

## A revision of *Elatostema* section *Weddelia* series *Salvinioidea* (Urticaceae)

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Received 22 May 2006; accepted for publication 28 February 2008

Based on examinations of specimens of *Elatostema* and *Pellionia* housed at K, KUN, L, P, PE, and YUNU, *Elatostema* section *Weddelia* series *Salvinioidea* is taxonomically revised. Two species are recognized, described, and illustrated, and a key to the species is provided. *Elatostema salvinioides* var. *robustum* W.T.Wang is treated as a synonym of *E. salvinioides* W.T.Wang. *Pellionia imbricata* Gagnepain is transferred to *Elatostema* and a lectotype is designated herein. A new name, ***Elatostema simplicissimum*** Q. Lin, is provided because *Elatostema imbricans* was previously occupied. © 2008 The Linnean Society of London, *Botanical Journal of the Linnean Society*, 2008, 158, 62–66.

ADDITIONAL KEYWORDS: *Elatostema salvinioides* – *Elatostema simplicissimum* – lectotype – synonymy – taxonomy.

### INTRODUCTION

*Elatostema* section *Weddelia* (H.Schröter) W.Wang series *Salvinioidea* W.T.Wang was constructed under *Elatostema* section *Weddelia* (Schröter, 1935, 1936; Wang, 1979) based on the cataphylls being dense, cordate or triangular, membranaceous, and the leaves distichous imbricate. Moreover, *E. salvinioides* W.T.Wang and *E. salvinioides* var. *angustius* W.T.Wang were placed in this series by Wang (1980). Afterwards, Wang (1989) described a new variety, *E. salvinioides* var. *robustum* W.T.Wang, with stems robust, leaf blades to 2.6 cm long and 1 cm wide, stipules chartaceous, green, lanceolate, base rounded or obtuse, in order to distinguish from the original variety, *E. salvinioides* var. *salvinioides*, with stems slender, leaf blades 1–1.4 cm long, 4–6 mm wide, stipules membranaceous, brown, triangular, base cordate. Then, *E. salvinioides* var. *angustius* was treated as a synonym of *E. salvinioides* by Wang (1995).

We agree with the opinion that *E. salvinioides* var. *angustius* W.T.Wang is a synonym of *E. salvinioides* based on an examination of the relevant specimens.

However, the characters, with which both *E. salvinioides* and *E. salvinioides* var. *robustum* are associated, can be observed in the same population. For example, *R. Geesink et al.* 5657, *C. Phengkhai et al.* 4215, and *C. E. Pavkuiznc* 6149 are all caespitose, with both robust stems and slender stems, even in specimens of the same collecting number. In the robust stem, the leaf is 1.8–3 cm long, 0.7–1.5 cm wide, stipule membranaceous, brown, or upper stipule partly chartaceous, green, lanceolate or triangular, base round or cordate. In the slender stem, the leaf is 1–2 cm long, 4–8 mm wide, stipule membranaceous, brown, triangular or lanceolate, base round or cordate. Therefore, *E. salvinioides* var. *robustum* should be reduced.

In 1928, F. Gagnepain described a new species, *Pellionia imbricata* Gagnepain, in the genus *Pellionia* Gaudichaud-Beaupré, citing four collections (*Eberhardt* 4220, *E. Colani* 2964, *B. Balansa* 2552-2554, and *B. Balansa* 2553), but indicating no holotype (Gagnepain, 1928). *Eberhardt* 4220 is chosen as the lectotype and is housed at P under Art. 9.4, 9.10, 9A.2, and 9A.3 of the St. Louis Code (Greuter *et al.*, 2000), because it is better preserved (with six flowering branches intact, the specimen never mildewed for

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## KEY TO SPECIES

1. Leaf blade obliquely oblong or elliptic, glabrous, nanophylls narrowly obovate-oblong or oblong.....*E. salvinioides*  
 1. Leaf blade obliquely linear-oblongate, abaxial surface villose, nanophylls ovate.....*E. simplicissimum*

damaged by insect pests), fits with the protologue, and there is an anatomical drawing with two staminate flowers, two tepals, two stamens, and a floral diagram by F. Gagnepain on the specimen.

We also examined these specimens carefully and found cataphylls dense, cordate or triangular, membranaceous, leaves distichous imbricate, male inflorescences solitary, simple, receptacles obscure, flowers 3, bracts 2, petals 4, stamens 4, indicating that these specimens did not belong to *Pellionia* but to *Elatostema* section *Weddelia* series *Salvinioida*. A new name, *E. simplicissimum* Q. Lin, is given here, based on the stem simplex, because the name *E. imbricans* Dunn was occupied in 1920 (Dunn, 1920).

## THE NEW CLASSIFICATION

*Elatostema* section *Weddelia* (H. Schröter) W.T.Wang series *Salvinioida* W.T.Wang, *Bull. Bot. Lab. N.-E. For. Inst.* 7: 45. 1980. Type: *Elatostema salvinioides* W.T.Wang.

*ELATOSTEMA SALVINIOIDES* W.T.WANG (FIG. 1)

*Elatostema salvinioides* W.T.Wang, *Bull. Bot. Lab. N.-E. For. Inst.* 7: 45. 1980. Type: CHINA. Yunnan: Mengla, Mengyuan, Y. H. Li 4105 (holotype: KUN!).

*Elatostema salvinioides* var. *angustius* W.T.Wang, *Bull. Bot. Lab. N.-E. For. Inst.* 7: 46. 1980. Type: CHINA. Yunnan: Cangyuan, C. W. Wang 73256 (holotype: PE!).

*Elatostema salvinioides* var. *robustum* W.T.Wang, *Bull. Bot. Res. (Harbin)* 9(2): 69. 1989, syn. nov. Type: CHINA. Yunnan: Maguan, Gulinqing, W. M. Zhu et al. 13076 (holotype: YUNU!).

*Description:* Herbs perennial, dioecious, 12–25 cm tall. Stems erect, simple, pilose. Leaves alternate, glabrous; nanophylls narrowly obovate-oblong or oblong, 4–6 mm long, 1.2–1.6 mm wide; cataphylls dense, cordate or triangular, membranaceous; stipules cordate, triangular or lanceolate, 1–4 mm long, 0.5–4 mm wide, without cystoliths; petiole 0.2–1.2 mm long; leaf blade obliquely oblong or elliptic, 1–2.6 cm long, 0.4–1 cm wide, herbaceous, veins obscure, cystoliths conspicuous, linear or punctiform, sparse; base obliquely cordate, margin entire or one- to two-crenate, apex obtuse or rounded. Male inflorescences solitary, simple, 0.5–1 mm in diameter, sessile; receptacle obscure; bracts connate, c. 2 mm

long; bracteoles broadly linear. Female inflorescences solitary, c. 1 mm in diameter, sessile; receptacle obscure; bracts oblong-lanceolate; bracteoles narrowly linear. Achene ellipsoid, ribbed.

*Distribution and habitat:* Valley forests, rocks, 650–1640 m. South China, Laos, Burma and Thailand. Flowers April to August.

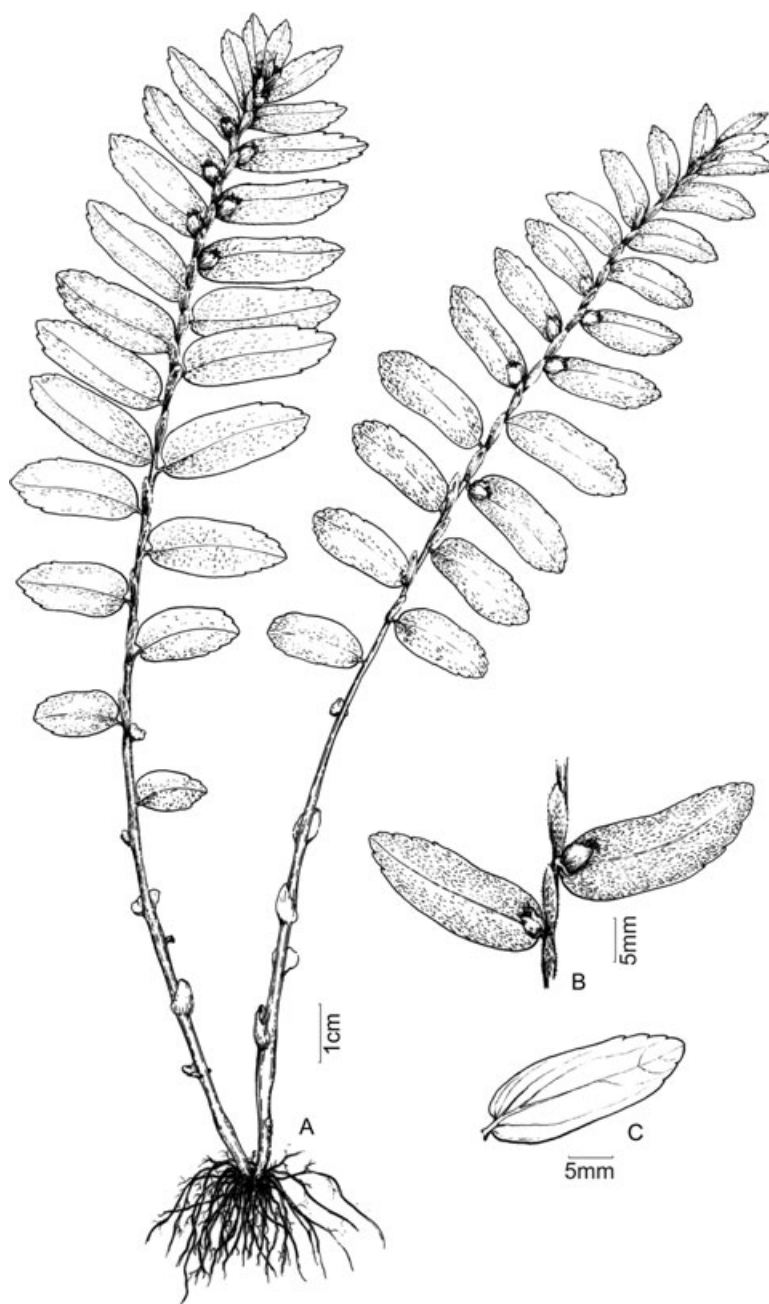
*Additional material examined:* CHINA. Yunnan: Cangyuan, altitude 1600 m, C. W. Wang 73256 (PE), altitude 800 m, Y. H. Li 11940 (PE); Gengma, Jianshan, altitude 1360 m, W. M. Zhu et al. 15263 (PE); Maguan, Gulinqing, altitude 700 m, W. M. Zhu et al. 13076 (YUNU); Mangshi, Nantianmen, altitude 1150 m, H. Chow 506 (KUN); Mengla, Menglun, altitude 700 m, W.T.Wang s. n. (PE), altitude 650 m, G. X. Xing et al. 6943 (PE), Mengyuan, Y. H. Li 4105 (KUN); Mengxing, altitude 720 m, S. C. Pei 9405 (KUN); Zhenkang, altitude 1640 m, C. W. Wang 72206 (PE). LAOS. 6.iv.1932, A. F. G. Kerr 20932 (K, L). BURMA. Gokteik, altitude 670 m, A. Meebold 17668 (K); Gokteik gorge, northern Shou Shalis, C. E. Pavkuiznc 6149 (K); Wa States, Laukchan ywa, M. P. Khant 15256 (K). THAILAND. Chiang Mai, Doi Chingmao, altitude 500 m, C. Phengklai et al. 4215 (K); Chiang Mai, Chiang Dao, Doi Chiang Dao, altitude 550 m, J. F. Maxwell 89-739 (L, x 2); Chiang Mai, Doi Chang Dao, altitude 600–700 m, R. Geesink et al. 5657 (K, L); Lampang, Wahng Nua, Jae Sawn National Park, altitude 650 m, J. F. Maxwell 96-785 (L).

*ELATOSTEMA SIMPLICISSIMUM* Q.LIN, NOM. NOV. (FIG. 2)

Type: VIETNAM. Tonkin: Hoa-binh, Duc-nham, Eberhardt 4220 (lectotype: here designated, P!).

*Pellionia imbricata* Gagnepain, *Bull. Soc. Bot. France.* 75: 922. 1928, syn. nov. Type: VIETNAM. Tonkin: Hoa-binh, Duc-nham, Eberhardt 4220 (lectotype: here designated, P!).

*Description:* Herbs perennial, dioecious, 15–20 cm tall. Stems erect, simple, pilose. Leaves alternate, abaxial surface villose; nanophylls ovate, 5–8 mm long, 3.5–6 mm wide, with cystoliths; cataphylls dense, cordate or triangular, membranaceous;



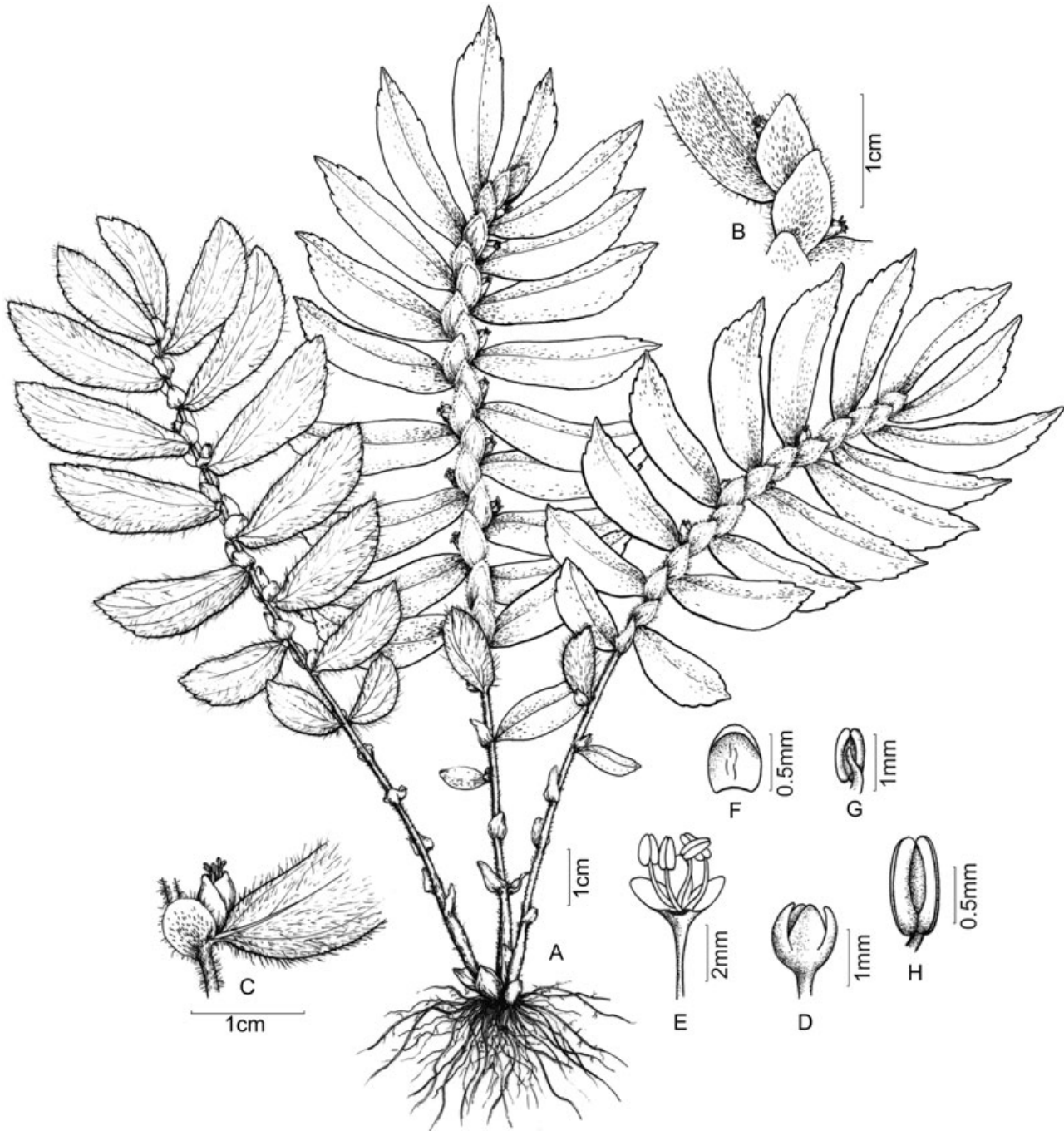
**Figure 1.** *Elatostema salvinioides* W.T.Wang (drawing: J. F. Maxwell 96-785 [L]). A, Male flowering plants. B, Portion of male flowering branch. C, Abaxial surface of leaf blade, glabrous.

stipules ovate-triangular, 3–5 mm long, 0.5–3 mm wide, without cystoliths; petiole 0–1.2 mm long; leaf blade obliquely linear-oblongate, 1.5–4 cm long, 0.7–1.3 cm wide, papyraceous or chartaceous, veins obscure, cystoliths conspicuous, linear or fusiform, dense; base obtuse, margin dentate, apex short cuspidate. Male inflorescences solitary, simple, 3–5 mm in diameter, sessile; receptacle obscure; bracts connate, 4–5 mm long; bracteoles broadly linear,

perianth lobes 4; stamens 4. Female inflorescences not seen.

*Distribution and habitat:* Valley forests. North Vietnam. Flowers in April.

*Additional material examined:* VIETNAM. Tonkin: Hoa-binh, Duc-nham, *Eberhardt* 4220 (P); Cho-bo, *M. Colani* 2964 (P); Phuong-lam, *Balansa* 2553 (P).



**Figure 2.** *Elatostema simplicissimum* Q. Lin (drawing of the lectotype: *Eberhardt 4220* [P]). A, Male flowering plants. B, Portion of male flowering branch. C, Abaxial surface of male flowering branch, showing leaf blade villose. D, Male flower bud. E, Male flower without a perianth lobe. F, Perianth lobe. G, Stamen. H, Anther.

#### ACKNOWLEDGEMENTS

Thanks are due to the curators of the herbaria K, KUN, L, P, PE, and YUNU for the loan of specimens or for permission to examine specimens.

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