

- 112(111) 叶边上无上述现象。
- 113(114) 小羽片有粗大锐锯齿,基部为阔圆形…………… 56. 尖牙观音座莲 *A. acuta* Ching
- 114(113) 小羽片仅有矮小的钝锯齿。
- 115(116) 叶为薄草质,边缘有小尖锯齿,子囊羣近圆形,通常由 6 个孢子囊组成…………… 57. 小果观音座莲 *A. tenera* Ching
- 116(115) 叶为纸质,边缘有小的钝锯齿,子囊羣线形,通常由 12 个以上的孢子囊组成。
- 117(122) 叶干后为绿色,叶柄及羽轴为淡禾秆色。
- 118(121) 小羽片的顶部逐渐变狭,成为长渐尖头或尾尖,通直。
- 119(120) 小羽片斜向上方,尾尖…………… 58. 长头观音座莲 *A. attenuata* Ching
- 120(119) 小羽片几水平开展,长渐尖头…………… 59. 峨眉观音座莲 *A. omeiensis* Ching
- 121(118) 小羽片向顶部急收缩成短渐尖头,向上弯弓…………… 60. 福建观音座莲 *A. fokiensis* Hieron.
- 122(117) 叶干后为黑褐色,叶柄和羽轴也为黑褐色。
- 123(124) 羽轴顶部两侧有阔翅下延,经过 5—6 对小羽片,基部为阔圆截形…………… 61. 褐色观音座莲 *A. badia* Ching
- 124(123) 羽轴顶部两侧有狭翅,只限于顶端一对小羽片,基部为圆形…………… 62. 大围山观音座莲 *A. taweishanensis* Ching

1. 一回羽状观音座莲

Angiopteris pinnata Ching, sp. nov.

植株高达 1.2 米。根状茎为小块状,直立或斜升,仅由二、三片肉质的托叶状附属物组成,每株下面簇生有少数圆柱状粗根。叶柄长 53—65 厘米,基部宽约 6 毫米,向上变细,有纵沟,光滑,无毛,干后呈浅灰绿色,基部带粉红色,在近中部有膨大的结节,干时变黑色;叶片三角状卵形,长 35—30 厘米,宽约 32 厘米;羽片 2—6 对,互生,有时基部一对对生,相距 5—6 厘米,开展或斜升,具短柄,中部以下的较短,长 15—20 厘米,上部的较长,长 23—36 厘米,宽 3.5—5.3 厘米,阔披针形,向顶端渐尖,或尾状渐尖,基部略不等,上侧几为楔形,下侧为圆形,顶生的羽片分离,具长达 2.5—4 厘米的小羽柄,和下面的羽片同形,有时在基部不规则分裂成少数长圆形的小羽片,叶缘常呈浅波形,全部具有密的锐锯齿。叶脉在两面均明显,距离 0.8—1.2 毫米,一般为分叉,近水平开展,顶部稍向上弯而达于锯齿的顶端;倒行假脉短,不明显。叶为草质或坚纸质,上面绿色,下面淡绿色,两面无毛。叶轴光滑,上面具纵沟,向顶端无翅。孢子囊羣长圆形,长 1—1.5 毫米,常单独或成羣间断地沿叶缘散生,彼此不密接,距叶缘约 1.4 毫米,由 7—16 个孢子囊组成。

特产于云南南部(西双版纳)。

本种为我国唯一的一回羽状种,颇为独特。

pinnatis, pinnulis ambitu nec ovato-deltoides sed late lanceolatis, segmentis ultimis margine dentibus obtusiusculis instructis et rachi rachillisque pilis albidis fere nullis vel sparsissime obtectis.

Yunnan, Teh-ching Hsien, Tze-chung, on the Tibetan border, leg. K. M. Feng No. 5668, in wooded ravine, alt. 2300—2600 m, VI, 20, 1940.

9. **Botrychium parvum** Ching, sp. nov.

Species gregis *B. lanuginosi* Wall. multo minor, tota planta ad 22 cm alta, lamina 6—9 cm longa, 5—6 cm basi lata, basi tripinnatifida, pinnis infimis ad 5 cm longis, sequentibus minoribus, late lanceolatis, segmentis ultimis subintegris aut breviter pauciserrulatis.

Kweichow, without locality, leg. S. W. Tang No. 41679.

10. **Botrychium officinale** Ching, sp. nov.

Species gregis *B. ternati* Thunb. a quo habitu magis robustiore, textura folii duriore, segmentis ultimis latioribus et marginibus subintegris vel leviter crenato-undulatis recedit.

Szechuan austr.-orient., Nan-chuan Hsien, Ching-fu Shan, leg. C. Pei No. 7299, XI, 1939; ibidem, leg. W. P. Fang No. 938, V, 25, 1928, alt. 1200—1400 m; ibidem, leg. Shiung Chih Hwa No. 93732 (typus), under bamboo grove, alt. 2100 m, IX, 30, 1957.

13. **Botrychium sutchuanense** Ching, sp. nov.

Botrychium obliquum Christ in Bull. Soc. Bot. France LII, Mem. 1 (1905) 75, non Muhl. 1810—*Botrychium ternatum* Christ, l.c. 52, non Sw. 1801.

Species gregis *B. robusti* Underw. differt statura multo graciliore et marginibus segmentorum dentibus majoribus sparsioribus praeditis.

Szechuan Orient., Tchen-keou-tin, leg. R. P. Farges No. 144 (typus); ibidem, R. P. Farges, s.n.

15. **Botrychium longipedunculatum** Ching, sp. nov.

Species gregis *B. multifidi* (Gmel.) Rupr. differt statura minore, petiolo frondis fertilis quam is folii sterilis triplo-longioribus, lamina minore, segmentis ultimis margine solum obscure crenatis.

Yunnan, Environs de Yunnan-sen, herbages de la haute montagne, leg. F. Ducloux No. 14, VIII, 9, 1905.

Angiopteris Hoffm.

1. **Angiopteris pinnata** Ching, sp. nov.

Rhizomate parvo, globoso, 2—5 cm diametro; fronde solitari, 90—120 cm alta, erecta, stipite 50—65 cm longo, ad basin ca. 6 mm crasso, sursum tenuiore, viridi-stramineo vel saepe parte inferiore rubido-stramineo, glabra, ad medium geniculo 1 cm longo tumide nodoso statu sicco fusco-brunneo praedito; lamina deltoideo-ovata, 35—65 cm longa et lata, simpliciter pinnata; pinnis (praeter similem terminalem) 2-6-jugis, alternis, saepe juga basali oppositis, 5—6 cm inter se remotis, obliquis, inferioribus 15—20 cm longis, superioribus majoribus, usque ad 23—36 cm longis, 3.5—5.5 cm latis, pinna terminali etiam majore et basi saepe lobis 2-jugis, parvis instructis, late lanceolatis, apicem versus acuminatis vel caudato-acuminatis, ad basin paulo angustatis, inaequaliter rotundo-cuneatis,

petiolulatis (petiolulo 2—3 mm longo, tumido), marginibus grosse et remote serratis, dentibus sat magnis, deltoideis, acutis, subobliquis, ad apicem majoribus; venulis subrecto-patentibus, furcatis, laxis, ad partem superiorem incurvatis et in dentes ingredientibus, apice non incrassatis, utrinque distinctis, striis recurrentibus obsoletis, brevissimis; textura folii firmiter herbacea, glabra, in sicco virescenti; soris oblongis, a se magis distantibus, saepe lineas interruptas aut irregulares in parte inferiore pinnularum secus marginem occupantibus, ca. 1.4—2 mm e margine remotis, sporangiis 7—16.

Yunnan austr., Se-song-ban-nan, Yunnan Complex Expedition No. 5900.

3. **Angiopteris garbongensis** Ching, sp. nov.

Planta ultra 1 m vel ad 2 m alta, stipite, rachide ca. 1 cm crassa, brunnescente straminea, glabra; lamina ampla, bipinnata; pinnis oblongis, 47—50 cm longis, 18 cm medio latis, basin versus parum angustatis, ca. 12 cm latis, petiolo 2.8 cm longo supra geniculum 3 mm crasso, glabro, canescenti-stramineo suffultis; pinnulis ca. 17-jugis, 2 cm inter se remotis, breviter petiolulatis, inferioribus patentibus, alternis, 5—6 cm longis, sequentibus majoribus, parum obliquis et oppositis, mediis 9 cm longis, supremis ad 10—11 cm longis, ca. 2—2.3 cm latis, lanceolatis, ad apicem in cuspidem 1.5 cm longam 4 mm basi latam, serratam contractis, basi subinaequaliter rotundatis, antice truncatis, postice rotundatis, marginibus ubique crenato-dentatis; venulis subpatentibus, furcatis aut rarius simplicibus, utrinque prominulis, ad marginem parum curvatis, striis recurrentibus brevibus, pellucidis, non ultra soros progredientibus; textura firmiter herbacea, in sicco utraque virescenti, supra glabra, infra ad costas nonnullis venulas paleis rufis parvis sparse conspersa; soris linearibus, 1.5—2 mm longis, contiguis, 1—1.2 mm e margine remotis, sporangiis plerumque 16—20.

Yunnan orient., Si-chou Hsien, Gar-bon, alt. 1000 m, leg. C. W. Wang No. 86041. XII, 27, 1939, under dense woods.

4. **Angiopteris nuda** Ching, sp. nov.

Planta ad 2 m alta, stipite 2 cm diametro, fusco-brunneo, glabro; lamina ampla, bipinnata; pinnis oblongis, ca. 50 cm longis, 20 cm latis vel supra medium latoribus, petiolo 1.5—3 cm longo, supra geniculum nigrescentem 5—6 mm crasso, brunnescente stramineo, glabro suffultis; pinnulis ultra 12-jugis, 2.5—3 cm inter se remotis, breviter (1 mm) petiolulatis, lanceolatis, basalibus abbreviatis, 4—7 cm longis, 1.9—2.2 cm latis, sequentibus sensim majoribus, supremis 15—16 cm longis, 2.7—3.2 cm latis, basi subaequalibus, antice obliquis, postice rotundatis, ad apicem versus in cuspidem 1—1.4 cm longam, 4 mm basi latam contractis, marginibus ubique serratis, dentibus deltoideis, acutis, obliquis; venulis subrecte patentibus, plerisque furcatis, non elevatis, sed utrinque notatis, mesophyllo concoloribus, apice leviter curvatis vel subrectis et in dentes intrantibus; striis recurrentibus luce penetrante distinctis, ultra soros progredientibus; textura folii firmiter chartacea, in sicco supra obscure viridi, infra virescente, glaberrima, parte apicale rachillae exaltata; soris approximatis non contiguis, linearibus, ca. 2 mm longis, sporangiis 16—20 compositis, 1 mm a margine remotis, e basi usque ad cuspidem extensis.

Yunnan austr., Yunnan Complex Expedition Nos. 3972, 7933 (typus).

5. **Angiopteris consimilis** Ching, sp. nov.