

荨麻科冷水花属 5 新种

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摘要 描述了自广西和云南发现的荨麻科冷水花属 5 新种 龙舟冷水花 泸水冷水花 陇瑞冷水花 小冷水花和元宝山冷水花 并给出其与近缘种的区别特征。

关键词 荨麻科 冷水花属 新种 中国南部

中图分类号 Q949.737.5 文献标志码 A doi :10.7525/j.issn.1673-5102.2017.06.001

Five New Species of the Genus *Pilea*( Urticaceae ) from Southern China

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Abstract Five species of the genus *Pilea*( Urticaceae ) , *P. longzhouensis* , *P. lushuiensis* , *P. longruiensis* , *P. minima* and *P. yuanbaoshanica* , are described as new from southern China. The diagnostic differences between them and their allies are given respectively.

Key words Urticaceae *Pilea* new species southern China

龙州冷水花 图 1 :A – D

*Pilea longzhouensis* W. T. Wang , sp. nov.

Fig. 1 :A – D

( Sect. *Tetrameres* C. J. Chen ser. *Basicordatae* C. J. Chen )

Species nova haec est affinis *P. basicordatae* W. T. Wang ex C. J. Chen , quae foliorum laminis basi cordatis vel profunde cordatis , stipulis longitudinaliter 7 – 8-nervibus , tepalis pistillatis 2-plo brevioribus 0.5 mm longis ovato-oblongis , ovario oblongo , stigmatis penicillati pilis liberis differt.

Small perennial herb , dioecious. Stem ca. 1.4 cm tall , at base ca. 2 mm across , glabrous , simple. Leaves ca. 3 pairs conferted on apex of stem , long petiolate , glabrous ; blades papery , elliptic or obovate , 5.5 – 8 × 3 – 4.2 cm , apex shortly acuminate or shortly cuspidate , base subrounded or broadly cu-

neate , sometimes minutely auriculate , margin entire ; nervation triherved , with basal nerves adaxially flat , abaxially slightly prominent and with ca. 3 pairs of inconspicuous lateral nerves ; cystoliths very dense , very conspicuous , bacilliform or fusiform , 0.2 – 0.3 mm long ; petioles 4.5 – 7.5 cm long ; stipules white , oblong , 1.2 – 2.4 × 0.32 – 0.6 cm , with 2 longitudinal nerves , apex rounded-obtuse. Staminate cymes and staminate flowers unknown. Pistillate cyme axillary , racemiform , ca. 6 cm long ; peduncle ca. 6 cm long , glabrous ; bracts membranous , navicular or triangular , 1.2 – 1.8 × 0.8 – 1 mm , glabrous or above sparsely ciliolate. Pistillate flower ca. 1.2 mm in diam. : pedicel robust , ca. 1.8 × 0.5 mm , glabrous ; tepals 4 , carnose , deltoid , ca. 1 × 0.8 mm , glabrous ; staminodes wanting ; pistil ca. 1.3 mm long ; ovary black , broadly ovoid , ca. 1 mm long , glabrous ; stigma subturbinate ( the subturbi-

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收稿日期 2017 – 02 – 28

Author introduction :WANG Wen-Tsai( 1926— ) , male , senior scientist , Academician of Chinese Academy of Sciences , major in flowering plant taxonomy.

Received date 2017 – 02 – 28

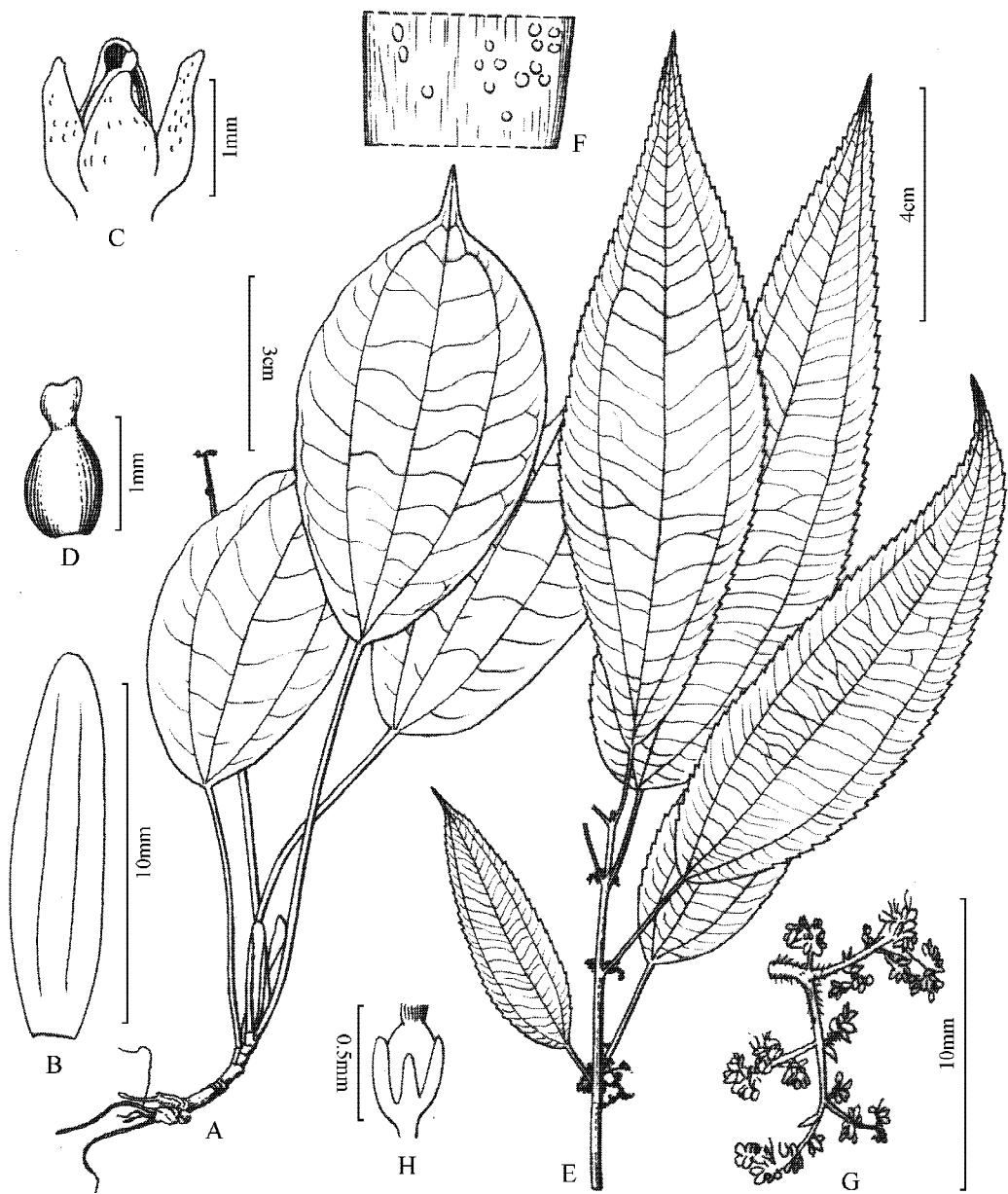


图1 A~D. 龙州冷水花 A. 植株全形 B. 托叶 C. 雌花 D. 雌蕊 E~H. 泸水冷水花 E. 开花雌茎顶部 F. 茎顶部一段, 示散生的鳞片 G. 雌聚散花序 H. 雌花

Fig.1 A - D. *Pilea longzhouensis* A. Habit ; B. Stipule ; C. Pistillate flower ; D. Pistil.( from holotype ) E - H. *P. lushuiensis* E. Apical part of flowering pistillate stem ; F. A portion of apical stem showing the scattered scales ; G. Pistillate cyme ; H. Pistillate flower.( from holotype )

nate body is resulted from the fusion of the stigmatic hairs ).

广西( Guangxi ): 龙州县, 鸭溪( Longzhou Xian, Yaxi ), alt. 300 m, 石灰岩山( in limestone hill ), 1966 - 04 - ??, 郑慧莹, 陈伟烈等, 无号( Zheng Huiying, Chen Weilie et al. sine num. ) ( ♀ holotype, PE ).

本种在亲缘关系方面与基心叶冷水花 *Pilea*

*basicordata* W. T. Wang ex C. J. Chen 甚为接近, 与后者的区别在于本种的叶片基部近圆形、宽楔形或不明显耳形, 托叶具 2 条纵脉, 雌花被片较大, 长 1 mm, 正三角形, 子房宽卵球形, 柱头近陀螺状( 近陀螺状体系由柱头毛发生愈合而形成)。在基心叶冷水花, 叶片基部心形或深心形, 托叶具 7~8 条纵脉, 雌花被片较短 2 倍, 长 0.5 mm, 卵状长圆形, 子房呈长圆形, 画笔头状的柱头的毛离生<sup>[1~2]</sup>。

## 泸水冷冷水花 图 1 E - H

***Pilea lushuiensis*** W. T. Wang, sp. nov. Fig. 1 : E - H

( Sect. *Tetrameres* C. J. Chen ser. *Spinulosae* C. J. Chen )

Species nova haec est affinis *P. dolichocarpae* C. J. Chen, quae caulibus squamis carentibus, foliorum laminis glabris, stipulis majoribus oblongis 6 - 7 mm longis, cymis pistillatis glabris et squamis carentibus, tepalis pistillatis prope apicem breviter corniculatis facile distinguitur.

Perennial herbs. Stems ca. 30 cm tall, above base ca. 2.5 mm across, glabrous, near apex sparsely squamate (scales suborbicular, ca. 0.1 mm in diam.), simple or 1-branched. Leaves opposite, petiolate, those of the same pair slightly unequal in size, the larger one with longer petiole and the smaller one with shorter petiole; blades papery, oblong-lanceolate or oblong, 6 - 12 × 1.6 - 3.4 cm, apex attenuate or shortly caudate, base broadly cuneate or obtuse, margin densely multi-denticulate; surfaces adaxially glabrous, abaxially on basal nerves sparsely puberulous, fast glabrescent; nervation trinerved, with basal nerves adaxially nearly flat, abaxially slightly prominent, and with ca. 15 pairs of lateral nerves; cystoliths dense, punctiform or shortly bacilliform, 0.05 - 0.15 mm long; petioles 0.7 - 2.1 cm long, glabrous or near apex with a few short hairs; stipules triangular or subulate, 0.8 - 1 mm long, glabrous. Pistillate cymes singly axillary, shortly pedunculate, 4 - 10 mm broad, three times branched, on branches with sparse hairs and small scales, and on branch apexes with dense pistillate flowers; bracts brown, narrowly ovate or linear, 0.4 - 0.8 mm long, glabrous. Pistillate flower shortly pedicellate or sessile: tepals 4, glabrous, unequal in size, at base connate, the larger one oblong, ca. 0.5 mm long, and the other three smaller ones linear, 0.3 - 0.4 mm long; ovary ellipsoidal, 0.4 - 0.5 mm long, glabrous; stigma penicillate, ca. 0.1 mm long.

云南( Yunnan ) 泸水县 片马乡( Lushui Xian, Pianma Xiang ) ca. 13 km N of Pianma on the road Ganfang, W side of Gaoligong Shan, alt. 2150 m.

Perennial herb, frequent. Flowers greenish. Growing along trail in shade, wet place. 2005 - 05 - 13. Gaoligong Shan Biodiversity Survey 24057 ( ♀, holotype, PE ).

本种在亲缘关系方面接近瘤果冷水花 *Pilea dolichocarpa* C. J. Chen, 与后者的区别在于本种的茎在近顶端部分具小鳞片, 叶片下面在基出脉上疏被短柔毛, 托叶较小, 长 0.5 ~ 1 mm, 呈三角形或钻形, 雌聚伞花序的分枝疏被短柔毛和小鳞片, 雌花被片无任何突起。在瘤果冷水花, 茎无鳞片, 叶片无毛, 托叶较大, 长 6 ~ 7 mm, 呈长圆形, 雌聚伞花序无毛, 也无鳞片, 雌花被片近顶端具短角状突起<sup>[1-2]</sup>。

本种模式标本( 为雌株 ) 的茎具稀疏小鳞片, 因而与也具此特征的少鳞冷水花 *Pilea squamosa* C. J. Chen var. *sparsa* C. J. Chen ( 于 Bull. Bot. Res. Harbin 2( 3 ) : 73. 1982. Holotype : 云南, 泸水, 西贡, 1960 - 04 - 15, 南水北调队 8174, 存 PE, 为雄株 ) 相似, 与后者的区别在于本种的叶片呈长圆形, 叶柄较短, 长达 2.1 cm, 在少鳞冷水花, 叶片呈椭圆形, 叶柄较长, 长达 7 cm。此二模式标本均采自泸水县境内, 因此有可能“南水北调队 8147”是本种的雄株, 但此问题须在上述叶片形态和叶柄长度二特征的变异幅度得到了解之后方能确定。

## 陇瑞冷水花 图 2 A - D

***Pilea longruensis*** W. T. Wang, sp. nov. Fig. 2 : A - D

( Sect. *Urticella* Miq. ser. *Moniliferae* C. J. Chen )

Ob cymae rhachim laxae breviterque ramosam et ad ramulos flores pistillatos dense fasciculatos, florem pistillatum tepalis 3 praeditum species nova haec ad Sect. *Urticellam* Miq. ser. *Moniliferae* C. J. Chen pertinet, et in hac serie a *P. monilifera* Hand. -Mazz. foliorum laminis coriaceis oblongis margine integris glabris, acheniis minoribus ca. 0.8 mm longis laevibus abhorret.

Perennial herb. Stem robust, ca. 30 cm tall, above base ca. 5 mm across, glabrous, simple. Leaves opposite, those of the same pair slightly unequal in size, glabrous; blades coriaceous, oblong or oblong-lanceolate, rarely obovate-oblong, 7 - 15 × 1.6 - 3.2 cm, apex acuminate or caudate-acuminate, base

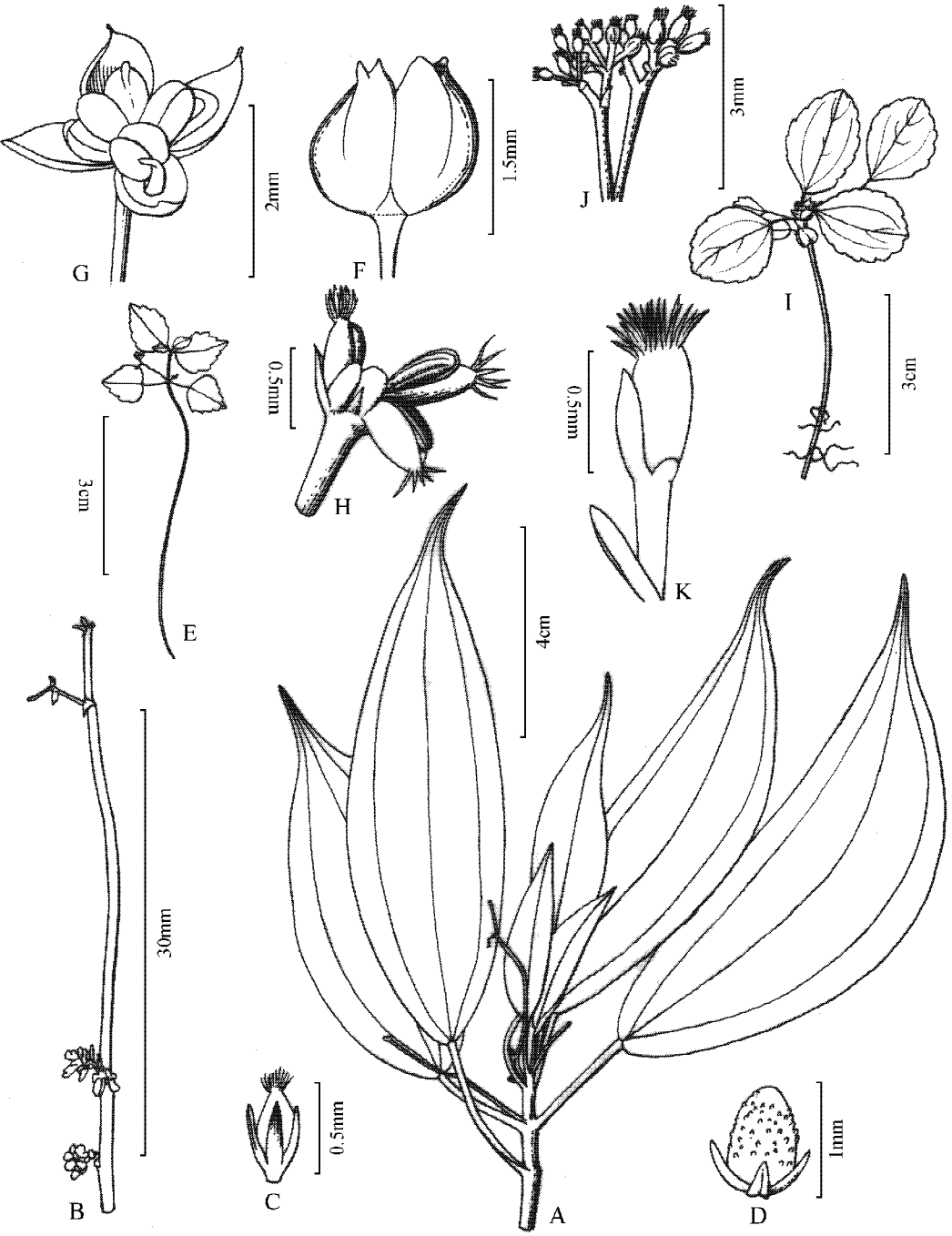


图 2 A - D. 龙瑞冷水花 :A. 开花雌茎顶部 ;B. 雌聚散花序 ;C. 雌花 ;D. 瘦果和宿存花被 E - H. 小冷水花 :E. 植株全形 ;F. 雄花蕾 ;G. 雄花 ;H. 雌聚散花序 I - K. 元宝山冷水花 :I. 植株全形 ;J. 二腋生雌聚散花序 ;K. 苞片和雌花

Fig. 2 A - D. *Pilea longruensis* :A. Apical part of flowering pistillate stem ;B. Pistillate cyme ;C. Pistillate flower ;D. Achene with persistent perianth( from holotype ) E - H. *P. minima* E. Habit ;F. Staminate flower bud ;G. Staminate flower ;H. Pistillate cyme( from holotype ) I - K. *P. yuanbaoshanica* :I. Habit ;J. Two axillary pistillate cymes ;K. Bract and pistillate flower.( all from holotype )

inconspicuously subauriculate , margin entire ; nerva-  
tion trinerved , with basal nerves adaxially slightly  
impressed , abaxially prominent , and with 4 pairs of  
inconspicuous lateral nerves ; cystoliths very dense ,  
conspicuous , bacilliform , 0.1 - 0.5 mm long ; peti-

oles 0.4 - 3.5 cm long ; stipules coriaceous , narrow-  
ly triangular , 1 - 2 mm long. Staminate cymes and  
staminate flowers unknown. Pistillate cymes singly  
borne in axils of apical leaves , ca. 3 cm long , gla-  
brous ; peduncles ca. 7 mm long ; rachis ca. 3.5 cm

long, sparsely and shortly branched, on branchlets with dense flower fascicles 1–2 mm in diam.; bracts triangular or navicular, ca. 0.6 mm long, glabrous. Pistillate flower sessile or subsessile; tepals 3, nearly equal or unequal in size, lanceolate-linear or triangular, 0.1–0.4 mm long, glabrous; ovary narrowly ovoid, ca. 0.45 mm long, glabrous; stigma penicillate, ca. 0.2 mm long. Achenes brown, biconvex, ovate or narrowly ovate, ca. 0.8 mm long, densely verruculose.

广西( Guangxi ): 宁明县, 陇瑞自然保护区( Ningming Xian, Longrui nature reserve ), alt. 250 m, 花绿白色( fls. green-white ), 2008–05–25, 中植联广西队( Guangxi Exped. Inst. Bot. )1122( ♀, **holotype** PE ).

本种的雌聚伞花序的花序轴具稀疏短分枝, 在分枝上簇生密集的雌花, 雌花具 3 枚花被片。根据这些特征本种应隶属冷水花属的三萼组念珠冷水花系 Sect. *Urticella* Miq. ser. *Moniliferae* C. J. Chen. 在此系中, 本种与此系的代表种念珠冷水花 *Pilea monilifera* Hand.-Mazz. 的区别在于本种的叶片革质, 长圆形, 边缘全缘, 无毛, 瘦果较小, 长约 0.8 mm, 有密集的小疣点。在念珠冷水花, 叶片薄纸质, 椭圆形或卵状椭圆形, 边缘有小牙齿, 上面疏被硬毛, 瘦果较大, 长约 1.8 mm, 表面光滑, 无疣点<sup>[1–2]</sup>。

## 小冷水花 图 2 E–H

***Pilea minima*** W. T. Wang, sp. nov. Fig. 2: E–H

( Sect. *Urticella* Miq. ser. *Cavalerianae* C. J. Chen )

Species nova haec est affinis *P. cavaleriei* Lévl., quae caulibus usque ad 30 cm altis 1.5–2.5 mm crassis ramosis, foliorum laminis usque ad 2 cm longis 1.8 cm latis, cymis staminatis sessilibus dense multi-floris, cymis pistillatis saepe bis vel ter ramosis multi-floris, floribus saepe pedicellatis differt. Etiam habitu ea est similis *P. microcardiae* Hand.-Mazz., quae foliorum laminis cordatis majoribus usque ad 15 mm longis 14 mm latis, cymis pistillatis ramosis multi-floris florum fasciculos multos ferentibus recedit.

Small annual herbs, monoecious or dioecious.

Stems slender, 2–6 cm tall, 0.2–0.5 mm across, glabrous, simple, 2–3-nodose. Leaves 2–3 pairs conferted at apical part of stem, glabrous, those of the same pair slightly unequal in size, the larger one with longer petiole, the smaller one with shorter petiole; blades membranous, broadly ovate or orbiculate-ovate, 2–11 × 2–9 mm, apex obtuse or rounded, base subcordate or rounded, margin sparsely denticulate, crenate, undulate or entire; nervation trinerved, with basal nerves and 2 pairs of lateral nerves all flat and inconspicuous; cystoliths slightly dense, bacilliform, 0.2–0.4 mm long; petioles 0–12 mm long; stipules triangular or narrowly ovate, ca. 0.5 mm long. Staminate cymes singly axillary, pedunculate, 2–4-flowered; peduncles slender, 1–12 mm long, glabrous; bracts triangular or linear, 0.25–0.4 mm long, glabrous. Staminate flower glabrous; pedicel 0.3–1.8 mm long; tepal 4, green, quadrate-ovate, ca. 1 mm long, at base connate, abaxially below apex with a short projection; stamens 4, white. Pistillate cymes singly in axils of apical leaves, 3–4-flowered; peduncles robust, 0.7–1 mm long, glabrous; bracts narrowly ovate, ca. 0.3 mm long, glabrous. Pistillate flower sessile: tepals 3, unequal in size, glabrous, the larger one green, navicular, ca. 0.4 mm long, the two smaller ones whitish, ovate or linear, 0.2–0.3 mm long; ovary greenish, narrowly ellipsoidal, ca. 0.5 mm long, glabrous; stigma penicillate, 0.2–0.3 mm long, with thick hairs.

云南( Yunnan ): 漾濞县, 漾濞江乡, 大花园( Yangbi Xian, Yangbi Xiang, Dahuayuan ), alt. 3400 m, 石缝中( in stone crevices ), 草本高 4 cm, 花绿白色( herbs 4 cm tall, fls. greenish-white ), 2009–07–15, 金效华, 刘冰, 刘博, 权旭, 苏俊霞, 钟轶( Jin Xiaohua, Liu Bing, Liu Bo, Quan Xu, Su Zunxia & Zhong Yi ) YN-ET1391( **holotype** PE ).

本种在亲缘关系方面与波缘冷水花 *Pilea cavaleriei* Lévl. 相近, 与后者的区别在于本种的茎低矮, 高 2~6 cm, 粗 0.2~0.5 mm, 不分枝, 叶片较小, 长 2~11 mm, 宽 2~9 mm, 雄聚伞花序具细花序梗, 有 2~4 花, 雌聚伞花序不分枝, 有 3~4 花, 花无梗。在波缘冷水花, 茎高达 30 cm, 粗 1.5~2.5 mm, 多分枝, 叶片长达 2 cm, 宽达 1.8 cm, 雄聚

伞花序无花序梗,具密集的多数花,雌花序常2~3回分枝,具多数花,花通常具梗<sup>[1~2]</sup>。

## 元宝山冷水花 图2 1-K

***Pilea yuanbaoshanica*** W. T. Wang, sp. nov.

Fig. 2 1-K

(Sect. *urticella* Miq. ?ser. *Pumila* C. J. Chen)

Ob herbas parvas, foliorum laminas orbiculari-ovatas, cystolithos minutos, stipulas cordatas et florem pistillatum tepalis 3 magnitudine valde inaequalibus praeditum species nova haec est fortasse affinis *P. pauciflorae* C. J. Chen, quae foliorum laminis margine rotundato-crenatis supra pilis brevioribus 0.2–0.5 mm longis obtectis, cymis pistillatis singulariter axillaribus sessilibus haud ramosis ca. 5-floris, floribus pistillatis dense fasciculatis, floris pistillati tepalo centrali naviculari dorso infra apicem 1-corniculato, tepalis lateralibus triangularibus recedit.

Small perennial herbs. Stems 4–6 caespitose, erect or ascending, 3–6.5 cm tall, above base 0.5–1 mm across, glabrous, simple. Leaves opposite, in those of the same pair often one with longer petiole and the another one with shorter petiole; blades papery, orbicular-ovate, suborbicular or broadly obovate, 0.5–2.5 × 0.3–1.8 cm, apex rounded, base broadly cuneate or rounded, margin obtusely crenate; surfaces adaxially covered with white semi-hyaline appressed hairs 0.6–1.5 mm long, abaxially glabrous; nervation trinerved, with basal nerves adaxially flat, abaxially prominent, and with 2–3 pairs of lateral nerves; cystoliths dense, inconspicuous, minutely punctiform; petioles 4–14 mm long, glabrous; stipules membranous, cordate, ca. 2.2 × 3.5 mm, glabrous. Staminate cymes and staminate flowers unknown. Pistillate cymes in pair axillary, ca. 1.5 mm long, two times branched, ca. densely 10-flowered; peduncles ca. 2 mm long, glabrous; bracts triangular or linear, 0.2–0.4 mm long, glabrous. Pistillate flower: pedicel 0.2–0.5 mm long, glabrous; tepals 3, strongly unequal in size, glabrous, the middle one larger, lanceolate-linear, ca.

0.45 mm long, the two lateral ones very small, suborbicular or orbicular-ovate, ca. 0.08 mm in diam.; pistil ca. 0.7 mm long; ovary oblong, ca. 0.5 mm long, glabrous; stigma penicillate, ca. 0.2 mm long.

广西(Guangxi)融水县,元宝山,白坪至白虎口(Rongshui Xian, Yuanbaoshan, on the way from Baiping to Baihukou) alt. 1900 m,山坡疏林中(in sparse forest on slope) 2005-05-14,刘演,覃海宁,于胜祥,孟繁华等(Liu Yan, Qin Haining, Yu Shengxiang, Meng Fanhua et al.) Y1101(♀, **holotype** PE); 同地(same locality),白坪之上,自蓝坪至老虎口途中(above Baiping, on the way from Lanping to Lauhukou) alt. 2000 m,山坡密林(in dense forest on slope) 2005-05-13,刘演,覃海宁,于胜祥,孟繁华等 Y1073(veg. PE)。

本种为低矮小草本,叶片圆卵形,具小钟乳体,托叶心形,雌花的3枚花被片在大小方面极不相等,与也具上述特征的少花冷水花 *Pilea pauciflora* C. J. Chen 可能有亲缘关系,与后者的区别在于本种的叶片边缘具钝浅齿,在腹面(上面)被长0.6~1.5 mm 的白色半透明贴伏毛,雌聚伞花序成对腋生,具细长花序梗,约2回分枝,具10花,雌花的中央花被片披针状条形,不呈船型,背面顶端之下无突起,2侧生花被片近圆形或圆卵形。在少花冷水花,叶片边缘具圆齿,在腹面被长0.2~0.5 mm 的不半透明的较短毛,雌聚伞花序单生叶腋,无花序梗,不分枝,具约5朵密集簇生的雌花,雌花的中央花被片呈船型,背面顶端之下具1角状突起,2侧生花被片呈三角形<sup>[1~2]</sup>。

**致谢** 深切感谢孙英宝先生为本文绘图。

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