

## 云南楼梯草属二新系和八新种

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摘要: 描述了自云南东南部发现的荨麻科楼梯草属 2 新系和 8 新种。

关键词: 荨麻科; 楼梯草属; 新系; 新种; 云南

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## Two new series and eight new species of *Elatostema* (Urticaceae) from Yunnan

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**Abstract:** Two series, ser. *Parvioda*, belonging to sect. *Weddellia* and ser. *Malipoensia*, belonging to sect. *Elatostema*, and eight species of the genus *Elatostema* are described as new from southeastern Yunnan, China.

**Key words:** Urticaceae; *Elatostema*; new series; new species; Yunnan

楼梯草属 *Elatostema* J. R. & G. Forster

组 1. 小叶楼梯草组 sect. *Weddellia* (H. Schröter)

W. T. Wang in Acta Phytotax. Sin. 17(1): 107. 1979.

系 1. 拟小叶楼梯草系 ser. *Parvioda* W. T.

Wang, ser. nov.

Series nova haec est affinis ser. *Parvis* W. T. Wang, a qua acheniis longitudinaliter costatis et inter costas tuberculatis differt. Folia semi-triplinervia. Capitula pistillata sessilia, receptaculis parvis inconspicuis.

Type: *E. parvioides* W. T. Wang.

Species 1, occurring in southeastern Yunnan.

本系与小叶楼梯草系 ser. *Parva* 相近缘, 与后者的区别在于本系的瘦果具纵肋, 并在纵肋之间具瘤状突起。在小叶楼梯草系, 瘦果只具纵肋, 无瘤状突起 (Wang, 1995)。

拟小叶楼梯草 图 1: A-D

*Elatostema parvioides* W. T. Wang, sp. nov.

Fig. 1: A-D.

Perennial herbs. Stems ca. 32 cm tall, near base ca.

1 mm thick, above densely antrorsely strigillose (with hairs 0.2 mm long), from below to above shortly 5-branched, with branches 2.5–4 cm long. Leaves shortly petiolate or sessile; blades papery, obliquely oblong or obliquely elliptic, (0.5–)1.5–6 × (0.4–)1–2.5 cm, apex acute or shortly acuminate, base obliquely cuneate or obliquely rounded, margin denticulate; surfaces adaxially glabrous, abaxially on nerves densely strigillose; venation semi-triplinerved, with 3–4 pairs of secondary nerves; cystoliths conspicuous, dense, bacilliform, 0.2–0.7 mm long; petioles 0–3 mm long; stipules green, narrow-ovate or lanceolate, 2–3.2 × 0.3–0.9 mm, glabrous. Staminate capitula unknown. Pistillate capitula singly axillary, 1.5–3 mm in diam., sessile; receptacle small, inconspicuous; bracts ca. 10, linear, ca. 1 × 0.3 mm, densely ciliate; bracteoles dense, above green, below semi-hyaline, linear, 0.5–1.2 × 0.15 mm, apex densely ciliate. Pistillate flower shortly pedicellate; tepals absent; ovary narrow-ellipsoidal, ca. 0.3 mm long; stigma

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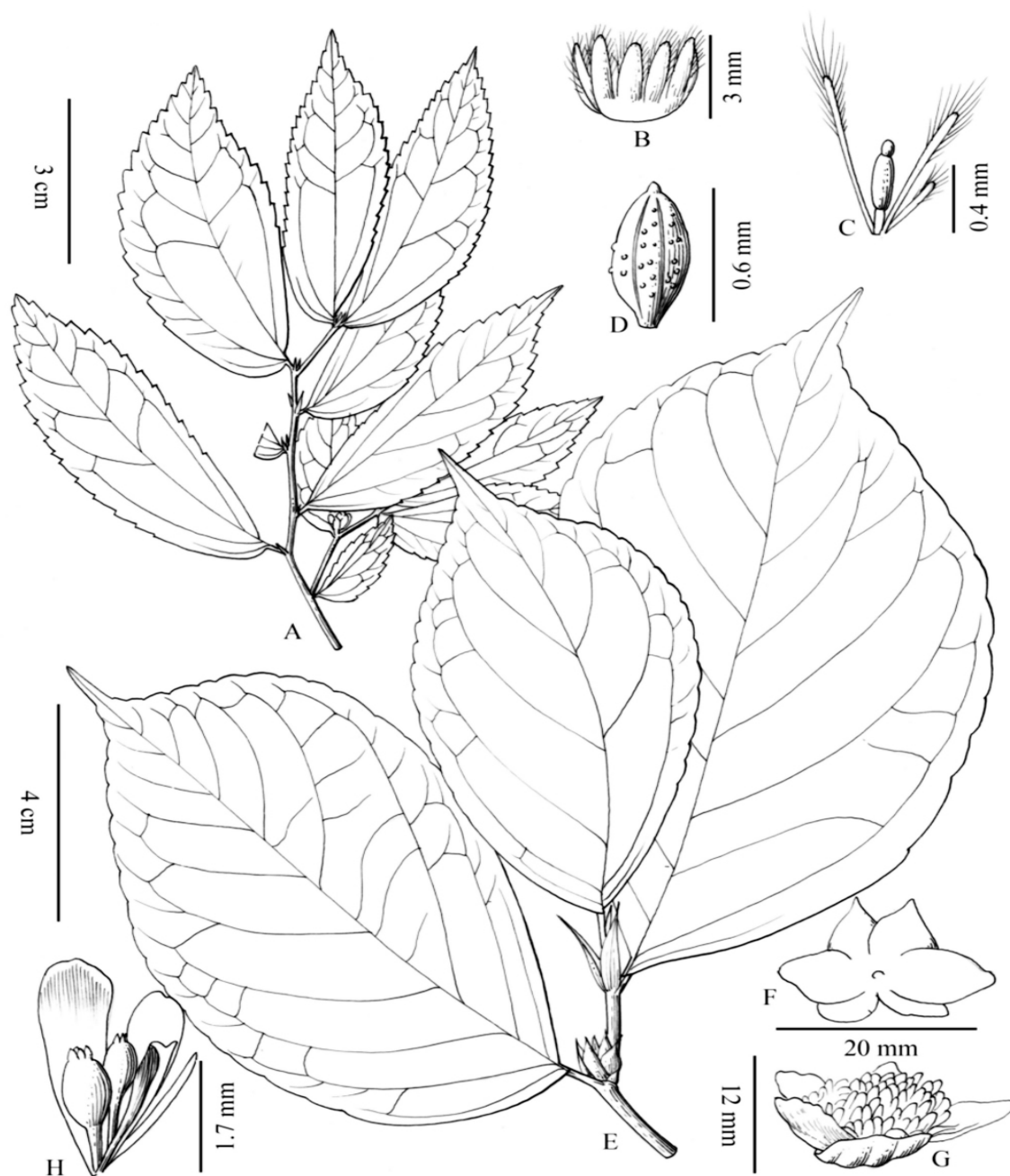


图 1 A-D. 拟小叶楼梯草 A. 开花茎上部; B. 雌头状花序; C. 雌小苞片和雌花; D. 瘦果。 E-H. 光苞楼梯草 E. 开花茎顶部; F. 雄头状花序(下面观); G. 雄头状花序(侧上面观); H. 雄小苞片和 2 雄花蕾。(据模式标本)

Fig. 1 A-D. *Elatostema Parvioides* A. apical part of flowering stem; B. pistillate capitulum; C. pistillate bracteoles and pistillate flower; D. achene. E-H. *E. glabribRACTEUM* E. apical part of flowering stem; F. staminate capitulum, seen from beneath; G. the same as, seen from over side; H. four staminate bracteoles and two staminate flowers. (from holotype)

subglobose, ca. 0.1 mm in diam. Achenes brownish, ovoid, ca.  $0.6 \times 0.3$  mm, longitudinally 6-ribbed and between ribs tuberculate.

云南(Yunnan): 个旧(Gejiu), 曼耗(Manhao), 沙珠底(Shazhudi), alt. 850 m, under forest in limestone hill, 2002-09-06, 税玉民等(Y. M. Shui *et al.*) 15930(holotype, PE)。

系 2. 浅齿楼梯草系 ser. *Crenata* W. T. Wang in Bull. Bot. Lab. N.-E. Forest. Inst. 7:58. 1980.

光苞楼梯草 图 1: E-H

*Elatostema glabribRACTEUM* W. T. Wang, sp. nov. Fig. 1: E-H.

Species nova haec est affinis *C. crenata* W. T. Wang, quod foliis oblique oblongis, eorum cysto-

lithis majoribus 0.5–1 mm longis, bracteis staminatis dorso longitudinaliter 1-costatis et apice corniculatis (Wang, 1995).

Small subshrubs, turning black after drying. Stems ascending, ca. 45 cm long, near base ca. 8 mm thick, below prostrate and rooting, glabrous, simple. Leaves shortly petiolate, glabrous; blades papery, obliquely elliptic or obliquely obovate,  $9-16 \times 3-8.5$  cm, apex acuminate (acumen margins entire), base obliquely cuneate, margin above the middle repand or crenate; venation pinnate, with 9–10 pairs of secondary nerves; cystoliths inconspicuous, slightly dense, bacilliform, 0.1–0.5 mm long; petioles 4–7 mm long; stipules narrow-lanceolate,  $7-17 \times 1.5-2.5$  mm, glabrous. Staminate capitula singly axillary, ca. 2 cm long, sessile; receptacle small, inconspicuous; bracts 6, 2-seriate, glabrous, outer bracts 2, opposite, larger, ovate, ca.  $9 \times 7$  mm, apex obtuse, inner bracts 4, obliquely broadly ovate,  $6-7 \times 5$  mm; bracteoles dense, brownish, semi-hyaline, oblanceolate or linear, rarely oblanceolate-navicular with cucullate apex and short horn-like projection,  $1.5-3 \times 0.2-1$  mm, glabrous. Staminate flower buds ellipsoidal, ca. 1 mm long, glabrous, apex shortly 4-corniculate; fruiting pedicels ca. 0.7 mm long, glabrous. Pistillate capitula unknown.

云南 (Yunnan): 马关 (Maguan), 古林箐 (Gulingqing), 花鱼洞 (Huayudong), under rain forest in limestone hill, 2002-10-17, 税玉民, 陈文红, 盛家舒 (Y. M. Shui, W. H. Chen & J. S. Sheng) 30803 (holotype, PE).

本种与浅齿楼梯草 *E. crenatum* W. T. Wang 在亲缘关系上相近, 与后者的区别: 叶椭圆形或倒卵形, 叶的钟乳体较小, 长 0.1–0.5 mm, 雄苞片无纵肋和角状突起。在浅齿楼梯草, 叶呈长圆形, 叶的钟乳体较大, 长 0.5–1 mm, 雄苞片背面有 1 条纵肋, 顶端有角状突起 (Wang, 1995)。

白托叶楼梯草 图 2:A-C

*Elatostema albistipulum* W. T. Wang, sp. nov. Fig. 2:A-C.

Species nova haec est affinis *E. bijiangensi* W. T. Wang, quod caulibus prope apicem puberulis, foliis supra strigillosis subtus ad nervos puberulis, stipulis minoribus 8 mm longis 0.4 mm latis, pedunculis pistillatis apice haud 1-bracteatis facile distinguitur (Wang, 1995).

Perennial herbs. Stems ca. 40 cm tall, near base ca. 5 mm thick, glabrous, simple, longitudinally shallowly 4-sulcate. Leaves shortly petiolate or sessile, glabrous; blades papery, obliquely oblanceolate or obliquely narrow-elliptic,  $7-13 \times 2.2-3.5$  cm, apex long acuminate (acumen margin below few-denticulate), base obliquely cuneate, margin at leaf narrow side below entire, above and at broad side denticulate; venation pinnate, with 7–10 pairs of secondary nerves; cystoliths inconspicuous, slightly dense, short-bacilliform or punctiform, 0.05–0.1 mm long; petioles 0–2 mm long; stipules membranous, white, linear-lanceolate,  $14-17 \times 3-4$  mm, glabrous, 1-nerved. Staminate capitula unknown. Pistillate capitula singly axillary, ca. 3 mm in diam.; peduncle robust, ca. 0.3 mm long, glabrous, at apex 1-bracteate (bract membranous, white, broad-triangular, ca. 1 mm  $\times$  0.8 mm, sparsely ciliolate); receptacle ca. 1 mm in diam., glabrous; bracts ca. 20, narrow-triangular or sublinear,  $0.8-1 \times 0.2-0.4$  mm, sparsely ciliolate; bracteoles dense, membranous, greenish, linear, 0.6–1.2 mm long, glabrous. Pistillate flower: pedicel ca. 0.3 mm long, glabrous; tepals 3, narrow-linear, 0.3 mm long, glabrous; ovary ellipsoidal, 0.4 mm long; stigma penicillate, 0.25 mm long.

云南 (Yunnan): 马关 (Maguan), 古林箐 (Gulingqing), 老房子 (Laofangzi), under evergreen broad-leaved forest in limestone hill, 2002-10-11, 税玉民, 陈文红, 盛家舒 (Y. M. Shui, W. H. Chen & J. S. Sheng) 31199 (holotype, PE).

本种与碧江楼梯草 *E. bijiangense* W. T. Wang 近缘, 与后者的区别在于本种的茎和叶无毛, 托叶较大, 雌花序梗顶端有 1 苞片。在碧江楼梯草, 茎近顶端被短柔毛, 叶上面被短糙伏毛, 下面脉上被短柔毛, 托叶较小, 长 8 mm, 雌花序梗无苞片 (Wang, 1995)。

组 2. 骤尖楼梯草组 sect. *Elatostema*

系 1. 龙州楼梯草系 ser. *Lungzhouensia* W. T. Wang in Fu *et al.* Paper Collection of W. T. Wang 2:1148. 2012.

狭苞楼梯草 图 2:D-G

*Elatostema angustibracteum* W. T. Wang, sp. nov. Fig. 2:D-G.

Species nova haec ab *E. lungzhouensi* W. T. Wang differt caulibus retrorse strigillosis, foliis subtus ad ner-

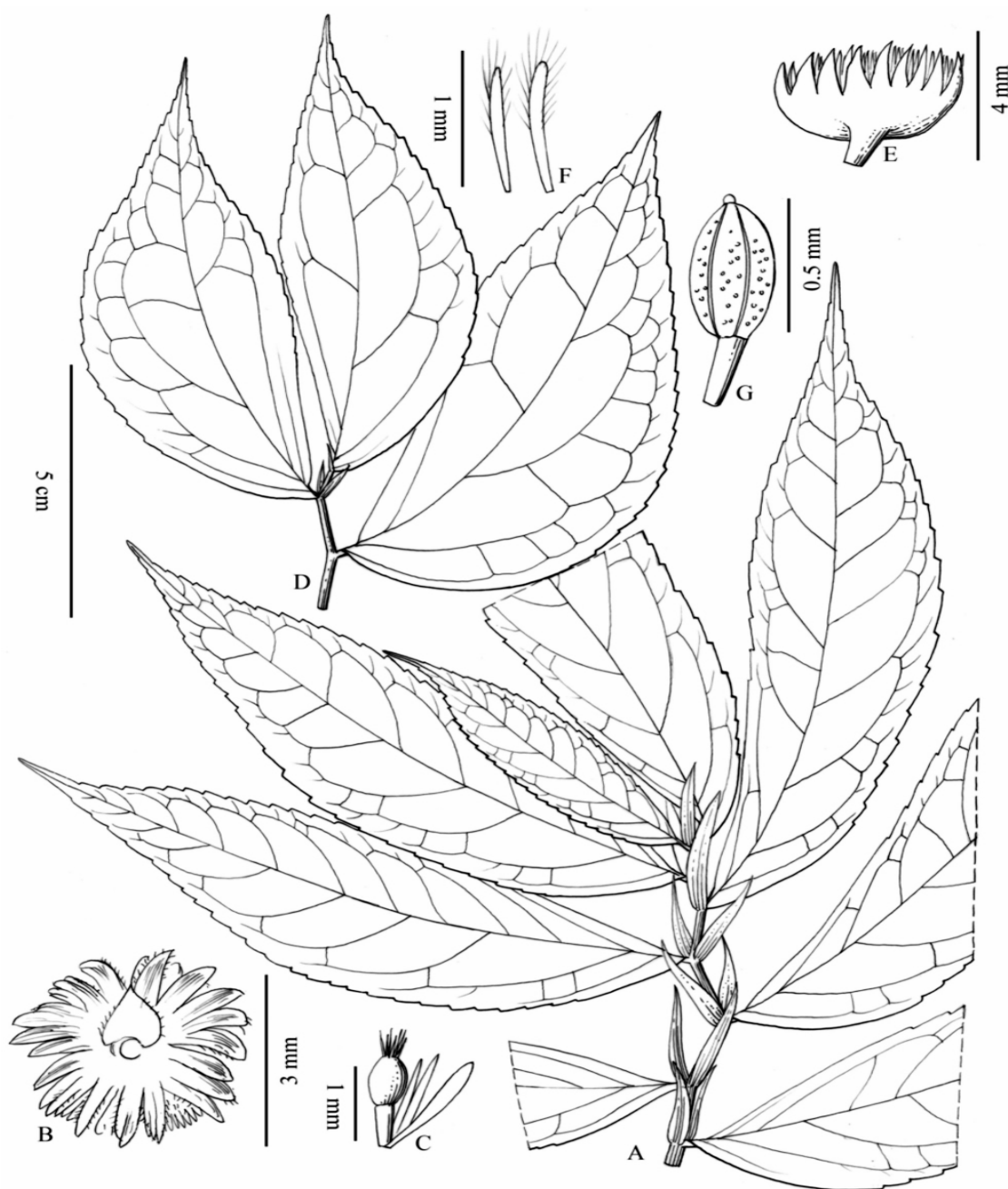


图 2 A-C. 白托叶楼梯草 A. 开花茎顶部; B. 雌头状花序; C. 小苞片和雌花。 D-G. 狭苞楼梯草

D. 开花茎顶部; E. 果序; F. 雌小苞片; G. 瘦果。(据模式标本)

Fig. 2 A-C. *Elatostema albigipulum* A. apical part of flowering stem; B. pistillate capitulum; C. pistillate bracteoles and pistillate flower.

D-G. *E. angustibracteum* D. apical part of flowering stem; E. infructescence; F. pistillate bracteoles; G. achene. (from holotype)

vos strigillosis trinervibus, capituli pistillati bracteis pluribus ca. 20 anguste triangularibus. In *E. lungzhouensi*, caules glabri, folia glabra et semi-triplinervia, et capituli pistillati bractee inconspicuae vel paucae, depresse triangulares. Habitu species nova *E. balansae* Gagnep. (sect. *Elatostema* ser. *Cuspidata* W. T. Wang) simillima est, quod caulibus glabris vel subglabris,

bracteis pistillatis depresse deltoideis apice crasse corniculatis, acheniis tantum longitudinaliter costatis haud tuberculatis valde differt (Wang, 1995).

Perennial herbs. Stems ca. 35 cm tall, near base ca. 2 mm thick, above densely retrorsely strigillose (hairs 0.1 mm long), simple. Leaves shortly petiolate or sessile; blades papery, obliquely narrow-elliptic,  $8-13 \times 3.5-5$

cm, apex acuminate (acumen margin denticulate), base cuneate at narrow side and rounded or subauriculate at broad side, margin denticulate; surfaces adaxially glabrous, abaxially on nerves strigillose; venation trinerved, with 3 pairs of secondary nerves; cystoliths conspicuous, dense, bacilliform, 0.1–0.3 mm long; petioles 0–3.5 mm long; stipules greenish, narrow-triangular, ca.  $7 \times 1.2$ – $1.5$  mm, glabrous, 1–2-green-nerved. Staminate capitula unknown. Pistillate capitula singly axillary, ca. 4 mm in diam.; peduncle ca. 1.5 mm long, glabrous; receptacle elliptic, ca.  $3.5 \times 2.5$  mm, glabrous; bracts ca. 20, narrow-triangular, ca.  $0.8 \times 0.2$ – $0.3$  mm, subglabrous; bracteoles dense, semi-hyaline, linear, 0.7–1 mm long, above ciliate. Achenes brownish, ellipsoidal, ca.  $0.5 \times 0.3$  mm, longitudinally 7-ribbed and between ribs tuberculate.

云南(Yunnan): 个旧(Gejiu), 曼耗(Manhao), 沙珠底(Shazhudi), alt. 300–400 m, under rain forest in valley, 2002-09-07, 税玉民等(Y. M. Shui *et al.*) 15967 (holotype, PE)。

龙州楼梯草系 ser. *Lungzhouensia* 与骤尖楼梯草系 ser. *Cuspidata* (瘦果只具纵肋) 相近缘, 与后者的区别是此系的瘦果除具纵肋之外还具瘤状突起。本种是龙州楼梯草系的第二个种, 其与龙州楼梯草 *E. lungzhouense* 的区别为其茎被反曲短糙伏毛, 叶下面脉上被短糙伏毛, 具三出脉, 雌头状花序苞片较多, 约 20 枚, 呈狭三角形。在龙州楼梯草, 茎无毛, 具半离基三出脉, 雌头状花序的苞片不明显, 或少数, 呈扁三角形。本种在体态上与骤尖楼梯草系 ser. *Cuspidata* 的华南楼梯草 *E. balansae* 极为相似, 但后者的茎无毛或近无毛, 雌苞片扁正三角形, 顶端具粗角状突起, 瘦果只具纵肋, 不具瘤状突起而明显区别(Wang, 1995)。

系 2. 深绿楼梯草系 ser. *Atroviridia* W. T. Wang in Fu *et al.* Paper Collection of W. T. Wang 2: 1149. 2012.

绿水河楼梯草 图 3: A-E

*Elatostema lushuiheense* W. T. Wang, sp. nov. Fig. 3: A-E.

Species nova haec est fortasse affinis *E. leioccephalum* W. T. Wang, quod foliis ciliolatis, bracteis pistillatis minoribus depresso deltoideis 0.2–0.5 mm longis, bracteolis pistillatis viridibus haud semi-hyalinis recedit. Habitu

*E. cyrtandri folio* (Zoll. & Mor.) Miq. (ser. *Cuspidata* W. T. Wang) simillima est, quod capituli pistillati bracteis 6 apice projecturis oblique ellipticis praeditis, acheniis longitudinaliter costatis haud tuberculatis valde differt (Wang, 1995).

Perennial herbs. Stems ca. 70 cm tall (according to the collectors), glabrous, branched, longitudinally shallowly 4–6-sulcate. Leaves shortly petiolate or sessile, glabrous; blades papery, obliquely elliptic or obliquely obovate,  $4$ – $14 \times 1.5$ – $6$  cm, apex acuminate or shortly cuspidate (acumen margin entire), base obliquely broadly cuneate, margin denticulate; venation semi-triplinerved, with 3 pairs of secondary nerves; cystoliths conspicuous, dense, bacilliform, 0.1–0.3 mm long; petioles 0–2.5 mm long; stipules green, subulate, ca.  $2 \times 0.1$  mm, glabrous. Staminate capitula unknown. Pistillate capitula singly axillary, 7–15 mm long; peduncle ca. 4 mm long, glabrous; receptacle subrectangular, ca.  $9 \times 6$  mm, glabrous; bracts ca. 50, greenish, narrow-triangular,  $1.2$ – $2 \times 0.5$ – $1$  mm, mostly at apex elongate into horn-like projections 0.5–2 mm long, rarely not corniculate, sparsely ciliate; bracteoles dense, semi-hyaline, linear,  $1.2$ – $2.5 \times 0.1$ – $0.3$  mm, apex ciliate. Pistillate flower shortly pedicellate; tepals 2, narrow-linear, ca. 0.2 mm long, glabrous; ovary narrow-ovoid, ca. 0.45 mm long; stigma subglobose, ca. 0.05 mm in diam. Achenes yellowish, ovoid, ca.  $0.8 \times 0.5$  mm, tuberculate.

云南(Yunnan): 个旧(Gejiu), 曼耗(Manhao), alt. 700 m, on east slope of Lushui River, under forest in limestone hill, 2002-10-16, 税玉民等(Y. M. Shui *et al.*) 14216 (holotype, PE)。

本种可能与深绿楼梯草系 ser. *Atroviridia* 中的光序楼梯草 *E. leioccephalum* 相近缘, 与后者的区别: 本种的叶无毛, 雌苞片较大, 狭三角形, 雌小苞片白色, 半透明。在光序楼梯草, 叶有短缘毛, 雌苞片很小, 扁正三角形, 长 0.2–0.5 mm, 雌小苞片呈绿色, 不半透明。本种在体态上与骤尖楼梯草系 ser. *Cuspidata* 的锐齿楼梯草 *E. cyrtandri folium* 极为相似, 但后者的雌头状花序只有 6 枚苞片, 苞片顶端具斜椭圆形片状突起, 瘦果具 6 条细纵肋, 不具瘤状突起, 而与本种明显不同(Wang, 1995)。

之曲楼梯草 图 3: F-I

*Elatostema flexuosum* W. T. Wang, sp. nov.

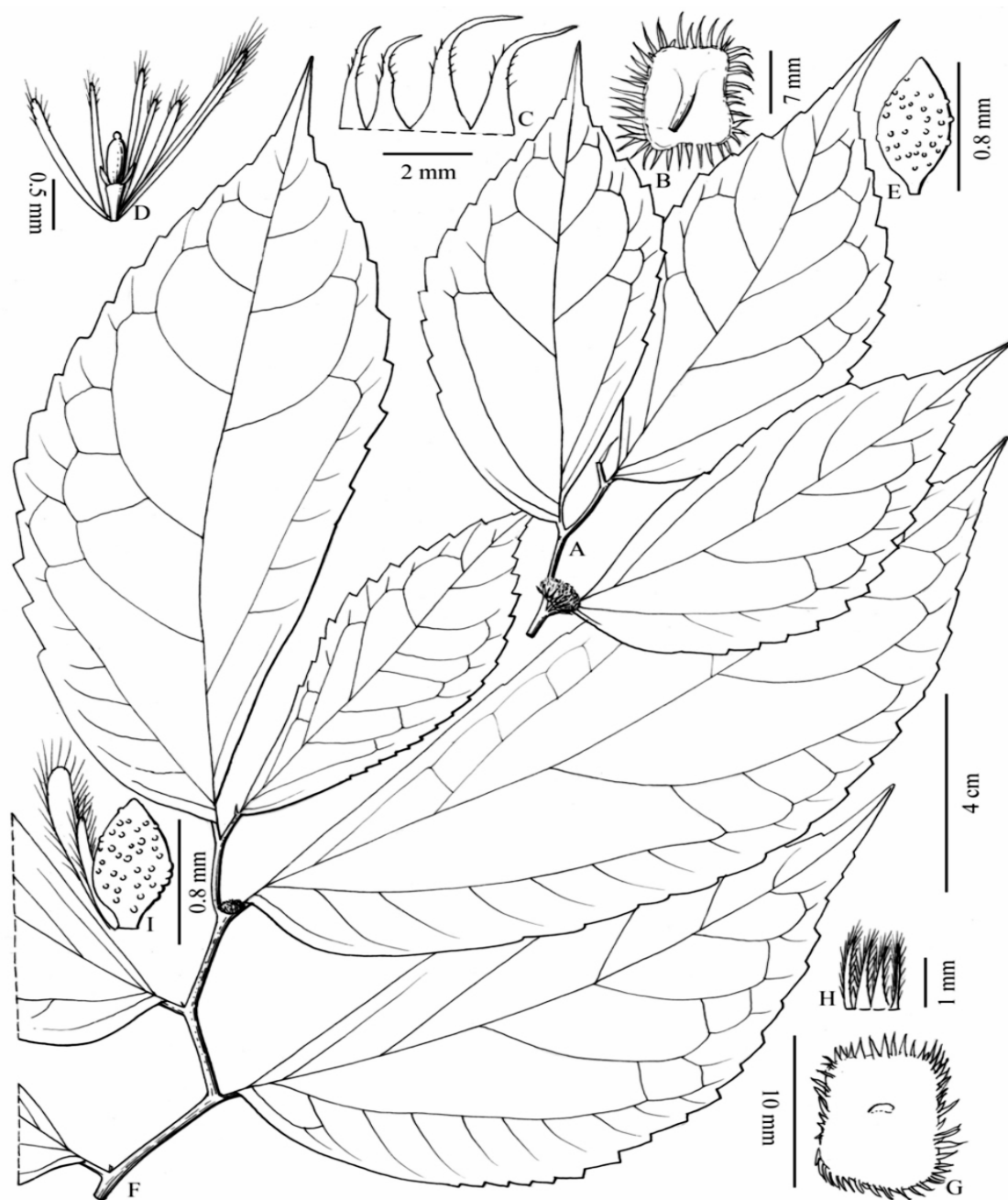


图 3 A-E. 绿水河楼梯草 A. 开花茎顶部; B. 雌头状花序; C. 雌苞片; D. 雌小苞片和雌花; E. 瘦果。

F-I. 之曲楼梯草 F. 开花茎顶部; G. 果序; H. 雌苞片; I. 雌小苞片和瘦果。(据模式标本)

Fig. 3 A-E. *Elatostema lushuiheense* A. apical part of flowering stem; B. pistillate capitulum; C. pistillate bracts; D. pistillate bracteoles and pistillate flower; E. achene. F-I. *E. flexuosum* F. apical part of flowering stem; G. infructescence; H. pistillate bracts; I. two pistillate bracteoles and achene. (from holotype)

Fig. F-I.

Species nova haec est affinis *E. leioccephalo* W. T. Wang, quod caulibus superne haud fractiflexis, stipulis majoribus 5 mm longis, bracteis pistillatis minoribus de-  
presse deltoideis 0.2–0.5 mm longis apice longe corni-  
culatis bene distinguitur (Wang, 1995).

Perennial herbs. Stems ca. 50 cm tall (according to

the collectors), glabrous, near apex zigzag. Leaves shortly petiolate, glabrous; blades papery, obliquely narrow-obo-  
vate or elliptic, (4–)8.5–16 × (2.5–)3–5.5 cm, apex  
acuminate (acumen margin at base at each side 1-dentib-  
ulate), base cuneate at narrow side and rounded at broad  
side, margin dentate and denticulate; venation semi-trip-  
linerved, with secondary nerves 4 at leaf narrow side and

6 at broad side; cystoliths conspicuous, slightly dense, bacilliform, 0.1–0.25 mm long; petioles 2–6 mm long; stipules greenish, narrow-triangular, ca. 2 mm long. Staminate capitula unknown. Pistillate capitula singly axillary, sessile; receptacle rectangular, ca. 7 × 5 mm, glabrous; bracts ca. 50, green, linear, 1–1.4 × 0.2–0.3 mm, ciliate; bracteoles dense, semi-hyaline, linear, 0.6–1 × 0.1–0.3 mm, above ciliate. Achenes yellowish, ovoid, ca. 0.8 × 0.5 mm, tuberculate.

云南(Yunnan): 个旧(Gejiu), 曼耗(Manhao), 沙珠底(Shazhudi), alt. 300–400 m, under rain forest in valley, 2002-09-07, 税玉民等(Y. M. Shui *et al.*) 15970 (holotype, PE)。

本种与光序楼梯草 *E. leioccephalum* 近缘, 与后者的区别: 本种的茎的上部之字形弯曲, 托叶较小, 长 2 mm, 雌苞片较大, 狭三角形, 长 1–1.4 mm, 无任何突起, 被缘毛。在光序楼梯草, 茎上部不呈之字形弯曲, 托叶较大, 长 5 mm, 雌苞片很小, 呈扁正三角形, 长 0.2–0.5 mm, 无毛, 顶端有长角状突起(Wang, 1995)。

系 3. 麻栗坡楼梯草系 ser. *Malipoensia* W. T. Wang & Zeng Y. Wu, ser. nov.

Series nova haec est affinis ser. *Nanchuanensibus* W. T. Wang, a qua acheniis tuberculatis differt. Folia penninerivia. Capitula pistillata breviter pedunculata, receptaculis discoideis.

Type: *E. malipoense* W. T. Wang & Zeng Y. Wu.

Species 3, occurring in southeastern Yunnan.

本系与南川楼梯草系 ser. *Nanchuanensia* 相近缘, 与后者的区别在于本系的瘦果具瘤状突起; 而在南川楼梯草系, 瘦果具纵肋, 无瘤状突起(Wang, 1995)。

根据 2010 年采自麻栗坡一号标本描述的麻栗坡楼梯草 *E. malipoense*, 是本系被发现的第一个种(Wu 等, 2011)。最近从税玉民博士近年来在云南东南部采集的大量植物标本中又发现了 2 种, 现在本文发表。

尾苞楼梯草 图 4: A–E

*Elatostema caudiculatum* W. T. Wang, sp. nov. Fig. A–E.

Species nova haec ab *E. malipoensi* W. T. Wang & Zeng Y. Wu differt caulibus foliisque glabris, foliorum nervis secundariis 4-jugis, stipulis majoribus 3–10 mm longis, capituli pistillati bracteis paucioribus ca. 30 anguste triangularibus apice longe graciliterque caudatis sed

haud corniculatis. In *E. malipoensi*, caules puberuli, folia utrinque strigillosa, eorum nervi secundarii 5–7-jugi, stipulae minores 0.1–0.2 mm longae, et capituli pistillati bractee plures, ca. 75, depresso deltoideae, apice corniculatae(Wu *et al.*, 2011).

Perennial herbs. Stems ca. 60 cm tall (according to the collectors), glabrous, branched, above longitudinally shallowly 6-sulcate. Leaves shortly petiolate or sessile, glabrous; blades thinly papery, obliquely oblong, oblanceolate or narrow-elliptic, 8–17 × 3.5–6 cm, apex acuminate or long acuminate (acumen margin entire), base obliquely cuneate, margin at leaf narrow side below the middle entire and above the middle and at broad side denticulate or crenate; venation pinnate, with 4 pairs of secondary nerves; cystoliths slightly conspicuous, dense, bacilliform, 0.1–0.25 mm long; petioles 0–5 mm long; stipules green, narrow-linear or subulate, 3–10 × 0.3–1 mm. Staminate capitula unknown. Pistillate capitula singly axillary, 5–15 mm long; peduncle 1–2 mm long, glabrous; receptacle squared or quadrilateral, up to 10 × 5 mm, glabrous; bracts ca. 30, narrow-triangular or linear-triangular, 1–3 × 0.3–1 mm, densely ciliate, apex thin caudate or long attenuate; bracteoles dense, above green, linear, 0.4–1 mm long, densely long ciliate, with hairs 0.4–0.5 mm long. Achenes brownish, ovoid, ca. 0.7 × 0.4 mm, multi-tuberculate; fruiting pedicels ca. 0.7 mm long, glabrous; persistent tepals subsquared, ca. 0.3 mm long.

云南(Yunnan): 马关(Maguan), 古林箐(Gulingqing), 花鱼洞(Huayudong), under forest in valley, 2002-10-08, 税玉民, 陈文红, 盛家舒(Y. M. Shui, W. H. Chen & J. S. Sheng) 30910 (holotype, PE)。

本种与麻栗坡楼梯草 *E. malipoense* 的区别在于: 本种的茎和叶均无毛, 叶的次级脉 4 对, 托叶较大, 长 3–10 mm, 雌头状花序的苞片较少, 约 30 枚, 狭三角形, 顶端细长尾状, 但并未形成角状突起。在麻栗坡楼梯草, 茎被短柔毛, 叶两面被短糙伏毛, 叶的次级脉为 5–7 对, 托叶较小, 长 0.1–0.2 mm, 雌头状花序的苞片较多, 约 75 枚, 呈扁正三角形, 顶端具角状突起(Wu 等, 2011)。

长被楼梯草 图 4: F–I

*Elatostema longitopalum* W. T. Wang, sp. nov. Fig. 4: F–I.

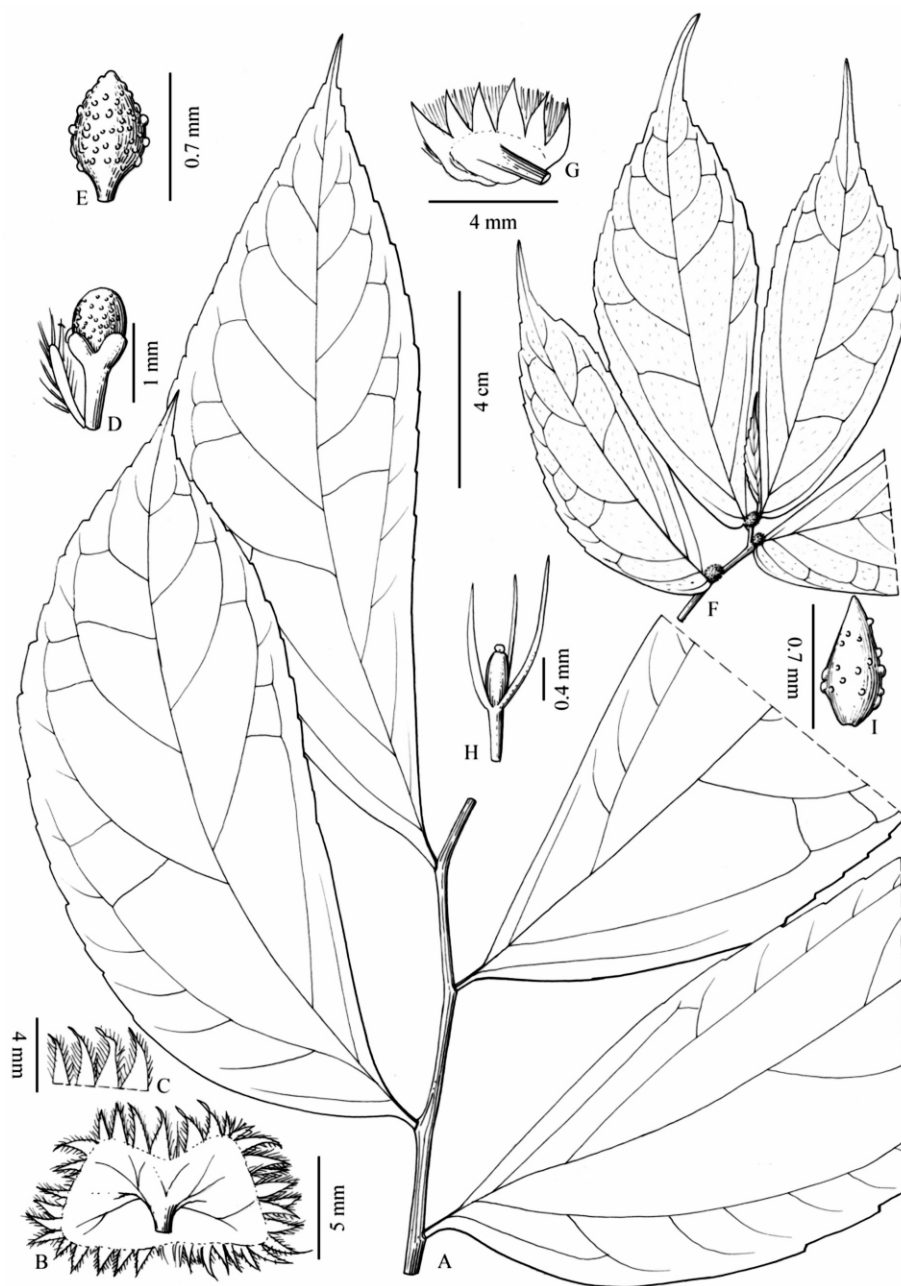


图 4 A-E. 尾苞楼梯草 A. 茎上部; B. 果序; C. 雌苞片; D. 雌小苞片和幼果; E. 瘦果。

F-I. 长被楼梯草 F. 开花茎顶部; G. 雌头状花序; H. 雌花; I. 瘦果。(据模式标本)

Fig. 4 A-E. *Elatostema caudiculatum* A. upper part of stem; B. infructescence; C. pistillate bracts; D. pistillate bract and young achene; E. achene. F-I. *E. longitapalum* F. apical part of flowering stem; G. pistillate capitulum; H. pistillate flower; I. achene. (from holotype)

Species nova haec ab *E. malipoensi* W. T. Wang & Zeng Y. Wu caulibus glabris, foliorum laminis utrinque glabris vel tantum supra sparse strigosis et cystolithis carentibus, involucri pistillato ex bracteis paucioribus ca. 12 glabris haud corniculatis constante, flore pistillato tepalis 2-3 subulato-linearibus 1.5-2.4 mm longis longitudine

ovarium 4-6-plo superantibus et stigmate depresso globoso praedito statim abhorret. In *E. malipoensi*, caules puberuli, laminae foliorum utrinque strigillosae et cystolithis densis praeditae, involucrum pistillatum ex bracteis pluribus (ca. 75) ciliatis et dorso puberulis constans, et flos pistillatus tepalis carens et stigmate penicillato praeditus (Wu et

al., 2011).

Perennial herbs. Stems ca. 20 cm tall, near base ca. 2 mm thick, glabrous, simple. Leaves sessile or subsessile; blades papery, obliquely narrow-obovate or obliquely oblong,  $6-11 \times 1.8-4$  cm, apex long acuminate (acumen margin at base 1-denticulate at each side), base cuneate at narrow side and auriculate at broad side, margin denticulate; surfaces adaxially sparsely strigose or glabrous, abaxially glabrous; venation pinnate, with secondary nerves 5 at leaf narrow side and 6–8 at broad side; cystoliths absent; stipules subulate, ca. 2 mm long, glabrous. Staminate capitula unknown. Pistillate capitula singly axillary, ca. 4 mm in di-am., with dense, numerous flowers; peduncle ca. 2.2 mm long, glabrous; bracts ca. 12, with receptacle turning black after drying, narrow-triangular,  $1-1.2 \times 0.5$  mm, glabrous; bracteoles white, semi-hyaline, narrow-linear, ca. 0.5 mm long, glabrous. Pistillate flower: pedicel ca. 0.4 mm long, glabrous; tepals 2–3, semi-hyaline, subulate-linear,  $1.5-2.4 \times 0.15-0.2$  mm, glabrous; ovary narrow-ellipsoidal, ca. 0.4 mm long; stigma appressed-globose, ca. 0.15 mm in diam. Achenes dark-brown, narrow-ovoid, ca. 0.7 mm long, tuberculate.

云南 (Yunnan): 绿春 (Lüchun), 水文站 (Hydrological station), alt. 1 600–1 700 m, 河滩 (bottom land), 2006-03-12, 税玉民, 陈文红等 (Y. M. Shui, W. H. Chen *et al.*) 70367 (holotype, PE).

本种与麻栗坡楼梯草 *E. malipoense* 的区别在于本种的茎无毛, 叶片两面无毛或只在上部疏被糙伏毛, 无钟乳体, 雌总苞苞片较少, 约 12 枚, 无毛, 不具角状突起, 雌花的花被片 2–3 枚, 钻状条形, 长 1.5–2.4 mm, 比子房长 4–6 倍, 柱头扁球形。在麻栗坡楼梯草, 茎被短柔毛, 叶片两面无短糙伏毛, 有密集的钟乳体, 雌总苞苞片较多, 约 75 枚, 有缘毛, 背面被短柔毛, 雌花无花被片, 柱头呈画笔头状 (Wu 等, 2011)。

正如过去有关专著楼梯草属形态描述 (Weddell, 1869; Hutchinson, 1967) 关于雌花的记载, 在我国此属的 200 余种中, 多数种的雌花无花被片, 如有花被片时, 则花被片比子房短, 而本种雌花的花被片的长度超过子房的长度有 4–6 倍之多, 是一种非常罕见的现象。

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