

## 广西马钱科度量草属植物四新种

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**摘要** 本文描述中国广西马钱科度量草属4新种, 即: 凤山度量草 (*Mitreola pingtaoi* D. Fang et D. H. Qin)、长叶度量草 (*M. macrophylla* D. Fang et D. H. Qin)、匙叶度量草 (*M. spathulifolia* D. Fang et L. S. Zhou) 和紫脉度量草 (*M. purpureonervia* D. Fang et X. H. Lu)。

**关键词** 马钱科; 度量草属; 新分类群

## FOUR NEW SPECIES OF *MITREOLA* LINN. (LOGANIACEAE) FROM GUANGXI

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**Abstract** Four new species of *Mitreola* from Guangxi of China are described. They are *Mitreola pingtaoi* D. Fang et D. H. Qin, *M. macrophylla* D. Fang et D. H. Qin, *M. spathulifolia* D. Fang et L. S. Zhou and *M. purpureonervia* D. Fang et X. H. Lu.

**Key words** Loganiaceae; *Mitreola*; New taxa

### 1. 凤山度量草 新种 图1-4

*Mitreola pingtaoi* D. Fang et D. H. Qin, sp. nov.

Species *M. petiolatoidi* P. T. Li affinis, quae caule et folio villosa; folii lamina ovata, 0.5-2cm longa, 0.3-1cm lata; cyma triflora differt.

Herba perennis, 9-31cm alta, praeter corollas et stamina cetero plus minusve tomentosa; caulis erectus interdum inferne repens, raro ramifer, teres, internodiis 0.2-5cm longis. Folia opposita, petiolata; laminae in sicco chartaceae juventute membranaceae, obovatae vel longe obovatae raro ovatae, (1-2)-8cm longae, (0.7-1.2)-3cm latae, apice

acutae, basi attenuatae, margine integrae, nervis lateralibus utrinsecus 4-6 cum venulis omnino inconspicuis; petioli 0.5-1.5cm longi; stipulis linearibus. Cyma 1-2 terminalis et axillaris, bis ad quater ramosa, multiflora; pedunculi 2-4cm longi; bractee lineares, 2mm longae; pedicelli 1-2mm longi. Calyx campanulatus, ad medium 5-lobatus, lobis longe ovatis 0.7-1mm longis c. 0.5mm latis margine membranaceis. Corolla alba, campanulata, 3mm longa, utrinque praeter faucem glabra, tubo 2mm longo, 2mm in diam., fauce albo-annulato-pubescenti, lobis 5, ovatis c. 1.5mm longis 1mm latis utrinque verrucosis. Stamina 5, inclusa, glabra, prope medium tubi corollae inserta, filamentis 0.5mm longis, antheris late ovatis 0.5mm longis. Ovarium semi-inferum, 2-loculare, ovulis in quoque loculo multis, stylo 0.5mm longo, stigmatibus capitulatis. Capsula juventute partes duae tertiae divergens, 3mm longa, c. 3-4mm lata, basi calyce persistenti, apice erecto-patens; semina juventute semiglobosa, brunnescentia, c. 0.5mm lata, prope laevia.

Guangxi (广西): Fengshan (凤山), Paoli (袍里), Yueli (月里), in cavern of limestone hill, 510m alt., 1990. 06. 12, Fang Ding & Zhong Xiaming (方鼎和钟夏明) 30564; *ibid.*, 1992. 04. 20, Qin Dehai (覃德海) 30575 (holotype, GXMI).

多年生草本, 高9-31cm, 除花冠和雄蕊外, 其余多少被绒毛; 茎直立, 有时下部匍匐生根, 稀分枝, 圆柱形, 节间长0.2-5cm。叶对生, 具柄; 叶片干时纸质, 幼时膜质, 倒卵形或长倒卵形, 稀卵形, 长(1-)2-8cm, 宽(0.7-)1.2-3cm, 先端急尖, 基部渐狭, 边全缘, 侧脉每边4-6条, 连同小脉均不明显; 叶柄长0.5-1.5cm; 叶柄间有一连接托叶线。聚伞花序1-2, 顶生和腋生, 2-4回分枝, 多花; 花序梗长2-4cm; 苞片线形, 长2mm; 花梗长1-2mm。花萼钟状, 5裂至中部, 裂片长卵形, 长0.7-1mm, 宽约0.5mm, 边缘膜质。花冠白色, 钟状, 长3mm, 两面除喉部外无毛, 筒长1.5mm, 粗2mm, 喉部被白色短柔毛环, 裂片5, 卵形, 长约1.5mm, 宽1mm, 两面具小突起。雄蕊5, 内藏, 无毛, 生于冠筒近中部, 花丝长0.5mm, 花药阔卵形, 长0.5mm。子房半下位, 2室, 胚珠每室多数, 花柱长0.5mm, 柱头头状。蒴果幼时三分之叉开, 长约3mm, 宽约3-4mm, 基部具宿萼, 先端伸直; 种子幼时半球形, 淡棕色, 宽约0.5mm, 表面近平滑。

本种接近小叶度量草 *M. petiolatoides* P. T. Li, 但那种植物的茎和叶被长柔毛; 叶片卵形, 长0.5-2cm, 宽0.3-1cm; 聚伞花序具3花。

## 2. 长叶度量草 新种 图5-8

*Mitreola macrophylla* D. Fang et D. H. Qin, sp. nov.

Species caule brevissimo et inconspicuo; foliis rosularibus; lamina in sicco crasse chartacea, saepe longe obovata, usque ad 37cm longa et 12.5cm lata; corolla 4mm longa; staminibus supra medium tubi corollae affixis insignis.

Herba perennis, marginibus foliorum et faucibus corollarum exceptis cetero glabra; caule

brevissimo inconspicuo raro brevissime ramifero. Folia opposita, conferta, rosularia, subsessilia; laminae in sicco crasse chartaceae nigricantes, longe obovatae raro oblanceolatae, 9–37cm longae, 2.5–12.5cm latae, apice rotundatae vel obtusae, basi attenuatae, margine integrae, sparse ciliatae juventute densae, costis supra leviter depressis, nervis lateralibus utrinsecus 7–10 supra subplanis subtus prominentibus, venulis inconspicuis. Cyma saepe ex axillis foliorum summorum 1–3 orta, bis ad quater ramosa, multiflora; pedunculi 6–15cm longi, cum ramosis interdum sparse pubescentes; bractee longe ovatae vel lanceolato-oblongae, 3–5(–7)mm longae, interdum sparse ciliatae; pedicelli 1–3mm longi. Calyx campanulatus, ad medium 5-lobatus, lobis late ovatis 1.2mm longis, 1–1.5mm latis, margine membranaceis. Corolla alba, campanulata, 4mm longa, tubo 2.5mm longo, 2–2.5mm in diam., fauce purpurascenti-annulato-pubescenti, lobis 5 ovato-triangularis 1.5mm longis, 1mm latis. Stamina 5, supra medium tubi corollae (pers tertia) affixa, filamentis 0.5mm longis, antheris ovatis c. 0.7mm longis apice faucem tubi corollae attingentibus. Ovarium semi-inferum, 2-loculare, ovulis in quoque loculo multis, stylo c. 1mm longo, stigmatate capitulato. Capsula pars secunda divergens, 3mm longa, 4mm lata, compressa, basi calyce persistenti, apice erecto-patens; semina semiglobosa raro prope reniformia nigrescentia, c. 0.5mm lata, reticulata.

Guangxi (广西): Longzhou(龙州), Jinlong(金龙), Banbi(板闭), Paotashan(炮台山), in forests of limestone hill, 400m alt., 1991. 04. 26, Qin Dehai(覃德海) 80214 (holotype, GXMI); ibid., Qin Dehai(覃德海) 80235.

多年生草本, 除叶缘和花冠喉部外, 其余无毛; 茎极短, 不明显, 稀具极短的分枝。叶对生, 密接, 莲座状, 近无柄; 叶片干时厚纸质, 带黑色, 长倒卵形, 稀倒披针形, 长 9–37cm, 宽 2.5–12.5cm, 先端圆形或钝, 基部渐狭, 边全缘, 疏被睫毛, 幼时较密, 中脉上面稍凹, 侧脉每边 7–10 条, 上面近扁平, 下面隆起, 小脉不明显。聚伞花序 1–3, 通常生于顶部的叶腋中, 2–4 回分枝, 多花; 花序梗长 6–15cm, 和分枝偶被短柔毛; 苞片长卵形至披针状长圆形, 长 3–5(–7)mm, 有时疏被睫毛; 花梗长 1–3mm。花萼钟状, 5 裂至中部, 裂片阔卵形, 长 1.2mm, 宽 1–1.5mm, 边缘膜质。花冠白色, 钟状, 长 4mm, 筒长 2.5mm, 粗 2–2.5mm, 喉部被淡紫色短柔毛环, 裂片 5, 卵状三角形, 长 1.5mm, 宽 1mm; 雄蕊 5, 生于花冠筒上部, 花丝长 0.5mm, 花药卵形, 长约 0.7mm, 先端伸至喉部。子房半下位, 2 室, 胚珠每室多数, 花柱长约 1mm, 柱头头状。蒴果二分之一叉开, 侧向压扁, 长 3mm, 宽 4mm, 基部具宿萼, 先端伸直; 种子半球形, 稀近肾形, 黑色, 宽约 0.5mm, 表面网状。

本种茎极短, 不明显; 叶莲座状; 叶片干时厚纸质, 通常长倒卵形, 长达 37cm, 宽达 12.5cm; 花冠长 4mm; 雄蕊生于冠筒上部, 而与本属其他种相区别。

### 3. 匙叶度量草 新种 图 9–12

*Mitreola spathulifolia* D. Fang et L. S. Zhou, sp. nov.

species caule brevissimo inconspicuo, folii lamina spathulata usque oblanceolata, utrinque plus minusve pubescenti insignis.

Herba perennis; caule brevissimo inconspicuo rare breviter ramifero. Folia opposita, conferta, rosularia, sessilia; laminae in sicco chartaceae vel crasse chartaceae plus minusve nigriscantes, spathulatae usque oblanceolatae, 7–28cm longae, 1.5–8cm latae, apice rotundatae raro obtusae, basi attenuatae, margine integrae, ciliatae, utrinque plus minusve pubescentes juventute densae, nervis lateralibus utrinsecus 5–7, venulis inconspicuis. Cyma saepe ex axillis foliorum summorum 1–3 orta, bis ad quater ramosa, multiflora; pedunculi (2–)7–17(–22)cm longi, plus minusve pubescentes; bractee anguste triangulatae, 2–6mm longae, sparse ciliatae; pedicelli 1–2mm longi, glabri vel sparse pubescentes. Calyx campanulatus, glaber, ad medium 5-lobatus, lobis ovatis 1mm in diam.. Corolla alba, campanulata, 3.5mm longa, utrinque fauce excepto glabra, tubo 2mm longo, 3mm in diam., fauce albo-annulato-pubescenti, lobis late ovatis 1.5mm longis, 1.5–2mm latis utrinque verrucosis. Stamina 5, inclusa, glabra, prope medium tubi corollae inserta, filamentis c. 0.5mm longis, antheris ovatis c. 0.6mm longis. Pistillum glabrum, ovarium semi-inferum, biloculare, ovulis in quoque loculo multis, stylo c. 1mm longo, stigmatibus capitulato. Capsula partes duae tertiae divergens, 3mm longa, 5mm lata, compressa, basi calyce persistenti, apice saepe erecto-patens; semina semiglobosa, nigrescentia, c. 0.5mm lata, reticulata.

Guangxi(广西): Daxin(大新), Taiping(太平), about 250m alt., 1990. 09. 26, Fang Ding & Zeng Ling(方鼎和曾玲) 195; Mashan(马山), Guling(古零), in cavern of limestone hill, 310–330m alt., Fang Ding, Zhou Lishuang & Xie Zhiming(方鼎、周丽双和谢志明) 3146 (holotype, GXMI; isotype, GXNM).

多年生草本, 茎极短, 不明显, 稀具短分枝。叶对生, 密接, 莲座状, 无柄; 叶片干时纸质或厚纸质, 多少带黑色, 匙形至倒披针形, 长 7–28cm, 宽 1.5–8cm, 先端圆形, 稀钝, 基部渐狭, 边全缘, 被睫毛, 两面多少被短柔毛, 幼时较密, 侧脉每边 5–7 条, 小脉不明显。聚伞花序 1–3, 通常生于顶部的叶腋中, 2–4 回分枝, 多花; 花序梗长 (2–)7–17(–22)cm, 多少被短柔毛; 苞片狭三角形, 长 2–6mm, 疏被睫毛; 花梗长 1–2mm, 无毛或疏被短柔毛。花萼钟状, 无毛, 5 裂至中部, 裂片卵形, 长 1mm, 宽 1mm。花冠白色, 钟状, 长 3.5mm, 两面除喉部外无毛, 筒长 2mm, 粗约 3mm, 喉部被白色短柔毛环, 裂片 5, 阔卵形, 长 1.5mm, 宽 1.5–2mm, 两面具小突起。雄蕊 5, 内藏, 生于冠筒中部, 花丝长约 1mm, 无毛, 花药卵形, 长约 0.6mm。雌蕊无毛, 子房半下位, 2 室, 胚珠每室多数, 花柱长约 1mm, 柱头小, 头状。蒴果三分之二叉开, 长 3mm, 宽 5mm, 侧向压扁, 基部具宿萼, 先端常伸直; 种子半球形, 黑色, 宽约 0.5mm, 表面网状。

本种茎极短, 不明显; 叶片匙形至倒披针形, 两面多少被短柔毛, 与本属其他种不同。



图1-4 凤山度量草 *Mitreola pingtaoi* D. Fang et D. H. Qin 1. 花株上部 Upper part of flowering shoot; 2. 花 Flower; 3. 花冠展开 Corolla opened up; 4. 果 Fruit; 图5-8 长叶度量草 *M. macrophylla* D. Fang et D. H. Qin 5. 花株 Flowering shoot; 6. 花 Flower; 7. 花冠展开 Corolla opened up; 8. 果 Fruit; 图9-12 匙叶度量草 *M. spatulifolia* D. Fang et L. S. Zhou 9. 花株 Flowering shoot; 10. 花 Flower; 11. 花冠展开 Corolla opened up; 12. 果 Fruit; 图13-14 紫脉度量草 *M. purpleonervia* D. Fang et X. H. Lu 13. 果株 Fruit shoot; 14. 果 Fruit. (廖信佩绘)

## 4. 紫脉度量草 新种 图 13-14

*Mitreola purpureonervia* D. Fang et X. H. Lu, sp. nov.

Species *M. sphaerocarpace* (Leenh.) Leenh. similis, quae foliis caulinis; lamina 6-14cm longa, 3-6cm lata; nervis subtus non purpurascens; capsula late ovoidea differt.

Herba perennis parva, post anthesin ubique glabra; caulis brevis, inconspicuus, rare brevissime ramiferus, nodiis densis, internodiis 1-2mm longis. Folia opposita, conferta, subrosularia, sessilia; laminae in sicco chartaceae, ellipticae vel oblongo-ellipticae, 3.5-7cm longae, 1-2.5cm latae, apice acutae, basi attenuatae, margine integrae, nervis lateralibus utrinsecus 7-9 supra subcomplanatis subtus prominentibus, venulis reticulatis conspicuis, nervis subtus fere omnibus purpurascens; stipulis subulatis, c. 1mm longis. Cyma saepe ex axillis foliorum summorum 1-3 orta, bis ad ter ramosa, multiflora; pedunculi fructiferi 3-8cm longi; bractee lineares, 4-7mm longae; pedicelli fructiferi 1-5mm longi. Calyx fructifer campanulatus, ad basin 5-lobatus, lobis longe ovatis 1.5-2mm longis 0.5-1mm latis margine membranaceis. Flos ignotus. Capsula juventute partes duae tertiae divergens, 3mm longa, 3-4.5mm lata, compressa, meniscoidea, basi calyce persistenti, apice inflexa; semina multa, juventute semiglobosa, brunnescentia, c. 0.5mm lata, laevia.

Guangxi (广西): Jingxi (靖西), 1984, 06. 04, Lu Xiaohong et al. (陆小鸿等) 070 (holotype, GXMI; isotype, Guangxi Company of Chinese Medicinal Materials).

多年生小草本，果株无毛；茎短，不明显，稀具极短的分枝，节密，节间长 1-2mm。叶对生，密接，近莲座状，无柄；叶片干时纸质，椭圆形至长圆状椭圆形，长 3.5-7cm，宽 1-2.5cm，先端急尖，基部渐狭，边全缘，侧脉每边 7-9 条，上面近扁平，下面突起，细脉网状而明显，叶脉在下面带紫色；托叶钻状，长约 1mm。聚伞花序 1-3，通常生于顶部的叶腋中，2-3 回分枝，多花；果序梗长 3-8cm；苞片线形，长 4-7mm，果梗长 1-5mm。果萼钟状，5 裂近基部，裂片长卵形，长 1.5-2mm，宽 0.5-1mm，边缘膜质。花未见。蒴果幼时三分之二叉开，长 3mm，宽 3-4.5mm，侧向压扁，弯月状，基部具宿萼，先端内弯；种子多数，幼时半球形，淡棕色，宽约 0.5mm，表面光滑。

本种与产于加里曼丹的 *M. sphaerocarpace* (Leenh.) Leenh. 相似，但后者叶茎生；叶片长 6-14cm，宽 3-6cm，叶脉在背面不带紫色；蒴果阔卵球形。