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江西唇形科一新变种——腺毛裂苞香科科

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摘要: 报告了江西南部丹霞地貌唇形科植物一新变种——腺毛裂苞香科科 (*Teucrium veronicoides* Maxim. var. *glandulosus* G.L.Xu), 该种和裂苞香科科 (*Teucrium veronicoides* Maxim.) 形态上最为相似, 但该种的茎、叶片两面、叶柄、苞片、花序轴、花梗以及花萼远轴面均密被平展的长腺毛、短腺毛和少量柔毛; 花萼筒前方靠近基部位置明显膨大; 后者的茎、叶片两面、叶柄、苞片、花序轴、花梗均被长柔毛, 花萼除边缘具睫毛外几无毛, 花萼筒中部略膨大; 故可以明显区别。

关键词: 江西; 兴国县; 新变种; 裂苞香科科; 腺毛裂苞香科科

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香科科属 (*Teucrium* L.) 是唇形科 (Labiatae) 筋骨草亚科 (Ajugoideae) 的最大属之一, 全世界超过了 370 个分类单元, 有 260 种, 该属为世界广布属, 其分布中心在地中海盆地^[1]。中国分布有 18 种 10 变种, 其中, 中国特有的有 11 种 10 变种, 该属植物遍布全国各地, 但多数种类集中于西南部^[2-3]。该属和唇形科其他属的主要区别在于花冠筒缺上唇, 花粉粒沟间无加厚带^[4]。近年来, 不少该属的新类群被发现^[5-7], 该属植物富含萜类、黄酮类和苯丙素类化合物, 是非常重要的中药材^[8-9]。裂苞香科科 (*Teucrium veronicoides* Maxim.) 为穗花香科科组 (Sect. *Stachyobotrys* Benth.) 的成员之一, 分布于中国湖南、辽宁、四川和云南, 国外也分布于日本和韩国^[2]。

2022 年 7 月, 本研究团队在江西兴国县进行丹霞地貌植物科考时, 发现岩壁下阴湿处生长着一片形态极似裂苞香科科的开花草本植物, 但其毛被和花萼的形态有明显区别。于是采集了标本, 查阅了相关文献资料^[1-13], 并通过 GBIF ([https://](https://www.gbif.org/)

www.gbif.org/) 和 PPBC (<https://ppbc.iplant.cn/>) 等网站系统比对了香科科属的生态照片和标本照片, 进行了连续 2 年的野外种群监测, 发现其形态和裂苞香科科确实存在稳定且明显的差距, 因此, 将此种报道为裂苞香科科一新变种, 模式标本保存在中山大学生命科学学院植物标本馆 (SYS)。

1 分类学处理

腺毛裂苞香科科 (新变种) 图 1-A — T

Teucrium veronicoides Maxim. var. *glandulosus* G.L.Xu, var. Nov. Plate I

Type: China (中国). Jiangxi Province (江西省): Xingguo County (兴国县), Changgang Township (长冈乡), Bingxin Cave Scenic Spot (冰心洞风景区), Danxia landform shade wet place (丹霞地貌阴湿处), altitude 285 m, 15 August 2024, G.L.Xu (徐国良) XGBXD0815 (Holotype: SYS!)

Diagnosis: *Teucrium veronicoides* Maxim. var. *glandulosus* G.L.Xu differed from *Teucrium*

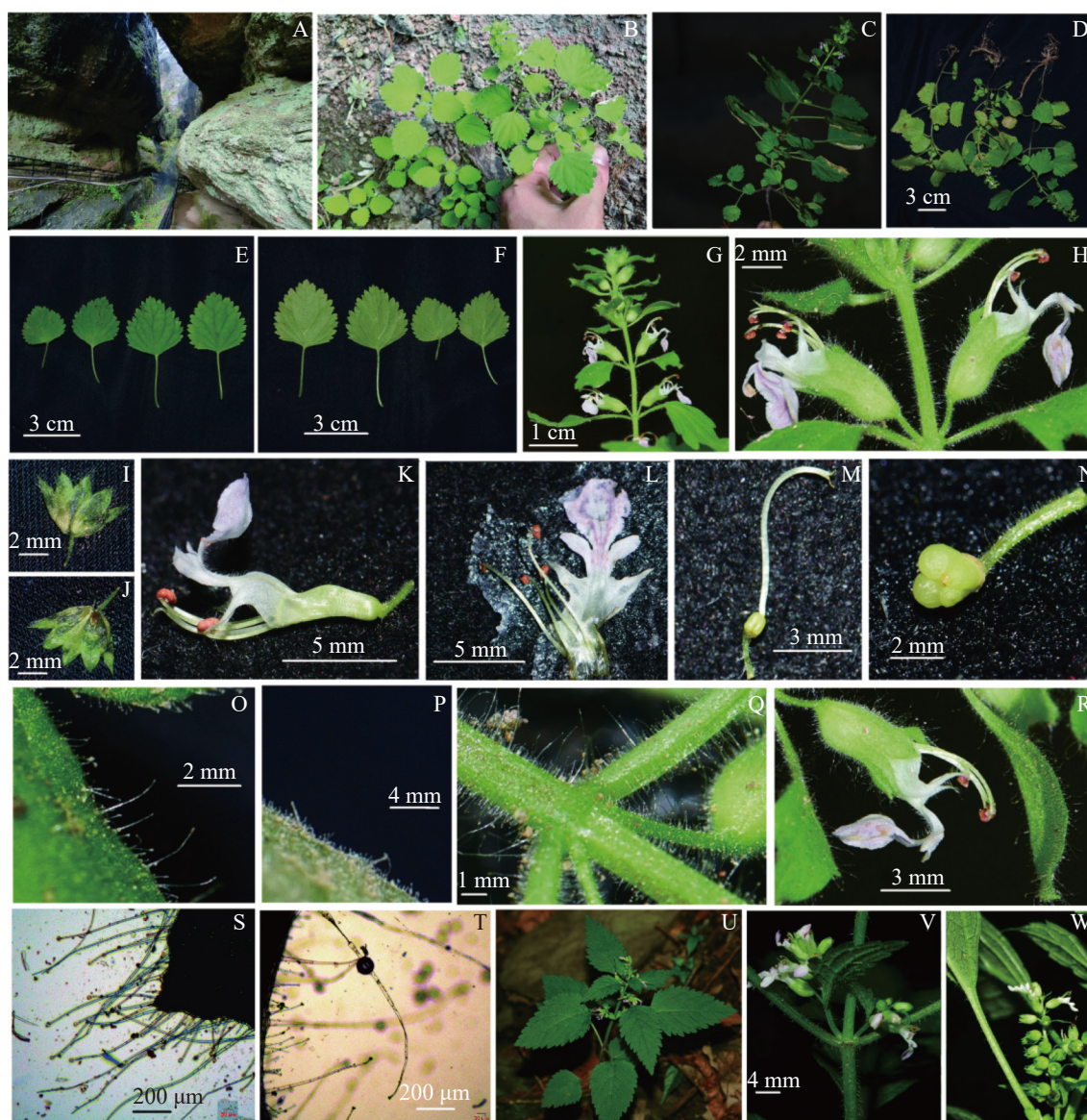
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A ~ T. 腺毛裂苞香科科: A. 生境; B. 居群; C. 植株; D. 带根的植株; E. 叶片正面; F. 叶片背面; G. 花序; H. 花; I. 花萼外侧; J. 花萼内侧; K. 去掉花萼的花冠筒; L. 雌蕊; M. 花冠解剖; N. 未成熟的坚果; O. 叶片正面的毛; P. 叶片背面的毛; Q. 茎、叶柄、花梗上的毛; R. 花萼和苞片上的毛; S. 花萼外侧的毛放大; T. 叶片上的毛放大; U ~ W. 裂苞香科科(拍摄于甘肃省陇南市): U. 植株; V. 花序和毛被; W. 分枝上的花序。

A-T. *Teucrium veronicoides* var. *glandulosus*: A. Habitat; B. Population; C. Plant; D. Plants with root. E. Adaxial surface of leaf blades; F. Abaxial surface of leaf blades; G. Inflorescence; H. Flowers; I. Abaxial surface of calyx lobes; J. Adaxial surface of calyx lobes; K. Corolla tube without calyx; L. Pistil; M. Opened corolla; N. Immature fruit; O. Indumentum of leaf blades adaxially; P. Indumentum of leaf blades abaxially; Q. Indumentum of stem, petiole, pedicel; R. Indumentum of calyx and bract; S. Amplification of calyx' indumentum abaxially; T. Amplification of indumentum on leaf blades; U-W. *Teucrium veronicoides* (taken in Longnan City, Gansu Province): U. Plants; V. Inflorescence and indumentum; W. Inflorescence on branches.

图1 腺毛裂苞香科科和裂苞香科科的形态特征

Fig. 1 Morphological characteristics of *Teucrium veronicoides* var. *glandulosus* and *Teucrium veronicoides*

veronicoides Maxim. in stem, upper and lower surfaces of blade, petiole, bracts, rachis, pedicel and calyx abaxial surface densely covered with spreading long glandular hairs and short glandular hairs and intermixed with sparse pubescence; calyx tube obviously swollen in front at base (vs. stem, both

upper and lower surfaces of blade, petiole, bracts, rachis and pedicel villous and calyx abaxial surface subglabrous except for ciliate margin in the latter; middle part of calyx tube slightly swollen.)

本变种与裂苞香科科模式变种的主要区别在于其茎、叶片两面、叶柄、苞片、花序轴、花梗及

花萼远轴面均密被平展的长腺毛、短腺毛和少量柔毛;花萼筒前方靠近基部位置明显膨大(图 1—H—T)。在模式变种中,其茎、叶片两面、叶柄、苞片、花序轴、花梗均被长柔毛,花萼除边缘具睫毛外几无毛;花萼筒中部略膨大^[2-3](图 1—U—W)。

Description: Perennial herb with stolons. Stems erect, multibranched, 15–45 cm tall, densely villi. Petiole 1–5 cm long, densely covered with spreading long glandular-hairs, glandular-pubescent, and intermixed with sparse pubescence; leaf blade subround to oval-triangular, 2–4 cm long, 1.5–3.5 cm wide, leaves on the branch smaller, 0.5–1.2 cm long, 0.4–1.1 cm wide, apex obtuse to acute, base truncate to broadly cuneate, margin double crenate, adaxially densely covered with spreading long glandular-hairs, glandular-pubescent, and intermixed with sparse pubescence; abaxial veins densely covered with spreading long glandular-hairs and glandular hairs and intermixed with sparse pubescence, and the rest densely covered with spreading glandular hairs and intermixed with sparse pubescence. Bracts oval, 3-lobed below, entire upper part densely covered with spreading long glandular hairs and short glandular hairs intermixed with sparse pubescence. Verticillasters 2-flowered, composed of sparsely 5–10 cm false spikes on upper part of stem and branches. Rachis and pedicels densely covered with spreading long glandular hairs and short glandular hairs, and intermixed with sparse pubescence. Pedicels 2–4 mm long, densely covered with spreading long glandular hairs, short glandular hairs and intermixed with sparse pubescence. Calyx campanulate, 3.5–5.0 mm long, 2 mm wide, obviously swollen in front at base, teeth 5, slightly 2-lipped, upper lip 3-lobed, apex acute, oval; lower lip 2-lobed, apex acuminate, acute-triangular; calyx outside densely covered with spreading long glandular hairs and short glandular hairs and intermixed with sparse pubescence, inside sparsely covered with short glandular hairs and pubescence. Corolla 7–8 mm long, outside sparsely villous, puberulent on lower part of limb inside; middle lobe of limb lilac,

protuberant like a tongue, about 4 mm long, subcircular; upper lateral lobes lilac, apex round, oblong; lower lobes white, oblique triangular, apex acuminate, slightly larger than upper lateral lobes. Stamen protruding, disk shallowly disk-like, margin crenated. Nutlet oblong-obovoid, ca. 1 mm long, smooth, base connate. Flower and fruit period from July to September.

多年生草本,具匍匐茎。茎直立,多分枝,高 15 ~ 45 cm,密被平展的长腺毛、短腺毛和少量柔毛。叶柄长 1 ~ 5 cm,密被平展的长腺毛、短腺毛和少量柔毛;叶片近圆形至卵圆状三角形,长 2 ~ 4 cm,宽 1.5 ~ 3.5 cm,分枝上的叶较小,长 0.5 ~ 1.2 cm,宽 0.4 ~ 1.1 cm,先端钝或急尖,基部平截或宽楔形,边缘具重圆齿,叶片上面密被平展的长腺毛、短腺毛和少量柔毛;叶片下面叶脉密被平展的长腺毛、短腺毛和少量柔毛,其余部位密被短腺毛和少量柔毛。苞片卵圆形,下面的 3 裂,顶上的全缘,密被平展的长腺毛、短腺毛和少量柔毛;轮伞花序 2 花,在主茎及分枝的上部组成疏生长 5 ~ 10 cm 的假穗状花序。花序轴和花梗均密被平展的长腺毛、短腺毛和少量柔毛,花梗长 2 ~ 4 mm,密被开展的短腺毛和短柔毛。花萼钟形,长 3.5 ~ 5.0 mm,宽约 2 mm,前方靠近基部明显膨大,萼齿 5,稍呈二唇形,上唇 3 裂,先端急尖,卵圆形,下唇 2 裂,先端渐尖,锐三角形;花萼外侧密被平展的长腺毛、短腺毛和少量柔毛,内侧疏被短腺毛和柔毛。花冠长 7 ~ 8 mm,外侧疏被长柔毛,内侧喉部下方被微柔毛;唇瓣中裂片淡紫色,唇片舌状伸出,长约 4 mm,近圆形;上部的侧裂片淡紫色,先端圆,长圆形;基部的侧裂片白色,斜三角形,先端渐尖,比上部的侧裂片稍大。雄蕊伸出,花盘浅盘状,边缘有圆齿。小坚果长圆状倒卵形,长约 1 mm,无网纹,基部合生。花果期 7—9 月。

保护等级评估:本团队在江西省兴国长冈乡冰心洞风景区仅发现 1 个居群,成熟个体 50 ~ 100 株,周边散布较多的小苗,散布在约 50 m² 的范围,伴生种有粗筒小花苣苔 (*Primulina inflata* Li H. Yang & M. Z. Xu)、华中铁角蕨 (*Asplenium sarelii* Hook.)、卷柏 [*Selaginella tamariscina* (P. Beauv.) Spring]、白马骨 [*Serissa serissoides* (DC).

Druce] 等丹霞岩生植物。因此, 考虑到该物种生境暂时受风景区管理机构保护, 且成熟个体和更新苗数量较多, 根据 IUCN 红色名录类别和标准暂时将其评估为近危(NT)^[14]。

2 讨论

DARRIBA 等^[15-17] 分类学家认为, 香科科属的微观形态特征, 特别是毛被类型和毛被密度, 是区分

该属分类单元的重要依据之一, 本团队赞成此观点。裂苞香科科的分布中心在亚洲温带地区, 腺毛裂苞香科科很可能是其向南扩散过程中在特殊生境下产生的变异类型, 该变种的发现, 对于丰富香科科属的物种多样性有重要意义, 其种群分布状况有待进一步研究。为了更清楚比较腺毛裂苞香科科和本属其他相似种的形态区别, 表 1 给出了江西省分布的香科科属植物的检索表^[2-3]。

表 1 江西省分布的香科科属植物检索表

Tab. 1 Key to *Teucrium* distributed in Jiangxi Province

1. 花萼明显二唇形; 唇片与冠筒几成直角	
2. 叶片卵圆形或长圆状卵圆形, 花冠淡红色, 外面散布淡黄色腺点	铁轴草 <i>T. quadrifarium</i>
2. 叶片卵圆状披针形; 花冠白色, 外面无腺点	庐山香科科 <i>T. pernyi</i>
1. 花萼由不明显的二唇形组成; 唇片与冠筒不成直角	
3. 花梗、苞片均无毛, 茎不被平展的长柔毛或腺毛	穗花香科科 <i>T. japonicum</i>
3. 花梗、苞片被柔毛或腺毛, 茎被平展的长柔毛或腺毛	
4. 花萼和花冠外侧散布浅黄色腺点, 唇片与冠筒几在一条直线上	长毛香科科 <i>T. pampaninii</i>
4. 花萼和花冠外侧无腺点, 唇片与冠筒成大角度的钝角	
5. 苞片全缘, 叶片卵圆形至卵圆状长圆形, 叶片近无毛, 子房被毛, 小坚果扁球形	
6. 花萼被短柔毛	血见愁 <i>T. viscidum</i>
6. 花萼被短腺毛	微毛血见愁 <i>T. viscidum</i> var. <i>nepetoides</i>
5. 苞片三裂, 叶片近圆形至卵圆状三角形, 叶片被长柔毛或腺毛, 子房无毛, 小坚果长圆倒卵形	
7. 茎、花萼、花序轴、花梗、叶片和苞片不被腺毛, 花萼筒中部略膨大	裂苞香科科 <i>T. veronicoides</i>
7. 茎、花萼、花序轴、花梗、叶片和苞片被腺毛, 花萼筒靠基部明显膨大	腺毛裂苞香科科 <i>T. veronicoides</i> var. <i>glandulosus</i>

参考文献:

- [1] ÖZCAN T, DİRMENCİ T, COŞKUN F, et al. A new species of *Teucrium* sect. *Scordium* (Lamiaceae) from SE of Turkey [J]. *Turkish Journal of Botany*, 2015, 39: 310 – 317.
- [2] WU Z Y, RAVEN P H. *Flora of China*: Vol. 17 [M]. Beijing: Science Press, 1994: 418.
- [3] 中国科学院中国植物志编辑委员会. 中国植物志 (第六十六卷) [M]. 北京: 科学出版社, 1977: 30-35.
- [4] DE MARTINO L, FORMISANO C, MANCINI E, et al. Chemical composition and phytotoxic effects of essential oils from four *Teucrium* species [J]. *Natural Product Communications*, 2010, 5(12): 1969 – 1976.
- [5] 陈德良, 金孝锋, 徐跃良, 等. 庆元香科科, 浙江唇形科一新种 [J]. *广西植物*, 2021, 41(1): 4 – 9.
- [6] ÇEÇEN Ö, ÖZCAN T. A new *Teucrium* L. (Lamiaceae) species from South Anatolia (Turkey) [J]. *Turkish Journal of Botany*, 2021, 45(4): 353 – 370.
- [7] ATTAR F, SOTOODEH A, MIRTADZADINI M. *Teucrium elymaiticum* (Lamiaceae): a new species for Flora of Iran [J]. *Mediterranean Botany*, 2019, 40(2): 203 – 207.
- [8] 刘立云, 黄胜阳. 香科科属植物的化学成分与生物活性 [J]. *智慧健康*, 2018, 4(8): 20 – 26.
- [9] 张凯, 王绪礼, 王义坤, 等. 香科科属植物的化学成分和药理活性研究进展 [J]. *中南药学*, 2016, 14(7): 735 – 741.
- [10] 彭焱松, 唐忠炳, 谢宜飞. 江西维管植物多样性编目 [M]. 北京: 中国林业出版社, 2021.
- [11] NAVARRO T, EL OUALIDI J. Trichome morphology in *Teucrium* L. (Labiatae). A taxonomic review [J]. *Anales Del Jardín Botánico De Madrid*, 1999, 57(2): 277 – 297.
- [12] XU G L, LIANG L F, CHEN D Y, et al. *Primulina jiulianshanensis*, a new species of Gesneriaceae from Jiangxi Province, China [J]. *PhytoKeys*, 2023, 226: 1 – 16.
- [13] 马海军, 翟科峰, 韩正宾, 等. 安徽香茶菜属 (唇形科) 一新种 [J]. *宿州学院学报*, 2022, 37(3): 41 – 45.
- [14] IUCN. More than 47, 000 species are threatened with extinction [EB/OL]. (2022-02-15) [2024-07-10]. <http://www.iucnredlist.org>.
- [15] DARRIBA D, TABOADA G L, DOALLO R, et al. jModelTest 2: more models, new heuristics and parallel computing [J]. *Nature Methods*, 2012, 9(8): 772.
- [16] DOĞU S, DINÇ M, KAYA A, et al. Taxonomic status of the subspecies of *Teucrium lamiifolium* in Turkey: reevaluation based on macro- and micro-morphology,

- anatomy and chemistry[J]. *Nordic Journal of Botany*, 2013, 31(2): 198 – 207.
- [17] KREMER D, STABENTHEINER E, JURIŠIĆ GRUBEŠIĆ R, et al. A morphological and chemotaxonomic study of *Teucrium arduini* L. in Croatia, and Bosnia and Herzegovina[J]. *Plant Biosystems-An International Journal Dealing with All Aspects of Plant Biology*, 2012, 146(2): 402 – 412.

A new variety of Lamiaceae from Jiangxi: *Teucrium veronicoides* var. *glandulosus*

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Abstract: *Teucrium veronicoides* Maxim. var. *glandulosus* G.L.Xu, which is a new variety of Lamiaceae was discovered on Danxia landform in southern Jiangxi. It is the most similar in morphology to *Teucrium veronicoides* Maxim. This new variety is densely covered with spreading long glandular hairs and short glandular hairs and intermixed with sparse pubescence in stem, upper and lower surfaces of blade, petiole, bracts, rachis, pedicel and abaxial surface of calyx, and obviously swollen in the front of calyx tube near the base, while *T. veronicoides* Maxim. is villous in stem, upper and lower surfaces of blade, petiole, bracts, rachis and pedicel, subglabrous in the calyx abaxial surface except for ciliate margin, and slightly swollen in the middle part of calyx tube. Therefore they can be clearly distinguished between each other.

Keywords: Jiangxi; Xingguo county; new variety; *Teucrium veronicoides*; *Teucrium veronicoides* var. *glandulosus*

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