

稍斜向上,相距 2.5 厘米,基部小羽片最短,长 5—7 厘米,短渐尖头,中部的长 10 厘米,顶部的长 12 厘米,顶端的一枚长 14 厘米,宽 1.5—1.7 厘米,披针形,渐尖头,基部近圆形,几相等,边缘有钝锯齿。叶脉几开展,二叉,少有单一,两面明显,纤细,向顶部弯弓,倒行假脉明显,长几达中肋。叶为草质,干后绿色,下面几无鳞片。孢子囊群长圆形,有孢子囊 12—14 个,彼此不密接,离平伏叶边约 1 毫米。

台湾特产。

27. 宽边观音座莲

Angiopteris late-marginata Ching, sp. nov.

植株高大。叶柄粗如拇指,干后淡棕色,光滑;叶宽广,二回羽状;羽片互生,长圆形,长达 75 厘米,中部宽达 16—22 厘米,羽柄长 4—5.5 厘米,向羽轴先端两侧有狭翅,宽约 0.5 毫米;小羽片达 24 对,相距约 2.5 厘米,中部以下的为互生,上部的几为对生,都有短柄,基部的略短,长 6 厘米,并略下向,中部的长达 11 厘米,宽 1.8—2.2 厘米,向上稍短,顶部的长仅 8 厘米,开展,长圆形,基部广楔形,先端为尾头,长约 8—14 毫米,边缘有钝锯齿,高约 0.5 毫米,三角形,斜向上。叶脉开展,单一或分叉,两面都明显,倒行假脉短而不明显,不超过孢子囊群。叶为厚纸质,绿色,两面光滑,仅中肋和细脉下面有棕色线形的鳞片疏生。孢子囊群线形,长 2—2.5 毫米,孢子囊 20—22 个,距平伏不育的边缘 1.5 毫米处着生,先端不育。

产于云南南部(西双版纳)。

28. 楔形观音座莲

Angiopteris subcuneata Ching, sp. nov.

叶柄未见;羽片长约 70 厘米,宽达 24 厘米,长圆形,羽柄长达 9 厘米,向羽轴先端两侧有狭翅,奇数羽状;小羽片 15 对,相距约 4 厘米,近对生,柄长达 4 毫米;基部的小羽片长 12 厘米,平展,中部的长达 15 厘米,宽达 2.5 厘米,上部的稍短,斜向上,披针形至长圆状披针形,基部广楔形,先端长渐尖,边缘有浅锯齿,高约 5 毫米,三角形,斜向上。叶脉开展,单一或分叉,下面明显,上面可见,倒行假脉短而不明显,不超过孢子囊群。叶为草质,干后上面黑绿色,光滑,下面草绿色,在中轴及细脉上有狭线形的棕色鳞片疏生。孢子囊群线形,长 2 毫米,有孢子囊 16—20 个,距平伏边缘 1 毫米处着生,先端不育。

产于云南东南部(南嶠)。海拔 1460 米,生沟中。

29. 厚边观音座莲

Angiopteris cartilaginea Ching, sp. nov.

叶柄粗如拇指,干后淡棕色,光滑;叶二回羽状;羽片长圆状倒披针形,长约62厘米,上部最宽处达21厘米,基部宽11厘米,羽柄长4—5厘米,向羽轴先端两侧略有狭翅,奇数羽状;小羽片达18对,相距约3厘米,近对生,几无柄,或有短柄,长不及1毫米,基部的小羽片长6.5厘米,平展,上部的长达16厘米,宽达2.5厘米,斜向上,长披针形至阔披针形,基部圆形,先端长渐尖,边缘几全缘,或有极浅锯齿,小羽片上面有一条灰白色的软骨质的叶边(由膨大的水囊形成)。叶脉开展,单一或分叉,下面明显,上面可见,达于软骨质边缘,倒行假脉不明显,长超过孢子囊群。叶为草质,干后上面黑绿色,下面淡绿色,两面光滑。孢子囊群线形,长1.5毫米,有孢子囊16—20个,距平伏边缘0.8—1毫米处着生,先端不育。

产于云南(河口市,三角卡)。海拔260米。

30. 林氏观音座莲

Angiopteris lingii Ching, sp. nov.

植株高大而强壮,高2—3米。叶柄下部粗约2.5厘米,干后为深褐棕色,几无鳞片。叶广大,三角形,二回羽状;羽片7—8对,近对生或几互生,相距8厘米,柄长4厘米,基部的最长,约55厘米,中部宽18厘米,向基部略变狭,羽轴顶部两侧有翅;小羽片25对或更多,互生,相距1.5厘米,基部的长5—6厘米,宽1.5厘米,渐尖头,多少向下,中部的长8厘米,宽1.3厘米,披针形,渐尖头,基部较宽,圆截形,几无柄,开展,边缘有阔而钝的矮锯齿,上面变成肥厚的灰白色软骨质,彼此接近,向顶部有小尖锯齿。叶脉近开展,二叉或单一,下面明显,上面可见,向顶部稍弯弓,脉端为纺锤形,倒行假脉自叶边下行向中肋的1/3处。叶为厚纸质,干后坚实,褐绿色,下面黄绿色,中肋有疏鳞片散生或几光滑。孢子囊群线形,长2.8毫米,彼此密接,由16—18个孢子囊组成,直达小羽片的顶部,外侧不育叶边宽约1毫米。

产于福建西南部(龙岩,天马山南坡)。生木栢林下。

31. 阔叶观音座莲

Angiopteris vasta Ching, sp. nov.

叶柄粗如指,干后灰绿色,光滑。叶二回羽状;羽片长圆形,向基稍变狭,长达62厘米,上部宽30厘米,羽柄长4—6厘米,奇数羽状;小羽片9对,下部相距3厘米,上部为4厘米,近对生,有短柄,长2毫米,基部的小羽片长8—10厘米,宽2.5厘米,长圆形,中部的长15厘米,宽2.5—3厘米,阔披针形,上部的长约21厘米,斜向上,阔披针形,基部近圆形,先端长渐尖,边缘几为全缘,有浅锯齿。叶脉开展,单一或分叉,上面不明显,下面明显,倒行假脉短而不明显,约与孢子囊群同长。叶为薄纸质,

medio latis, ad basin vix angustatis, petiolo potius gracili, supra geniculum nigrum vix 2 mm crasso, stramineo, rachillis ad apicem versus utroque latere anguste alatis; pinnulis in specimine 10-jugis, alternis, 2—2.7 inter se remotis, breviter petiolulatis, omnibus obliquis et similibus, infimis parum brevioribus exceptis, mediis 10 cm longis, 1.6 cm latis, lanceolatis, rectis vel ad apicem longe acuminatis saepe subfalcato-incurvatis, basi subaequaliter rotundocuneatis (antice obliquis, postice rotundatis), pinnula terminali aequali, marginibus obscure serrulatis vel subintegris, apice remote serratis; venulis patentibus, prominulis, e basi aut supra basin furcatis aut simplicibus, laxis, ad apicem leviter antrorsim curvatis; striis recurrentibus subtus distinctis, pellucidis, ultra soros usque ad medium semifacierum pinnularum progredientibus; textura folii herbacea, in sicco laete viridi, utraque glaberrima; soris oblongis, a se distantibus, 1 mm longis, sporangiis 6—8 compositis, 0.7 mm e margine plano remotis.

Taiwan, without locality, leg. *Tanaka*.

27. **Angiopteris late-marginata** Ching, sp. nov.

Planta ca. 2 m alta, stipite rachideque ad 2 cm diametro, pallide stramineis, glabris; lamina ampla, bipinnata; pinnis alternis, ad 75 cm longis, 16—22 cm medio latis, petiolo 4—5.5 cm longo, 4 mm crasso, stramineo vel brunnescente stramineo, glabro suffultis, rachillis non marginatis, ad apicem versus solum anguste alatis (ala ca. 0.5 mm lata); pinnulis ad 24-jugis, alternis, subpatentibus, 2.5 cm inter se remotis, omnibus similibus vel jugis inferioribus parum brevioribus, 10—11 cm longis, 1.8 cm latis, oblongo-lanceolatis, petiolulatis (petiolulo 1.5—2 mm longo), basi aequaliter rotundocuneatis, apicem versus in cuspidem 1 cm longam 2 mm latam contractis, marginibus dentato-serratis, dentibus deltoideis, obtusiusculis; venulis patentibus, furcatis vel simplicibus, intus marginem leviter antrorsim curvatis vel subrectis, apice incrassatis in dentes ingredientibus, utrinque prominulis, striis recurrentibus obsoletis, brevissimis, non ultra soros progredientibus; textura folii firmiter chartacea, in sicco pallide virescente, utrinque praeter costas venulasque inferne perparce squamuloso-palaceas glaberrima; soris linearibus, 2—2.5 mm longis, contiguis, sporangiis 20—22, 1.5 cm e margine plano remotis.

Yunnan austr., Se-song-ban-nan, Yunnan Complex Expedition No. 5405.

28. **Angiopteris subcuneata** Ching, sp. nov.

Planta ca. 2 m alta, stipite deest; lamina ampla, bipinnata; pinnis ad 70 cm longis, 24 cm medio latis, oblongis, basi vix angustatis, petiolo 9 cm longo, pallide stramineo, glabro, rachillis supra marginatis, ad apicem utroque latere anguste alatis; pinnulis 15-jugis, 4 cm inter se remotis, suboppositis, obliquis, inferioribus patentibus, vix abbreviatis, mediis 15 cm longis, 2.5 cm latis (supremis parum brevioribus), lanceolatis, caudato-acuminatis, basi cuneatis, longe petiolulatis (petiolulo 4 mm longo), margine plano minute et dense serrulatis; venulis subobliquis, densis, furcatis aut simplicibus, ad marginem antrorsim curvatis, supra notatis, infra prominulis, striis recurrentibus obsoletis, brevibus, usque ad soros progredientibus; textura folii herbacea, colore supra atro-viridi, infra pallidiore et ad costas paleis parvis, rufis filiformibus sparse oblecta; soris linearibus, 2 mm longis, contiguis, 1.5 mm e margine remotis, sporangiis 16—20.

Yunnan austr.-orient., Nan-chiao, alt. 1640 m, leg. *C. W. Wang* No. 75272, VI, 1936.

29. **Angiopteris cartilaginea** Ching, sp. nov.

Planta ad 2 m vel ultra alta, stipite ca. 2 cm crasso, nigrescente, glabro; lamina ampla, bipinnata; pinnis oblongo-oblancoatis, ad 62 cm longis, parte superiore latissima 21 cm latis, ad basin admodum angustatis, 11 cm latis, petiolo 4—5 cm longo et rachillis nigrescentibus, nudis, ad apicem versus angustissime marginatis praeditis, impari-pinnatis; pinnulis ca. 18-jugis, 3 cm inter se remotis, suboppositis, fere sessilibus, patentibus vel superioribus obliquis, supremis ad 16 cm longis, 2.5 cm latis, lanceolatis, acuminatis, rectis, basi subrotundatis, inferioribus brevioribus, basalibus 5—6 cm longis, apice leviter falcato-incurvatis, marginibus subintegris vel saepe crenulatis, cartilagineo-incrassatis; venulis patentibus, furcatis vel rarius simplicibus, infra distinctis, supra vix notatis, apice ad marginem 1.5 mm latam distincte clavatum incrassatis et lineas pallide albidis secus marginem formantibus, striis recurrentibus obsoletis, paulo ultra soros progredientibus; textura firmuliter herbacea, in sicco supra nigrescente, infra brunneo-viridi, utrinque glabra; soris approximatis, linearibus, ca. 2 mm longis, sporangiis 16—20 ca. 1 mm e margine plano incrassato remotis.

Yunnan austr.-orient., Hokou, Wang Jio-ka, alt. 260 m, leg. *Tsai Ke-hwa* No. 315.

30. **Angiopteris lingii** Ching, sp. nov.

Planta ad 2—2.5 m alta, stipite 2 cm crasso, fusco-brunneo, glabro; lamina deltoidea, 70 cm longa et lata, bipinnata; pinnis ca. 10-jugis, subalternis, subpatentibus, 8 cm inter se remotis, petiolo 4 cm longo, 3—3.5 mm crasso, rufo-brunneo, glabro suffultis, infimis ca. 30 cm longis, 10 cm latis, anguste oblongis, acuminatis; rachillis parte inferiore marginatis, superiore alatis; pinnulis 18-jugis, alternis, approximatis, 8 cm longis, 1.3 cm latis, lanceolatis, acuminatis, basi latiori rotundo-truncatis, breviter petiolulatis, marginibus crenato-dentatis, cartilagineo-incrassatis; venulis patentibus, supra basin aut ad medium furcatis, apice incrassatis in dentes recte intrantibus, quam mesophyllo obscurioribus, infra distinctis, supra non visis, striis recurrentibus paulo ultra soros progredientibus; textura folii firmiter chartacea, in sicco brunnescente viridi, utraque glabra; soris linearibus, contiguis, lineas continuas usque ad apicem occupantibus, ca. 0.6 mm e margine remotis, sporangiis 20—26.

Fukien austr.-occid., Lung-ng Hsien, Tien-ma Shan, leg. *Ling Yung* No. 4333, IX, 6, 1937.

31. **Angiopteris vasta** Ching, sp. nov.

Species statura *A. magnae* Ching valde affinis differt pinnulis subintegris, striis recurrentibus brevibus sat manifestis et venulis ad partem superiorem antrorsim curvatis.

Planta verisimiliter ad 2 m alta, stipite 2 cm crasso, pallide stramineo, glabro; lamina ampla, bipinnata; pinnis ad 62 cm longis, 30 cm latis, oblongis, basin versus angustatis, petiolo 4—6 cm longo, supra geniculum 2.5—3 mm crasso, pallide stramineo suffultis; pinnulis 9-jugis, inferioribus 3 cm, superioribus 4 cm inter se remotis, alternis, petiolulatis (petiolo 2 mm longo), inferioribus 8—10 cm longis, 2.5 cm latis, sequentibus majoribus, supremis 21 cm longis, 3.5—3.8 cm latis, late lanceolatis, acuminatis, basi fere aequaliter rotundatis, marginibus subintegris vel obscure serrulatis; venulis patentibus, tenuibus, furcatis, parte superiore antrorsim curvatis, infra prominulis, supra vix notatis, striis recurrentibus, brevissimis, fere distinctis, usque ad soros progredientibus; textura folii tenuiter chartacea, in sicco virescente, glabra, ad costas subtus paleis parvis rufis perspersis oblecta; soris oblongis, approximatis, lineas interruptas aut subirregulares secus marginem occupantibus, 1—1.4 mm e