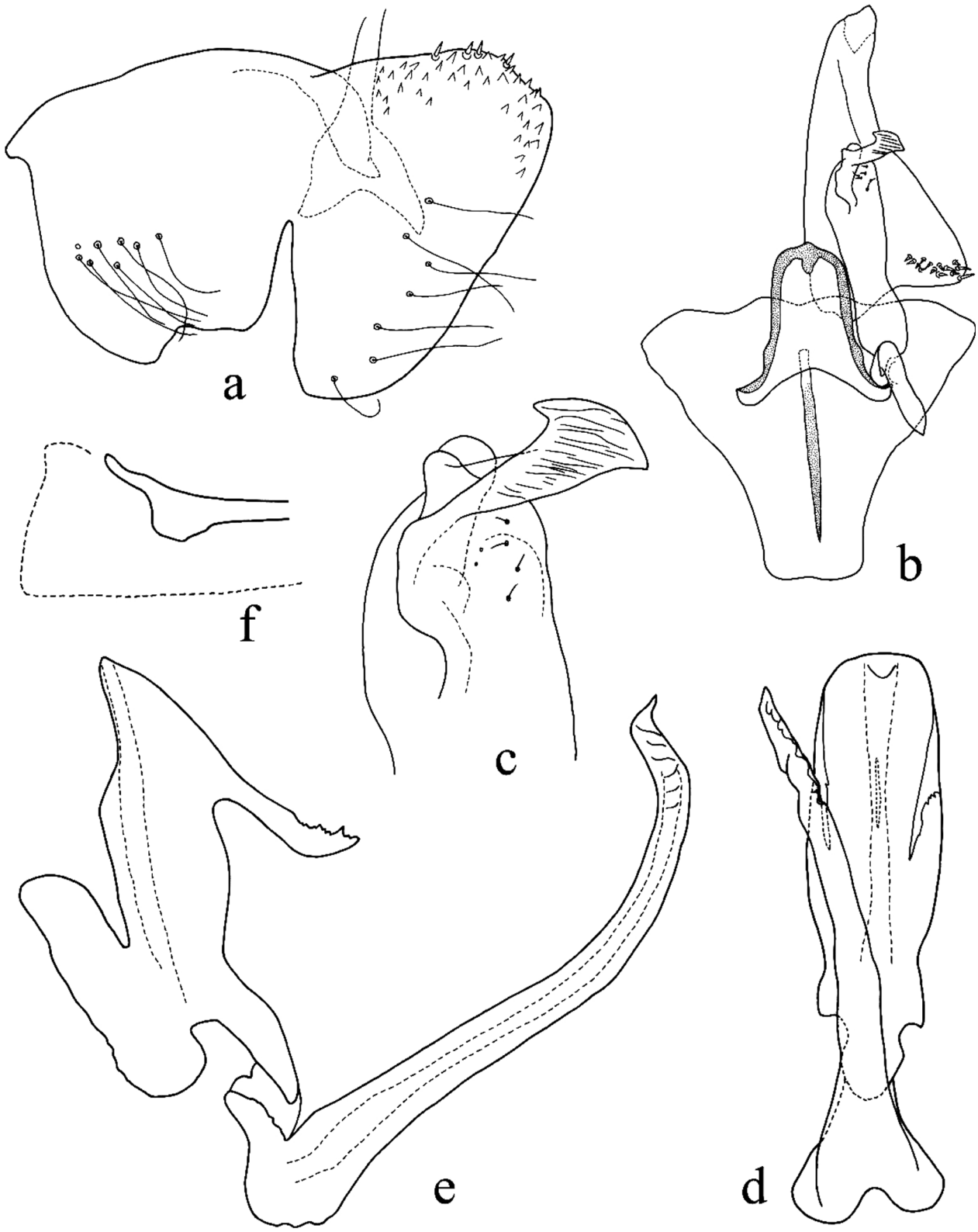

FIGURE 1. *Hepneriana applanata* **sp. nov.** a. anal tube appendage and pygofer side, lateral view; b. subgenital plate, style, connective and the 9th sternite, dorsal view; c. apex of style; d. aedeagus, caudal view; e. aedeagus, lateral view; f. abdominal apodemes.

Measurement. male length 3.13 mm, female length 3.17 mm.

Material examined. Holotype: ♂, China, Yunnan Prov., Lancang, 1100m, 2 xii 1999, coll. Qin Daozheng. Paratypes: 1♂, same date as holotype; 4♂6♀, Yunnan Prov., Menglong, 22 xii 1999, coll. Qin Daozheng.

Remarks. The new species is similar to *H. joannae* (Dworakowska), but its aedeagal shaft is broader, and the aedeagal subapical processes are broader, longer and serrated on the outer margin.

Etymology. The specific name is derived from the Latin word "*applanatus*", referring to the flattened aedeagal shaft.

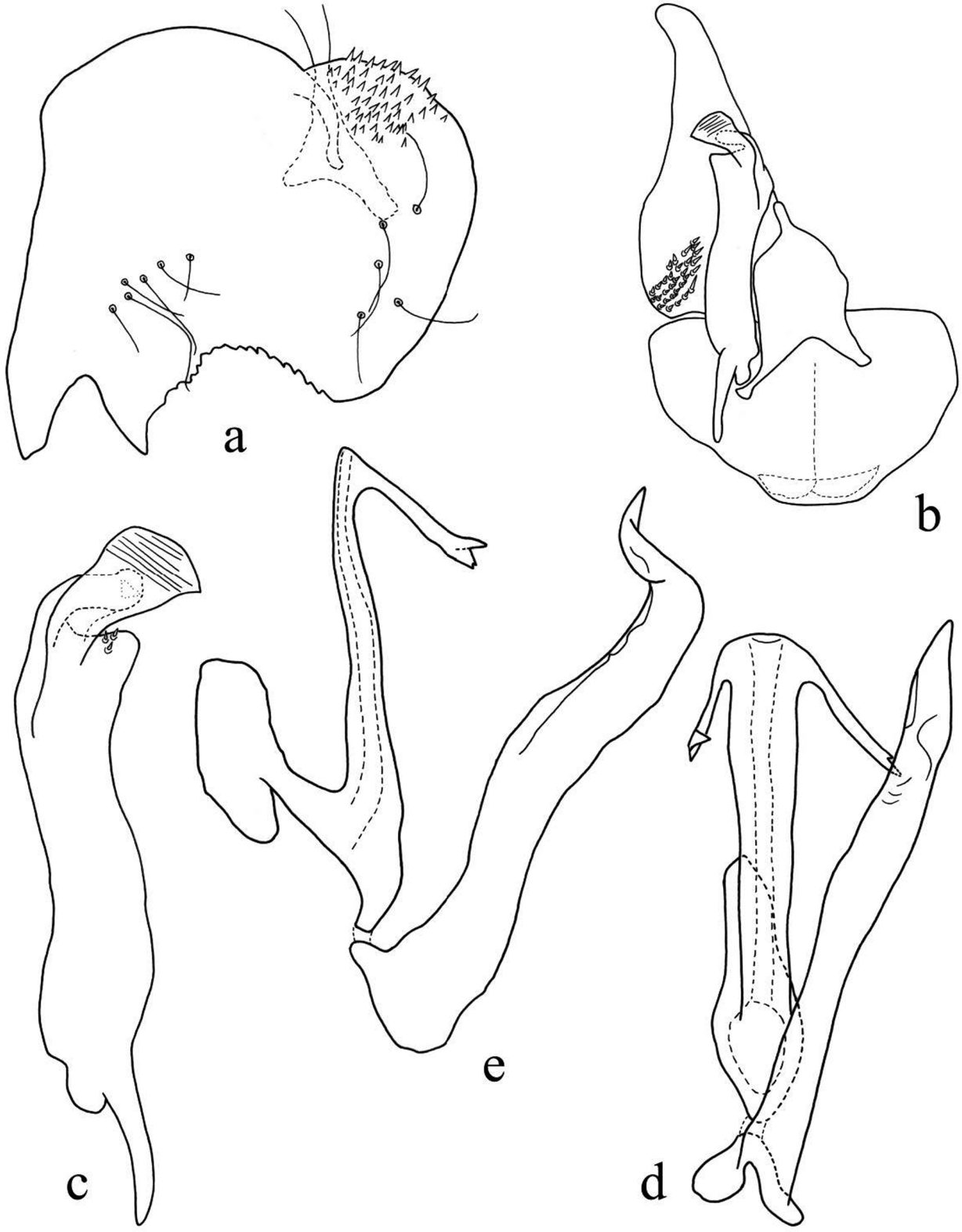

FIGURE 2. *Hepneriana bicruris* **sp. nov.** a. anal tube appendage and pygofer side, lateral view; b. subgenital plate, style, connective and the 9th sternite, dorsal view; c. style; d. aedeagus, caudal view; e. aedeagus, lateral view.

***Hepneriana bicruris* sp. nov.**
(Fig. 2)

Description. Body yellowish, eyes black medially and yellowish marginally.

Abdominal apodemes rectangular, extended to anterior margin of the 4th sternite. Anal tube appendage (Fig. 2a) short.

Subgenital plate (Fig. 2b) with apical part narrower than other species, rounded apically and slightly curved laterad. Style (Fig. 2c) with club-shaped process shorter than lamellar process, lamellar process broad, ventral side without longitudinal ridge. Aedeagal shaft (Figs 2d, e) narrow, with paired apical processes slim and slightly bifurcated at apex; preatrial process thick and sinuated.

Measurement. male length 2.97 mm, female length 2.97 mm.

Material examined. Holotype: ♂, China, Yunnan Prov., Menglun, 570m, 9 xii 1999, *Lagerstroemia tomentosa*, coll. Qin Daozheng. Paratypes: 5♂6♀, same date as holotype; 1♂, Yunnan Prov., Mengla, Yaoqu, 800m, 16 xii 1999, grasses, coll. Qin Daozheng.

Remarks. The new species is similar to *H. inquinata* (Dworakowska), but can be distinguished by the lamellar process of the style longer and less expended apically, the aedeagal shaft straight with apical processes much longer and bifurcated apically, and the preatrial process sinuate and less curved.

Etymology. The specific name is derived from the Latin word "*bicruris*", referring to the bifurcated apical process of the aedeagal shaft.

***Hepneriana concava* sp. nov.**
(Fig. 3)

Description. Body yellowish, eyes black medially and yellowish marginally.

Abdominal apodemes (Fig. 3f) rectangular, extended to anterior margin of 4th sternite. Anal tube appendage (Fig. 3a) short.

Subgenital plate (Fig. 3b) truncate apically and distinctly produced on outer margin. Style (Fig. 3c) with club-shaped process shorter than lamellar process, lamellar process narrow, ventral side without longitudinal ridge. Aedeagal shaft (Figs 3d, e) depressed, broad in caudal view, slightly sinuated in lateral view, with paired apical processes serrated; preatrial process curved dorsad, thick in lateral view but quite narrow apically in caudal view.

Measurement. male length 2.92 mm, female length 2.97 mm.

Material examined. Holotype: ♂, China, Yunnan Prov., Menglun, 570m, 9 xii 1999, coll. Qin Daozheng. Paratypes: 24♂25♀, same date as holotype; 6♂18♀, Yunnan Prov., Menglun, 600m, 22 xii 1999, coll. Qin Daozheng.

Remarks. The new species is similar to *H. heterostyla* (Ahmed), but can be distinguished by the narrower lamellar process of the style, apically shifted aedeagal processes, and apically depressed preatrial process.

Etymology. The specific name is derived from the Latin word "*concavus*", referring to the strongly concave base of the aedeagal shaft.

***Hepneriana euryaedeaga* sp. nov.**
(Fig. 4)

Description. Body yellowish, eyes black medially and yellowish marginally.

Abdominal apodemes (Fig. 4f) rectangular, extended to posterior margin of 4th sternite. Anal tube appendage (Fig. 4a) short.

Subgenital plate (Fig. 4b) truncate apically and distinctly produced on outer margin. Style (Fig. 4c) with club-shaped process shorter than lamellar process, lamellar process with basal part narrow, apex expanded, T-shaped. Aedeagal shaft (Figs 4d, e) depressed, very broad in caudal view, apex produced, paired subapical processes broad with outer margin serrated; preatrial process sinuated, thick in lateral view but narrow in caudal view.

Measurement. male length 2.83 mm.

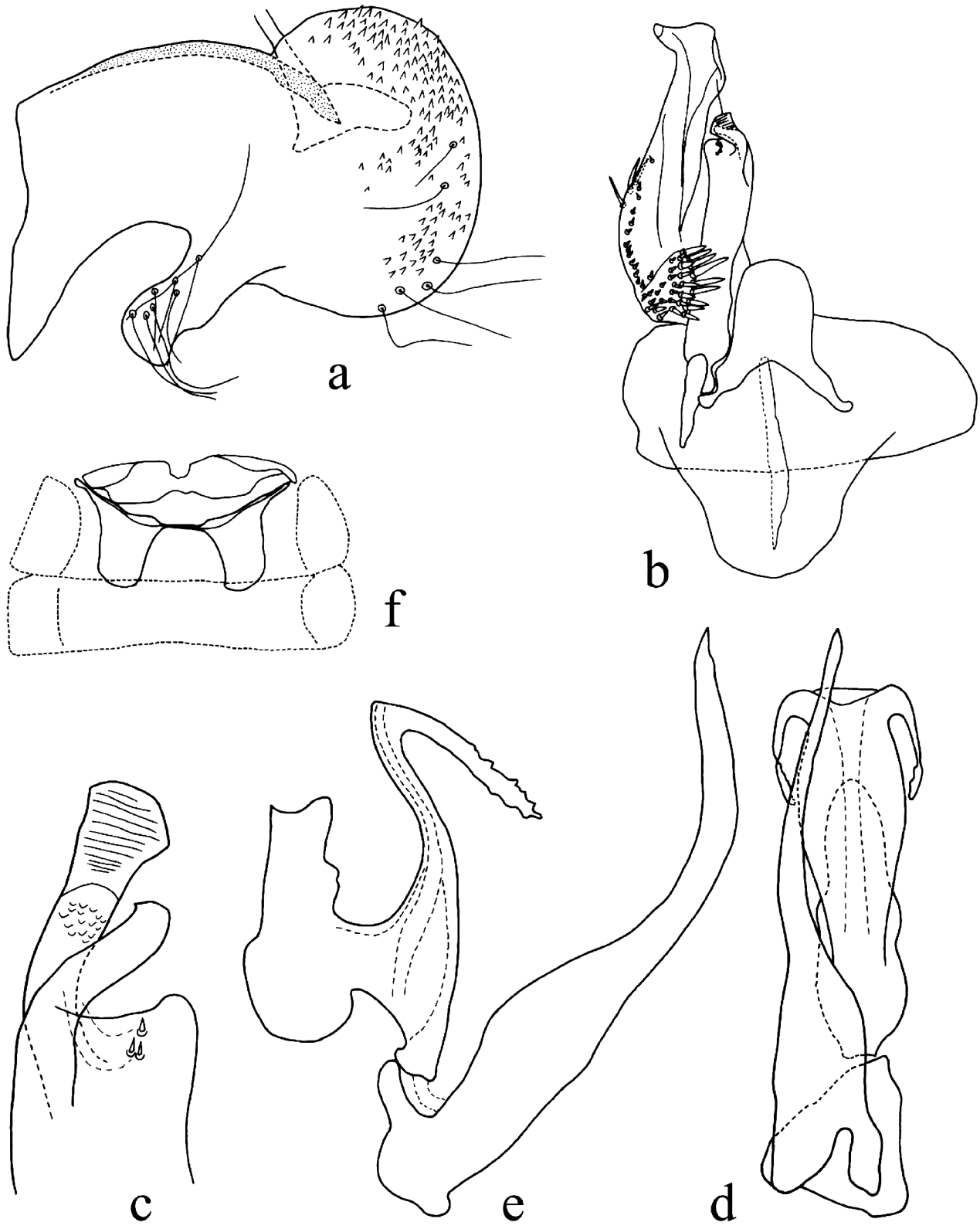

FIGURE 3. *Hepneriana concava* **sp. nov.** a. anal tube appendage and pygofer side, lateral view; b. subgenital plate, style, connective and the 9th sternite, dorsal view; c. apex of style; d. aedeagus, caudal view; e. aedeagus, lateral view; f. abdominal apodemes.

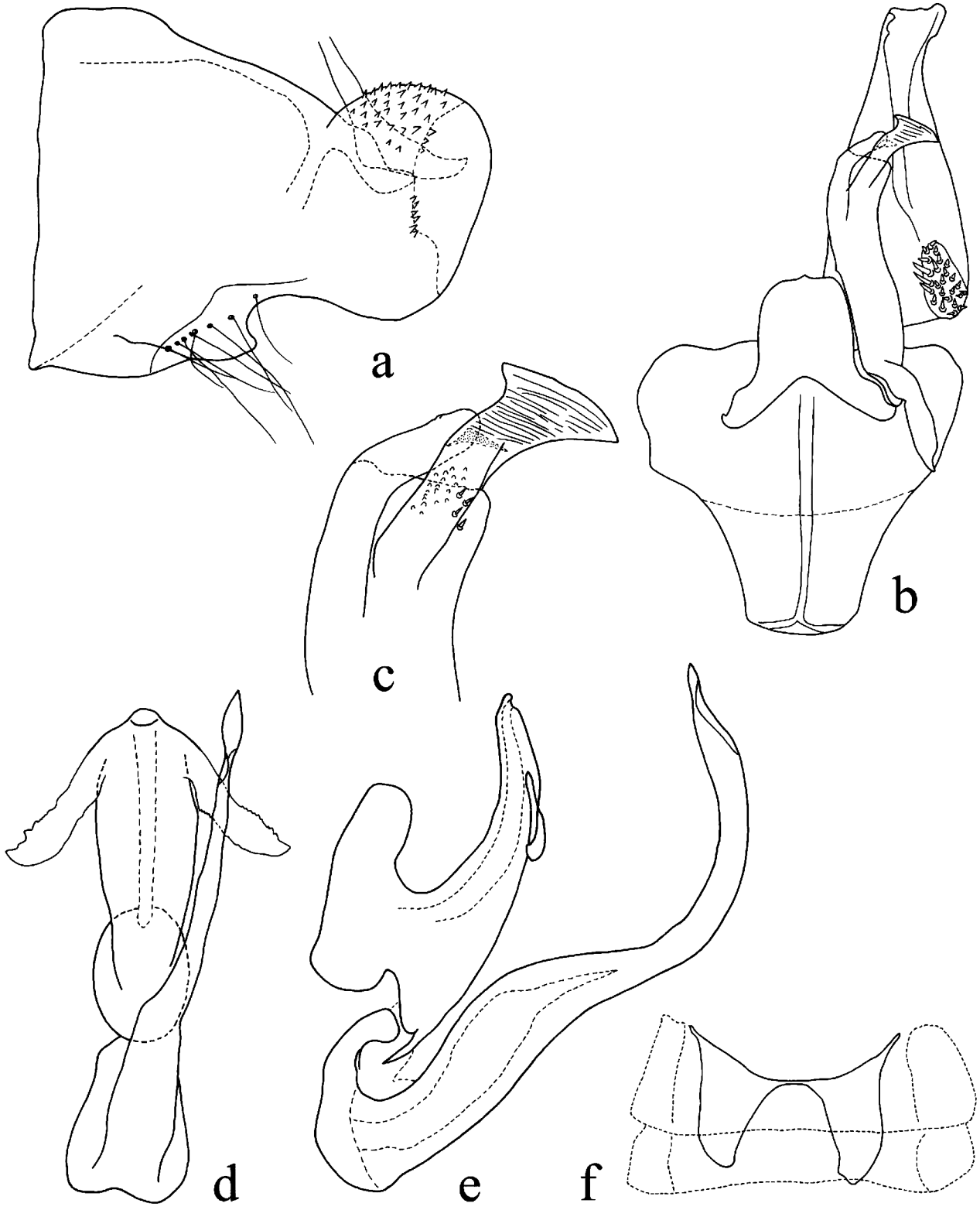

FIGURE 4. *Hepneriana euryaedeaga* **sp. nov.** a. anal tube appendage and pygofer side, lateral view; b. subgenital plate, style, connective and the 9th sternite, dorsal view; c. apex of style; d. aedeagus, caudal view; e. aedeagus, lateral view; f. abdominal apodemes.

Material examined. Holotype: ♂, China, Yunnan Prov., Mengla, Mt. Nangong, 1150m, 12 xii 1999, coll. I. Dworakowska.

Remarks. The new species is similar to *H. heterostyla* (Ahmed), but the lamellar process of the style is less pointed and more expanded, the apex of the aedeagal shaft is produced and the subapical processes are broader.

Etymology. The specific name is derived from the Latin perfix "*eury*-" and English word "aedeagus", referring to the broad aedeagal shaft in caudal view.

Hepneriana joannae (Dworakowska, 1984) n. rec.

(Fig. 5)

Mandera joannae Dworakowska, 1984a: 18, Figs 169–176
Hepneriana joannae Dmitriev & Dietrich, 2006a: 37

Material examined. 1♂, China, Yunnan Prov., Mengla, Yaoqu, 800m, 16 xii 1999, coll. Qin Daozheng.

Host. *Erythrina lithosperma*.

Distribution. China (Yunnan); Malaysia.

Hepneriana longa sp. nov.

(Fig. 6)

Description. Body yellowish, eyes black. Posterior margin of pronotum, basal triangles and claval area of fore wing brown.

Abdominal apodemes (Fig. 6f) narrow, extended to middle part of 3rd sternite. Anal tube appendage (Fig. 6a) slim and long, greatly exceeding posterior margin of pygofer side.

Subgenital plate (Fig. 6b) rounded apically, outer margin slightly expanded. Style (Fig. 6c) with club-shaped process shorter than lamellar process, lamellar process narrow, apex pointed on outer margin. Aedeagal shaft (Figs 6d, e) depressed, with paired subapical processes slim and short; preatrial process quite thick (apex broken in type specimen).

Measurement. male length 2.93 mm.

Material examined. Holotype: ♂, China: Yunnan Prov., Mengla, Mt. Nangong, 1100m, 13 xii 1999, coll. Qin Daozheng.

Remarks. The new species can be distinguished from the others by the extremely long anal tube appendage which greatly exceeds the pygofer side, and the robust preatrial process.

Etymology. The specific name is derived from the Latin word "*longus*", referring to the elongate anal tube appendage.

Hepneriana menglunensis sp. nov.

(Fig. 7)

Description. Body yellowish, eyes black medially and yellowish marginally.

Abdominal apodemes (Fig. 7g) rectangular, extended to middle part of 5th sternite. Anal tube appendage (Fig. 7a) short.

Subgenital plate (Fig. 7b) truncate apically, outer margin slightly expanded. Style (Fig. 7c) with club-shaped process shorter than lamellar process, lamellar process relatively narrow, with distinct angle on inner edge, apical margin truncate, longitudinal ridge on ventral side indistinct. Aedeagal shaft (Fig. 7d–f) depressed, with flange on meso-dorsal margin, paired subapical process short and slim, distinctly curved laterad; preatrial process relatively slim, straight basally and slightly curved dorsad apically.

Measurement. male length 2.67 mm, female length 2.77 mm.

Material examined. Holotype: ♂, China, Yunnan Prov., Menglun, 570m, 9 xii 1999, coll. Qin Daozheng. Paratypes: 4♂8♀, same date as holotype.

Remarks. The new species is extremely similar to *H. joannae* (Dworakowska), but the lamellar process of the style is shorter with the ventral ridge indistinct, the aedeagal shaft is broader and the subapical processes are distinctly curved laterad.

Etymology. The new species is named after its type locality "Menglun".

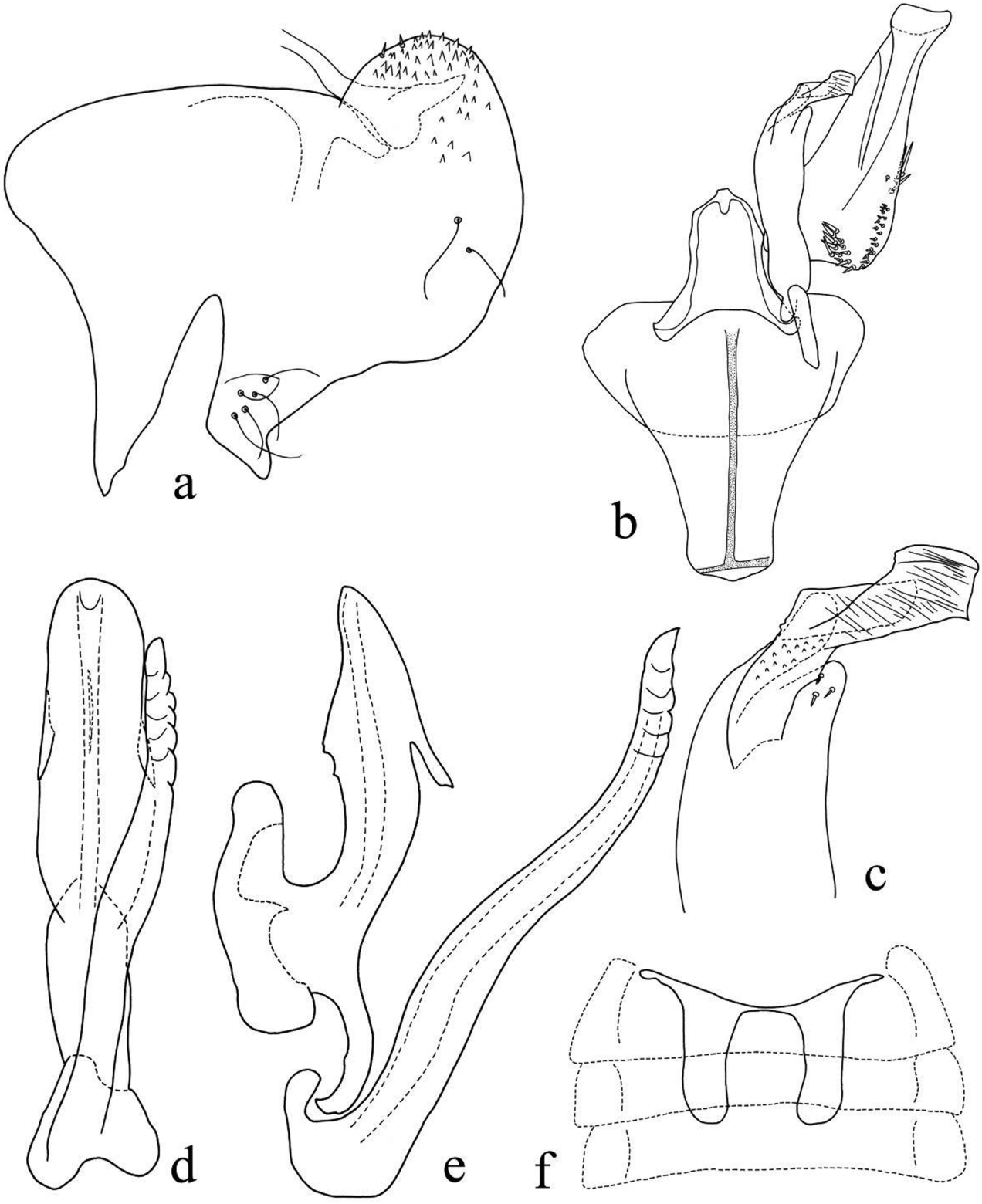

FIGURE 5. *Hepneriana joannae* (Dworakowska, 1984) **n. rec.** a. anal tube appendage and pygofer side, lateral view; b. subgenital plate, style, connective and the 9th sternite, dorsal view; c. apex of style; d. aedeagus, caudal view; e. aedeagus, lateral view; f. abdominal apodemes.

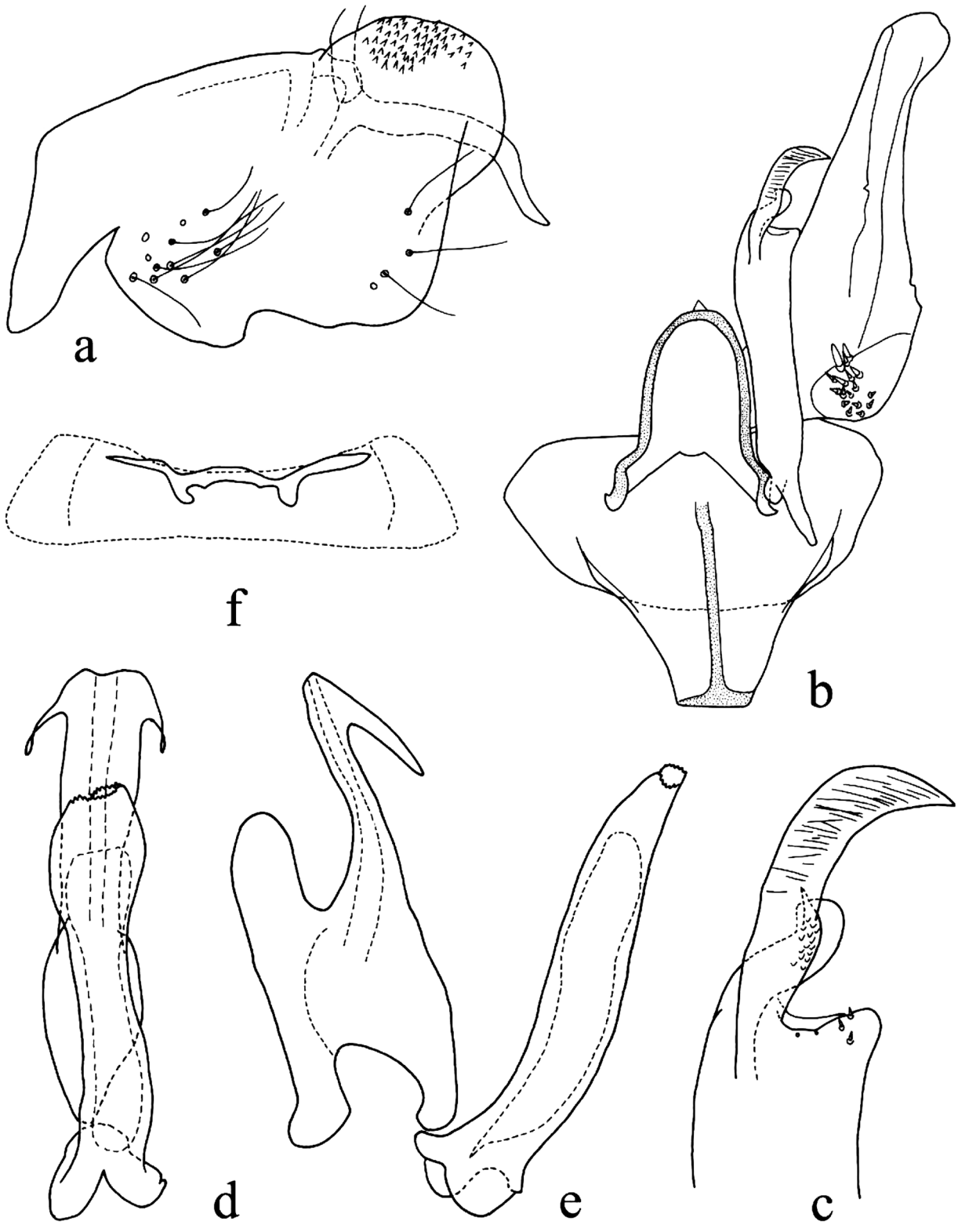

FIGURE 6. ***Hepneriana longa*** **sp. nov.** a. anal tube appendage and pygofer side, lateral view; b. subgenital plate, style, connective and the 9th sternite, dorsal view; c. apex of style; d. aedeagus, caudal view; e. aedeagus, lateral view; f. abdominal apodemes.

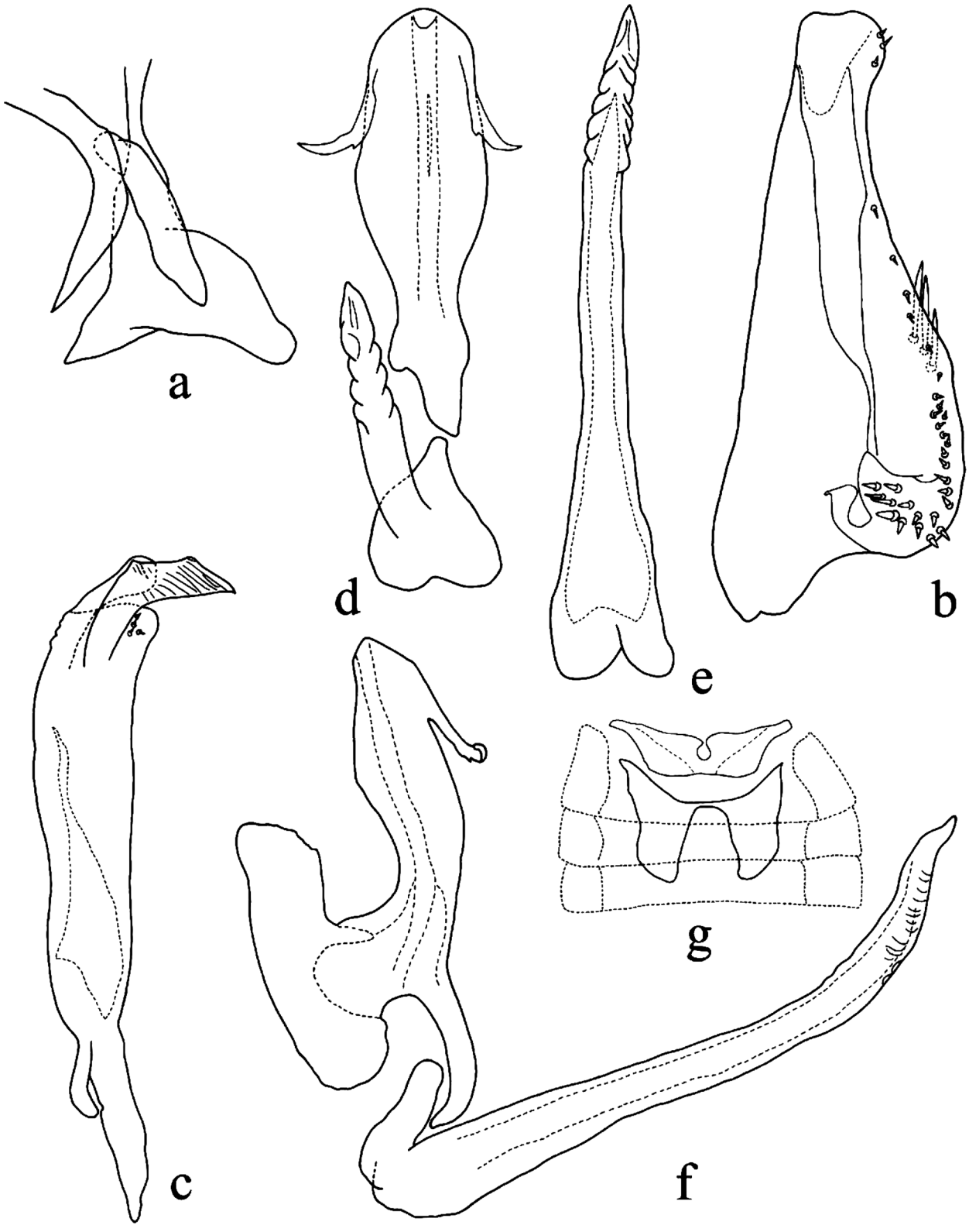

FIGURE 7. ***Hepneriana menglunensis*** **sp. nov.** a. anal tube appendage and pygofer dorsal appendage, lateral view; b. subgenital plate; c. style; d. aedeagus, caudal view; e. basal preatrial process of aedeagus, ventral view; f. aedeagus, lateral view; g. abdominal apodemes.

***Hepneriana paragamma* sp. nov.**
(Fig. 8)

Description. Body yellowish, eyes black medially and yellowish marginally.

Abdominal apodemes (Fig. 8j) rectangular, extended to anterior margin of 4th sternite. Anal tube appendage (Fig. 8a) short.

Subgenital plate (Fig. 8c) truncate apically and slightly produced on outer margin. Style (Figs 8d, e) with club-shaped process shorter than lamellar process, lamellar process narrow to broad, with distinct triangular ridge on ventral side. Aedeagal shaft (Figs 8f–i) depressed, with or without flange on meso-dorsal margin, paired subapical process broad and curved laterad, with outer margin serrated; preatrial process relatively thick, sinuated.

Measurement. male length 2.80–2.94 mm.

Material examined. Holotype: ♂, China, Yunnan Prov., Jinghong, 580m, 21 xii 1999, coll. I. Dworakowska. Paratypes: 2♂, Yunnan Prov., Yaoqu, 800m, 16 xii 1999, grasses, coll. Qin Daozheng; 2♂2♀, Yunnan Prov., Lancang, Munai, 1100m, 2 xii 1999, coll. Dworakowska; 9♀, Yunnan Prov., Lancang, 1100m, 2 xii 1999, coll. Qin Daozheng.

Remarks. The new species is similar to *H. gamma* (Dworakowska), but the aedeagal shaft is broader and the subapical processes curved in right angle.

Specimens collected from Lancang (Figs 8e, h, i) are slightly different from the other specimens examined (Figs 8a–d, f, g, j). The style lamellar process of the former is shorter but broader, its triangular ridge on ventral side is quite small and the aedeagal shaft is slightly produced on the dorsal edge. The other specimens lack a dorsal ridge on the aedeagal shaft and their style lamellar processes are longer with a prominent ridge on the ventral side.

Etymology. The specific name refers to this new species similarity to *H. gamma* (Dworakowska).

***Hepneriana prostrata* sp. nov.**
(Fig. 9)

Description. Body yellowish, eyes black medially and yellowish marginally.

Abdominal apodemes (Fig. 9g) triangular, extended to middle part of 3rd sternite. Anal tube appendage (Fig. 9a) short.

Subgenital plate (Fig. 9b) blunt apically, distinctly produced on outer margin. Style (Fig. 9c) with club-shaped process shorter than lamellar process, lamellar process quite narrow, apex pointed on outer margin. Aedeagal shaft (Figs 9d–f) compressed, broadened basally and tapering towards apex, apex slightly expended in caudal view, without process; preatrial process relatively slim, straight basally and curved dorsad apically.

Measurement. male length 2.73 mm.

Material examined. Holotype: ♂, China, Yunnan Prov., Mengyuan, 1000m, 18 xii 1999, coll. Qin Daozheng.

Remarks. The new species is similar to *H. hepneri* (Dworakowska) in lacking an aedeagal process, but the style lamellar process is distinctly longer than the club-shaped process, the aedeagal shaft is broader basally in lateral view, and the preatrial process is curved dorsad.

Etymology. The specific name is derived from the Latin word "*prostratus*", referring to the compressed aedeagal shaft.

***Hepneriana robusta* sp. nov.**
(Fig. 10)

Description. Body yellowish, eyes black medially and yellowish marginally.

Abdominal apodemes (Fig. 10g) rectangular, extended to middle part of 3rd sternite. Anal tube appendage (Fig. 10a) short.

Subgenital plate (Fig. 10c) compressed in distal half, rounded apically and without distinct protrusion on outer margin. Style (Fig. 10d) with lamellar process shorter than club-shaped process, without longitudinal ridge on

ventral side. Aedeagal shaft (Fig. 10e, f) depressed, apical margin concave, with pair of long lamellate processes on basal sides which serrated on outer margin; preatrial process relatively thick, apical part curved caudad.

Measurement. male length 3.00 mm, female length 2.97–3.40 mm.

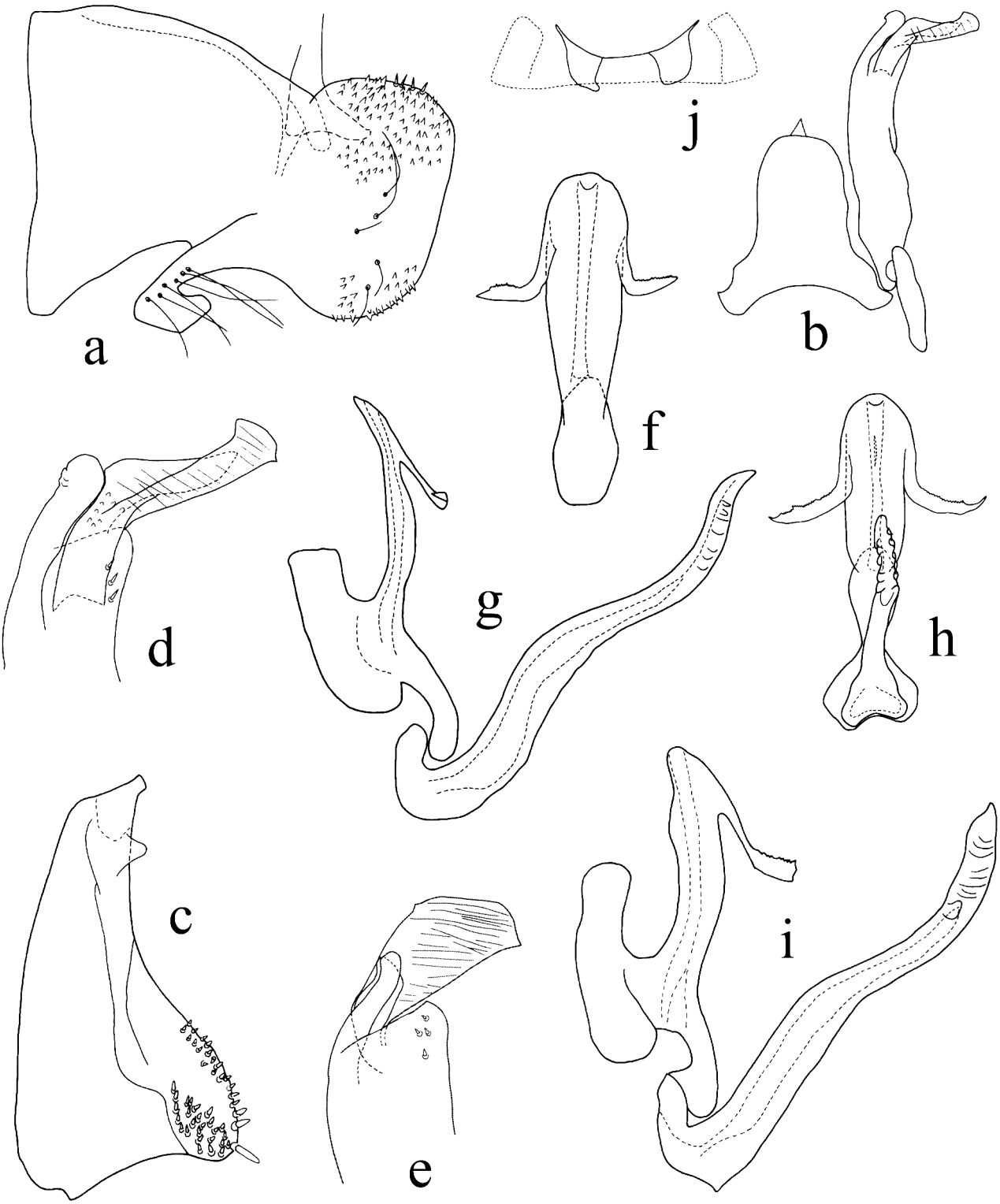

FIGURE 8. ***Hepneriana paragamma*** **sp. nov.** a. anal tube appendage and pygofer side, lateral view; b. style and connective, dorsal view; c. subgenital plate; d. apex of style, holotype; e. apex of style, specimen from Lancang; f, g. aedeagus of holotype; h, i. aedeagus of specimen from Lancang; j. abdominal apodemes.

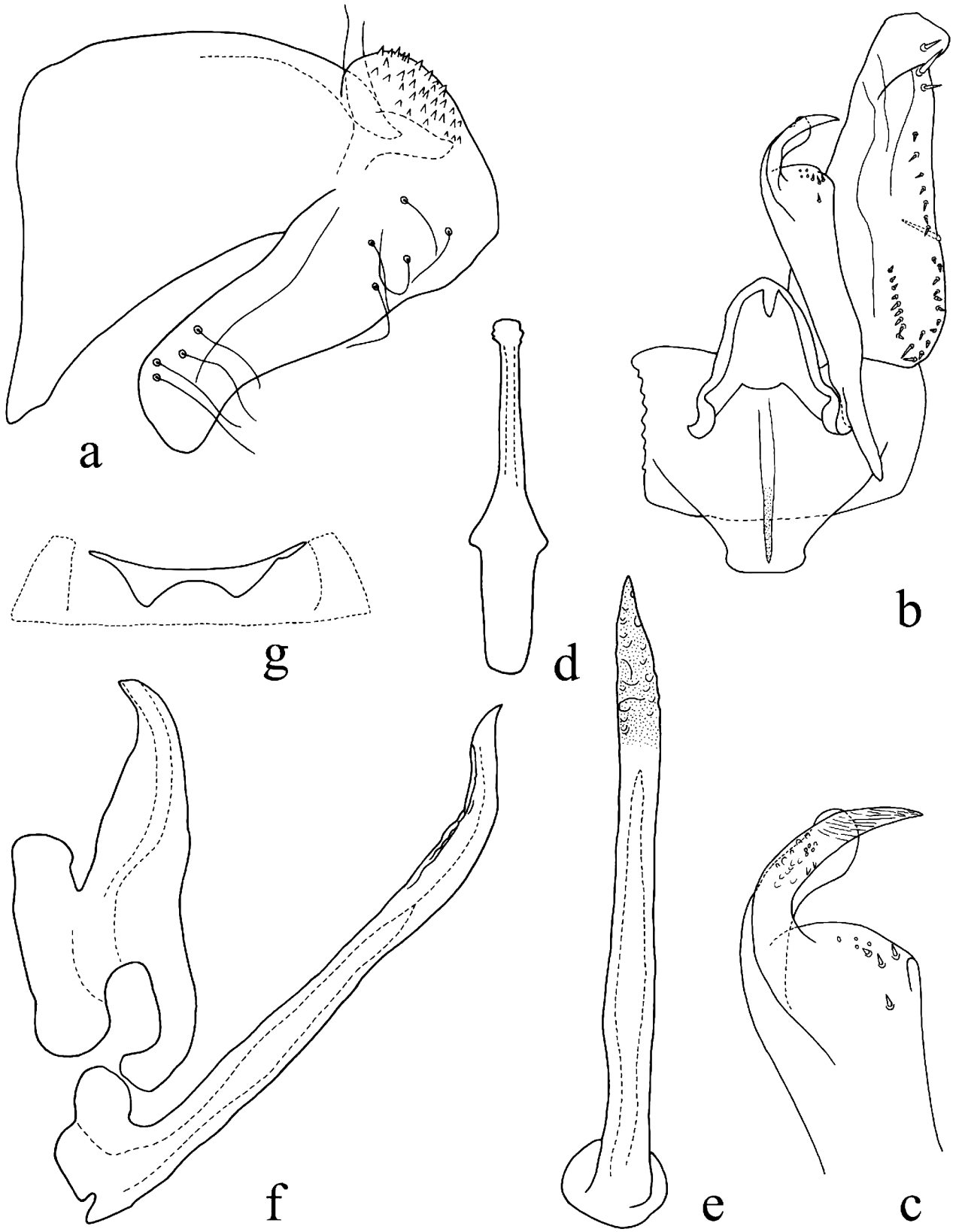

FIGURE 9. *Hepneriana prostrata* **sp. nov.** a. anal tube appendage and pygofer side, lateral view; b. subgenital plate, style, connective and the 9th sternite, dorsal view; c. apex of style; d. aedeagal shaft, caudal view; e. basal preatrial process of aedeagus, ventral view; f. aedeagus, lateral view; g. abdominal apodemes.

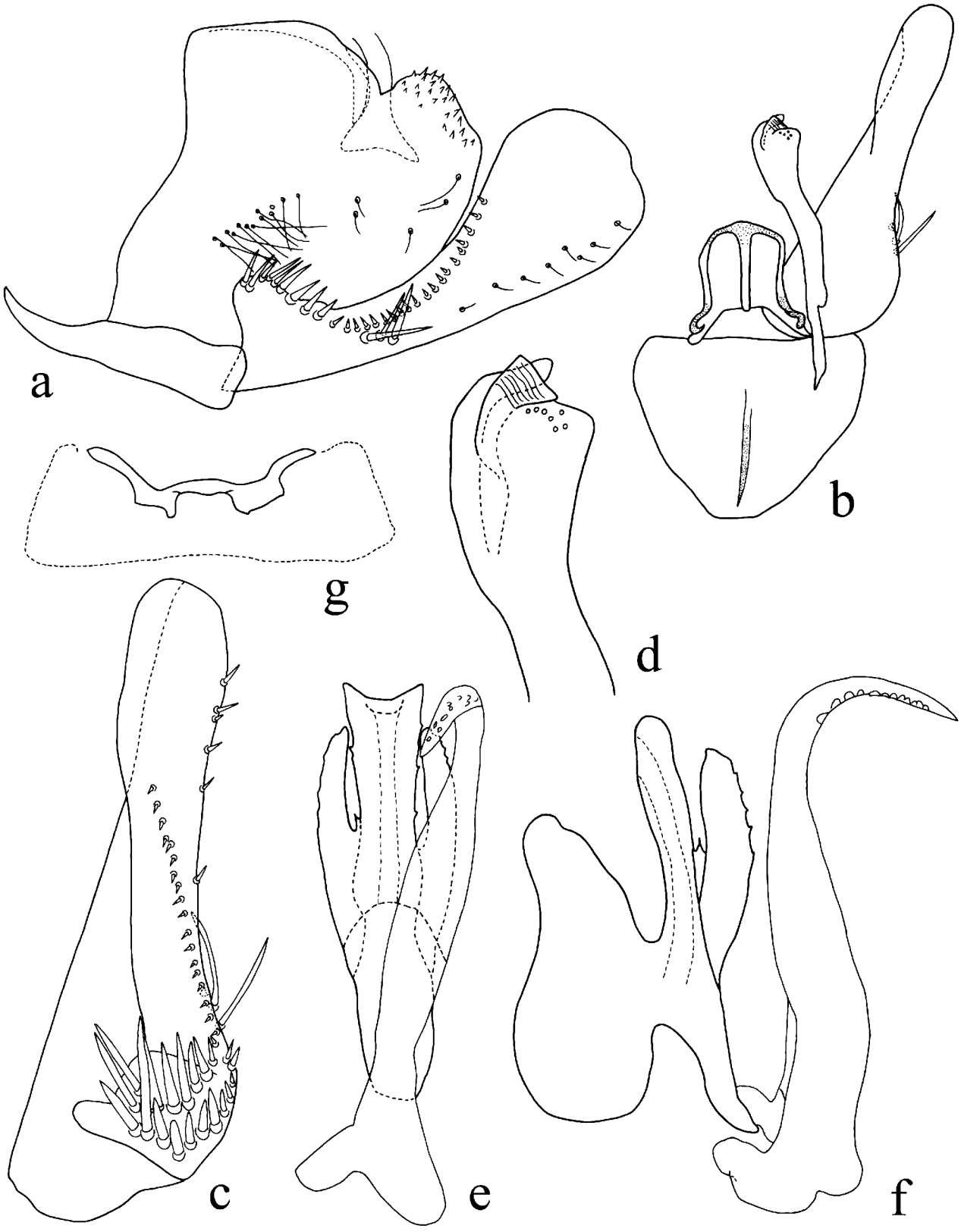

FIGURE 10. ***Hepneriana robusta*** **sp. nov.** a. male genital capsule, lateral view; b. subgenital plate, style, connective and the 9th sternite, dorsal view; c. subgenital plate; d. apex of style; e. aedeagus, caudal view; f. aedeagus, lateral view; g. abdominal apodemes.

Material examined. Holotype: ♂, China, Yunnan Prov., Mengla, Yaoqu, 800m, 16 xii 1999, coll. Qin Daozheng. Paratypes: 1♂8♀, same date as holotype; 3♂13♀, Yunnan Prov., Mengyuan, 750m, 17 xii 1999, coll. Qin Daozheng; 3♂9♀, Yunnan Prov., Mengla, Mt. Nangong, 1100m, 13 xii 1999, coll. Qin Daozheng; 1♀, Yunnan Prov., Mengla, Mt. Nangong, 1150m, 12 xii 1999, coll. Qin Daozheng; 5♂6♀, Yunnan Prov., Mengla, Mt. Nangong, 1100m, 14 xii 1999, coll. I. Dworakowska; 2♀, Yunnan Prov., Mengla, Mt. Nangong, 1150m, 12 xii 1999, coll. I. Dworakowska; 1♀, Yunnan Prov., Mengla, Mt. Nangong, 1200m, 17 xii 1999, coll. I. Dworakowska; 1♀, Yunnan Prov., Mengla, Bubeng, 700m, 15 xii 1999, coll. Qin Daozheng.

Remarks. The new species is similar to *H. stylata* (Dworakowska) in having the lamellar process of the style shortened and processes of the aedeagal shaft shifted basad, but can be distinguished from the latter by the narrower lamellar process of the style, depressed aedeagal shaft and broadened basal processes.

Etymology. The specific name is derived from the Latin word "*robustus*", referring to the robust basal processes of the aedeagal shaft.

Hepneriana taibaoensis sp. nov.

(Fig. 11)

Description. Body yellowish, eyes black medially and yellowish marginally.

Abdominal apodemes triangular, not reaching hind margin of 3th sternite. Anal tube appendage (Fig. 11a) short.

Subgenital plate (Fig. 11b) with apical part curved dorsad, truncate apically in dorsal view and produced on outer margin. Style (Fig. 11c) with club-shaped process shorter than lamellar process, lamellar process with basal part narrow and slightly broadening towards apex. Aedeagal shaft (Figs 11d, e) narrow, paired subapical processes broad, curved caudad in lateral view, apical margin slightly serrated; preatrial process slim and arcuate.

Measurement. male length 3.24 mm, female length 3.37 mm.

Material examined. Holotype: ♂, China, Yunnan Prov., Baoshan, Taibaoshan Park, 1700m, 19 xi 1999, coll. Qin Daozheng. Paratypes: 22♂15♀, same date as holotype; 18♂19♀, same locality and date as holotype, coll. I. Dworakowska; 1♂4♀, Yunnan Prov., Baoshan, 1800m, 19 xi 1999, coll. I. Dworakowska; 1♂1♀, Yunnan Prov., Baoshan, 1800m, 20 xi 1999, *Rhus* L., coll. I. Dworakowska; 31♂19♀, Yunnan Prov., Baoshan, Taibaoshan, 1800m, 19 xi 1999, coll. Qin Daozheng.

Remarks. The new species is similar to *H. horneata* (Sohi), but the lamellar process of the style is less pointed on the inner edge, the subapical processes of the aedeagal shaft are shorter but broader, and the preatrial process is slimmer.

Etymology. The new species is named after its type locality "Taibao".

Hepneriana undulata sp. nov.

(Fig. 12)

Description. Body yellowish, eyes black medially and yellowish marginally.

Abdominal apodemes rectangular, extended to anterior margin of 4th sternite. Anal tube appendage (Fig. 12a) short, with ventral margin concave.

Subgenital plate (Fig. 12b) truncate apically and distinctly produced on outer margin. Style (Fig. 12c) with club-shaped process shorter than lamellar process, lamellar process quite broad apically, apical margin truncate, ventral side without longitudinal ridge. Aedeagal shaft (Figs 12e, f) depressed, with pair of triangular extensions subapically extended from lateral sides, paired apical processes slim and well separated from shaft; preatrial process relatively slim, distinctly sinuated.

Measurement. male length 2.90–3.07 mm, female length 3.00 mm.

Material examined. Holotype: ♂, China, Yunnan Prov., Menglun, 570m, 9 xii 1999, coll. I. Dworakowska. Paratypes: 35♂40♀, same date as holotype; 1♂, Yunnan Prov., Jinghong, 750m, 5 xii 1999, grasses, coll. Qin Daozheng; 6♂7♀, Yunnan Prov., Menglun, 9 xii 1999, coll. Qin Daozheng; 1♂, Yunnan Prov., Mengla, Mt. Nangong, 1100m, 13 xii 1999, coll. Qin Daozheng; 3♂6♀, Yunnan Prov., Damenglong, 600m, 22 xii 1999, coll. I. Dworakowska; 1♂3♀, Yunnan Prov., Mengyuan, Sanchahe, 950m, 20 xii 1999, coll. I. Dworakowska.

Remarks. The new species can be distinguished with the others by the presence of a pair of subapical extensions on aedeagal shaft.

Etymology. The specific name is derived from the Latin word "*undulatus*", referring to the sinuated preatrial process.

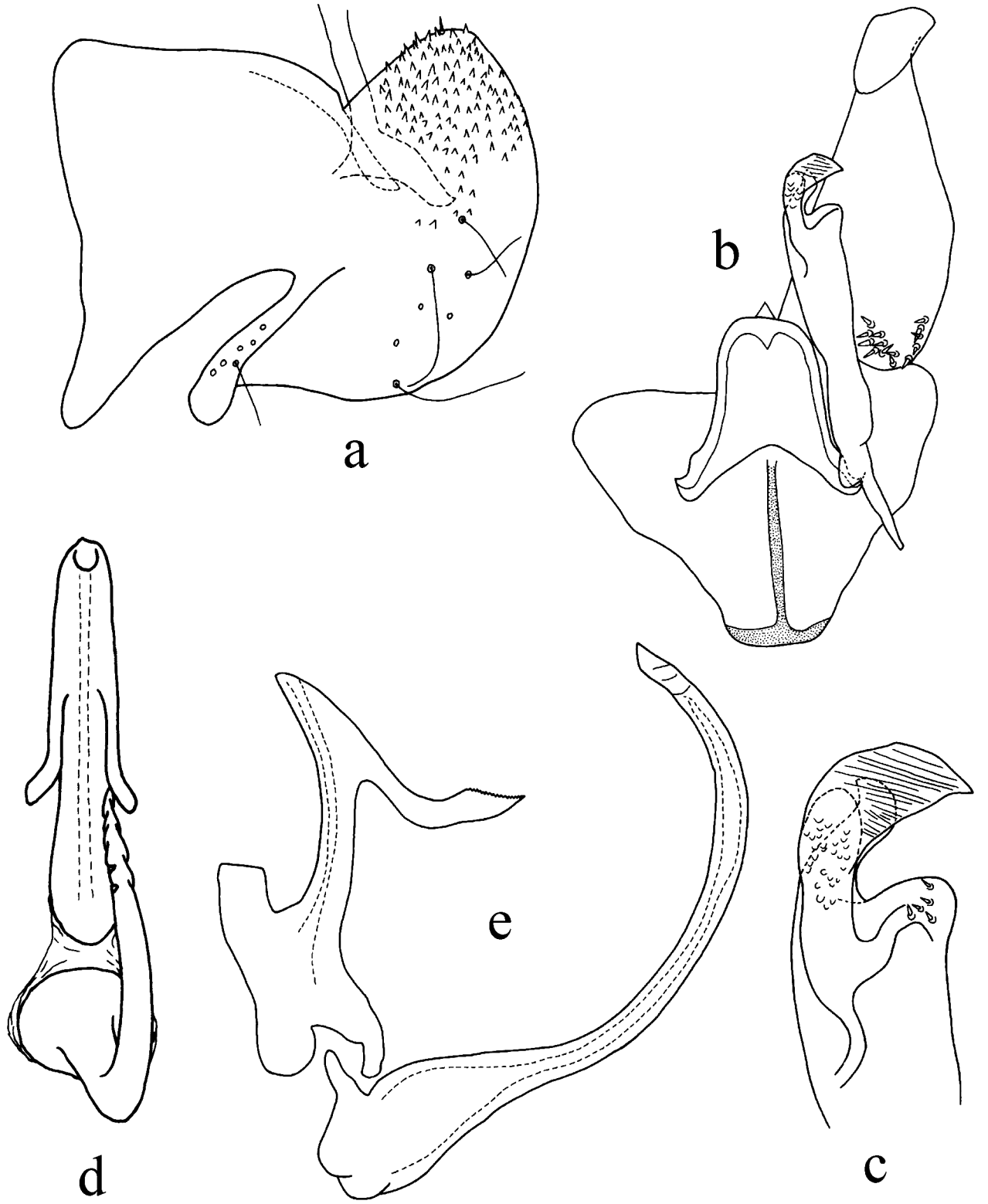

FIGURE 11. *Hepneriana taibaoensis* **sp. nov.** a. anal tube appendage and pygofer side, lateral view; b. subgenital plate, style, connective and the 9th sternite, dorsal view; c. apex of style; d. aedeagus, caudal view; e. aedeagus, lateral view.

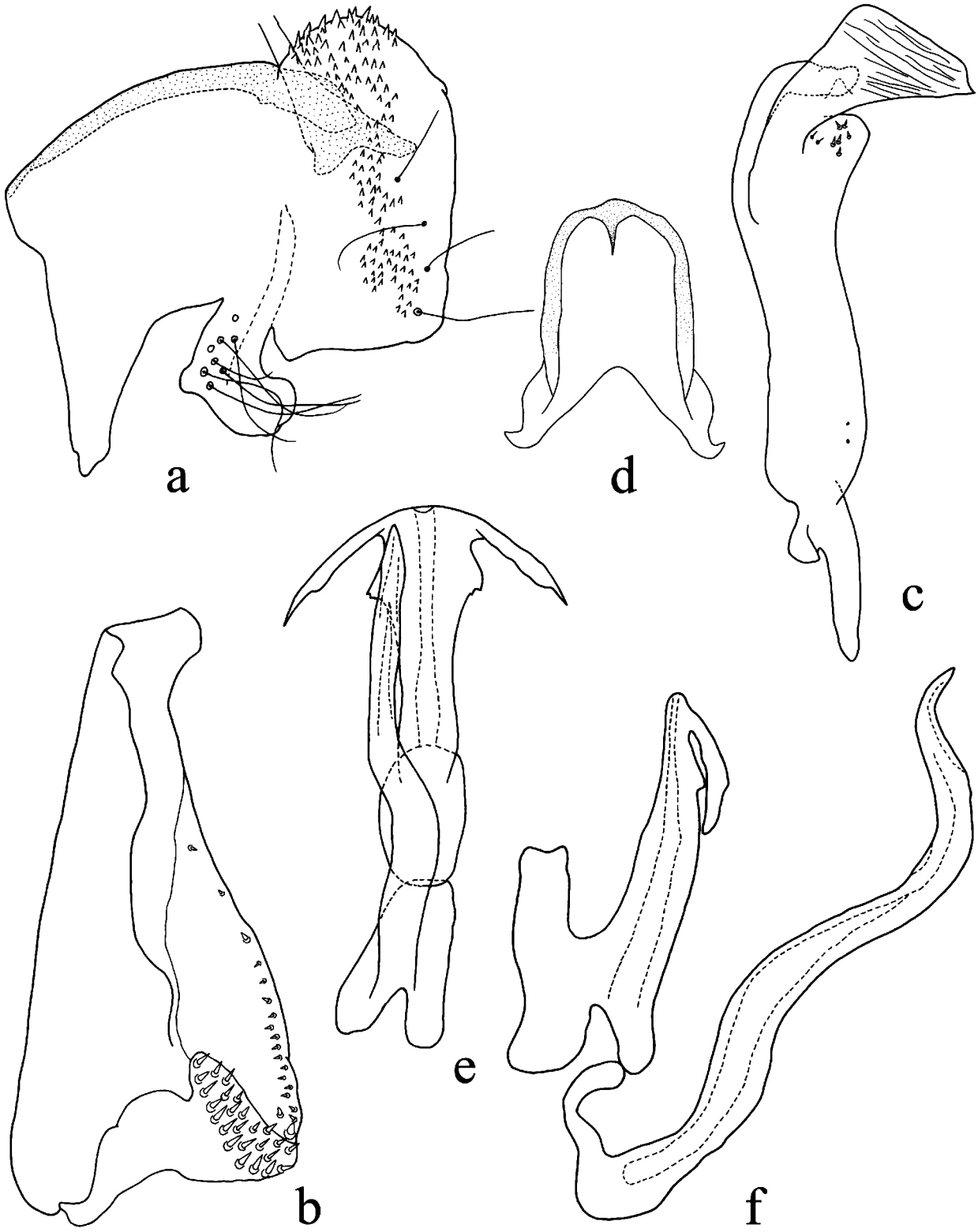

FIGURE 12. *Hepneriana undulata* **sp. nov.** a. anal tube appendage and pygofer side, lateral view; b. subgenital plate; c. style; d. connective; e. aedeagus, caudal view; f. aedeagus, lateral view.

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