

FLORA OF LYCOPHYTES AND FERNS OF GUIZHOU

王培善 潘炉台 主编

# 贵州石松类 和蕨类植物志

下卷





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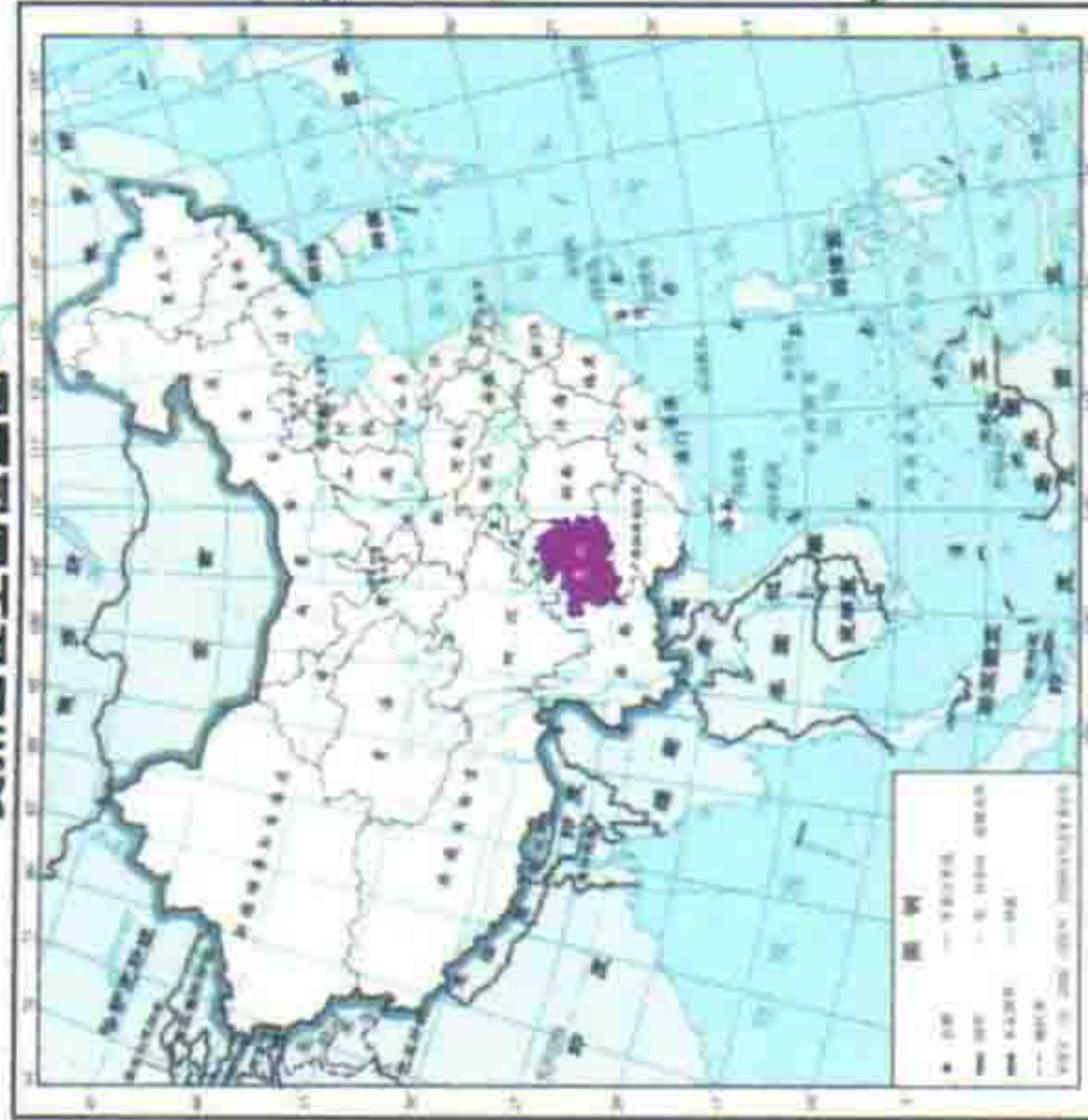
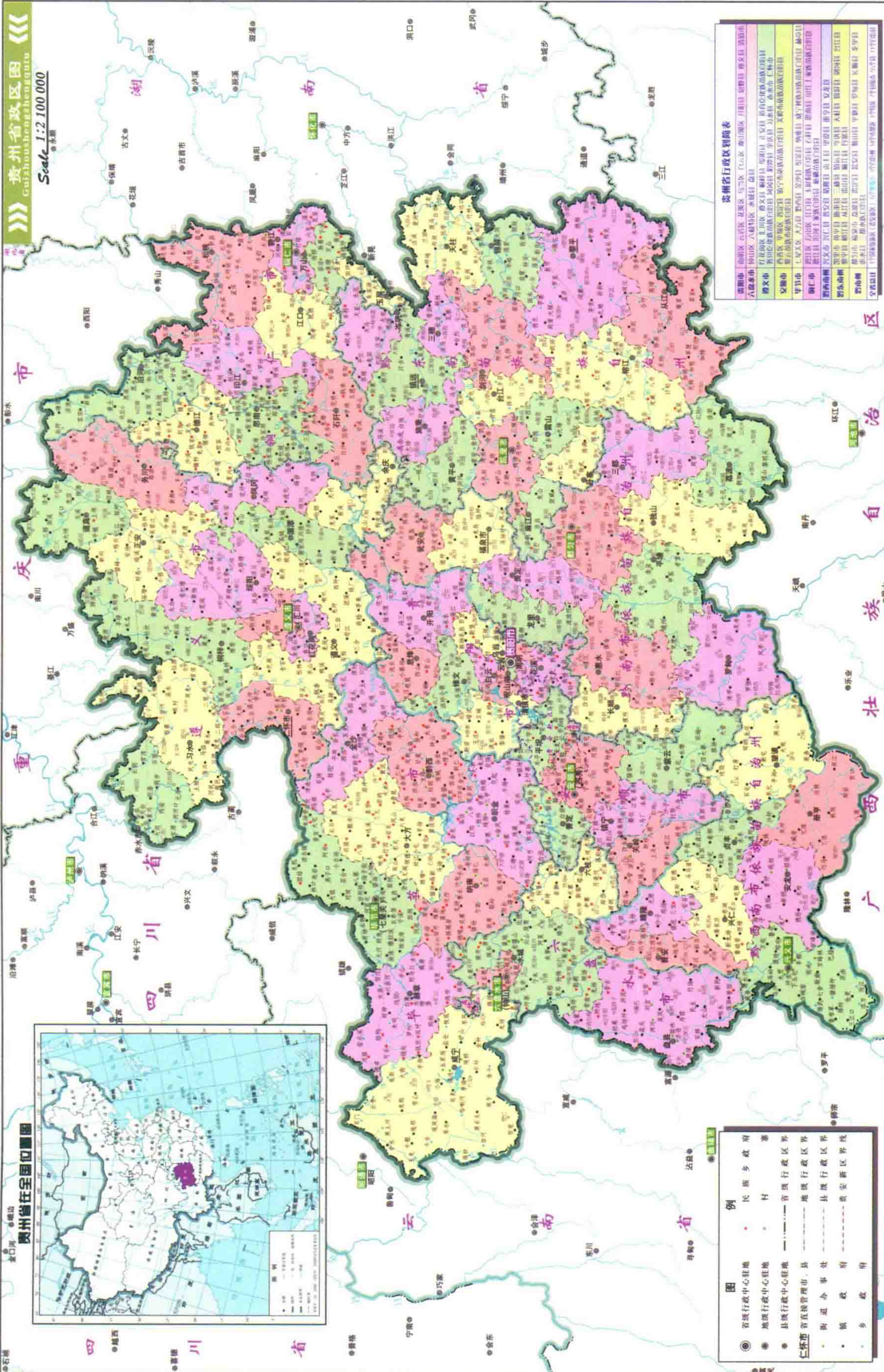
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**例**

●	省级行政中心驻地
●	地级行政中心驻地
●	县级行政中心驻地
●	县级行政管理市、县
●	街道办事处
●	镇
●	乡
●	民族乡
●	村
—	省级行政区界
—	地级行政区界
—	县级行政区界
—	县行政中心驻地
—	镇、街道办事处
—	乡、民族乡、村界

**贵州省行政区划简表**

行政区划	名称	驻地
地级市	贵阳市、六盘水市、遵义市、安顺市、毕节市、铜仁市、黔南布依族苗族自治州、黔西南布依族苗族自治州、黔东南苗族侗族自治州、黔东苗族侗族自治州	贵阳市、六盘水市、遵义市、安顺市、毕节市、铜仁市、都匀市、兴义市、凯里市
县级市	贵阳市、六盘水市、遵义市、安顺市、毕节市、铜仁市、黔南布依族苗族自治州、黔西南布依族苗族自治州、黔东南苗族侗族自治州、黔东苗族侗族自治州	贵阳市、六盘水市、遵义市、安顺市、毕节市、铜仁市、都匀市、兴义市、凯里市
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县	贵阳市、六盘水市、遵义市、安顺市、毕节市、铜仁市、黔南布依族苗族自治州、黔西南布依族苗族自治州、黔东南苗族侗族自治州、黔东苗族侗族自治州	贵阳市、六盘水市、遵义市、安顺市、毕节市、铜仁市、都匀市、兴义市、凯里市
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## 二十六、金星蕨科 THELYPTERIDACEAE

本科主产泛热带。由于观点各异，被认为内含 5 ~ 30 属。Alan Smith 等人承认此科 5 属：毛蕨属，针毛蕨属，卵果蕨属，紫柄蕨属及广义的金星蕨属 (2006)，其他属则分别并入毛蕨属和金星蕨属内。Christenhusz 等人接受了这一观念 (2011)，但指出现时对科内关系的认知有限，不足以得出最后结论。在 FOC 中提出本科在世界上约 20 属，我国 18 属。作者对贵州该科的处理未完全依从 FOC，而是按 PPG 1 (2016)，将圣蕨属和茯蕨属并入溪边蕨属，故我们在此记述了贵州 12 属。

The family is mainly a pantropical one, containing 5 to 30 genera based on different viewpoints. Alan Smith & al. (2006) recognized 5 genera in the family: *Cyclosorus*, *Macrothelypteris*, *Phegopteris*, *Pseudophegopteris* and *Thelypteris* (sens. Lat.), while other genera were treated either into *Cyclosorus* or *Thelypteris*. Christenhusz & al. (2011) accepted the concept, but they pointed out that the current understanding of the relationships within this family is limited and insufficient for making final conclusions. FOC suggests about 20 genera exist in the world, 18 of them in China. The present authors do not treat the taxa of Guizhou wholly in accordance with FOC, but as PPG 1 did (2016), i. e., combining *Dictyocline* and *Leptogramma* into *Stegnogramma*. Thus, at present, 12 genera are recorded for this family in Guizhou.

- |      |   |                                    |
|------|---|------------------------------------|
| 1    | 叶脉分离 Veins free   | 2                                  |
| 1    | 叶脉部分或全部联结成网状 Veins partly or entirely reticulate  | 10                                 |
| 2(1) | 叶片 3 ~ 4 回羽裂，卵状三角形，常遍体具多细胞长毛 Lamina 2—3-pinnate-pinnatifid, ovate-deltoid, often with long multicellular hairs throughout                         | 3. 针毛蕨属 <i>Macrothelypteris</i>    |
| 2    | 叶片 2 回羽裂，稀 3 回羽裂，通常具单细胞短毛 Lamina pinnate-pinnatifid, rarely 2-pinnate-pinnatifid, usually with short unicellular hairs                            | 3                                  |
| 3(1) | 羽轴上面圆而隆起；小脉先端不达叶边；囊群盖小，淡绿色 Costae rounded and raised adaxially; ends of veinlets not reaching margin; indusia small, greenish                     | 2. 凸轴蕨属 <i>Metathelypteris</i>     |
| 3    | 羽轴上面具沟；小脉先端达到或不达叶边；囊群盖较大，非淡绿色，或无盖 Costae grooved adaxially; ends of veinlets reaching margin or not; indusia larger, not greenish, or exindusiate | 4                                  |
| 4(3) | 孢子囊群无盖或囊群盖发育不良，很小 Sori exindusiate or with poorly developed indusia, much small   | 5                                  |
| 4    | 孢子囊群有盖 Sori indusiate   | 9                                  |
| 5(4) | 孢子囊群圆形 Sori orbicular   | 6                                  |
| 5    | 孢子囊群不为圆形 Sori not orbicular   | 7                                  |
| 6(5) | 叶干后常呈棕色；叶轴不为方形；羽片基部下面有疣状气囊体 Laminae usually brown when dry; rachises not rectangular; tuberculate aerophores present at pinna bases abaxially     | 6. 钩毛蕨属 <i>Cyclogramma</i>         |
| 6    | 叶干后常呈黄绿色；叶轴方形；羽片基部下面无疣状气囊体 Laminae usually yellowish green when dry; rachises quadrate; tuberculate aerophores absent at pinna bases abaxially    | 7. 方杆蕨属 <i>Glaphyropteridopsis</i> |
| 7(5) | 孢子囊群短线形或长圆形；裂片全缘；侧脉单一 Sori shortly linear; segments entire; lateral veins single  |                                    |

- ..... 10. 溪边蕨属 *Stegnogramma*
- 7 孢子囊群卵形或椭圆形；小羽片或裂片羽裂；侧脉常分叉 Sori ovate or elliptic; pinnules or segments pinnatifid; lateral veins often forked ..... 8
- 8(7) 植株小；叶柄禾秆色；羽片多数沿叶轴以翅相连；叶轴、羽轴下面有具缘毛的小鳞片 Plants small; stipe stramineous; pinnae mostly connected by wings along rachis; rachis and costae with small ciliate scales abaxially ..... 4. 卵果蕨属 *Phegopteris*
- 8 植株高大；叶柄紫红色或棕禾秆色；羽片分离；叶轴、羽轴下面无鳞片 Plants rather taller and larger; stipe purplish red or brownish stramineous; pinnae free; rachis and costae without scales abaxially ..... 5. 紫柄蕨属 *Pseudophegopteris*
- 9(4) 叶片草质，下面通常有橙红色球状腺体；羽片基部无疣状气囊体 Laminae herbaceous, usually with reddish orange spherical glands abaxially; pinna bases without tuberculate aerophores ..... 1. 金星蕨属 *Parathelypteris*
- 9 叶片纸质或革质，无球状腺体；羽片基部下面有疣状气囊体 Laminae papery or leathery, without spherical glands; pinna bases with tuberculate aerophores abaxially ..... 8. 假毛蕨属 *Pseudocyclosorus*
- 10(1) 叶脉全部网状；孢子囊群沿网脉着生 Veins entirely reticulate; sori bearing along veins ..... 10. 溪边蕨属 *Stegnogramma*
- 10 叶脉星毛蕨型或新月蕨型；孢子囊群圆形或线形 Veins goniopteroid or meniscioid; sori orbicular or linear ..... 11
- 11(10) 叶脉新月蕨型，即所有小脉联结成斜方形网眼；孢子囊群圆形，成熟时两个相对的孢子囊群常汇合，变成新月形 Veins meniscioid, i.e., all veinlets joining into rhombic areoles; sori orbicular, two opposite sori often confluent and becoming crescent when mature ..... 12. 新月蕨属 *Pronephrium*
- 11 叶脉星毛蕨型，即相邻裂片的下部小脉交接，形成三角形网眼，并从交接点上产生外行小脉 Veins goniopteroid, i.e., proximal veinlets of adjacent segments joining into triangular areoles and producing an excurrent veinlet from joining point ..... 12
- 12(11) 植株无限生长；叶轴通常伸长并生根土中，产生新株；羽片腋间常有芽胞 Plants of indeterminate growth; rachis usually prolonged and rooting, forming a new plant; pinna axils often with gemmae ..... 11. 星毛蕨属 *Ampelopteris*
- 12 植株有限生长；叶轴不伸长；羽片腋间无芽胞 Plants of determinate growth; rachis not prolonged; pinna axils without gemmae ..... 13
- 13(12) 孢子囊群有盖，圆形；羽片深羽裂，下面常有腺体；裂片间的缺刻下有一条连接外行小脉的透明膜 Sori indusiate, orbicular; pinnae pinnatipartite, often with glands abaxially; one translucent membranous line present below sinus of segments ..... 9. 毛蕨属 *Cyclosorus*
- 13 孢子囊群无盖，线形；羽片近全缘或浅羽裂，下面无腺体；裂片间的缺刻下无一条透明膜 Sori exindusiate, linear; pinnae subentire or pinnatilobate, without glands abaxially; translucent membranous line absent below sinus of segments ..... 10. 溪边蕨属 *Stegnogramma*

### (一) 金星蕨属 *Parathelypteris* (H. Itô) Ching

中等大小的陆生植物。根状茎长而横走或短而直立，光滑或疏被鳞片。叶远生、近生或簇生；叶柄禾秆色或栗褐色，基部近光滑或具长毛，向上光滑或有柔毛；叶片长圆披针形至披针形；羽片多数，无柄或几无柄，羽状分裂；裂片多为长圆形或近方形，边缘全缘或有齿，先端圆或截状。叶草质或纸质，下面常

有橙色腺体；叶轴、羽轴上面具沟，密被短刚毛，下面圆而凸起，通常被针毛，稀光滑。叶脉羽状，分离，单一，均伸达叶缘。孢子囊群圆形，背生小脉中部或近先端；囊群盖较大，圆肾形，光滑或具毛，通常宿存，孢子二面体形。染色体基数  $x = 8, 9, 31$ 。

约 60 种，分布于东亚的热带、亚热带，东南亚至太平洋岛屿；我国 20 余种，贵州 8 种。

Medium-sized terrestrial plants. Rhizomes long creeping or short and erect, glabrous or sparsely with scales. Fronds remote, approximate or clustered; stipes stramineous or castaneous, bases nearly glabrous or with long hairs, distally glabrous or pubescent; laminae oblong-lanceolate to lanceolate; pinnae numerous, sessile or subsessile, pinnatifid; segments mostly oblong or subsquare, margins entire or serrate, apices rounded or truncate. Fronds herbaceous or papery, often with orange glands abaxially; rachis and costae grooved adaxially, densely covered with short setae, rounded and raised abaxially and usually with acicular hairs, rarely glabrous. Veins pinnate, free, single and all reaching margins. Sori orbicular, dorsifixed at middle or near ends of veinlets; indusia larger, orbicular-reniform, glabrous or hairy, usually persistent. Spores bilateral.  $x = 8, 9, 31$ .

About 60 species; tropics and subtropics of E Asia, SE Asia to Pacific islands; more than 20 species in China and 8 in Guizhou.

- 1 叶柄禾秆色；叶片下部羽片渐缩小，基部的常呈耳状 Stipe stramineous; lower pinnae of lamina gradually reduced and basal ones often auriculate ..... 2
- 1 叶柄栗褐色至深紫色，少有禾秆色；叶片下部羽片不缩小或略缩小 Stipe castaneous to dark purple, rarely stramineous; lower pinnae of lamina not reduced or slightly shortened ..... 3
- 2(1) 根状茎细长横走 Rhizome slender, long creeping ..... 1. 长根金星蕨 *P. beddomei*
- 2 根状茎粗，横卧或斜升 Rhizome stout, decumbent or ascending ..... 7. 中日金星蕨 *P. nipponica*
- 3(1) 羽片宽达 2 cm 或过之，下面有长针毛；囊群盖上具长、短两种针毛 Pinnae to 2 cm wide or more, with long needlelike hairs abaxially; both long and short needlelike hairs present on indusia ..... 8. 长毛金星蕨 *P. petelotii*
- 3 羽片宽不及 2 cm，下面疏被短针毛或几光滑；囊群盖光滑或仅具短针毛 Pinnae less than 2 cm wide, sparsely with short needlelike hair or nearly glabrous abaxially; indusia glabrous or only with short needlelike hairs ..... 4
- 4(3) 根状茎短，叶簇生；叶柄基部密生白色或黄棕色长毛 Rhizome short, fronds tufted; densely hairy at stipe base, hairs long, white or yellowish brown ..... 5
- 4 根状茎长而横走，叶远生或近生；叶柄基部光滑或疏生短针毛 Rhizome long-creeping, fronds distant or close; stipe base glabrous or sparsely with short needlelike hairs ..... 6
- 5(4) 叶柄下部深棕色；叶下面具腺体 Proximal part of stipe dark brown; laminae with glands abaxially ..... 4. 毛脚金星蕨 *P. hirsutipes*
- 5 叶柄下部黑色；叶下面无腺体 Proximal part of stipe black; laminae without glands abaxially ..... 6. 黑叶金星蕨 *P. nigrescens*
- 6(4) 叶柄禾秆色；孢子囊群近侧脉顶端生，即靠近叶缘 Stipe stramineous; sori near tip of lateral veins, i. e., near lamina margin ..... 3. 金星蕨 *P. glanduligera*
- 6 叶柄栗褐色至深紫色，稀禾秆色；孢子囊群生侧脉中部 Stipe castaneous to dark purple, rarely stramineous; sori at middle of lateral veins ..... 7
- 7(6) 基部羽片的中部宽不及 1.5 cm；裂片上的侧脉约 5 对 Middle part of basal pinnae less than 1.5 cm wide;

## 二十六、金星蕨科 THELYPTERIDACEAE

本科主产泛热带。由于观点各异,被认为内含5~30属。Alan Smith等人承认此科5属:毛蕨属,针毛蕨属,卵果蕨属,紫柄蕨属及广义的金星蕨属(2006),其他属则分别并入毛蕨属和金星蕨属内。Christenhusz等人接受了这一观念(2011),但指出现时对科内关系的认知有限,不足以得出最后结论。在FOC中提出本科在世界上约20属,我国18属。作者对贵州该科的处理未完全依从FOC,而是按PPG 1(2016),将圣蕨属和茯蕨属并入溪边蕨属,故我们在此记述了贵州12属。

The family is mainly a pantropical one, containing 5 to 30 genera based on different viewpoints. Alan Smith & al. (2006) recognized 5 genera in the family: *Cyclosorus*, *Macrothelypteris*, *Phegopteris*, *Pseudophegopteris* and *Thelypteris* (sens. Lat.), while other genera were treated either into *Cyclosorus* or *Thelypteris*. Christenhusz & al. (2011) accepted the concept, but they pointed out that the current understanding of the relationships within this family is limited and insufficient for making final conclusions. FOC suggests about 20 genera exist in the world, 18 of them in China. The present authors do not treat the taxa of Guizhou wholly in accordance with FOC, but as PPG 1 did (2016), i. e., combining *Dictyocline* and *Leptogramma* into *Stegnogramma*. Thus, at present, 12 genera are recorded for this family in Guizhou.

- |      |   |                                    |
|------|---|------------------------------------|
| 1    | 叶脉分离 Veins free   | 2                                  |
| 1    | 叶脉部分或全部联结成网状 Veins partly or entirely reticulate  | 10                                 |
| 2(1) | 叶片3~4回羽裂,卵状三角形,常遍体具多细胞长毛 Lamina 2—3-pinnate-pinnatifid, ovate-deltoid, often with long multicellular hairs throughout                             | 3. 针毛蕨属 <i>Macrothelypteris</i>    |
| 2    | 叶片2回羽裂,稀3回羽裂,通常具单细胞短毛 Lamina pinnate-pinnatifid, rarely 2-pinnate-pinnatifid, usually with short unicellular hairs                                | 3                                  |
| 3(1) | 羽轴上面圆而隆起;小脉先端不达叶边;囊群盖小,淡绿色 Costae rounded and raised adaxially; ends of veinlets not reaching margin; indusia small, greenish                     | 2. 凸轴蕨属 <i>Metathelypteris</i>     |
| 3    | 羽轴上面具沟;小脉先端达到或不达叶边;囊群盖较大,非淡绿色,或无盖 Costae grooved adaxially; ends of veinlets reaching margin or not; indusia larger, not greenish, or exindusiate | 4                                  |
| 4(3) | 孢子囊群无盖或囊群盖发育不良,很小 Sori exindusiate or with poorly developed indusia, much small   | 5                                  |
| 4    | 孢子囊群有盖 Sori indusiate   | 9                                  |
| 5(4) | 孢子囊群圆形 Sori orbicular   | 6                                  |
| 5    | 孢子囊群不为圆形 Sori not orbicular   | 7                                  |
| 6(5) | 叶干后常呈棕色;叶轴不为方形;羽片基部下面有疣状气囊体 Laminae usually brown when dry; rachises not rectangular; tuberculate aerophores present at pinna bases abaxially     | 6. 钩毛蕨属 <i>Cyclogramma</i>         |
| 6    | 叶干后常呈黄绿色;叶轴方形;羽片基部下面无疣状气囊体 Laminae usually yellowish green when dry; rachises quadrate; tuberculate aerophores absent at pinna bases abaxially    | 7. 方杆蕨属 <i>Glaphyropteridopsis</i> |
| 7(5) | 孢子囊群短线形或长圆形;裂片全缘;侧脉单一 Sori shortly linear; segments entire; lateral veins single  |                                    |

- ..... 10. 溪边蕨属 *Stegnogramma*
- 7 孢子囊群卵形或椭圆形; 小羽片或裂片羽裂; 侧脉常分叉 Sori ovate or elliptic; pinnules or segments pinnatifid; lateral veins often forked ..... 8
- 8(7) 植株小; 叶柄禾秆色; 羽片多数沿叶轴以翅相连; 叶轴、羽轴下面有具缘毛的小鳞片 Plants small; stipe stramineous; pinnae mostly connected by wings along rachis; rachis and costae with small ciliate scales abaxially ..... 4. 卵果蕨属 *Phegopteris*
- 8 植株高大; 叶柄紫红色或棕禾秆色; 羽片分离; 叶轴、羽轴下面无鳞片 Plants rather taller and larger; stipe purplish red or brownish stramineous; pinnae free; rachis and costae without scales abaxially ..... 5. 紫柄蕨属 *Pseudophegopteris*
- 9(4) 叶片草质, 下面通常有橙红色球状腺体; 羽片基部无疣状气囊体 Laminae herbaceous, usually with reddish orange spherical glands abaxially; pinna bases without tuberculate aerophores ..... 1. 金星蕨属 *Parathelypteris*
- 9 叶片纸质或革质, 无球状腺体; 羽片基部下面有疣状气囊体 Laminae papery or leathery, without spherical glands; pinna bases with tuberculate aerophores abaxially ..... 8. 假毛蕨属 *Pseudocyclosorus*
- 10(1) 叶脉全部网状; 孢子囊群沿网脉着生 Veins entirely reticulate; sori bearing along veins ..... 10. 溪边蕨属 *Stegnogramma*
- 10 叶脉星毛蕨型或新月蕨型; 孢子囊群圆形或线形 Veins goniopteroid or meniscioid; sori orbicular or linear ..... 11
- 11(10) 叶脉新月蕨型, 即所有小脉联结成斜方形网眼; 孢子囊群圆形, 成熟时两个相对的孢子囊群常汇合, 变成新月形 Veins meniscioid, i.e., all veinlets joining into rhombic areoles; sori orbicular, two opposite sori often confluent and becoming crescent when mature ..... 12. 新月蕨属 *Pronephrium*
- 11 叶脉星毛蕨型, 即相邻裂片的下部小脉交接, 形成三角形网眼, 并从交接点上产生外行小脉 Veins goniopteroid, i.e., proximal veinlets of adjacent segments joining into triangular areoles and producing an excurrent veinlet from joining point ..... 12
- 12(11) 植株无限生长; 叶轴通常伸长并生根土中, 产生新株; 羽片腋间常有芽胞 Plants of indeterminate growth; rachis usually prolonged and rooting, forming a new plant; pinna axils often with gemmae ..... 11. 星毛蕨属 *Ampelopteris*
- 12 植株有限生长; 叶轴不伸长; 羽片腋间无芽胞 Plants of determinate growth; rachis not prolonged; pinna axils without gemmae ..... 13
- 13(12) 孢子囊群有盖, 圆形; 羽片深羽裂, 下面常有腺体; 裂片间的缺刻下有一条连接外行小脉的透明膜 Sori indusiate, orbicular; pinnae pinnatipartite, often with glands abaxially; one translucent membranous line present below sinus of segments ..... 9. 毛蕨属 *Cyclosorus*
- 13 孢子囊群无盖, 线形; 羽片近全缘或浅羽裂, 下面无腺体; 裂片间的缺刻下无一条透明膜 Sori exindusiate, linear; pinnae subentire or pinnatilobate, without glands abaxially; translucent membranous line absent below sinus of segments ..... 10. 溪边蕨属 *Stegnogramma*

### (一) 金星蕨属 *Parathelypteris* (H. Itô) Ching

中等大小的陆生植物。根状茎长而横走或短而直立, 光滑或疏被鳞片。叶远生、近生或簇生; 叶柄禾秆色或栗褐色, 基部近光滑或具长毛, 向上光滑或有柔毛; 叶片长圆披针形至披针形; 羽片多数, 无柄或几无柄, 羽状分裂; 裂片多为长圆形或近方形, 边缘全缘或有齿, 先端圆或截状。叶草质或纸质, 下面常

有橙色腺体；叶轴、羽轴上面具沟，密被短刚毛，下面圆而凸起，通常被针毛，稀光滑。叶脉羽状，分离，单一，均伸达叶缘。孢子囊群圆形，背生小脉中部或近先端；囊群盖较大，圆肾形，光滑或具毛，通常宿存，孢子二面体形。染色体基数  $x = 8, 9, 31$ 。

约 60 种，分布于东亚的热带、亚热带，东南亚至太平洋岛屿；我国 20 余种，贵州 8 种。

Medium-sized terrestrial plants. Rhizomes long creeping or short and erect, glabrous or sparsely with scales. Fronds remote, approximate or clustered; stipes stramineous or castaneous, bases nearly glabrous or with long hairs, distally glabrous or pubescent; laminae oblong-lanceolate to lanceolate; pinnae numerous, sessile or subsessile, pinnatifid; segments mostly oblong or subsquare, margins entire or serrate, apices rounded or truncate. Fronds herbaceous or papery, often with orange glands abaxially; rachis and costae grooved adaxially, densely covered with short setae, rounded and raised abaxially and usually with acicular hairs, rarely glabrous. Veins pinnate, free, single and all reaching margins. Sori orbicular, dorsifixed at middle or near ends of veinlets; indusia larger, orbicular-reniform, glabrous or hairy, usually persistent. Spores bilateral.  $x = 8, 9, 31$ .

About 60 species; tropics and subtropics of E Asia, SE Asia to Pacific islands; more than 20 species in China and 8 in Guizhou.

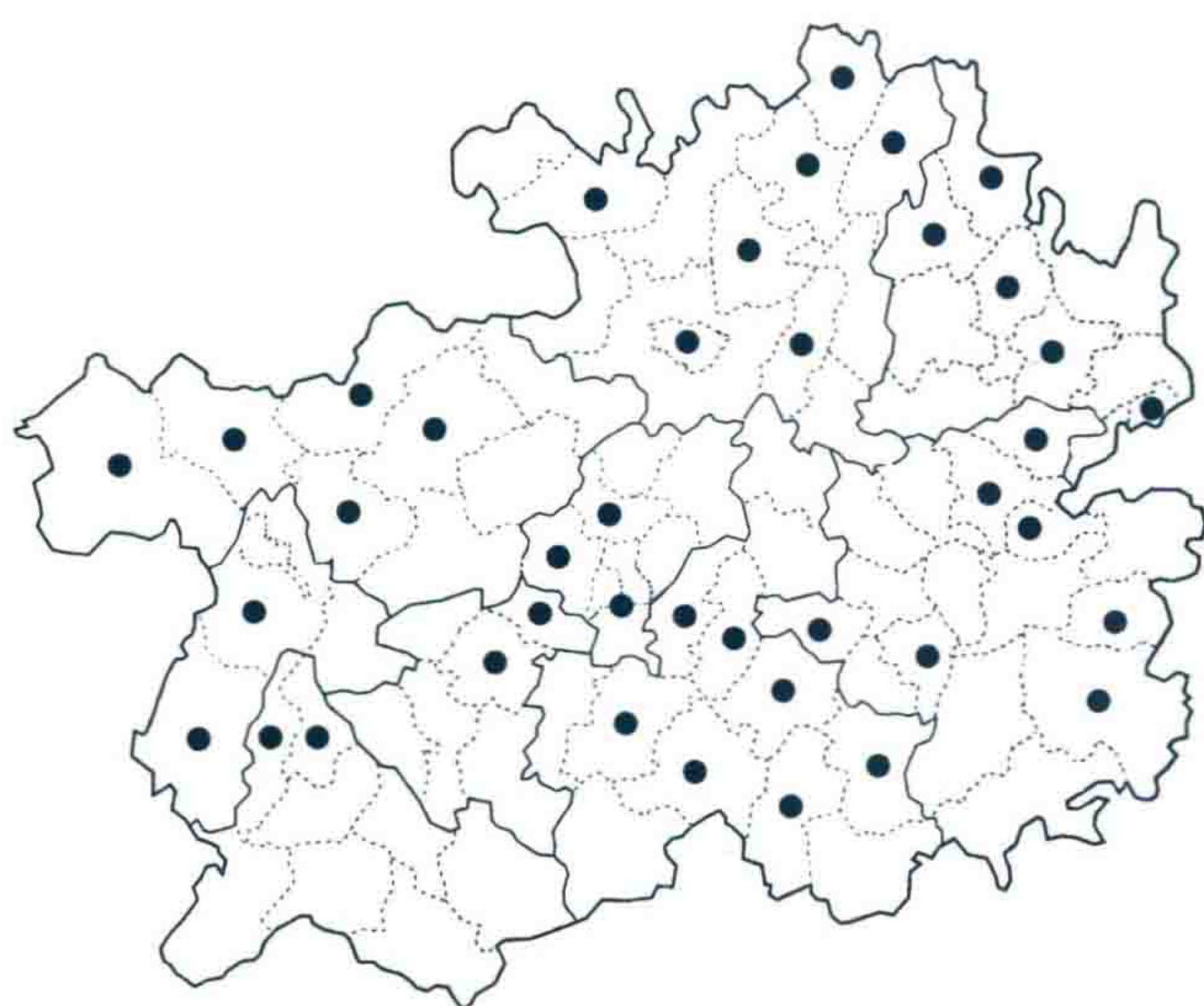
- 1 叶柄禾秆色；叶片下部羽片渐缩小，基部的常呈耳状 Stipe stramineous; lower pinnae of lamina gradually reduced and basal ones often auriculate ..... 2
- 1 叶柄栗褐色至深紫色，少有禾秆色；叶片下部羽片不缩小或略缩小 Stipe castaneous to dark purple, rarely stramineous; lower pinnae of lamina not reduced or slightly shortened ..... 3
- 2(1) 根状茎细长横走 Rhizome slender, long creeping ..... 1. 长根金星蕨 *P. beddomei*
- 2 根状茎粗，横卧或斜升 Rhizome stout, decumbent or ascending ..... 7. 中日金星蕨 *P. nipponica*
- 3(1) 羽片宽达 2 cm 或过之，下面有长针毛；囊群盖上具长、短两种针毛 Pinnae to 2 cm wide or more, with long needlelike hairs abaxially; both long and short needlelike hairs present on indusia ..... 8. 长毛金星蕨 *P. petelotii*
- 3 羽片宽不及 2 cm，下面疏被短针毛或几光滑；囊群盖光滑或仅具短针毛 Pinnae less than 2 cm wide, sparsely with short needlelike hair or nearly glabrous abaxially; indusia glabrous or only with short needlelike hairs ..... 4
- 4(3) 根状茎短，叶簇生；叶柄基部密生白色或黄棕色长毛 Rhizome short, fronds tufted; densely hairy at stipe base, hairs long, white or yellowish brown ..... 5
- 4 根状茎长而横走，叶远生或近生；叶柄基部光滑或疏生短针毛 Rhizome long-creeping, fronds distant or close; stipe base glabrous or sparsely with short needlelike hairs ..... 6
- 5(4) 叶柄下部深棕色；叶下面具腺体 Proximal part of stipe dark brown; laminae with glands abaxially ..... 4. 毛脚金星蕨 *P. hirsutipes*
- 5 叶柄下部黑色；叶下面无腺体 Proximal part of stipe black; laminae without glands abaxially ..... 6. 黑叶金星蕨 *P. nigrescens*
- 6(4) 叶柄禾秆色；孢子囊群近侧脉顶端生，即靠近叶缘 Stipe stramineous; sori near tip of lateral veins, i. e., near lamina margin ..... 3. 金星蕨 *P. glanduligera*
- 6 叶柄栗褐色至深紫色，稀禾秆色；孢子囊群生侧脉中部 Stipe castaneous to dark purple, rarely stramineous; sori at middle of lateral veins ..... 7
- 7(6) 基部羽片的中部宽不及 1.5 cm；裂片上的侧脉约 5 对 Middle part of basal pinnae less than 1.5 cm wide;

- lateral veins in segment about 5 pairs ..... 2. 中华金星蕨 *P. chinensis*  
7 基部羽片的中部宽过 1.5 cm; 裂片上的侧脉 8 ~ 10 对 Middle part of basal pinnae over 1.5 cm wide;  
lateral veins in segment 8—10 pairs ..... 5. 光脚金星蕨 *P. japonica*

### 1. 长根金星蕨

*Parathelypteris beddomei* (Baker) Ching, Acta Phytotax. Sin. 8: 302. 1963.

*Nephrodium beddomei* Baker.



植株高 40 ~ 76 cm。根状茎细长横走。叶柄 4 ~ 25 cm, 淡禾秆色, 基部疏被卵形至卵状披针形鳞片, 向上光滑; 叶片披针形, 26 ~ 68 cm × 7 ~ 14 cm, 向基部渐缩小, 2 回羽裂, 先端渐尖并羽裂; 羽片 25 ~ 32 对, 互生, 无柄, 几平展, 下部数对渐缩小成耳状, 中部羽片最大, 狭披针形, 4 ~ 8 cm × 0.8 ~ 1.6 cm, 羽状深裂; 裂片 10 ~ 20 对, 长圆形, 全缘, 先端钝或圆。叶草质, 干后淡绿色, 有时下面有橙色球状腺体。叶脉分离, 羽状, 侧脉单一, 两面疏被淡灰色针毛。孢子囊群小, 生于小脉近末端处, 紧靠叶边; 囊群盖小, 圆肾形。

生路边、疏林下、林缘、湿地; 海拔 500 ~ 2500 m; 分布于云南、四川、台湾、浙江; 印度、印度尼西亚、马来西亚、菲律宾、日本。

长根金星蕨在贵州为一普通种, 过去被误定为中日金星蕨, 但后者根状茎较粗, 平卧或斜升, 本省少见。相反, 前者在省内大部分地区都能见到, 尤其在湿地可形成大片群落。

Plants 40—76 cm tall. Rhizomes slender, long creeping. Stipes 4—25 cm, light stramineous, bases sparsely with ovate to ovate-lanceolate scales, upward glabrous; laminae lanceolate, 26—68 × 7—14 cm, gradually tapering to bases, pinnate-pinnatifid, acuminate and pinnatifid at apices; pinnae 25—32 pairs, alternate, sessile, nearly spreading, proximal several pairs gradually shortened into small auricles, middle pinnae largest, narrowly lanceolate, 4—8 × 0.8—1.6 cm, pinnatipartite; segments 10—20 pairs, oblong, entire, obtuse or rounded at apices. Fronds herbaceous, light green when dry, sometimes with orange spherical glands abaxially. Veins free, pinnate, lateral veins single, sparsely with grayish needlelike hairs on both sides. Sori small, attached near ends of veinlets, close to margins; indusia small, orbicular-reniform.

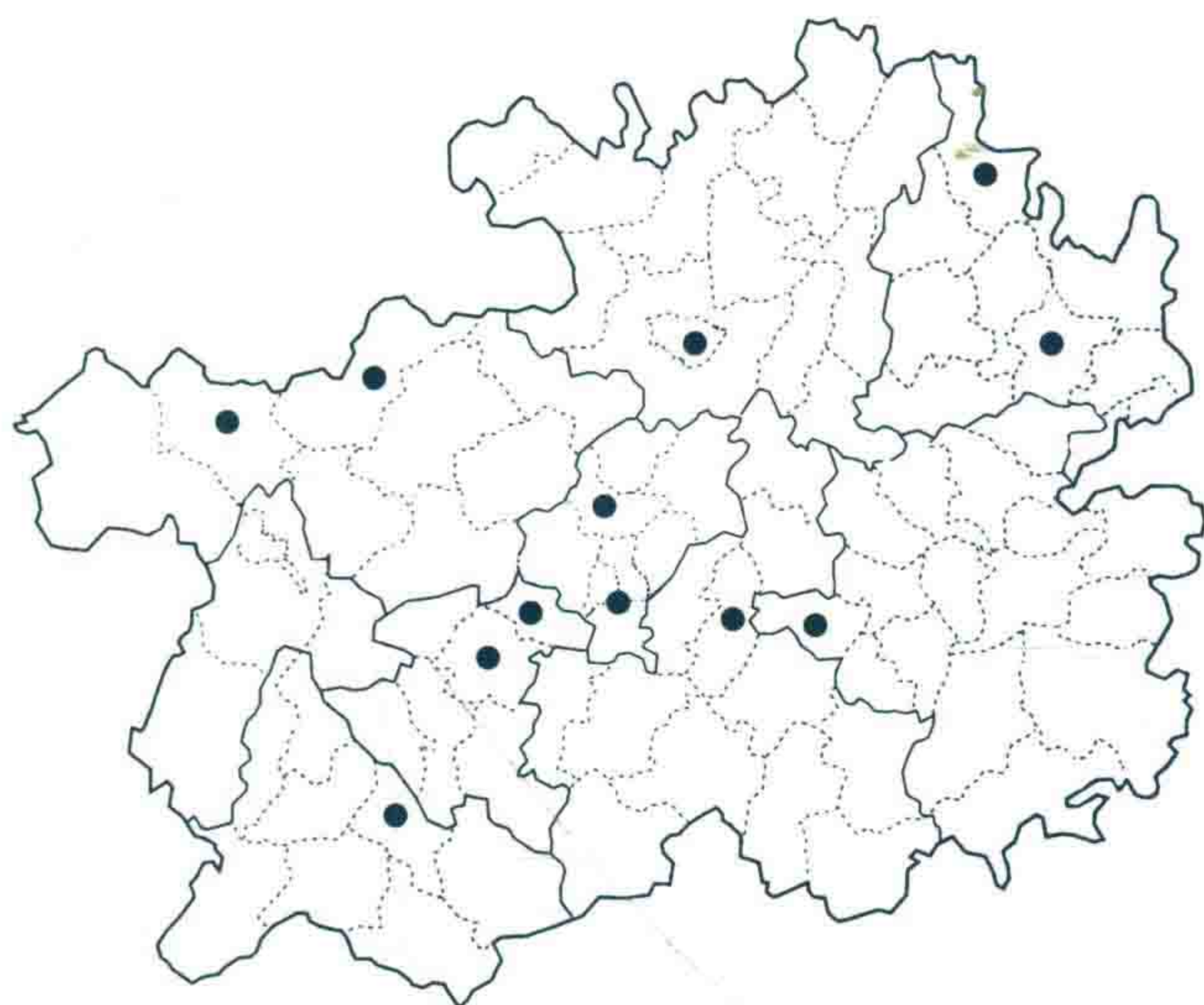
Roadsides, open forests, forest margin, and wetlands; 500—2500 m; Yunnan, Sichuan, Taiwan, Zhejiang; India, Indonesia, Malaysia, Philippines, Japan.

*Parathelypteris beddomei*, once misidentified as *P. nipponica*, is actually a common species in Guizhou. However, the latter has rather stout, decumbent or ascending rhizome, and is rarely met in the province. Oppositely, the former can be found in most of the province and can form large pack of community, especially in wetlands.

## 2. 中华金星蕨

*Parathelypteris chinensis* (Ching) Ching, Acta Phytotax. Sin. 8: 303. 1963.

*Thelypteris chinensis* Ching



植株高达 70 cm。根状茎平卧至横走。叶近生至远生；叶柄长 30 ~ 35 cm，基部几近黑色，疏被披针形鳞片，向上栗褐色或红棕色，光滑，有光泽；叶片长圆披针形，达 36 cm × 12 ~ 14 cm，向基部不变狭，2 回羽裂，先端渐尖并羽裂；羽片约 18 对，互生，略斜展，无柄，下部羽片不缩短；中部羽片狭披针形，7 ~ 9 cm × 1.3 ~ 1.5 cm，基部截形，先端渐尖，羽状深裂；裂片长圆形，全缘，先端圆。叶草质，两面光滑，但下面有橙红色球状腺体。叶脉明显，侧脉单一，4 ~ 6 对。孢子囊群圆形，背生于侧脉中部；囊群盖大，圆肾形，棕色，膜质，光滑。

生林缘、山坡、湿地；海拔 1000 ~ 1900 m；分布于云南、四川、湖南、广西、广东、江西、福建、浙江、安徽。

Plants up to 70 cm tall. Rhizomes decumbent to creeping. Fronds approximate or remote; stipes 30—35 cm, bases nearly black, with sparse lanceolate scales, distally castaneous or reddish brown, glabrous, polished; laminae oblong-lanceolate, to 36 × 12—14 cm, not tapering to bases, pinnate-pinnatifid, apices acuminate and pinnatifid; pinnae ca. 18 pairs, alternate, slightly oblique, sessile, proximal pair not shortened; middle ones narrowly lanceolate, 7—9 × 1.3—1.5 cm, bases truncate, acuminate at apices, pinnatipartite; segments oblong, entire along margins, rounded at apices. Fronds herbaceous, glabrous on both surfaces except for reddish orange spherical glands abaxially. Veins evident, lateral veins single, 4—6 pairs. Sori orbicular, dorsifixed at middle of lateral veins; indusia

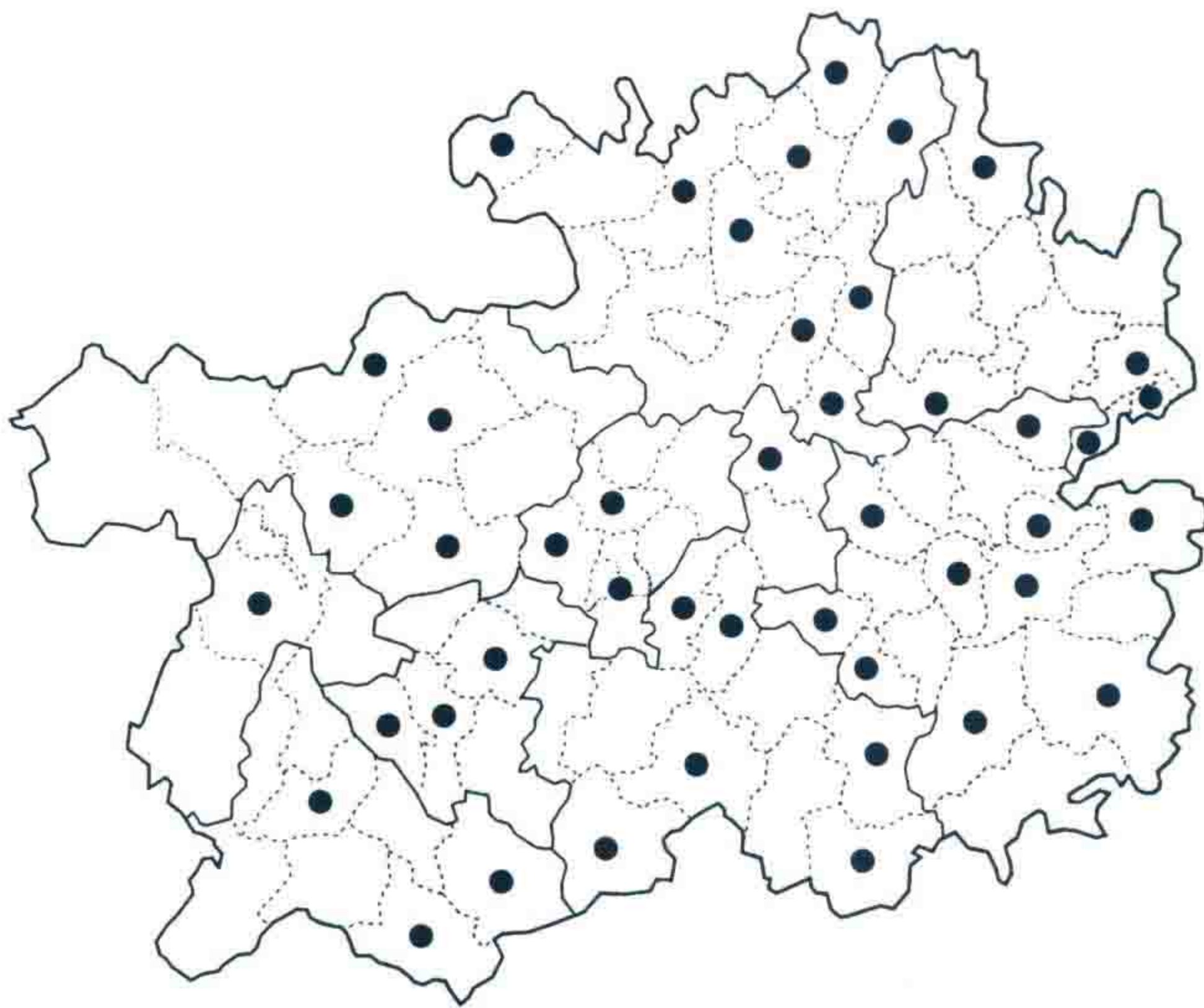
large, orbicular-reniform, brown, membranous, glabrous.

Forest margin, hillside, and wetland; 1000—1900 m; Yunnan, Sichuan, Hunan, Guangxi, Guangdong, Jiangxi, Fujian, Zhejiang, Anhui.

### 3. 金星蕨

*Parathelypteris glanduligera* (Kunze) Ching, Acta Phytotax. Sin. 8: 303. 1963.

*Aspidium glanduligerum* Kunze; *Christella glanduligera* (Kunze) H. Lévillé.



植株高 21 ~ 70 cm。根状茎长而横走，光滑，先端疏被披针形鳞片。叶近生或远生；叶柄 8 ~ 37 cm，禾秆色，基部被少数鳞片，向上光滑；叶片长圆形或长圆披针形，13 ~ 43 cm × 6 ~ 14 cm，向基部不变狭，2 回羽裂，先端渐尖并羽裂；羽片 9 ~ 18 对，平展，互生，无柄，披针形，3.5 ~ 7.5 cm × 1 ~ 2 cm，羽裂几达羽轴；裂片互生，邻接，长圆形，全缘，或少有在较大植株上边缘具圆齿，先端圆钝。叶草质，干后绿色或草绿色，下面有短柔毛和橙黄色球状腺体。叶脉明显，侧脉单一。孢子囊群圆形，背生于侧脉近先端处，靠近叶缘；囊群盖圆肾形，膜质，疏被灰白色刚毛。

生林缘、路边、溪边；海拔 150 ~ 1600 m；分布于云南、四川、重庆、湖南、湖北、广西、广东、海南、台湾、福建、浙江、江苏、安徽、江西；印度、越南、日本、韩国。

本种较大植株的裂片边缘具圆齿，所以对有齿金星蕨未作处理，留待进一步研究。

Plants 21—70 cm tall. Rhizomes long creeping, glabrous, apices with sparse lanceolate scales. Fronds approximate or remote; stipes 8—37 cm, stramineous, with a few scales at base, upward glabrous; laminae oblong or oblong-lanceolate, 13—43 × 6—14 cm, not tapering to bases, pinnate-pinnatifid, acuminate and pinnatifid at apices; pinnae 9—18 pairs, spreading, alternate, sessile, lanceolate, 3.5—7.5 × 1—2 cm, pinnatifid nearly to costae; segments alternate, contiguous, oblong, entire or rarely crenate along margins in larger plants, rounded-obtuse at apices. Fronds herbaceous, green or grass-green when dry, shortly pubescent and with orange-yellow

spherical glands abaxially. Veins evident, lateral veins single. Sori orbicular, dorsifixed near ends of lateral veins, close to margins; indusia orbicular-reniform, membranous, with sparse grayish white setae.

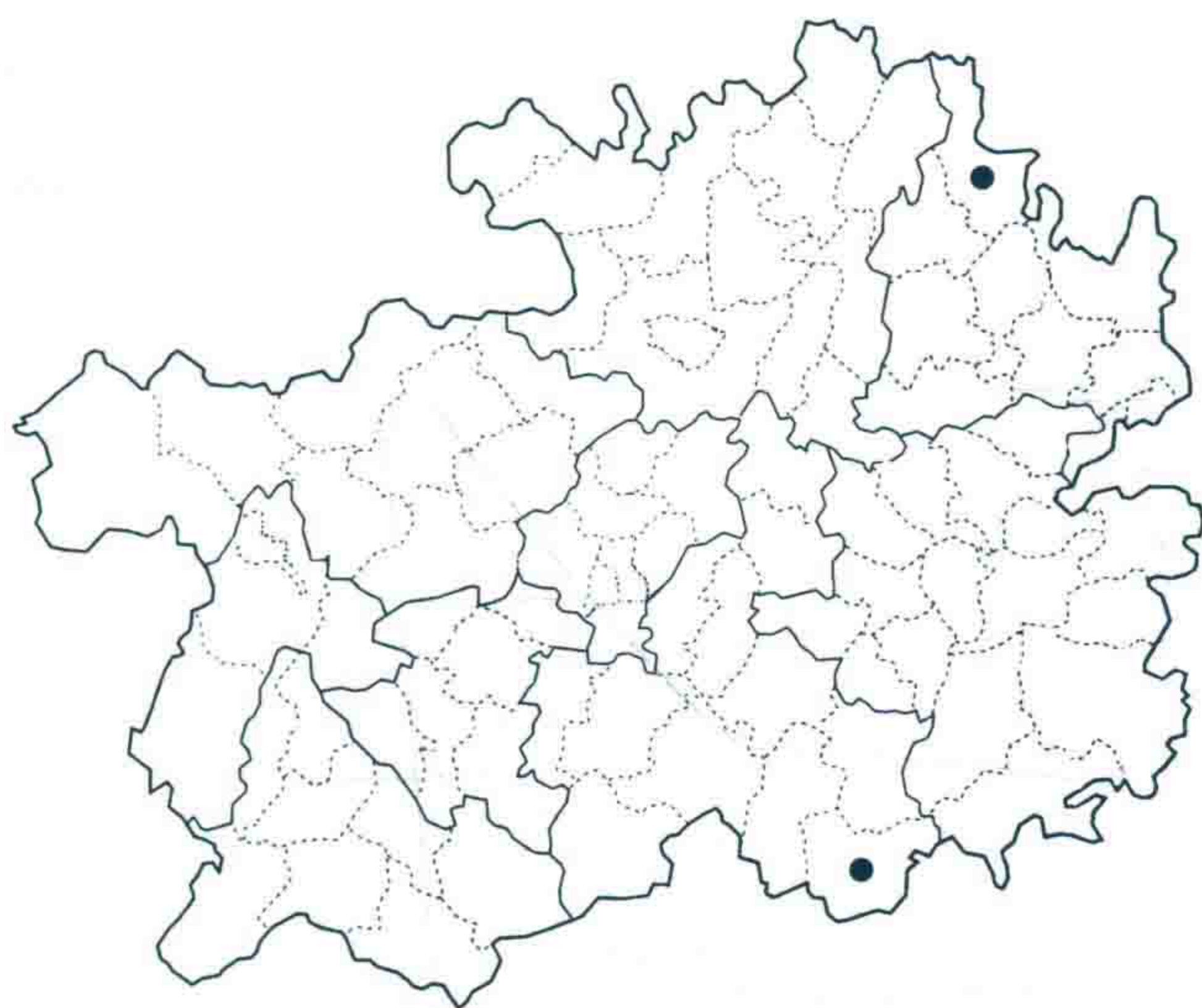
By forest margin, roadsides, and streams; 150—1600 m; Yunnan, Sichuan, Chongqing, Hunan, Hubei, Guangxi, Guangdong, Hainan, Taiwan, Fujian, Zhejiang, Jiangsu, Anhui, Jiangxi; India, Vietnam, Japan, S Korea.

For larger plants of the species, segments are sometimes crenate along margins. *Parathelypteris surrutula* is excluded here, pending for further research.

#### 4. 毛脚金星蕨

***Parathelypteris hirsutipes*** (C. B. Clarke) Ching, Acta Phytotax. Sin. 8: 303. 1963.

*Nephrodium gracilescens* (Blume) Hooker var. *hirsutipes* C. B. Clarke.



植株高 40 ~ 56 cm。根状茎短而斜升。叶簇生；叶柄 10 ~ 20( ~ 30) cm，下部深棕色，基部密生灰棕色长毛和少数深棕色卵状披针形鳞片（鳞片被毛），上部深禾秆色，被柔毛；叶片长圆形，达 40 cm × 12 ~ 15 cm，基部不缩短或略缩短，2 回羽裂；下部 1 ~ 3 对羽片多少反折；中部羽片平展，7 ~ 8 cm × 1.4 ~ 1.6 cm，羽裂几达羽轴；裂片长圆形，边缘全缘，先端圆，有时具矮牙齿。叶草质，干后褐绿色。叶脉两面可见，侧脉单一，伸达裂片边缘，两面疏被柔毛，下面略具橙色腺体。孢子囊群圆形，背生侧脉中部；囊群盖圆肾形，略具毛，宿存。

生河谷林下；海拔 500 m；分布于云南、广西、海南；印度、缅甸、越南。

Plants 40—56 cm tall. Rhizomes short, ascending. Fronds clustered; stipes 10—20(—30) cm, proximal part dark brown, bases with dense grayish brown long hairs and few dark brown ovate-lanceolate scales (scales hairy), distally dark stramineous and pubescent; laminae oblong, up to 40 × 12—15 cm, bases not reduced or slightly so, pinnate-pinnatifid; proximal 1—3 pairs of pinnae somewhat reflexed; middle pinnae spreading, 7—8 × 1.4—1.6 cm, pinnatifid nearly to costae; segments oblong, margins entire, rounded and sometimes shortly dentated at apices. Fronds herbaceous, brownish green when dry. Veins visible on both sides, lateral veins single, reaching segment margin, sparsely pubescent on both sides and slightly with orange glands abaxially. Sori orbicular, dorsifixed at middle of lateral veins; indusia orbicular-reniform, sparsely hairy, persistent.

Under forests in river valley; 500 m; Yunnan, Guangxi, Hainan; India, Myanmar, Vietnam.

#### 5. 光脚金星蕨

***Parathelypteris japonica*** (Baker) Ching, Acta Phytotax. Sin. 8: 304. 1963.

植株高达 73 cm。根状茎短，横卧或斜升。叶近生或几簇生；叶柄 24 ~ 46 cm，栗褐色，基部疏被鳞片，鳞片褐色，披针形，向上光滑；叶片长圆形，25 ~ 45 cm × 15 ~ 20 cm，基部不变狭，2 回羽裂，先端渐尖并羽裂；羽片 15 ~ 20 对，平展，无柄；中部羽片披针形，8 ~ 10 cm × 1.3 ~ 1.6 cm，基部近截形，对称，羽裂，先端渐尖；裂片长圆形，有时略呈镰状，全缘，先端圆或钝。叶草质，干后暗绿色，下面有