

ICONES FILICUM SINICARUM

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AND

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FASCICLE I

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中國蕨類植物圖譜 第一卷

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中國蕨類植物圖譜
ICONES FILICUM SINICARUM

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PLATE 1.

HELMINTHOSTACHYS ZEYLANICA Hooker et Bauer.

OPHIOGLOSSACEAE

HELMINTHOSTACHYS ZEYLANICA Hooker et Bauer in Gen. Fil. t. 47 (1840); HK. in Gard. Ferns t. 28; Bedd. in Ferns S. Ind. t. 69; HK. in 2nd. Cent. Ferns t. 44; Christ in Farnkaut. Erde 365; Diels in Nat. Pfl. Fam. 1. 4. 472; C. Chr. Ind. 344 (1906); v. A. R. in Malay. Ferns 777 (1908).

Osmunda zeylanica Linn. Sp. Pl. 2: 1063 (1753).

Botrychium zeylanicum Sw. in Schrad. Jour. 1800, 2: 111 (1801).

Helminthostachys dulcis Klf. in Enum. 28, t. 1. fig. 1 (1822).

Botryopteris mexicana in Rel. Haenk. 1: 76, t. 12. fig. 1 (1825).

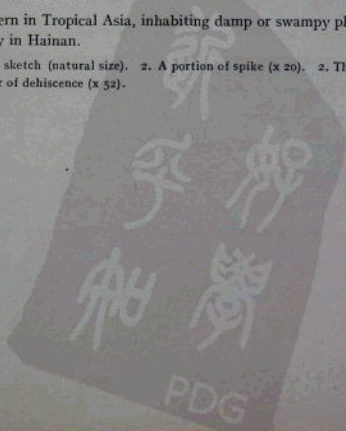
Helminthostachys mexicana Spring (1827).

Rhizome thick, fleshy, creeping, glabrous; *stipes* erect, 20-30 cm. long, greenish; *sterile segment* palmately pinnate, usually in 3 principal divisions, which are shortly petiolate, forked or pinnate; the ultimate segments lanceolate, 7-15 cm. long, 2-4 cm. broad, acuminate, the edge slightly toothed or entire, the base more or less cuneate; *veins* distinct, erect-patent, pinnate, usually forked; *texture* thin herbaceous; fertile spike solitary, arising from the base of *sterile segment*, 7-20 cm. long, 1 cm. broad, on a peduncle of about the same length.

Distribution: Australia, New Caledonia, India, Ceylon, Philippines, Queensland, Cochin-China, Formosa; China: Hainan.

A fairly common fern in Tropical Asia, inhabiting damp or swampy places; from China it was collected only in Hainan.

Plate 1. Fig. 1. Habit sketch (natural size). 2. A portion of spike (x 20). 2. The same with sporangia, showing the manner of dehiscence (x 52).



第一圖

錫蘭七指蕨 (瓶爾小草科)

HELMINTHOSTACHYS ZEYLANICA Hooker et Bauer

地下莖粗壯，肥厚，匍匐；無鱗片；葉柄直立，長二十至三十粉，幾綠色；無子囊羣葉掌狀普通三裂，具短柄，再分叉或成二次羽狀；最後裂片披針形，長七至十五粉，寬二至四粉，漸尖頭，略成齒牙狀或幾全緣，基部約成楔形；葉脈顯明直立開張，羽狀，通常分叉；葉體薄革質；孢子囊穗單生，自無子囊羣葉片之基部生出，長七至十二粉，寬一粉，柄長略同。

分布：澳洲，牛加里當尼亞，印度，錫蘭，菲律賓，臺灣；中國：海南。

本種為亞洲之熱帶習見之蕨，多生於卑濕之地，在中國僅海南島有之。

圖註：1. 植物全形（原大），2. 孢子囊群之一部（放大二十倍），3. 同前之具孢子囊者示其開裂之情形（放大五十二倍）。



PLATE 2.

ARCHANGIOPETRIS HENRYI Christ et Giesenhagen

MARATTIACEAE

ARCHANGIOPTERIS HENRYI Christ et Giesenhagen in Flora Regensb. 73 (1899); Christ in Bull. Boiss. 7: (1899); Diels in Nat. Pfl. Fam. 1.4.439; C. Chr. Ind. 62 (1906); Matthew in Journ. Linn. Soc. 39:342 (1911).

Rhizome not seen; *stipe* about 50 cm. long, thick as swan's quill, terete, obscurely green, not articulate to the rhizome, and like rachis and the petioles obscurely hairy with lanceolate scales; *frond* about 50 cm. long, 25 cm. broad, ovate, pinnae remote, alternate, 3-5 on each side, similar to the terminal one, oblong-ovate, acute, 25 cm. long, 6 cm. broad, entire, slightly crenulate above the middle, acutely serrate towards the apex, petiole 1.5-2 cm. long, blackish, inflated, conspicuously pilose; *texture* thin chartaceous, light green, stipes and petioles rather succulent; *veins* dense, about 80 in each side, almost horizontally patent, almost extending to the margin; *sori* medial, with a broad free space about $\frac{1}{2}$ cm. broad from the margin and the costa, linear, reddish-brown, about 80 on each side, to 2 cm. long, $1\frac{1}{2}$ mm. broad, exinduciate.

Distribution: Yunnan.

This peculiar fern holds a systematic place between *Danaea* of America and *Angiopteris* of Tropical Asia, from the latter, it differs in elongate moniliform medial sori consisting of numerous sporangia, inflated petiole and simply pinnate frond. One of the most noteworthy discoveries made by A. Henry. A very rare plant, as not been known elsewhere in this country.

Plate 2. Fig. 1. Habit sketch, (natural size). 2. A portion of pinna, showing venation and a portion of sorus (x 16). 3. A cross section of sorus, showing attachment of sporangia and paraphyses (x 46). 4. Two sporangia, a. front view; b. lateral view (x 52).

第二圖

亨利馬蹄蕨（觀音座蓮科）

ARCHANGIOPTERIS HENRYI Christ et Giesenhagen.

地下莖未詳，葉柄長約五十粉，粗如鵝頸管，圓筒形，暗綠色，與地下莖不成關節，覆以披針形之鱗片及毛，葉軸及小葉柄亦如之；葉體長五十粉，寬二十五粉，卵圓形，小葉相距略遠，互生，每個有三五枚，與頂端小葉形態相同，長卵圓形，尖頭，長至二十五粉，寬六粉，全緣，自中部以上略成小圓齒狀，小葉柄長一五至二粉，幾黑色，中空，被有顯明之長毛；葉體薄紙質，淡綠色，葉柄及小葉柄頗肥厚多汁；葉脈密生，每個約八十條，幾平行間張，幾達葉緣；子囊群居中部，與中肋或葉緣間或半粉寬之空隙，紅褐色；每個有八十個，長達二粉，寬達一厘半，無子囊羣蓋。

分布：雲南。

本種特殊蕨在系統學之地位在美洲之 *Danaea* 及亞洲熱帶之觀音座蓮 (*Angiopteris*) 之間；與後者差別在長念珠狀生于中間之子囊群，由多數孢子囊集合而成，與其肥大之葉柄及一次羽狀之葉體；此種為 A. Henry 氏最有價值之發見，在雲南省外尚未發見也。

圖註：1. 植物全形(原大) 2. 小葉之一部示葉脈及子囊群之一部(放大十六倍) 3. 子囊群之橫斷面示孢子囊之附着及隔片(放大十六倍) 4. 兩孢子囊，a, 前面，b, 側面(放大五十二倍)。



PLATE 3.

TRICHOMANES TERETICAULUM Ching.

HYMENOPHYLLACEAE

TRICHOMANES TERETICAULUM Ching* in Sinensia 1:2 (1929)

Rhizome naked or nearly so, very short, interwoven in dense wiry fibrous roots; *stipes* densely caespitose-fasciculate, wiry, rigid, terete, not winged or only narrowly winged towards apex, 4-6 cm. long or longer, naked; *fronds* glabrous, subdeltoid to linear; oblong, 4-6 cm. long, 2-2.5 cm. broad, 3-pinnatifid, rachis narrowly winged throughout; pinnae 3-5 on each side, remote, erect-patent, oblong-ovate, 1-2 cm. long, the upper ones gradually shortened; *texture* thin-herbaceous, translucent, dull green; *veins* distinct, 1 to each segment, spurious veinlets wanting; *sori* terminal on ultimate segments, mostly immersed, 2-3 to each pinna, inducium short funnel-shaped, slightly dilated, obscurely undulate at mouth not bifid, receptacle long-exserted, stout, dark brown.

Distribution: Kwangsi

Plate 3. Fig. 1. Habit sketch, (natural size). 2. A portion of pinna, showing venation and inducia (x 4).

*For the species by Ching, readers are referred to Sinensia 1: p. 1-13 (1929), the Metropolitan Museum of Natural History, Academia Sinica.

第三圖

圓柄石衣蕨 (膜蕨科)

TRICHOMANES TERETICAULUM Ching

地下莖短，裸露或幾裸露，密織於纖維狀之根維狀根中；葉柄簇生而密，纖維狀，硬直；圓形，無翼或僅頂部有狹翼，通常長四至六粉，或更長，無鱗片；葉體無毛，幾三角形至線長方形，長四至六粉，寬二至二·五粉，三次羽狀分裂，葉軸全體具狹翼，一次小葉每側三至五枚，其間相距頗遠，直而開張，長方卵圓形，長一至二粉，上部者則漸短；二次小葉二至四，全緣或二至三次羽狀分裂，而成線形全緣之小裂片，葉薄膜質，半透明，暗綠色；葉脈清晰，每小葉片僅一條，無假脈；孢子囊羣位於最後裂片之頂端通，常下陷，每一次小葉二至三枚，子囊羣蓋短，漏斗狀，微張開，其口部或不顯明波狀，不二裂，孢子囊羣之托長突出，甚粗大，暗棕色。

分布：廣西。

圖註 1. 植物體全形 (原大) 2. 一次小葉之一部，示葉脈與孢子囊蓋 (放大四倍)。



PLATE 4.

WOODSIA CINNAMOMEA Christ

POLYPODIACEAE

WOODSIA CINNAMOMEA Christ in Bull. Geogr. Bot. Man. 122 (1906).

Rhizome thick, short, erect or oblique, clothed with pale-red lanceolate or linear-subulate entire membranaceous scales; *stipes* densely tufted (5-15 together), 2-5 cm. long or much longer in barren leaves, stramineous, densely clothed near the base with scales similar to those on rhizome, ferruginously pilose in other parts, particularly the under surface; *frond* usually oblong-lanceolate, 6-12 cm. long, 1.8-2.5 cm. broad, simply and usually evenly pinnate, slightly reduced towards the base; pinnae sessile or subsessile, horizontally patent, 8-14 on each side, opposite or subopposite, sometimes alternate, 6-8 mm. apart, ovate-oblong, base equal, rounded or somewhat dilated, subtruncate or subcordate-truncate, crenate-serrate or deeply pinnatifid in barren leaves, 8-12 mm. long, 3-5 mm. broad at the base, the barren ones much broader with shortly cuneate base and pinnatifid over half way down into 3-4 rounded, subentire or slightly crenulate lobes on each side; *sori* completely hidden in thick tomentum, inducium globose at first, ruptured at last into long-ciliate lacinae; sporangia 4-6 to each sorus, dark brown, very shortly stipitate.

Distributions: Szechuan.

This distinct fern belonging to § *Physematum* is allied to *Woodsia rosthorniana* Diels, but differs in small more numerous pubescent longer pinnae, and stiff rachis; with a habit intermediate between *W. polystichoides* Eaton and *W. rosthorniana* Diels.

Plate 4. Fig. 1. Habit sketch (natural size). 2. A pinna with tomentum removed, showing venation and sori (x 5). 3. A portion of pinna, showing disposition of sori and inducia (x 15). 4. Two inducible hairs (x 108). 5. Hairs from the rachis (x 108). 6. Scales from the base of stipe (x 35).

第四圖

赤色巖蕨 (水龍骨科)

WOODSIA CINNAMOMEA Christ

地下莖肥厚而短，直立或斜臥，上覆鱗片，鱗片膜質，色淡紅，披針形或線針形；葉柄五至十五，簇生，長一至五粉，其不生孢子囊群者尤長，稻桿色，近基部處密覆同樣之鱗片，他部則被鱗色之薄毛；葉身通常橢圓披針形，長六至十二粉，寬一八至二·五粉；通常偶數羽狀，鮮奇數羽狀，向基部則略退化；小葉平展，無或幾無葉柄，每個八至十四枚，對生或幾對生，鮮互生，其間相距六至八釐，卵長方形，基部對稱，圓形或略擴大，幾戟形或幾心臟戟形，邊緣具波狀鋸齒，其在無孢子囊羣之葉則為羽狀深裂，長八至十二釐，寬三至五釐，無孢子囊者則尤闊，葉基部短楔形，每個具三至四羽狀裂片，各裂片圓形，全緣或稍有小波齒；孢子囊群深藏於密毛之下，子囊群蓋初為球形，破裂後則成具長纖毛之裂片，每孢子囊群中有四至六孢子囊，孢子囊暗褐色，柄甚短。

分布：四川，雲南，貴州。

本種屬於 *Physematum* 系，與 *Woodsia rosthorniana* Diels 相近，與之異者為較多小形有薄毛而較長之小葉及堅硬之葉軸。其外形在 *W. polystichoides* Eaton 與 *W. rosthorniana* Diels 之間。

圖註：1. 植物體全形(原大)。2. 除去絨毛之葉片，示脈與孢子囊群之分布(放大五倍)。3. 小葉片之一部，示孢子囊群與子囊群蓋之排列(放大十五倍)。4. 二子囊之毛(放大百〇八倍)。5. 葉軸之毛(放大百〇八倍)。6. 葉柄基部之鱗片(放大三十五倍)。

PLATE 5.

CYSTOPTERIS MOUPINENSIS Franchet

POLYPODIACEAE

CYSTOPTERIS MOUPINENSIS Franch. in Nouv. Arch. Mus. 2. 10: III (1887); C. Chr. Ind.

Suppl. 46 (1913-17); Hand-Mzt. in Symb-Sinic. VI: 20 (1929).

Davalia triangularis Baker in Ann. Bot. 5: 202 (1891).

Rhizome slender, wiry, wide, creeping, subglabrous; *stipes* slender, elongate, far apart, 10-15 cm. long, greenish, glabrous; *frond* deltoid-ovate, subtripinnate, 10-17 cm. long, 6-10 cm. broad at the base, attenuate to the fine acuminate or caudate apex; pinnae all petiolate, erect-patent, 2-3 cm. apart, alternate, the basal ones lanceolate, 4-7 cm. long, 5-2.2 cm. broad, acuminate, cuneate at the base; pinnules subrhombic-ovate-oblong, about 6-11 on each side, the upper inner base straight, the lower cut away to the costa, the lower ones pinnate or deeply pinnatifid towards the base; lobes ovate, with rounded inciso-dentate apex; *texture* thin herbaceous; *sori* mostly 6-8 sometimes only 3 to each pinnule, dorsal on the veinlets; inducium glabrous, thin membranaceous, at last evanescent.

Distribution: Szechuan, Yunnan, Tibet.

A fairly uniform and distinct endemic species, closely related to *C. sudetica* A. Br. et Milde, differs in glabrous inducium, smaller frond and cutting. First discovered by Père David in Tibet, later by Delavay in Yunnan and again by Wilson in W. Szechuan. Our figure is drawn from Wilson's No. 5311.

Plate 5. Fig. 1. Habit sketch (natural size). 2. A pinnule from basal part of the pinna showing venation and sori (x 16).



第五圖

滇冷蕨 (水龍骨科)

CYSTOPTERIS MOUPINENSIS Franchet

地下莖微弱絲狀，匍匐甚廣，幾光滑；葉柄細長，相距甚遠，色微綠，無毛，長十至十五粉，葉體三角卵圓形，幾三次羽狀分裂，長十至十七粉，基部寬六至十粉，頂部由尖至細脫尖或尾狀；一次小葉俱有小葉柄，直而開展，其間相距二至三粉，互生，在基部者呈披針形，長四至七粉，寬一·五至二·二粉，頂部尖銳，基部楔形；二次小葉幾菱卵形或卵長方形，每個六至十一枚，上內基部修直，基部下部則割截至中肋，其在下部者每至葉基又呈羽狀或深入之羽狀分裂；裂片卵圓形，具圓形而有深刻之齒之頂部；葉薄革質；孢子囊群通常每二次小葉具六至八枚，有時僅三枚，位於細脈背面；子囊群蓋無毛，薄膜質，終則失去。

分布：四川，雲南，西藏。

此種為一顯明特產之種，與 *C. sudetica* 相近，惟其子囊群蓋無毛，葉較小，而裂片亦不同，Père David 最初發見於西藏，後 Delavay 採得於雲南，Wilson 繼得之於四川，本圖則根據 Wilson 之標本而繪者也。

圖註：1. 植物體全形（原大） 2. 小葉基部之二次小葉，示葉脈與孢子囊群（放大十六倍）。



PLATE 6.

DRYOPTERIS ENNEAPHYLLA (Baker) C. Christensen

POLYPODIACEAE

DRYOPTERIS ENNEAPHYLLA (Baker) C. Chr. Ind. 263 (1905); Matthew in Journ. Linn. Soc. 38:362 (1911).

Nephrodium enneaphyllum Baker in Journ. Bot. (1887) 170; Diels in Nat. Pfl. Fam. I. 4. 168.

Caudex erect, thick as a thumb, clothed in dense reddish-brown lanceolate acuminate membranaceous scales to 2 cm. long; *stipes* tufted, stramineous, terete beneath, deeply grooved above and so is the rachis, nearly 30 cm. long, densely scaly near the base, become rather sparsely so upward, scales at the base similar to those only rhizome; *frond* deltoid-oblong, 20-30 cm. long and a little less broad, simply imparipinnate, moderately firm in *texture*, green and glabrous on both sides; pinnae 3-5 on each side, the terminal one similar to the lateral ones, shortly petiolate, lanceolate-oblong, 10-13 cm. long, 2.5 cm. broad, shallowly crenate, truncate or subtruncate at the base, blunt at the apex; *veins* in numerous pinnate subpatent groups, veinlets fine, ascending, 3-4 on each side of the lateral veins; *sori* large, in 3-4 irregular rows, almost restricted to the central half of the pinnae, leaving a broad free margin, medial on the veinlets, inducium large, peltate, brown, glabrous, with a slightly depressed centre, subsistent.

Distribution: Hupeh, Fukien.

Rather a variable species, evidently intermediate between *D. podophylla* (Hk.) and *D. sieboldii* (van Houtte) with a much stronger approach to the latter. It was discovered by A. Henry around Ichang, W. Hupeh. Henry's No. 3217, which has rather deeply lobato-incised pinnae with truncate or subtruncate base, while Henry's No. 7881 from the same locality deviates from the type in much larger pinnae (to 17 cm. long, 3.5 cm. broad) with rounded base, only shallowly crenulato-serrate margin, and 1-2 irregularly seriate sori, confined to the inner half breadth of the pinnae. Dunn's specimen, No. 3830, from Central Fukien (1905) agrees well with Baker's type except that it has still more finely crenato-serrate margin than Henry's No. 7881, and yet it should belong here.

Plate 6. Fig. 1. Habit sketch (natural size). 2. A portion of pinna showing venation and sori (x 2). 3. A portion of pinna showing inducium and sori in situ on the veinlet and the way of insertion of sporangia (x 6). 4. Scales on the base of stipe (x 8).

第 六 圖

宜昌金星蕨 (水龍骨科)

DRYOPTERIS ENNEAPHYLLA (Baker) C. Christensen

地下莖直立，大如拇指，密被鱗片，鱗片膜質，紅褐色，披針形，上部尖銳，長二粉；葉柄簇生，稻稈色，下面呈圓形，上面與葉軸俱具深槽，長幾三十粉；近基部處密覆鱗片，漸上漸稀，其在葉柄基部者，與地下莖之鱗片相同；葉身三角長方形，長二十至三十粉，寬則較高為稍狹，一次羽狀分裂，質頗堅固，上下兩面俱綠色無毛；小葉七至十一枚，頂生者與側生者相似，具短柄，披針長方形，長十至十三粉，寬二、五粉，緣具淺波狀齒，基部截形，頂部鈍形，葉脈分佈成多數羽狀而略展開之小羣，小脈纖細而上彎，在側脈之兩側各具三至四對；孢子囊群成三至四不整齊之行列，幾全限於小葉中部之半，餘有甚闊之邊緣，位於細脈之中部，子囊群蓋大，盾狀，褐色無毛，中部略凹，幾永存。

分布：湖北，福建。

本種為易於變易之一種，位於 *D. podophylla* (Hk.) 與 *D. sieboldii* (van Houtte) 之間，而尤與後種相近，A. Henry 始發現於鄂西之宜昌附近，Baker 之記述，蓋根據其 3217 號之標本也，小葉具深裂片，基部截形或幾截形為其特徵，而 7881 號亦採自宜昌附近，小葉頗大，(至一、七粉寬三、五粉)，基部圓形，僅有淺波齒之緣，孢子囊群分佈為一至二不整齊之列，亦迄於小葉主肋至緣之半程，Dunn 在閩之中部亦採得此種標本，與 Baker 之原式頗似，與 7881 號較則僅波牙較細耳。

圖註 1. 植物全形 (原大)。2. 小葉之一部表示葉脈與孢子囊群 (放大二倍)。3. 小葉之一部表示子囊群蓋與子囊群及孢子囊附著於葉脈上之狀 (放大六倍) 4. 葉柄基部之鱗片 (放大八倍)。



PLATE 7.

ASPIDIUM LONGICRURE Christ

POLYPODIACEAE

ASPIDIUM LONGICRURE Christ in Bull. Geogr. Bot. Mans. (1909) Mém. xx. 169; C. Chr. Ind. Suppl. 8 (1906-13); Matthew in Journ. Linn. Soc. 39: 343 (1911).

Sagenia longicrura Christ in Bull. Geogr. Bot. Mans. (1906) 250.

Stipe to 30 cm. or more long, shining, reddish-brown, glabrous; *frond* deltoid-oblong, 40 cm. long, 35 cm. broad, bipinnate to tripinnatifid in the lower part, rachis and the base of costa shining, light ebeneous, deeply grooved above; terminal pinna large, petiolate, deeply trilobate, deltoid, the central lobe oblong, 15-30 cm. long, 5-10 cm. broad, margin coarsely repando-lobulate, with the base of lobes broadly adnate, cuneat-elongate, repand; lateral pinnae 3 on each side, opposite, 12-16 cm. apart, the lower ones 14 cm. long, the upper ones 8 cm. long, long-petiolate, the uppermost ones subsessile, oblong, caudate, with obtuse hastate base, the middle pinnae deeply 3-lobed down to the base, the lowest pinnate; pinnules 2, farapart, petiolulate, with hastate or deeply lobed base, the terminal pinnules deeply trilobate; all pinnae ascendingly patent, the uppermost pinnules to 10-13 cm. long, 4 cm. broad, margin repando-crenate, all pinnae and pinnules acuminate, or long caudate; lateral veins prominent, almost reaching the margin, areolae irregularly quadrangular, in 2-3 rows between main veins and about 6 between costa and margin, usually without free included veinlets; *sori* very numerous, campital or dorsal, small, almost punctate, dark brown, irregularly disposed, inducium destitute; *texture* thin herbaceous, lustrous green, surfaces naked but the costa and veins are shortly pubescent.

Distribution: Kweichow, Kwangsi.

A bipinnate species of the group of *A. cicutarium* Sw., very distinct in pinnae and lower pinnules being long-petiolate, narrowly elongate, few-lobed pinnules and segments with very long-acuminate apex, stipes and rachis reddish-ebeneous, polished, and very small irregular exinduciate sori. Collected for the first time by Père Cavalerie in Kweichow, (1904), later by J. Esquirol in the same locality and of very late from Kwangsi.

Plate 7. Fig. 1. Habit sketch of a portion of frond (natural size). 2. A portion of segment, showing venation and sori (x 8). 3. Sporangium (x 106).