

ICONES FILICUM SINICARUM

BY

REN-CHANG CHING, B. S.

FASCICLE 4

中國蕨類植物圖譜 第四卷

靜生生物調查所印行

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中國蕨類植物圖譜

ICONES FILICUM SINICARUM

BY

REN-CHANG CHING, B. S.

KEEPER

LU-SHAN ARBORETUM AND BOTANICAL GARDEN

FASCICLE 4, PLATES 151-200

第 四 卷

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GLEICHENIA CANTONENSIS Ching

GLEICHENIACEÆ

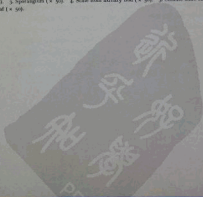
GLEICHENIA CANTONENSIS Ching, *Lingnan Sci. Journ.* **15**: 391 (1956).

A large straggling fern to several meters tall, *rhizomes* creeping, *stipe* up to 2 meters long, stout, thick as a finger near base, wine-colored, subnitid, glabrous, forked; *primary pinnae* opposite, to 80 cm long, 40 cm or broader, axillary bud large, densely clothed in imbricate, lanceolate, atro-castaneous scales about 4 mm long, with densely fimbriate margin; *secondary pinnae* numerous, alternate, 3-5.5 cm apart, patent, shortly petiolate, up to 30 cm long, 4 cm broad, linear-lanceolate, base equally truncato-cuneate, gradually narrowed towards acuminate apex, pinnatifid nearly down to rachislet, *segments* 60-70-pagae, linear, suboblique, to 2 cm long (sometimes longer), 2 mm broad, margin entire but strongly revolute, apex obtuse, often submarginate, separated from each other by somewhat broader sinuses; *veinlets* 20-pagae, regularly forked above base, rachis subnitid, wine-colored, with a few broad-lanceolate, deciduous, appressed, castaneous scales; *texture* herbaceous, glabrous and light green above, glabrescent and sparingly stellate hairy beneath; *acri* medial on anterior veinlets, consisting of 2-4 (generally 3) large, globular, pale lemon-yellow sporangia, *receptacle* elongate, naked.

Kwangtung: Sui, Y. K. Wang 3007? (type), roadside, July 17, 1931; Whampoa, one specimen without collector's name in Herb. Gigismuseum at Stockholm.

This distinct and pretty fern is closely related to *G. glauca* Hk., from which it differs in enormously larger size, wine-red stipe and rachis, the petiolate secondary pinnae up to 30 cm long, 4 cm broad, and the longer and narrower oblique segments with strongly revolute margin and broader sinuses. The scales covering the axillary bud are only half as long as those in its relative.

Plate 151. Fig. 1. Habit sketch (natural size). 2. Segments, showing venation and position of acri ($\times 5$). 3. Sporangia ($\times 50$). 4. Scale from axillary bud ($\times 50$). 5. Stellate hairs on the underside of leaf ($\times 50$).



ICONES FILICUM SINICARUM

第一百五十一圖

廣東廣白(廣白科)

GLEICHENIA CANTONENSIS Ching

地下莖橫行；葉柄高達二呎，酒紅色，光澤無毛，葉分叉；一回羽狀複生，長達八十餘，寬四十餘，或過之。腋間具一披針形鱗片之大小；二回羽葉多數，互生，薄紙，具柄柄，長達三十餘，寬四餘，線狀披針形，其基部為楔形，等寬，向頂漸尖，羽狀深裂至中脈；裂片六十至七十對，線形，斜對出，長達二餘，寬二釐，各緣，強皮反捲，圓頭，葉間的二十對，均在其部分叉，上緣光澤，下面淡粉白色，且披針狀毛，中脈亦呈酒紅色，藉其圓披針形之深酒色鱗片；子囊單中生，位於上方小脈，由二葉間種子囊柄承之。

分佈：廣東信宜縣及雲南廣西之。

此種為廣東特產，其形體極細廣白 (*G. glauca*)，僅形體較大，葉柄及中脈呈酒紅色，二回小葉長達三十餘，寬四餘，且具柄，裂片斜對出，邊緣強皮反捲，葉柄間之葉片間之鱗片之長僅中之耳。

附註：1. 本種全部(自然大) 2. 裂片，表示葉間及子囊單之位置(放大五倍) 3. 子囊(放大五十倍) 4. 葉柄間之葉之鱗片(放大五十倍) 5. 葉下面所被之星狀毛(放大五十倍)。





GLEICHENIA CANTONENSIS Ching

廣東美白

GLEICHENIA LAEVISSIMA Christ

GLEICHENIACEÆ

GLEICHENIA LAEVISSIMA Christ, Bull. Acad. Géogr. Bot. [1902] 268; C. Chr. Ind. Fil. 322 (1905).

Mertensia laevissima Nakai, Bot. Mag. Tokio 20: 172 (1912).

Gleichenia laevissima Makino, Bot. Mag. Tokio 18: 139 (1904); C. Chr. Ind. Fil. Suppl. I, 44 (1906-12). Ogas. Ic. Fil. Jap. 4: pl. 179 (1937).

Rhizome wide-creeping, densely scaly; scales lanceolate, long-acuminate, rufo-brown, nnd, thick, entire; **frond** 2-4 cm apart, stipe 20-50 cm long, 3 mm thick near base, green or pale stramineous, smooth, glabrous above base, rounded beneath, lower part flattened with sharp edge above and upper part deeply grooved, lamina ovate, bifurcate at the tip of stipe into two similar pinnae of oblong outline, 20-40 cm long, 13-16 cm broad, acuminate, axillary bud large, densely scaly, scales ovate, entire, with long subulate apices; **pinnales** linear-lanceolate, acuminate, short-petiole, the lower ones on the exterior side of rachlet much the longest, to 12 cm long, 2 cm broad, gradually shortened upward, the interior basal one or two pairs generally much smaller, pinnaetid down to costa; **segments** numerous, pectinate, oblique, linear with sharp apices, 1-1.5 cm long, 2 mm broad, lower base decurrent, margin revolute, with rounded and as broad sinus; **areolae** rigidly herbaceous, pleasing green, naked throughout, bluish beneath; veins in segments 20-25-jugate, suboblique, all forked above base, *vein* small, medial, borne on the anterior veinlets above forking, consisting of 3-4 globular brownish sporangia.

Kweichow: Kwei-yang, *Bodiner 8085* (type), March 18, 1898; Pan-fa, *Casalieri 528*; Vanchingshan, Yinkiang, Y. Tsiang 7827; Kweiting, Y. Tsiang 4481; Tu-yun Y. Tsiang 5880B, 5883A. **Szechwan:** without locality, T. Tang 22775 (1939). **Yunnan:** Without locality, *Delavay 48*. **Kiangsi:** Kinkiang, Lu-shan, Dr. *Shaw* (1887); Three Falls, C. E. DeVol 47, August 7, 1933, steep damp hill side. **Chekiang:** Tientshan Shan, R. C. Ching 1287 (1923), under forest. **Kwangtung:** Lokchong, N. K. Chan 28518. **Kwangsi:** Lu-chien Hsien, Mia Shan, Dar Sze Ping, R. C. Ching 5288; Ling Yen Hsien, Loh Hoh Tuen, J. N. Steward & H. C. Choo 124. **Hainan Island:** without locality, mountain summit, C. Wang 25485.

Also Japan: Kiosin, Oosumi, G. *Koidumi*, April 14, 1923.

One of the most distinct species of the genus, differing from the previous one in much smaller size, narrower and more oblique segments with revolute margin and sharply pointed apices and in the scales on the axillary bud being entire, light-brown, with hair-pointed apices. By the present distribution, this species is now known from central, southern and eastern Chinese provinces.

Plate 152. Fig. 1. Habit sketch (natural size). 2. Two segments, showing venation and son ($\times 3$). 3. Setae ($\times 50$). 4. Scale from rhizome ($\times 10$). 5. Scale from axillary bud ($\times 10$). 6. Cross section of rhizome, showing sclerenchyma ($\times 45$).

第一百五十二圖

光蕨白(莫白科)

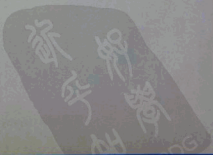
GLEICHENIA LAEVISSIMA Christ

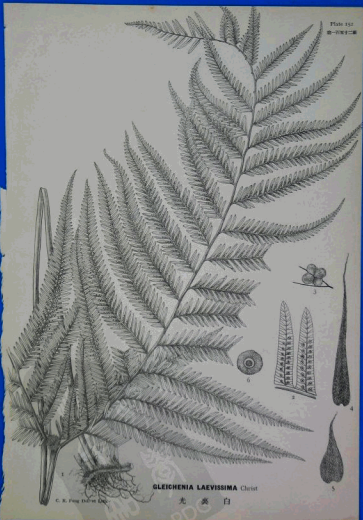
地下莖橫行，黃褐或褐色之細長鱗片；葉數重，柄長達五十份，淡綠色，光澤，葉體線形，二裂，小葉長達四十份，寬十六份，橢圓形，漸尖頭，二回羽狀分裂；葉脈間具一大葉，被淡黃色之黃鱗片；二回小葉線狀披針形，漸尖頭，具深網，基部外側數對最長，長達十二份，寬二份，內側一二對最短，漸尖頭，羽狀深裂，裂片螺旋排列，長一至一·五份，寬二釐，尖頭，斜出，邊緣強反捲，厚紙質，兩側光滑，綠色，葉脈分叉；子葉極小，圓形，生於上方小脈，由三至四個淡黃色之子葉圍成之。

分佈：貴州，江西，浙江，廣東，廣西，瓊州島；日本亦產之。

此為本屬特殊之種，全體光滑，甚為顯明。

圖註： 1. 本種全形(自然大)， 2. 兩裂片，表示葉面及子葉草之位置(放大三倍)， 3. 子葉草(放大五十倍)， 4. 地下莖上之鱗片(放大十六倍)， 5. 葉片之鱗片(放大十六倍)， 6. 地下莖之鱗片，表示葉面葉之傷痕(放大四倍)。





GLEICHENIA LAEVISSIMA Christ

光莖白

C. K. Ping Det. H. C. Ho

GLEICHENIA SPLENDIDA Hand-Mert

GLEICHENIACEAE

GLEICHENIA SPLENDIDA Hand-Mert. Akad. Anz. Acad. Wien (1924) 81; Symb. Sin. 6: 16 (1929); C. Chr. Ind. Fil. Suppl. III. 106 (1934).

Gleichenia fissaris C. Chr. (non Clarke, 1886). Contr. U. S. Nat. Herb. 26: 271 (1931), pro parte.

Rhizome wide-creeping, dull brown, subterrestrial, maricate, densely scaly; *scaler* atrobrown, linear-subulate, rigid, spreading, tufted, deciduous; *fronds* 1 to several meters tall, erect or trailing, stipe dark stramineous, shining, glabrous, 4-5 mm across, 30 cm to several meters long, lamina repeatedly di- or trichotomously forked, with a distinct pair of pinnae arising from the base of the primary forking branches and two smaller foliaceous and coriaceous ones at the axil covering the scaly terminal bud; *pinnae* 30-40 cm long, 10-16 cm broad at the middle, gradually acuminate towards apex, base decrescent either on both sides or the upper side only, sessile, pectinately pinnatifid, segments 5-10 cm long, up to 1 cm broad above the broadened base, linear-lanceolate, with obtusish apex, and repando-undulate margin; *veshiae* subcoriaceous, glaucous beneath; *veinlets* 5-6 in each group, parallel; *soei* irregularly 1-2-rowed, medial on veinlets, consisting of 10-20 sporangia.

Yunnan: Tibet-Burmese border, *H. Handel-Mazzetti* 8351 (type); Tengyueh, *J. F. Rock* 7177; Mengtse, *Hawcock* 71. Kwangtung: Sunyi, *Y. K. Wang* 30999. Kwangsi: Lin Yen Hsien, Tsin-lung Shan, *R. C. Ching* 7048; *ibid.*, Yen-Mai Shan, *R. C. Ching* 7295. Hongkong: Victoria Peak, *Lamont* 275.

Burma: *Lace* 1748 ex Herb. Bodd.

Khanda: *Hooker f. et Thomson*.

Tonkin: Laos, *M. Poilane*, November 6, 1921. Also Annam.

A gigantic species of the group of *G. fissaris* (Burm.) Clarke and has previously been considered as identical with that common fern, from which it differs in enormously larger size in all parts, the segments being up to 10 cm long and nearly 1 cm broad, with repando-undulate margin, and more sporangia in each sorus, which is, however, rarely found present.

Plate 153. Fig. 1. Habit sketch (natural size). 2. Portion of segment, showing venation and undulate margin ($\times 4$).



IOONES FILICUM SINICARUM

第一百五十三圖

碩莪白(裏白科)

GLEICHENIA SPLENDIDA Hand-Mat.

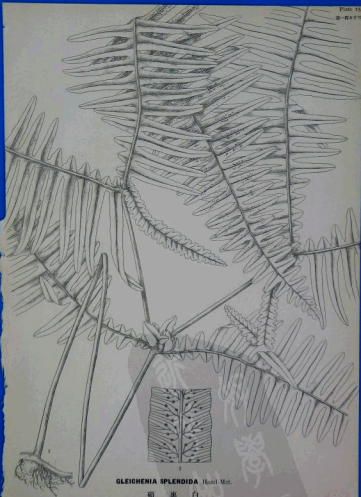
地下莖橫行，光滑，無毛；鱗片深褐色，線形，狹生；葉長一至數尺，直立或為蔓性，葉柄深暗綠色，光滑，無毛，高自三十餘至數尺，葉體數回分叉，每分叉處之基部下方具一對小葉片；一回小葉長三十至四十餘，寬十至十六餘，頂端尖，基部楔形，無柄，卵狀深裂；裂片長五至十餘，基部之寬達一餘，顯狀披針形，端略圓，邊緣呈鋸齒形，亦深裂，下面稍呈白色，葉脈每網具五至六根平行小脈；子囊單為不規則之二列，中生，由十至二十個孢子囊組成之。

分佈：雲南，廣東，廣西，香港，緬甸，安南均產之。

本種形體極似吾國之藤蕨白 (*G. linearis*)，惟其各部形體特大，裂片長達十餘，寬一餘，邊緣呈鋸齒，故易區別。

圖註：1. 本種全形(自然大)。 2. 裂片之一部，表示葉脈及邊緣(放大四倍)。





GLEICHENIA SPLENDIDA Hook. & Met.

碩蕨白

DIPTERIS CHINENSIS Christ

DIPTERIDACEÆ

- DIPTERIS CHINENSIS** Christ, *Bull. Acad. Géogr. Bot.* (1904) 104 cum fig. of tabs; *C. Chr.*, *Ind. Fil.* 242 (1905); *Ching*, *Bull. Dept. Biol. Coll. Sci. San Yatsen Univ.*, No. 6: 23 (1933).
Dipteris Horsfieldii Christ, *Icon Bot.*, 2596, *Bull. Herb. Boiss.* 4: 86 (1941).
Dipteris conjugata Hand.-Mét., *Icon Hortic.* 1914, *Syn. Sil.* 4: 25 (1920); *Wu, Polyp. Yunnan*, in *Bot. Dept. Coll. Sci. San Yatsen Univ.*, No. 2: 94 f. 35 (1934).

Rhizome wide-crawping, woody, densely scaly; *scales* atro-brown, rigid, setaceous, linear-subulate, nitid, appressed; *frond* far spurt, stipe 30-60 cm long, dark stramineous, glabrous above base, woody, rounded below, broadly grooved upward on the upper side, lamina 20-30 cm high, 30-60 cm broad, bipartite into nearly equal fan-shaped halves, each again cleft into 4-5 broad acuminate lobes, 5-8 cm broad, the exterior one divided to three-quarters of the way down, the middle one or two, less deep, and the interior one, only one-third way down, each lobe may be once forked with grossly serrated margin; *texture* crass herbaceous or subcoriaceous, turning brownish when dried; *underside* green or slightly bluish and with some dark brown articulated deciduous hairs along veins; *main veins* prominent, dichotomously branched, connected by finer transversed ones, with intermediate veinlets anastomosing copiously into hexagonal areolæ with simple or forked included veinlets; *seri* small, punctiform, superficial, campital, scattered, exindurate, *sporangia* intermixed with atro-brown cup-shaped stalked paraphyses.

Kweichow: Pin-fu *Galearia* 7611, 811 (type); Cheng-feng, Y. *Tsing* 4706; without locality, *Esquivel* 3339, 687. *Kwangsi*: Yao shan, S. S. *Sin* 647, June 20, 1928; Tuning Hsien, C. *Wang* 39134, June 22, 1936; Lu-chou Hsien, Mu Shan, R. C. *Ching* 6129. *Yunnan*: Mongtso, *Hance* 218; A. *Henry* 9011, 9011A; Tai-tao-ti, *Forrest* 27033 (1625); Fung-pien Hsien, H. S. *Tsai* 5519, 6050, in thickets. *Tibet-Burmese border*: H. *Hendel-Mazzetti* 9247.

Upper Burma: Htwangou, *Forrest* 26115.

This distinct endemic species can be easily distinguished from the tropical Asiatic *D. conjugata* Rehav. by much less divided leaves with fewer and broader ultimate segments, green or slightly bluish under surface and not clavate but cup-shaped paraphyses in sori.

Plate 754. Fig. 1. Habit sketch (natural size). 2. Portion of lamina, showing venation and seri ($\times 5$). 3. Sporangium ($\times 150$). 4. Spores ($\times 150$). 5. Scale from rhizome ($\times 40$). 6. Cross section of rhizome, showing sclerenchyma ($\times 5$). 7. Hair from vein on the under side of leaf ($\times 30$). 8. Paraphyses in sori ($\times 150$).

DOONES FILICUM SINICARUM

第一百五十四圖
雙扇蕨(雙扇蕨科)

DIPTERIS CHINENSIS Christ.

地下部橫行，根莖，木質，被深褐色之厚皮層所覆；葉叢生，柄長二十至六十釐，木質，葉體二裂，成掌大之兩扇形，亦稱四至五深裂，楔形，各裂片一次深裂，具微鋸齒，紙質。上葉光滑，下面密被暗褐色之短毛，尤密於裂片縫合處，並以沿中肋之基部，較為顯明，各裂片縫合處或葉小脈；子葉較前圖而小，叢生，不具蓋，線狀體生，端呈膨大之掌形，深棕色。

分佈：貴州，廣西，雲南，藏邊境之。

此為本屬特殊之一種，為中國特產，其形態頗同亞洲熱帶產之 *D. conopsea*，惟較小，葉之中肋較少，下面不是白色，子葉中之線狀體不是成排形，故易區別。

圖說：1. 本種全形(自然大)，2. 葉片之一部，與本屬及子葉蕨(放大五倍)，3. 子葉(放大一百五十倍)，4. 孢子(放大一百五十倍)，5. 地下部上之鱗片(放大四十倍)，6. 葉之裂片，表示線狀體之位置(放大五倍)，7. 葉下面上之短毛(放大三倍)，8. 子葉中之線狀體(放大一百五十倍)。





DIPTERIS CHINENSIS Christ

雙扇蕨

PLAGIOGYRIA ASSURGENS Christ

POLYPODIACEAE

PLAGIOGYRIA ASSURGENS Christ, Bull. Soc. Bot. Ital. (1901) 203; C. Chr. Ind. Fil. 495 (1905); Cop. Phil. Journ. Sci. **38**: 398 (1925).

Lomaria deflexa Baker (non Col. 1844, nec Lichen. 1849), Journ. Bot. (1888) 125.

Dicranum Faberi C. Chr. Ind. Fil. 153 (1905).

Rhizome thick, woody; *fronds* caespitose, dimorphous, *sterile* one with stipe to 20 cm long, rigid, dark stramineous, toment beneath, broadly grooved above, base flattened, cartilate, with 3 acrophores on each of exterior sides, lamina oblong-lanceolate, quite narrowed at base, to 30 cm long, 10 cm broad at middle, simple pinnate with pinnatifid acuminate apical part; *pinnae* 30-35-jugate, linear-lanceolate with upper side of base running upward, the lower several pairs gradually shortened and strongly deflexed, the middle ones to 8 cm long, 8 mm broad, horizontally patent, entire except the acuminate apex being with a few obscure teeth, the upper pinnae gradually shortened and oblique; *texture* subcoriaceous, glabrous in all parts, green above, glaucous or bluish-white (or green when young) underneath; veins distinct on both sides, oblique, mostly forked; *fertile* frond strongly contracted, on longer stipe (to 40 cm long), lamina linear-lanceolate, 5 cm broad, *pinnae* contracted, linear, to 3 cm long, 2 mm broad, base broadly adnate; *sori* indefinite, completely covering the under surface, except the midrib.

Szechwan: Tien-to-san, *Scallan* (type); Mt. Omei, Wilson 3282; E. Faber 1022 (type of *Lomaria deflexa*); Tai Liang Shan, T. T. Yw 2026, Sept. 22, 1934.

This distinct endemic fern, so far collected only thrice in mountains in the southwestern part of Szechwan, is closely related to *P. adnata* of the same region in general outline, differs in shortened and strongly deflexed lower pinnae and the glaucous underside of lamina, less serrated apices of sterile pinnae and broadly adnate base of fertile pinnae. *Lomaria deflexa* Baker represents only a young state of this species, having thinner leaves, less prominent veins and green color beneath.

PLATE 155. Fig. 1. Habit sketch (natural size). 2. Pinnae, showing venation and saccostere (× 10). 3. Portion of fertile pinna, showing position of sori (× 10). 4-5. Sporangium with spores (× 100).



PDG

第一百五十五圖
 蛾峭瘡足狀(水龍骨科)

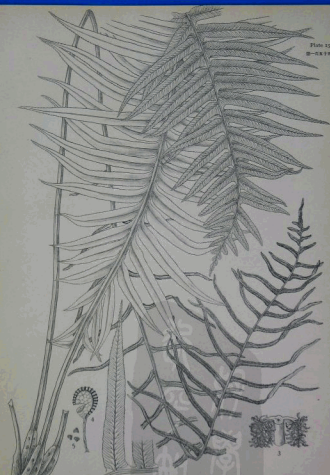
PLAGIOBYRIA ASSURGENS Christ

地下草本質，根莖，不具鱗片；莖葉生，二形，不生子囊果葉之柄長達二十餘，堅硬，深暗棕色，上面具圓溝槽，基部扁形，脊部具脊，兩側各具二個瘤狀凸起，葉體彎曲狀針形，長達三十餘，寬約十餘，基部較寬，一回羽狀分裂，頂部漸尖，鞘狀深裂；小葉三十至三十五對，扇狀披針形，基部向上延長合生，基部表對位度下向，具軟毛，中部各對長的八餘，寬八餘，水平開展，上部各對漸短，割出，漸尖頭，全緣，並向頂部時具疏小鋸齒，全體光滑，上面綠色，下面草灰白色，(幼時為綠色)，葉葉多數分叉，似梳；生子囊果之葉具較長之柄，葉體較寬，小葉徑長葉體，或較長橢圓形，長達三餘，寬約二餘，基部形大合生，下面中部兩個生子囊果溝，不具蓋。

分種：四川西南部高山特產。

圖註： 1. 本屬多形(自然大) 2. 小葉，表示葉面及葉背(放大二倍) 3. 生子囊果小葉之一部，表示子囊着生情形(放大十六倍) 4. 子囊及孢子(放大一百五十倍)





PLAGIOGYRIA ASSURGENS Christ

峨嵋極尾蕨

LINDAYA LOBBIANA Hooker

POLYPODIACEAE

LINDAYA LOBBIANA Hooker, Sp. Fil. 1: 205 t. 62C. (1846); C. Chr. Gardens Bull. Str. Sett. 4: 396 (1929); Ind. Fil. Suppl. III. 122 (1934). c. syn.

Lindaya cultrata Hk. et Bak. Sp. Fil. 105 (1846). pro parte; Christ (non Sw.), Journ. Bot. 4. France 11: 9 (1905); Her. Enum. Hainan Fl. in Lingnan Sci. Journ. 8: 13 (1917).

Lindaya gracilis C. Chr. Ind. Fil. 323 (1925). pro parte.

Rhizome creeping, slender, sparsely scaly; *scales* brown, small, oblong-lanceolate, consisting 3-4 rows of elongate laminae, entire; *fronds* aggregate or approximate, stipe 5-10 cm long, pale green or light stramineous, naked, prominently 4-angular, lamina linear-lanceolate, 20-30 cm long, 2-2.5 cm broad, acuminate, slightly narrowed towards base, pinnate; *pinnae* numerous, close, horizontally patent, alternate, about 1 cm long, 6 mm broad, broadly half-ovate, short-petiolate, base attenuate, upper side truncate, apex rounded, lower edge straight, upper edge convex and lobato-incised, gradually decrescent towards acuminate apex, lower ones rather far apart and smaller; *texture* herbaceous, light green even when dried, glabrous on both sides, rachis also 4-angular; *veins* fine, distinct green, flabellulately forked; *vein* one to each lobe, transversally linear or slightly curved, *indusium* linear, entire, greenish, narrower than the leaf-edge.

Hainan Island: Tun Fao, Kachek, Eryl Smith 1496, on stream banks at low altitude; Chiu Fung Ling, S. K. Lee 2896; C. Wang 2859, 24571, on rocks along stream side.

Tonkin: Tahl-Nguyen, Pélelet s. n.; Eberhard 2928.

Annam: Cadier 68; Tourane, Gaudichaud (1837).

Siam: Koh Chang, Jaks Schmidt 779.

Assam: Griffiths. Also South India, Malacca and Java (type locality).

A fairly common fern in the localities noted. In general habit, it is closely related to *L. cultrata* (Willd.), but differs always by pale green and prominently 4-angular stipe and rachis throughout.

Plate 196. Fig. 1. Habit sketch (natural size). 2. Pinna, showing venation and vein (x 5). 3. Scales from rhizome (x 40). 4. Cross section of stipe (x 10).



第一百五十六圖

洛氏林蕨(水龍骨科)

LINDSAYA LOBBIANA Hooker

地下莖短而橫行，輪被細隔葉草之深藍色之小鱗片；莖近生成而直立，高五至十寸，淡綠色，光滑，具四棱，葉體線狀披針形，長二十至三十寸，寬二至二、五寸，漸尖頭，向基部稍狹，一回羽狀分裂；小葉多數，間隔，互生，長約一呎，寬約六寸，卵形，向基部延長，具短柄，下邊平截，上邊向羽端呈弧形，且具淺裂片，紙質，老時；葉脈分離，羽形分叉；子囊葉一個，生於葉片之頂，線形或線形卵形，蓋膜質，圓形，全緣，向外開，此葉連莖與。

分佈：廣東之懷州島，安南，安南，暹羅，緬甸及南洋羣島均產之。

圖註：1. 本種全形(自然大)，2. 小葉，表示葉脈及其子囊葉之位置(放大五倍)，3. 地下莖上之鱗片(放大四十倍)，4. 葉柄之橫切面(放大十倍)。





C. K. Peng Det. of Herb.

LINSAYA LOBBIANA Hooker

洛氏林蕨

PDG

LINDSAYA DECOMPOSITA Willdenow

POLYPODIACEAE

LINDSAYA DECOMPOSITA Willdenow, Sp. Pl. 5: 425 (1810); C. Chr. Ind. Fil. 393 (1905), pro parte; Gardens Bull. Str. Settl. 7: 236 (1934); v.A.v.R. Handb. Mal. Ferns 274 (1909); Merr. Enum. Hainan Pl. in Lingnan Sci. Journ. 5: 12 (1927); Holttum, Gardens Bull. Str. Settl. 5: 66 (1939).

For synonymy see C. Chr. Ind. 392.

Rhizome rather woody, short-crooping, matted, sparingly scaly; *scapes* small, brown, of very simple structure; *fronds* approximate, numerous, stipe firm, erect, naked, pale green, 4-angular, deeply grooved above, 10-25 cm long, lamina varies from linear-lanceolate and simple pinnate up to 30 cm long, 2.5 cm broad to palmately divided with 1-3 pairs of lateral linear, pinnate branches; ultimate *pinnas* numerous, 1-2 cm long, half as broad, half-ovate, the lower ones often strongly decurved, the lower margin entire, the outer and upper shallowly lobate-incised enough to interrupt the sori; *texture* thin, herbaceous, light green and glabrous on both sides; *veins* anastomosing in 1-2 rows of angularly elongate oblique exappendiculate areolae; *sori* marginal, one to each shallow lobe, linear, straight or curved, infusion greenish, entire, narrower than the outer leaf-margin.

Hainan Island: Five Finger Mt., F. A. McClure 5482; Eryl Smalk 1509, beside a stream; Hancock 119; C. Wang 55712, Dec. 20, 1933.

Widely dispersed throughout tropical Asia to Polynesia.

A very variable fern as to habit, leaves sometimes simple, sometimes 2-6-forked; the incision of pinnas are also very variable, being nearly entire in type in the herbarium Willdenow.

Plate 157. Fig. 1. Habit sketch (natural size). 2a—2b. Ultimate pinnas, showing venation and sori ($\times 5$). 3. Scale from rhizome ($\times 30$).



PDG

第一百五十七圖

朝飯林蕨 (水龍骨科)

LINDSAYA DECOMPOSITA Willdenow

地下莖短縮成橫行或仰角生，略具圓珠的單之紅褐色小鱗片；葉近生，多數，柄短直，淡綠色，四棱形，上面具溝槽，長十至二十餘，葉體極其宏大，或為線狀披針形之一種羽狀分裂，或為掌狀分裂，其二至六對一回羽狀分裂線狀披針形之小葉，末回小葉多數，長一至二餘，圓形，位於下部者，常極低平，下方全緣，上方向端部淺裂，紙質，淡綠色，兩面光滑無毛，葉脈網狀，其一至二回羽狀網脈，內不具小脈；子囊單邊生，圓形，輪流或呈瓦形，每小裂片一個，蓋為淡綠色，全緣，較葉緣為後。

分佈：亞洲各處均有產之，最近在中國之遼東自發現。

附註：1. 本屬全形 (自然大)，2-3. 末回小葉，此等葉體及子囊單之位置 (放大五倍)。3. 葉下葉上之鱗片 (放大三十倍)。





LINDSAYA DECOMPOSITA Willdenow

刷蕨林蕨

C. H. Peng Det. et Lith.

ADIANTUM GRAVESII Hance

POLYPODIACEÆ

ADIANTUM GRAVESII Hance, Journ. Bot. (1875) 207; Christ, Farnkr. d. Erde 140 (1897); Diels in Engl. u. Prantl, Nat. Pflanzenfam. II: 4, 284 (1899); C. Chr. Ind. Fl. 27 (1905); Dunn & Tutcher, Fl. Kwangsi & Hongk. 338 (1912).

Adiantum monochlamys Christ (non Eaton, 1898) in Warburg, Monoclis II 67 (1908).

Rhizome short, erect, densely radiceous, copiously scaly at apex; **stipes** small, linear-subulate, almost black, scariosus along the upper margin; **fronds** fasciculated, many together, stipe wiry, atro-brown or almost black, terete, 2-4 cm long, glabrous, lamina 2-5 cm long, about 2.5 cm broad with wiry blackish rachis, impari-pinnate; **pinnae** 3-6 jagate, to 6 mm long, 3-5 mm broad, obovate or broadly obovate, alternate, patent, entire, petiolate, petiole 2-3 mm long, capillaceous (the terminal pinna with longer stalk), articulated at the base of **pinnae**; **texture** papyraceous, glabrous on both sides, glaucescent beneath; veins fine but distinct against light, subparallelly forked, extending to the narrowly cartilaginous margin; **indusium** large, reniform or transversal oblong, blackish, coriaceous, one to each pinna, attached to the deeply notched apex, persistent.

Kwangtung: North River, 175 miles from Canton, *R. H. Gras 1881* (type); Lien-Chow, *B. C. Henry* (1881); *Rev. J. Lawton*, Oct. 1876; *Matthae* (1907), on limestone rocks; *Gerlach*; *Yüyen Hsien*, *S. P. K'o* 43788, Oct. 21, 1953.

A very distinct and one of the most slender species of the genus, to which might safely be referred a series of Chinese forms known as *A. Marienii* Baker from Ichang, *A. Laurile* Christ from Kweichow, *A. Greenii* Ching and *A. nanum* Ching both from Kwangsi, which all differ from type only in the general outline and relative size of pinnae.

Plate 158. Fig. 1. Habit sketch (natural size). 2. Pinna, showing venation and sori ($\times 10$). 3. Scales from apex of rhizome ($\times 40$).



第一百五十八圖
粵鐵線蕨(水龍骨科)

ADIANTUM GRAVESII Hance

地下莖短而直立，頂部被黑色之細長鱗片；葉叢生，柄長二至四寸，細如鋼絲，光亮，翠綠色，葉
體長二至五寸，寬約一、五寸，一回奇數羽狀分裂；小葉三至六對，長僅六釐，寬二至五釐，倒卵形，
互生，具柄，全緣，與葉柄着生處有狹形之紙質，兩面光滑無毛，下面稍呈粉白色；葉脈呈羽分叉，並
於角質之邊緣；子囊葉一個，生於小葉之頂，甚長而細，着生於小葉頂部之缺刻。

分佈： 產於廣東之北部。

此為特殊之種，本屬其他之種鮮有類此者。

圖註： 1. 本種全形(自然大)， 2. 小葉，表示葉柄及子囊葉之位置(放大十倍)， 3. 葉柄基部
之鱗片(放大四十倍)。





ADIANTUM GRAVESII Hance

考銀線蕨

ADIANTUM CHIENII Ching

POLYPODIACEAE

ADIANTUM CHIENII Ching, *Sinensia* 1: 50 (1939); C. Chr. Ind. Fil. Suppl. III, 18 (1934).

Rhizome short, erect, densely radiceous and scaly; *scales* linear-subulate, afro-brown, rigid, entire; *fronds* caespitose, numerous together, stipe 5-7 cm long, oblongous, shining, glabrous, breaking off at the middle, lamina linear-lanceolate, impari-pinnate, 13-18 cm long, 3-4 cm broad, base not any broader than above, truncate, slightly narrowed towards apex; *pinnæ* 7-9 on each side under the smaller terminal one, petiolate (petiole 2 mm long), subopposite, 2-3 cm apart, the lower ones broadly deltoid-obovate, 1.2-1.5 cm each way, with rounded base, entire margin, the upper ones narrower, obovate with cuneate base, all with truncate apex; *axillæ* subcoriaceous, lustrous green above, pale or bluish beneath, glabrous in all parts; *veins* distinct, fimbriately forked, veinlets numerous, fine, reaching somewhat thickened margin; *sori* large, 5-8 mm long, one to each pinna, transversally linear, terminating the truncate apex, indusium black, coriaceous, entire, persistent.

Kwangtung: North West River, Lo-szuai, February, 3, 1896.

This endemic fern, only collected once, resembles *A. Leveillei* Christ in general habit, but differs in enormously larger size, much more stoutly built, with more numerous and much larger pinnæ.

Plate 159. Fig. 1. Habit sketch (natural size). 2. The same but young fern (natural size). 3. Pinna, showing venation and sori ($\times 5$). 4. Scales from base of stipe ($\times 30$).



第一百五十九圖
錢氏鐵線蕨(水龍骨科)

ADIANTUM CHIENII Ching

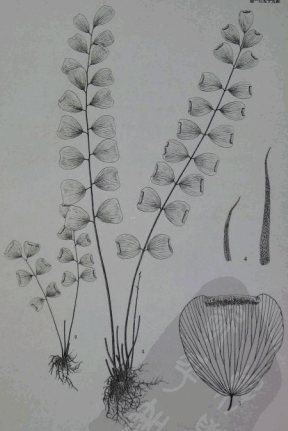
地下莖短，直立，端被深褐色之絲狀鱗片；莖多數叢生，柄長五至七寸，葉黑色，光亮，無毛，葉體線狀披針形，長十三至十八公分，寬二至四公分，奇數羽狀分裂；小葉七至九對，開展，呈對生，倒卵狀三角形，長一、二至一、六公分，寬亦如之，全緣，具柄，近革質，上面光亮，下面呈淡粉白色，全體光滑，葉脈扇形分叉，多數，直達葉質之邊緣；子葉單一，長五至六公分，位於小葉之基部頂部，近革質，黑色，全緣，扁平。

分佈： 標產於廣東之曲江。

本種形態，甚同葉式鐵線蕨 (A. Lovellii)，然各部的較大，故易區別。

圖說： 1. 本種全形 (自然大)， 2. 同上，但縮小 (自然大)， 3. 小葉，表示葉脈及子葉基 (放大五倍)， 4. 葉柄基部之鱗片 (放大三十倍)。





ADIANTUM CHIENSE Ching

錢氏鐵線蕨

C. B. Feng Det. et Lith.

ADIANTUM ROBOROWSKII Maximowicz

POLYPODIACEAE

ADIANTUM ROBOROWSKII Maximowicz, *Méi. Biol.* **11**: 867 (1883); *C. Chr. Ind. Fil.* **33** (1905); *Journ. Wash. Acad. Sci.* **17**: 498 (1927).

Rhizome short, erect, densely scaly; *scales* rufo-brown, narrowly lanceolate, entire; *fronds* caespitose, stipe 6-10 cm long, slender, terete, castaneous, shining, rigid, lamina as long as stipe, 2-3 cm broad, lanceolate, bipinnate or subtripinnate at base; *pinnæ* 5-7-jugate, under simple pinnate apical part, alternate, oblique, petiolate, the basal ones larger, 2-2.5 cm long, 1.5-2 cm broad, deltoid, rachis castaneous, flexuose, *pinnules* 4-5-jugate, the basal pair generally forked, or very rarely pinnate, the upper ones simple, *ultimate pinnule* triangular or broadly ovate, entire, with cuneate base, and capillaceous castaneous petiole, the middle pinnæ generally simple pinnate with 1-2 pairs of pinnules; *fracture* herbaceous, green, glabrous in all parts; *veins* visible against light, fimbriately forked, not reaching leaf margin, *seri* generally 2 to each segment (not infrequently one); *indusium* orbicular, rufo-brown, coriaceous, attached to a deep notch at apex.

Kansu: Tangut, *N. M. Prynaiński* (1886), type; without locality, *Parsons* 78 (1910); *Jiangsu*, south of Old Tao-chow, *R. C. Chong* 908 (1921); *Möping*, *Man-yue-kuai*, *Dr. D. Huusnel* 2392, 2330.

A distinct endemic species of the group of *A. venustum* Don and especially closely related to *A. Faleri* Baker, differing chiefly in smaller size, narrower leaves, smaller segments of generally triangular shape.

Plate 160. Fig. 1. Habit sketch (natural size). *2.* The same but young form (natural size). *3.* Ultimate pinnule, showing venation and seri ($\times 10$). *4.* Scale from base of stipe ($\times 20$).



第一百六十圖
龍藏雜蕨(水龍骨科)

ADIANTUM ROBOROWSKII Maximowicz

地下莖短而直立，被深褐色之鱗片；葉簇生，柄長六至十釐，細而圓，深黑色，光滑，葉體與柄等長，寬二至三釐，披針形，基部二回或三回分裂，頂部一回分裂，各回小葉均具柄；一回小葉五至七對，長二至二·五釐，寬一·五至二釐，三角形；二回小葉四或三對，其基部一對通常分裂，末位小葉甚小，三角形或卵形，基部下形，綠色，紙質，光滑，葉脈扇形分叉，不達於葉邊；子囊果通常每小葉兩個(有時僅一個)，近圓形，深褐色，革質，着生於小葉基部之深溝內。

分佈： 僅甘肅西鄉產之。

本種形態極似龍藏蕨 (*A. Filix*)，惟形態極長，葉體不呈卵狀三角形，末回小葉較小，後者分裂。

附註： 1. 本種全形(自然大)； 2. 同上，幼形(自然大)； 3. 末位小葉，表示葉體及子囊果之位置(放大十倍)； 4. 葉柄基部之鱗片(放大三十倍)。





ADIANTUM ROBOROWSKII Maximowicz

瘦根線蕨

ONYCHIUM CONTIGUUM (Wall.) Hope.

POLYPODIACEÆ

ONYCHIUM CONTIGUUM (Wall.) Hope, Journ. Bomb. Nat. Hist. Soc. **13**: 444 (1907); Ching Lingnan Sci. Journ. **13**: 498 (1934).

Chelasiopsis contigua Wall. Lit. no. 72 (1828, nom. nud.).

Onychium japonicum var. *intermedia* Clarke, Trans. Linn. Soc. II, Bot. **1**: 457 (1886); Kuhnert, Annot. Forc. Japon. **29-36**: 135 (1929-30).

Onychium lucidum Boid. (non Syn. 1827) Ferns Brit. Ind. **1**: 42 (1865); C. Chr. Ind. Fil. Suppl. III, **23** (1934).

Onychium japonicum Bl. et Bab. Syn. Fil. **143** (1867); Boid. Handb. Ferns Brit. Ind. (1865); C. Chr. Ind. Fil. **469** (1925) pro parte.

Onychium japonicum var. *lucidum* Kuhnert, l. c., pro parte.

Onychium erythrogrammoides Christ in Lecomte, Not. Syst. **1**: 52 (1911).

Rhizome short, erect or procumbent, densely rhizose, apex clothed in lanuolate, light castaneous scales; fronds subcaespitose, stipe 25-35 cm long, pale stramineous, always black near the base, glabrous, lamina 15-25 cm each way, broadly ovate, pentagonal, acuminate, very finely 5-pinnate; pinnae 8-14-jugate, the basal pair much the largest, triangular, acuminate, all long-petiolate, very oblique, pinnaules of second and third orders all petiolate, cordate; ultimate segments linear-lanceolate, apiculate, entire, 3-5 mm long; leaflets herbaceous, pale green, naked on both sides, veins fine, one to each segment; sori linear, short, consisting of 4-6, or rarely 9 sporangia on each side, indusium large, broad, membranaceous, pale gray, entire, reaching costule from both sides and persistent.

Yunnan: Kiao-ki, Ducloux 6371, 5049 (type of *O. erythrogrammoides* Christ), August, 1921; Tong-chow, E. E. Maire 1879, 2085, 2774, 3484 (1913); Without locality, G. Forrest 885, 4068. Szechwan, Hui-li Hsien, T. T. Yu 1279, Sept. 10, 1932, under wood; W. P. Fang 6688; Feng-hsiang-ying, Narry Smith 1880.

Tibet: Yatung, Heboos (1897).

Siam: Without locality, H. B. J. Garrett 453.

North-eastern India and Himalayas generally (type from Nepal).

In my recent monograph, I have treated at some length of the nomenclatural confusion for this very distinct fern, which was generally considered as identical with the widely dispersed *O. japonicum* Kae., from which our fern can always be distinguished by more finely divided lamina of a pentagonal outline, on proportionally longer pale-colored stipe always with nearly black basal part and by shorter sori with larger, broader, nearly bilobate persistent indusium reaching the costule from both sides.

PLATE 161. FIG. 1. Habit sketch (natural size). 2. Portion of sterile frond, showing venation ($\times 20$). 3. Portion of fertile frond ($\times 20$). 4. Sordianum segment, with one indusium open ($\times 20$). 5. Cross section of stipe ($\times 64$). 6. Scale from rhizome ($\times 27$). 7. Cross section of rhizome ($\times 8$).

第一百六十一圖

高山烏蕨(水龍骨科)

ONYCHIUM CONTIGUUM (Wall.) Hope.

地下莖短，直立或斜生，頂部被淡紫色之鱗針形鱗片；葉叢簇生，柄長二十五至三十五釐，淡褐色，與莖同色，光澤無毛。葉體廣卵形，漸尖頭，長十五至二十五釐，寬亦如之，互生羽狀分裂，一回小葉八至十四對，基部一對最大，三角形，漸尖頭，具柄，各回小葉彼此並生，末回小葉呈線狀披針形，具短尖頭，全緣，長三至五釐，紙質，淡綠色，兩面光澤，葉面遍生小點；子囊果殼錐形，通常由四至六個子囊出現，蓋大，圓蓋，灰白色，全緣，位於葉腋，宿存。

分佈：雲南、西藏、暹羅及印度東北之高山均產之。

此種曾與華者多認為與普通之烏蕨 (*O. japonicum*) 相同，實則其葉體之分裂度更細密，葉柄基部常為黑色，子囊果殼短，蓋圓形，故易分別。

附註：1. 本種全形(自然大)，2. 不生子囊葉小葉之一部(放大十倍)，3. 生子囊葉小葉之一部(放大十倍)，同上(放大十六倍)，5. 葉柄之橫切面(放大六倍)，6. 莖上之鱗片(放大二十七倍)，7. 莖之橫切面(放大六倍)。





ONYCHIUM CONTIGUUM (Wall.) Hope

高山烏蕨

ONYCHIUM MOUPINENSE Ching

POLYPODIACEÆ

ONYCHIUM MOUPINENSE Ching, Lingnan Sci. Journ. 13: 500 (1934)

Rhizome wide-creeping, 2.5 mm thick, densely scaly; scales rufo-brown, subulate, firm; *frond* distant, dimorphous, *sterile* one narrowly linear elongate, stipe to 20 cm long, slender, pale stramineous, lamina 10-15 cm long, 2-3 cm broad, slightly broader towards base, bipinnate; *pinnae* 10-15-jugate, rhombic, petiolate, basal pair to 3.5 cm long, upper ones 2 cm long, subunequally cuneate at base; *pinnales* 2-3-jugate, subrhombic, base slightly decurrent, apex obtuse; *segments* 2-3-jugate, small, 2-3-dentate; *texture* rather rigid, color green; *fertile frond* much longer and broader, stipe 15-20 cm long, stramineous, lamina as long as stipe, broadly lanceolate, long-attenuate towards above middle, base to 6 cm broad, tripinnate; *pinnae* 10-15-jugate, long-petiolate, base unequally cuneate, basal pair to 10 cm long, 5 cm broad, long-acuminate towards simple pinnate apex; *segments* few, siliquaform, 10 mm long, 2.5 mm broad, acuminate; *spore* linear, 5-7 mm long, indusium conforms, broad, gray, entire, reaching costule from both sides.

Szechwan: Moupin, David (type).

This species, confined to the highland of western Szechwan, differs from *O. japonense* Koe. in much narrower and less divided frond and particularly the sterile one, which is of linear-elongate outline to 5 cm broad from somewhat broader base, and the fertile frond with extremely long-attenuate upper part.

Plate 162. Fig. 1. Rabbit stool (natural size). 2. Portion of sterile frond, showing venation ($\times 8$). 3. Portion of fertile frond ($\times 8$). 4. Ultimate segment of fertile frond, showing position of aeri and indusium ($\times 16$). 5. Scale from rhizome ($\times 37$).

第一百六十二圖
木坪烏蕨(水龍骨科)

ONYCHIUM MOUPINENSE Ching

地下莖細長，橫行，披有褐色之細長厚質鱗片；葉叢生，二二形，不生子葉叢者之柄長十餘，細長，淡紅褐色，葉體為狹線形，長十至十五份，寬二至三份，向基部較廣，二回羽狀分裂；一回小葉十至十五對，卵形，具柄，基部一對長達二、五份，基部心形，二回小葉二三對，形小，其二三回側出，寬短厚，綠色；生子葉叢之葉較長而寬，柄長十五至二十份，暗棕色，葉體長本葉之，狹披針形，中部以上呈狀狹長，基部闊達六份，三回羽狀分裂；一回小葉十至十五對，具長柄，基部甚不平等楔形，下部一對長達十份，寬三份，長形漸尖頭，基部一回羽狀分裂；本回羽片少數，披針形，長約一份，寬一、五份，漸尖頭；子葉群線形，長五至七份，甚狹窄，全緣。

分種：四川青龍超山特產。

本種與普通烏蕨 (*O. japonicum*) 者，為其柄具二形之葉，其分羽較少，基部呈足形而長是也。

圖註： 1. 本種各形 (自然大)， 2. 不生子葉叢之一形，表示葉叢 (放大八倍)， 3. 生子葉叢者之一形 (放大八倍)， 4. 生子葉叢之第四小葉，表示子葉叢之狹長及蓋 (放大十六倍)， 5. 地下莖上之鱗片 (放大二十七倍)。





ONYCHIUM MOUPINENSE Ching

木坪烏蕨

ONYCHIUM TENUIFRONS Ching

POLYPODIACEÆ

ONYCHIUM TENUIFRONS Ching, *Lingnan Sci. Journ.* **13**: 590 (1934).

Oxyphium japonicum var. *Delavayi* Christ, *Bull. Soc. Bot. France* **48**: Mém. 1, 60 (1902).

Oxyphium lucidum Ebermeier, *Ann. Fern. Japan.* **20**: 125 (1930); C. Chr. 3rd. Fil. Suppl. III, 133 (1934) pro parte.

Rhizome short-creeping, rather thick, densely clothed in pale brown, linear subulate scales; **fronds** subscaespitose, subdimorphous, stipe firm, erect, stramineous, 6-15 cm long, flexuose, naked, lamina oblong-lanceolate, 15-25 cm long, tripinnate at base, bipinnate towards acuminate apex; **pinnae** 5-8-jugate, petiolate, oblique, 5-10 cm long, lanceolate; **pinnales** rhombic, pinnate; **segments** 3-5-jugate, linear, 5-7 mm long, 1.5 mm broad, acuminate, margin obscurely denticulate; **texture** rigidly coriaceous, subterete, glabrous on both sides; **veins** prominently raised above, one to each segment, **pinnate**; **vein** 3-5 mm long, isosolusium gray, reaching costule from both sides, **margin** deeply crenate; **sterile** leaves on much shorter stipe, with broader and confluent pinnales and segments.

Yunnan: Shweli-Salween divide, *G. Forrest 24175* (type), July, 1924; Loko Chen, *Delavay 1715*; Tapin-to, *Delavay 82*; Ty-ly, *Duclos 681*; Tai-tsin-toon, *E. E. Maire*, Sept. 1911; Tchong-san, *Duclos 2372*, Nov. 2, 1909; Niemo Ko Chan region, Pin-chow, *Duclos 6372*. Szechwan: On the Yunnan border, *W. P. Fang 9191*, Oct. 20, 1939.

This endemic species is closely related to *O. japonicum* Kze. differs from that or other related species in oblong-lanceolate and once less pinnate fronds, subscaespitose leaves, pale brown scales on rhizome, more or less denticulated ultimate segments and the deeply crenate margin of indusium, which last character has so far been known only in *O. melanolepis* (Desen), a species from Abyssinia.

Plate 163. Fig. 1. Habit sketch (natural size). 2. Portion of sterile frond, showing venation ($\times 16$). 3. Surface of segment, showing attachment of vein and indusium with crenate-dentate margin ($\times 18$). 4. Scale from rhizome ($\times 27$).



第一百六十三圖
狹葉烏蕨(水龍骨科)

ONYCHIUM TENUIFRONS Ching

地下莖短而橫行，節肥，被綠半淡黃色之膜鱗片；葉叢叢生，成二形，柄長六至十五公分，光滑，葉體極圓柱形，長十五至二十五公分，基部三回羽狀分裂，上部二回羽狀分裂；一回小葉五至八對，具柄，斜出，長五至十公分，披針形；二回小葉羽形，羽裂分裂；裂片三至五對，線形，長五至七公分，寬僅一—二毫米，漸尖頭，邊緣具不規則之鋸齒，葉厚紙，稍硬，兩面光滑，葉脈兩側顯明，羽狀分裂；子囊果長三至五公分，近圓筒，灰白色，邊緣凹凸不齊；不生孢子囊葉具較短之柄具較寬之鱗片。

產地：雲南特產。

本種略似吉甯之烏蕨 (*O. japonicum*)，然其葉叢生，葉體細長，分裂較少，葉上鱗片呈淡黃色，葉四裂片之邊緣具不規則之鋸齒及子囊果五，具尖凸不齊之邊緣，故易分別。

圖註：1. 本種全形(自然大)；2. 小葉之一部及子囊果(放大十倍)；3. 叢生子囊果小葉之一部放大，表示葉脈及子囊果之着生情形，並對其一部之鋸齒(其邊緣有說明圖)(放大十六倍)；4. 葉上之鱗片(放大二十七倍)。





C. B. Peng Det. et. Lab.

ONYCHIUM TENUIFRONS Ching
狭葉烏蕨

PDG

ONYCHIUM IPII Ching

POLYPODIACEAE

ONYCHIUM IPII Ching, Lingnan Sci. Journ. **15**: 282 (1936).

Rhizome wide-creeeping, 2 mm thick; *scales* imbricate, lanceolate, atro-brown, nitent; *fronds* approximate, stipe slender but firm, erect, pale green, naked, sulcate above, 20-26 cm long, lamina narrowly lanceolate with deltoid base, attenuate towards apex, 20-26 cm long, 5-7 cm broad, tripinnate at base, simple pinnate towards apex; *pinnae* 10-13-jugate, basal ones much the largest, 4-7 cm long, 3-4 cm broad at base, deltoid, long-acuminate, oblique, petiole to 1 cm long; *pinnales* subrhombic, acute, 1.5 cm long, 1 cm broad, petiolulate, pinnatisect; *segments* rhombic, below 5 mm long, anterior basal one much the largest, lobato-incised with 2-4 acute serriferous teeth, the middle pinnae lanceolate, to 3 cm long, about 1 cm broad, very oblique, bipinnatifid; *axillae* rigidly herbaceous, light green and glabrous on both sides; *axils* prominently raised, pinnate, one to each serriferous tooth; *axils* short, 2 mm long, *isoleucium* conformis, gray, membranaceous, entire, completely covering sorus.

Hupsh: Kuo Chen Hsien, Wu Leng Shan, K. C. Chow 3382, Oct. 14, 1935, in shade.

This endemic species is closely related to *O. meso-sinense* Ching, differs in its decidedly slender habit with uniform fronds, shorter ultimate segments with very short seti.

Plate 164. Fig. 1a-b. Habit sketch (natural size). 2. Portion of fertile frond. ($\times 25$). 3. Portion of sterile frond ($\times 25$). 4. Ultimate segment of fertile frond, showing position of seti and isoleucium ($\times 25$). 5. Scale from rhizome ($\times 27$).



第 一 百 六 十 四 圖

葉氏烏蕨 (水龍骨科)

ONYCHIUM IPII Ching

本種與紅木坪烏蕨 (第一百六十二圖) 甚其形態更或極長。葉不成二形，葉同葉片及子葉群均較短，故最顯別。

分佈：湖北古銅關之烏龍山特產。

圖註：1. 本種全形 (自然大)，2. 生子葉群之一部 (放大八倍)，3. 不生子葉群之一部 (放大八倍)，4. 生子葉群之末向小葉，表示子葉群之位置及葉之着生情形 (放大十六倍)，5. 地下莖上之鱗片 (放大二十七倍)。





ONYCHIUM IPI Ching

葉氏烏蕨

PLEUROSORIOPSIS MAKINOI (Maxim.) Fomin

POLYPODIACEAE

PLEUROSORIOPSIS MAKINOI (Maxim.) Fomin, Bull. Jard. Bot. Kieff **11**: 8 (1923); Fl. Sib. et Orient. Extr. **5**: 215 (1930); C. Chr. Ind. Fil. Suppl. III, 142 (1934).

Gymnosorus Makinoi Maxim., Makino, Bot. Mag. Tokio **8**: 482 c. tab. 1034; Fl. et Pterid. Jap. Icon. Illustr. **1**: pl. 47 (1899-1901); Christ, Bull. Acad. Geogr. Bot. (1905) 125.

Anogramma Makinoi Christ in C. Chr. Ind. Fil. **58** (1903); Oakes, In. Fil. Jap. **1**: pl. 2 (1920).

Rhizome epigeous, wiry, branched, wide-crooping, densely clothed in rufous-brown, hair-like, unicellular, softly shaggy hairs; *fronds* far apart, erect, stipe 1.5-5 cm long, slender, stramineous, densely clothed throughout in similar hairs, lamina oblong or oblong-ovate, acute or bluntish, base not narrowed, 1.5-6 cm long, 1-2 cm broad, bipinnate; *pinnae* 4-7-jugate under pinnatifid apex, petiolate, 5-7 mm long, deltoid, obtuse, base cuscate, pinnate with 1-2 pairs of oblong-ligulate entire or slightly notched uniserved decurrent segments under the trilobed terminal part; *axillae* thin herbaceous, rachis, petiole and both sides copiously clothed in reddish-brown, spreading, septate, transparent hairs; *veins* visible against light, one to each lobe, falling far short below apex; *costa* linear, along veins and costa of pinnae, exindusiate; *sporangium* broadly subglobular, shortly stalked; *spores* ovate-reniform, discolored, bilateral, and smooth (with both perispore and exospore).

Szechwan: Mt. Ormei, E. H. Wilson 2074. Shensi: Mt. Huan Tou Shan, Gerald. Also Amur, Japan and southern part of Coen (DuRoi, *Tapez. 3946*).

This is a singularly interesting little fern, epiphytic on tree trunks or growing in mosses on rocks under forest. The genus comprising only one species, differs from *Anogramma* in wide-crooping and branched rhizome, with distant leaves, dense reddish-brown articulated hairs in all parts and the bilateral reniform-ovate spores.

Plate 165. Fig. 1. Habit sketch (natural size). 2. Cross section of rhizome ($\times 20$). 3. Cross section of stipe ($\times 20$). 4. Frond, showing venation, hairs and position of sori ($\times 20$). 5. Hairs on lamina ($\times 20$). 6. The same from rhizome ($\times 10$). 7. Sporangium with spores ($\times 150$).



PDG

第一百六十五圖

睫毛蕨(水龍骨科)

FLEUROSORIOPSIS MAKINOI (Maxim.) Fomin

地上葉細長，橫行，扁平，披針形或長橢圓形；葉柄生，柄長一—五至五節，細美，暗棕色，具紅褐色之茸毛。葉體橢圓形或橢圓形，全光面，成疏頭，基部窄，第一—五至六節，寬一—二至二節，二回羽狀分裂；小葉四至七對，長橢圓形，長五至七釐，三角形，疏頭，基部楔形，羽片深裂；裂片一至二對，橢圓形，各緣或頂端稍呈缺刻，具一至小齒，紙質，中肋及葉之兩面的披針形之密茸毛；子囊果線形，葉小葉及主脈生，稀生。

分佈：四川，陝西，日本，朝鮮及西比利亞南部。

本種係一種，生於樹林或林中岩石上之蘆葦中，在中國僅四川及陝西產之。

圖註：1. 本種全形(自然大)，2. 葉之橫切面(放大三十倍)，3. 葉柄之橫切面(放大三十倍)，4. 一回小葉，表示葉脈，葉毛及子囊果之位置(放大二十倍)，5. 葉體上之茸毛(放大十六倍)，6. 葉上之毛(放大十六倍)，7. 子囊果(放大一百五十倍)。





PLEUROSORIOPSIS MAKINOI (Maxim.) Fomin

糙毛蕨

CONIOGRAMME FRAXINEA (Don) Diels

POLYPODIACEÆ

CONIOGRAMME FRAXINEA (Don) Diels in Engl. u. Prantl Nat. Pflanzenfam. **1**: 4, 262 (1899); C. Chr. Ind. Fil. 185 (1905), pro parte; Suppl. II, 9 (1915-17); Contr. U. S. Nat. Herb. **28**: 307 (1931); Hieron. Hedwigia **57**: 286 (1916).

Diplazium fraxineum Don, Prod. Fl. Nepal. 13 (1825).

Goniogramme fraxinea Boid. Ferns Bot. Ind. Suppl. 24 (1876), excl. Ferns Bot. Ind. 3, 252, and Ferns 5, Ind. 1, 55.

Syngramme fraxinea Boid. Handb. Ferns Bot. Ind. 366 (1883), pro parte.

Neosyngramme fraxinea Christ, Farkr. d. Erde 63 (1887), pro parte.

Goniogramme javanica M. Ennos, Pl. Jour. 113 (1888), Fl. Jour. 95 1, 41 (1888).

Coniogramme javanica Fie, Gen. Fil. 167 t. 14 B. I. 1 (1890-91).

Rhizome creeping, thick as a finger, densely scaly; scales linear-subulate, atrobrown, thick, entire; *fronds* simple, 2-3 cm apart, stipe up to 1 meter long, 1 cm thick and scaly near base, prominently bisulcate on the upper side and terete beneath, stramineous or dark stramineous; lamina over 1 meter long, 50 cm broad, ovate or oblong-ovate, simple impari-pinnate, *pinnae* 6-10-jugate, opposite or subalternate, 10-15 cm apart, oblique, lower ones long petiolate (petiole 1.5 cm long), uppermost ones nearly sessile, basal ones generally simple, or very rarely bifid, to 30 cm long (sometimes longer), 6-8 cm broad, oblong-lanceolate, base cuneate (unequally so in lower ones), long-caudate at apex, margin entire to the very tip, generally repand, thin, and not cartilaginous; *leaves* chartaceous, glabrous and green on both sides; *veins* distinct beneath, mostly forked above base, veinlets parallel, ended in large clavate straight hydathodes some distance from the thin leaf-margin; *sori* linear, forked, extending from costa to near the margin.

Yunnan: Tengyueh, G. Forrest 2436, 2588; between Mung Han and Mung Hai, J. F. Rock 2493; without locality, H. T. Tsai 46894.

Also Sikkim-Himalayas, S. India, Java, Philippines and Formosa.

One of the largest species of the genus, characterized by generally simple pinnate leaves and large subopposite pinnae with very entire, thin margin and long caudate apex. From the available herbarium material, this distinct fern seems by no means abundant in the localities noted and has hitherto generally been utterly misunderstood by authors in the past. *Coniogramme fraxinea* of authors on Indian and Chinese ferns generally represents a mixture of a number of species, while its previous report from different parts of China has mostly been a mistake for *C. javanica* Hieron. (cf. pl. 143 of this Icones), the specimens cited above from Yunnan constituting the first and only authentic record of the species from China. The other and the only species, which is similar to our fern in size, general habit and entire leaf-margin, is *C. macrophylla* (Bl.) Hieron. var. *Cepelandii* (Christ) Hieron. (f.c. 292) of the Philippine Islands and recently collected in the Island Hainan (F. A. McClure 2147), which differs, however, in its veins ended in similarly prominent but somewhat arcuate hydathodes connected with the broadly cartilaginous margin by sclerenchymatous cells.

Plate 166. Fig. 1. Habit sketch (natural size). 2. Portion of pinna, showing veins with prominent clavate hydathodes and entire thin leaf-margin (x 4). 3. Scale from rhizome (x 16).

第一百六十六圖
全緣蕨了蕨(水龍骨科)

CONIOGRAMME FRAXINEA (Don) Diels

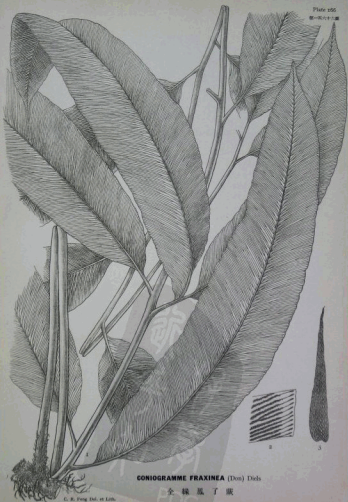
地下取根行，粗肥如指，根頭狀深褐色之鱗片；葉大叢生，柄長達一呎，基部粗達一吋，暗棕色，葉披針狀一紙，寬約五寸餘，卵形或卵狀橢圓形，一回奇數羽狀分裂；小葉六至十對，對生或近互生，羽片，具柄，長達三寸餘，寬六至八分，橢圓披針形，端呈尾狀，基部楔形，以等形，上部數羽無柄，線小，全緣而質薄，不為骨質，紙質，兩翼光澤無毛，綠色，葉脈下面明顯，多數分叉，平行，端或而膨大，不達於葉邊；子囊葉線形，分叉，自中肋發達於葉邊。

分佈：雲南、緬甸、爪哇、台灣、澎湖與羣島均產之。

此為本屬極大之一種，在中國僅產於雲南西部高山，其產於其他各省者，吾人認為此種，實為華風了蕨 (*C. latissima*) 之變。

附註： 1. 本種各形(自然大)。 2. 小葉之一部，表示葉脈及邊緣(放大四倍)。 3. 地下莖上之鱗片(放大十六倍)。





CONIOGRAMME FRAXINEA (Doen) Diels

全線風了蕨

CONIOGRAMME CAUDATA (Wall.) Ching

POLYPODIACEAE

CONIOGRAMME CAUDATA (Wall.) Ching in C. Chr. Ind. Fll. Suppl. III, 56 (1934).

Gemmula caudata Wall. List no. 4 (1828, nom. nud.).*Gymnopteris caudata* Presl, Tent. Florid. 238 (1836, nom. nud.); Ettingsb., Farnkr. 57 t. 27 f. 7, t. 58 f. 13 (1845).*Gymnogramme javanica* var. *spinalata* Christ, Bull. Soc. Bot. France 52: Mém. I, 55 (1904).*Coniogramme spinulosa* Hieron. Holzb. 63: 511 (1876); C. Chr. Ind. Fll. Suppl. II, 20 (1927); Gaertn. U. S. Nat. Herb. 28: 307 (1931).*Coniogramme pubescens* Hieron., l.c. p. 314; C. Chr., l.c.*Gymnogramme serrulata* Wall. (non Bl.), List no. 124 (1828, nom. nud.).*Gymnogramme javanica* Boid. Farn. S. Ind. 27 t. 23 (1864).*Gymnogramme javanica* var. *pilosa* Clarke (non Brack.), Trans. Linn. Soc. II, Bot. 1: 569 (1886).

Rhizome wide-creeping, thick as a small finger, densely scaly; scales narrowly lanceolate, entire, dark-brown, thick; fronds 1-3 cm apart, stipe 30-60 cm long, dark stramineous, naked, deeply grooved above, lamina ovate-deltoid, 30-50 cm each way, simple pinnate or bipinnate at base; pinnae generally 1-3-jugate under the terminal one similar to the lateral, 14-20 cm long, 3-4 cm broad, broadly lanceolate, petiolate, attenuate-cuneate at base, caudate at apex, the basal pair long-petiolate (petiole to 2 cm long), generally 2-3-foliolate with the lower one or basal pair of pinnae somewhat smaller than the upper or central one; fronds thickly chartaceous, margin regularly and prickly serrate with deltoid cartilaginous teeth, glabrous above, densely pubescent beneath; veins fine, distinct, once or twice forked, veinlets parallel, extending into the serrature, each provided with a large prominent brown hydathode at the tip, none linear, extending from costa to near the margin.

Yunnan: Tsun-shan, *Delavay 6618* (type of *C. spinulosa*), 6643, August, 1864; February 22, 1886; Maikha-Salween divide, *G. Forrest 18332*; Shweli-Salween divide, *G. Forrest 81868, 87887*; Tchen Fong Shan, *Delavay 6648*; Shung-pu, H. T. Tsai 68819, 68788, in forest. Southeastern Tibet: forest of Doyan Longbu, *J. F. Rock 11647*.

India: Nepal, *Wallicé 4* (type). Also Sikkim-Himalayas, common.

This distinct fern, now found to be common in Sikkim-Himalayas and the western part of Yunnan, is characterized by simple pinnate frond often with bipinnate base, only 1-3 pairs of pinnae with long-caudate apex, regularly and prickly serrated margin and densely pubescent under surface.

Plate 167. Fig. 1. Habit sketch (natural size). 2. Portion of pinna, showing venetook, soft serrature and pubescent under surface ($\times 4$). 3. Hairy base under surface ($\times 40$). 4. Scale from rhizome ($\times 20$). 5. Sproangium ($\times 40$).

第一百六十七圖
毛葉鳳了蕨(水龍骨科)

CONIOGRAMME CAUDATA (Wall.) Ching

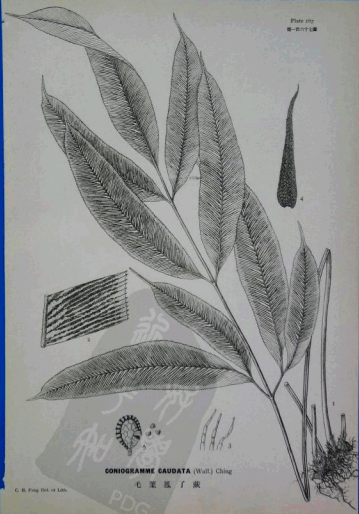
地下莖橫行，粗肥如指，被深褐色披針形之葉鱗片；葉叢叢生，柄長三十至六十公分，光滑無毛，葉體卵狀三角形，長三十至五十公分，寬如之，一回奇數羽狀分裂，基部二回分裂，小葉通常二至三對，長十四至二十公分，寬三至四公分，圓披針形，具柄，基部呈楔形，頂端尾形，頂部一小葉每對大，同形，基部一對通常二至三個，柄長僅二公分，厚紙質，邊緣具刺狀骨質之尖細齒，上緣光禿，下面披黃毛，葉脈明顯，一回或二回分叉，直達於側齒之端；子囊果線形，自中脞外生，達於葉邊。

分佈：雲南及貴州松山山麓之。

此蕨本屬特稀之種，葉之下面被黃毛，其葉面直達於刺狀骨質之尖細齒之頂，小葉二至三對，總葉長尾形，基部截形。

圖註：1. 本種全形(自然大)。 2. 小葉之一部，表示葉脈、子囊、側齒及葉毛之下面(放大四倍)。
3. 葉下面之毛(放大四十倍)。 4. 地下莖上之鱗片(放大二十倍)。 5. 子囊(放大四十倍)。





CONIOGRAMME CAUDATA (Wall.) Ching

毛葉鳳了蕨

CONIOGRAMME PROCERA (Wall.) Fée

POLYPODIACEÆ

CONIOGRAMME PROCERA (Wall.) Fée, 10 *Mém.*, 22 (1865); Hieron. *Botwigia* 57: 317 (1926);

C. Chr. *Ind. Fil. Suppl.* 11: 10 (1913-17); *Contr. U. S. Nat. Herb.* 26: 307 (1931).

Grammitis procera Wall. *List no.* 3 (1868, non. red.).

Coniogramme javanica Hook. *Sp. Fil.* 4: 125 (1861), pro parte.

Coniogramme parvipinnale Hayata, *In. Pl. Form.* 4: 237 f. 166 (1914); C. Chr. *Ind. Fil. Suppl.* 11: 99 (1913-17).

Rhizome creeping, thick as a small finger, sparsely scaly; scales light brown, lanceolate, entire, broad distant, stipe to 60 cm long, over 0.5 cm thick near base, light stramineous, deeply bisulcate above, lamina ample, over 60 cm long, 50 cm broad at base, ovate-deltoid, fully bipinnate under the simple pinnate apical part; pinnae about 10-jugate, patent, petiolate, the basal ones much the longest, to 30 cm long, 9 cm broad, imparipinnate with 10-13 pairs of opposite (or subopposite) pinnules to 5 cm long, 2 cm broad, with sessile or slightly adnate, broadened rotundo-truncate base, caudate apex and crenate-serrate margin, the upper several pairs of pinnae gradually shortened with 9-7-5 pairs of pinnules respectively under the much longer terminal one, the upper middle pinnae with only 3-2-1 pairs of pinnules under still longer terminal one, the uppermost 3-5 pairs generally simple, under the similar terminal one; *keiske* thin herbaceous, green and glabrous on both sides; veins fine, forked above base, veinlets parallel, with slightly enlarged tip, extending to the base of serratae; sori linear, forked; extending to little over half way to the margin.

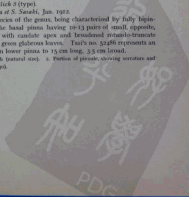
Yunnan: Mengtze, Hancock 10; Schweli Salween divide, G. Forrest 05282; *Handl-Matten* 7057; without locality, Delacoy (1886); Salween, G. Forrest 05284 (1925); H. T. Tsui 02126, 01765, Feb. 1932; Tchen Fong Shan, E. E. Mair, between Tengyueh and Burmese border, J. F. Rock 7328.

India orientalis: Nepal, Wallich 3 (type).

Formosa: Arison, B. Hayata et S. Sasaki, Jan. 1912.

One of the most distinct species of the genus, being characterized by fully bipinnate lower half of lamina, with the basal pinna having 10-13 pairs of small, opposite, sessile or slightly adnate pinnules with caudate apex and broadened rotundo-truncate base, and by thin herbaceous light green glabrous leaves. Tsui's no. 52486 represents an unusual large form with pinnules in lower pinna to 15 cm long, 3.5 cm broad.

Plate 168. Fig. 1. Habit sketch (natural size). 2. Portion of pinnule showing serratae and sori ($\times 4$). 3. Scale from rhizome ($\times 30$).



第一百六十八圖
高山鳳了蕨(水龍骨科)

CONIOGRAMME PROGERA (Wall.) Fée

地下莖橫行，根肥如小指，略被淡黃色之絨針形鱗片；葉叢生，柄長達六十公分，光滑，後稍棕色，葉體甚大，長達六十公分，寬約五十公分，二回奇數羽狀分裂；小葉約十對，圓錐，具柄，基部一對最大，長達三十公分，寬九公分，奇數羽狀分裂，二回小葉十至十三對，對生，長約五公分，寬二公分，無柄，或多少合生，呈星形，基部為圓錐狀，邊緣鋸齒狀，上部小葉漸短，二回小葉漸少，其位於葉區下部者則為單葉，薄紙質，綠色，兩面光滑，葉脈明顯，橫達於羽葉之基部；子囊果圓形，分叉，自中肋達於葉之半圓。

分佈：雲南，印度東北及台灣高山處之。

此為極罕二回羽狀分裂之種，其基部小葉具十數對以上之二回羽生小葉，葉薄紙質，綠色，兩面光滑無毛，最廣葉柄。

圖註： 1. 本種全形(自然大)。 2. 二回小葉之一部，表示羽葉及子囊果(放大四倍)。 3. 地下莖上之鱗片(放大三十倍)。





CONIOGRAMME PROGERA (Wall.) Fée

高山鳳了蕨

C. E. Fang Det. et Lith.

OLEANDRA CUMINGII J. Smith

POLYPODIACEAE

OLEANDRA CUMINGII J. Smith, Journ. Bot. 3: 413 (1841, nom. nud.); Presl, Epim. Bot. 41 (1849); Hk. Sp. Fil. 4: 158 (1860); Hk. et Bak. Syn. Fil. 303 (1874); Diels in Engl. u. Prantl, Nat. Pflanzenfam. 12: 4, 204 (1890); C. Chr. Ind. Fil. 466 (1905); Copel. Polyp. Phil. Isl. 49 (1905); Dunn & Tutcher, Fl. Kwangt. & Hongk. 349 (1912).

Oleandra sinensis Hance, Ann. Sci. Nat. IV. 18: 238 (1861); C. Chr. Ind. Fil. Suppl. III. 132 (1910).

Rhizome wide-creeping, densely scaly, scales haecolate, long-acuminate, imbricate, ferruginously brown, margin long-fimbriate; fronds 0.5-1 cm apart, stipe dark stramineous, hairy, articulated at 1-2 cm above base, lamina linear-lanceolate, 15-30 cm long, 2-3 cm broad, acuminate, gradually narrowed downward, with narrowly cartilaginous, wavy and generally raked margin; leaflets papyraceous, rather sparsely and shortly pubescent beneath and with a few very fine appressed hairs above; veins fine, distinct, forked above base; sori irregularly 7-crowed, subcostal, indusium coniform, brown, hirsute.

Kwangtung: Sichu Shan, Sawjoo 1908 in Herb. Hance (type of *O. chinensis*); Lofou Shan, Ford (1883); N. K. Caus 2020; North River, Feiloy Hap, Matthes, Nov. 25, 1907; Canton, Peiyun Shan, H. Y. Liang 6802, July 3, 1939; White Cloud Hill, W. Hillebrand; Hougkong Mt. Parker, Matthes, Oct. 12, 1907.

Philippine Islands: Luzon, Cusung 69 (type). Also Malasia-Polynesia.

Closely related to *O. ussulatata* (Willd.) Ching, from which it differs in characters as will be noted under that species. Upon a close comparison made in the herbarium at Kew in winter, 1939, I could see no tangible differences between the Philippine type and the southern Chinese plant, known as *O. chinensis* Hance.

Plate 169. Fig. 2. Habit sketch (natural size). 2. Portion of lamina, showing venation, wet and hairy under side (1 × 4). 3. Scales from rhizome (1 × 16). 4. Hairs from the under side of lamina (1 × 54).

第一百六十九圖
華南蕨蕨 (水龍骨科)

OLEANDRA CUMINGII J. Sm.

地上莖橫行，節有根生，被互生狀之金黃色披針形之鱗片；葉面綠色，極深暗的色，長二至四吋，基部上面一二吋處有獨特之葉形，葉體線狀披針形，長十五至三十吋，葉三至三吋，極尖頭，下緣脈鈍，邊緣為骨質而呈淺波狀，紙質，兩面具多少之細毛，葉脈細長，顯明，自基部分叉，達於葉端；子囊葉圓形，為不規則之一列，甚為卵形，淺色，具短毛。

分佈：廣東，香港，菲律賓羣島及南洋羣島均產之。

本種形體極似高山蕨類 (*O. Wallichii*)，惟其莖上之鱗片，彼此互生，葉脈較長，葉緣通常光滑無毛，故易分別。

圖註：1. 本種全形 (自然大)。 2. 葉體之一部，表示葉脈。子囊葉之位置與短毛之下面。(放大四倍)。 3. 莖上葉上之鱗片 (放大十六倍)。 4. 葉體下面之細毛 (放大五十倍)。





OLEANDRA CUMINGII J. Smith

華南蕨類

OLEANDRA WHANGII Ching

POLYPODIACEAE

OLEANDRA WHANGII Ching, Bull. Dept. Biol. Coll. Sci. Sun Yatsen Univ. No. 4: 23 (1933);
C. Chr. Ind. Fil. Suppl. III, 1:31 (1934).

Oleandra mouffouia Wu (gen. 81, 2829, l. c. No. 2: t. 37 (1936)).

Rhizome wide-creeeping along the rock surface, densely scaly; *scales* rusty brown, lanceolate, thick, dorsally affixed, margin subsarcious, densely imbricate; *fronds* sub-fasciculated, 3-4 together, stipe 1-4 cm long, pale stramineous, nitid, naked, articulated above base, lamina broadly linear-lanceolate, 25-35 cm long, 3-5 cm broad with almost parallel margin except towards both ends being slowly narrowed, margin subundulate; *texture* chartaceous, green, glabrous on both sides except the costa beneath being sparsely provided with brown scales and a few short articulated hairs; *veins* fine, but distinct, mostly forked from base, parallel, extending to the cartilaginous margin; *seri* irregularly 1-rowed some distance from costa, *inclusion* resiniform, large, brown, membranaceous, glabrous.

Kwangsi: Pin Nam, Yao Shan, S. 5, Sin & Whang 300 (type), June 2, 1928, *ibid.* C. Wang 33287, July 3, 1936, 3000 ft. alt., on rocks.

This distinct endemic species, known so far only from one single locality, differs from its all Chinese relatives in subfasciculated fronds on very short stipes, naked surfaces of lamina (or with very few short hairs along costa beneath) of broadly linear-lanceolate outline with nearly parallel edges, and large naked inclusion at some distance from the costa.

Plate 170. Fig. 1. Habit sketch (natural size). 2. Portion of lamina, showing venation and position of seri ($\times 4$). 3. Scale from rhizome ($\times 15$). 4. Scales from under side of costa ($\times 27$). 5. Hairs from the under side of costa ($\times 50$).

第一百七十圖
猴山蕨蕨(水龍骨科)
OLEANDRA WHANGII Ching

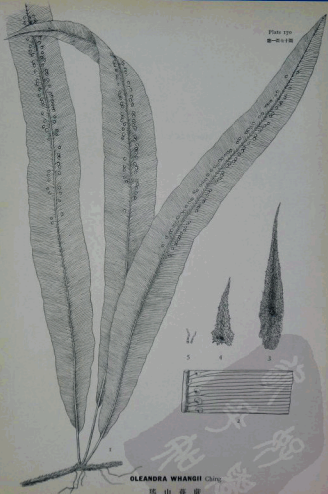
本種和圖加其一百六十九種，惟其葉面裝生，兩面光滑無毛。(或中脈下面略具一二細毛)，葉邊整
是平行，子囊草較大，距中脈較遠，蓋無毛，故易分別。

分佈： 產於廣東平海縣之雲山。

圖註： 1. 本種全形(自然大)， 2. 葉體之一部，表示葉脈及子囊草之位置(放大四倍)， 3. 葉上
葉上之鱗片(放大十六倍)， 4. 中脈下面之鱗片(放大二十七倍)， 5. 中脈下面之細毛(放大五十倍)。



Plate 170
一〇七四



OLEANDRA WHANGII Ching

積山薔薇

C. B. Feng Det. et Lith.

OLEANDRA UNDULATA (Willd.) Ching

POLYPODIACEAE

OLEANDRA UNDULATA (Willd.) Ching, *Lignos. Sci. Journ.* **12**: 565 (1933); *C. Chr. Ind. Fil. Suppl.* III, 132 (1934).

Polypodium undulatum Willd. Sp. Pl. 4: 355 (1804).

Oleandra Cumingii var. *longipes* Hk. Sp. Fil. 4: 158 (1864) Bodd. *Fern. Brit. Ind.* t. 132 (1860); *C. Chr. Contr. U. S. Nat. Herb.* **28**: 290 (1932).

Oleandra Cumingii (non J. Sm.) Hk. et Bak. Syn. Fil. 303 (1858); Clarke, *Trans. Linn. II. Bot.* **1**: 540 (1880); Bodd. *Handb. Fern. Brit. Ind.* 688 (1883); *C. Chr. Ind. Fil.* 466 (1904), 500 (1926).

Oleandra pubescens Cop. Univ. Calif. Publ. Bot. **12**: 397 pl. 500 (1933).

Rhizome thick, wide-creeeping, densely scaly; **stipes** linear-subulate, ferruginous-brown, imbricate, margin sparsely villose-fimbriate; **frond** 1-3 cm apart, stipe 13-20 cm long, dark stramineous, naked, articulated at 4-6 cm above the base, lamina broadly lanceolate, 20-26 cm long, 3-4.5 cm broad at the lower middle, being the broadest part, acuminate, base cuneate, shortly decurrent, margin naked, repando-undulate; **texture** thick chartaceous, densely pubescent on the under side (hairs on costa spreading), glabrous and subnude above; **veinlets** fine, distinct, forked from base; **seri** irregularly 1-rowed some distance from costa, **inclusion** reniform, large, dark brown, hirsute.

Hainan Island: Chim Shan, Fan Maan Tsuen, *F. A. McClure* 29961, May 4-20, 1932; Ue Lung Shan, Chang-kiang Hsien, *S. K. Lau* 2358, Jan. 9, 1934; Ka Chik Shan, *ibid.*, *S. K. Lau* 2496, April 8, 1933.

Siam: Doi Chong, *Eryl Smith* 1072 [type of *O. pubescens*]; Kao Sabup, *Eryl Smith* 681, June 29, 1932.

Formosa: Mt. Arisan, *Faurie* 287, May, 1924.

Burma: Keng Tong Territory, *J. F. Rock* 8088, 8088A. Assam: *Griffith*.

India orientalis: Tranquebar, *Klein* 887 (1800, type); *Helger, Mehold, Wight*.

Also French Indo-China.

A close relative of *O. Cumingii* J. Sm., from which it can easily be distinguished by its decidedly longer stipe with articulation at 3-6 cm above base, broadly lanceolate (broadest at the lower middle) lamina of thicker texture, with repando-undulate margin and cuneate, or shortly decurrent base, more densely pubescent under and glabrous upper, surfaces.

Plate 171. Fig. 1. Habit sketch (natural size). 2. Portion of lamina, showing venation, seri and strigose hairy under side ($\times 4$). 3. Scale from rhizome ($\times 16$). 4. Hairs from under side of lamina ($\times 90$). 5. Cross section of rhizome, showing the arrangement of stipes ($\times 10$).

SCONES FELICUM SINICARUM

第一百七十一圖

長柄葶藶(水龍骨科)

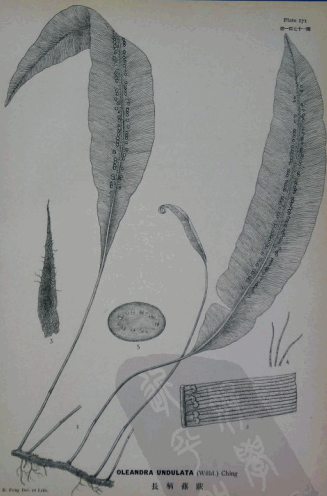
OLEANDRA UNDULATA (Willd.) Ching

本種單體，亦如第一百六十九圖，僅葉柄甚長，其他均位於基部二三六粉之處，單體較寬，其最闊處在中下部，基部呈楔形或稍下延，邊緣呈波狀以稀，葉背亦較厚，紋甚顯明。

分佈：廣東之瓊州島、崖縣、順甸、台屬及白崖支那。

圖註：1. 本種全形(自然大)，2. 葉體之一部，表示葉脈，子葉葉之位置與葉柄之下部(放大四倍)，3. 葉上葉上之鱗片(放大十六倍)，4. 葉體下面之葉毛(放大五十倍)，5. 葉之橫切面，表示維管束之構造(放大十倍)。





OLEARIA UNDULATA (Wald.) Ching

長柄蓬蕨

GYMNOCARPIUM REMOTI-PINNATUM (Hayata) Ching

POLYPODIACEÆ

GYMNOCARPIUM REMOTI-PINNATUM (Hayata) Ching, Bull. Chin. Bot. Soc. **1**: No. 2, xiv (1935)*Dryopteris remoti-pinnata* Hayata, Gen. Ind. Ic. Pl. Form. 208 (1927); C. Chr. Ind. Fil. Suppl. III, 96 (1934).*Dryopteris remota* Hayata, Mater. Fl. Form. in Journ. Coll. Sci. Imp. Univ. Tokio **28**: 422 (1911); Ic. Pl. Form. 4: 277 (1924); C. Chr. Ind. Fil. Suppl. II, 16 (1913-16).*Gymnocarpium remotum* Ching, Caste. Ind. Lab. Sci. Soc. Chin. Bot. **3**: 41 (1933).*Aspidium Dryopteris* var. *longulum* Christ, Bull. Herb. Poinc. II, **2**: 830 (1900); Bull. Soc. Bot. France **22**: Mon. I, 55 (1925).*Dryopteris Linnaea* C. Chr. Ind. Fil. 275 (1925), pro parte; Acta Hort. Gothob. **1**: 40, 55 (1924).*Dryopteris Robertiana* C. Chr. (non Index, 1905) Acta Hort. Gothob. **1**: 55 (1924).*Dryopteris orientalis* Petrow, Fl. Jakutic 25 c. 12, 1930.

Rhizome slender, wide-creeping, densely scaly on new shoots; *stipes* ovate-lanceolate, light brown, membranaceous, fimbriate, long-acuminate; *fronds* far apart, or sometimes approximate, stipe 15-26 cm long, slender, firm, pale stramineous, sparsely scaly in the lower part; lamina deltoid, 10-18 cm each way, tripinnatifid at base; *pinnæ* 5-8-jugate under the deeply pinnatifid acuminate apical part, opposite, subpatent, all prominently articulated to rachis, the lowest two pairs generally petiolate, the upper ones sessile, the basal pair much the largest, 7-15 cm long, 3-5 cm broad, ovate-oblong, on petiole to 2 cm long, bipinnatifid under the deeply pinnatifid acuminate apical part; *pinnules* 5-8-jugate, opposite, sessile or adnate or petiolulate in the anterior basal one, which is the longest, patent, deltoid-lanceolate, 1-2.5 cm long, 1-1.5 cm broad at base, acuminate, pinnatifid down nearly to costa into 5-8 pairs of oblong, rounded, entire or inciso-crenate segments under the pinnatifid apex; the second pair of pinnæ much smaller, broadly lanceolate, to 8 cm long, 2 cm broad at base, pinnules oblong, sessile, pinnatifid or incised, the third pair and further upper pinnæ linear-lanceolate, sessile, pinnatifid or pinnate at base with oblong crenate or entire pinnules with rounded apex; *twigs* submembranaceous, light green, glabrous on both sides, except rachis near the insertion of pinnæ being sparingly and shortly glandular; venation fine, distinct, forked or pinnate; *sori* roundish, brown, exindusiate, much nearer to the margin.

The species is now found to be fairly common in North and North-western China, Manchuria, Siberia, Sakhalin, Corea, Japan and Formosa and also Northwestern Himalayas. In China, it has been reported from provinces Hopei, Shensi, Shansi, Kansu, Szechwan, Sinkiang and Manchuria (cf. my Monograph of *Gymnocarpium* p. 41).

In general habit, this fern resembles *G. Robertianum* (Holtn.) Newman of northern Europe and North America, differs, above all, in leaves being eglandular, or sometimes only rachis near the articulated insertion of pinnæ being sparingly and shortly glandular.

Plate 177. Fig. 1. Habit sketch (natural size). 2. Ultimate pinnule, showing venation and position of sori ($\times 8$). 3. Portion of rachis, showing the articulation of the base of pinnæ ($\times 8$). 4. Scale from rhizome ($\times 10$).

第一百七十二圖
 肢節蕨(水龍骨科)

GYMNOCARPIUM REMOTI-PINNATUM (Hayata) Ching

地下莖細長，橫行，頂端部被薄狀披針形淡黃色之披針葉片；葉叢生，柄長十五至二十六公分，細壯，光滑，淡黃褐色，基部被薄狀披針形，披針葉片，葉體三角形，長十至十八公分，寬亦如之。三四葉狀深裂，頂部葉太圓，葉狀深裂；第一回小葉五至八對，對生，葉部以葉脈着生於中軸，下部二對具柄，餘皆無柄，長七至十三公分，寬三至五公分，卵狀橢圓形；二回小葉五至八對，對生，無柄，或基部上方一片具短柄，由全緣或葉狀深裂；第一回小葉之葉二對較小，闊披針形，長五至八公分，寬二公分，一回小葉橢圓形，無柄，羽狀深裂或具深裂，羽狀裂，淺綠色，兩面均無毛，惟中軸與小葉着生處略具淡黃色之線形腺，葉面勻細而明顯，分叉或羽狀分裂；子葉厚紙或薄紙形，黃色，無毛，略近葉緣。

產處：中國西北二部各省，東三省，日本，朝鮮，台灣及印度北部均產之。

圖註：1. 本種全形(自然大) 2. 葉之一部，表示葉脈及子葉着生處(放大八倍) 3. 小葉與葉柄
 節狀着生之情形(放大六倍) 4. 葉上之腺片(放大十倍)。





GYMNOCARPIUM REMOTI-PINNATUM (Hayata) Ching

C. B. Peng Det. et Litt.

蕨 類 圖 解

ASPLENIUM FUGAX Christ

POLYPODIACEAE

ASPLENIUM FUGAX Christ, Bull. Soc. Bot. France **52**: Mém. 1, 53 (1905); Bull. Acad. Géogr. Bot. (1909) 13; C. Chr. Ind. Fil. 122 (1905); Acta Hort. Gothob. **1**: 82 (1924).

Rhizome short, erect, densely radiceous; scales fusco-brown, ovate-lanceolate, entire; *fronds* caespitose, several together, stipe waxy, slender, green, naked, 2-4 cm long, lamina linear-lanceolate, 4-6 cm long, about 1 cm broad, bipinnatifid, often with prolonged and viviparous nodding apex; *pinnae* 8-12-jugate, opposite or subopposite, subsessile, broadly ovate, 5 mm each way, gradually smaller upwards, deeply pinnatifid into 2-3 pairs of oblong-ovate, entire or bifid segments under the 3-2-fid or entire terminal segment; *leaflets* thin herbaceous, green, glabrous; veins simple and uninerved to each segment, not reaching the acute apex of segments; *axils* short-linear, one to each segment, induratum linear, membranaceous, entire, those on the upper segments opening towards costa of pinnae, while those on the lower segments generally opening downward.

Kweichow: Quan-ly, Esquirol 2218 (type). *Szechwan*: Tchen-kou-ting, Farges 657. *Yunnan*: without locality, Henry.

A distinct endemic fern, inhabiting dripping calcareous rocks and only closely related to *A. exiguum* Bold, from which it differs in much slender habit and less divided fronds.

Plate 473. Fig. 1. Habit sketch (natural size). 2a-2b. Lateral pinnae from base upwards, showing shape, pinnation, venation and sori ($\times 10$). 3. Scale from rhizome ($\times 27$).



第一百七十三圖
竇地鐵角蕨(水龍骨科)

ASPLENIUM FUGAX Christ

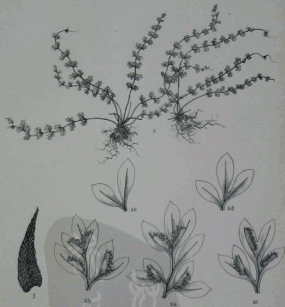
地下莖短而直立，呈嫩黃綠色；葉被深褐色之卵狀披針形鱗片；葉叢生，柄長二至四呎，細如鋼絲，綠色光滑。葉片長四至六呎，線狀披針形，寬約一呎，二回羽狀深裂，頂部葉尾長其一半，着地生根；小葉八至十一對，對生或近對生，葉不具柄，闊卵形，長約五吋，寬亦如之，向上漸小，深裂，裂片一至二對，下葉二至三裂，上葉不分裂，頂部三至二裂，全緣，薄紙質，光澤，深綠色，葉脈兩單，每裂片一張，不達於頂；子囊果短線形，生於上部之裂片者向中軸開，生於基部之裂片者向下開。

分佈： 貴州、雲南、四川特產。

本種生於陰濕之石灰岩洞中，根短而粗，惟形體極為細長，葉之分裂較少，故易分別。

圖註： 1. 本種全形(自然大)， 2a-2c. 自基部至頂部之各小葉，表示其形態，分別度，葉脈及子囊果(放大十倍)， 3. 葉上之鱗片(放大二十七倍)。





ASPLENIUM FUGAX Christ

隙地鐵角蕨

ASPLENIUM EXIGUUM Beddome

POLYPODIACEE

ASPLENIUM EXIGUUM Beddome, Ferns S. Ind. 1. 145 (1863); Hope, Journ. Bomb. Nat. Hist. Soc. 12: 663 (1900-1); C. Chr. Ind. Fil. 110 (1905); Suppl. III. 32 (1914).

Asplenium exiguum var. *exiguum* Bedd. Handb. Ferns Brit. Ind. 138 (1883).

Asplenium jankowskii Franch. Bull. Soc. Bot. France 22: 28 (1885); Diels in Engl. u. Prantl Nat. Pflanzenfam. II. 4. 247 (1895); C. Chr. Ind. Fil. 126 (1905); Acta Hort. Gothob. 1: 30 (1906); Bot. Appl. 46. Tonkin 275. 4. 1. 194 (1927).

Asplenium jankowii var. *jankowskii* Bedd. Handb. Ferns Brit. Ind. Suppl. 31 (1894).

Asplenium Lohriense Christ. Bull. Herb. Boiss. 6: 152 (1898); C. Chr. Ind. Fil. 118 (1905).

Asplenium woodwardii Christ. Bull. Soc. Bot. Ind. (1900) 261; C. Chr. Ind. Fil. 126 (1905).

Asplenium jankowskii C. Chr. Acta Hort. Gothob. 1: 80 t. 16 f. 6-9 (1914).

Asplenium jankowii Clarke, Trans. Linn. Soc. II. Bot. 1: 484 (1864), pro parte.

Rhizome short, erect, densely radiceous and scaly; scales linear-lanceolate, dark brown, thin, iridescent, fronds tufted, stipe 1.5-3 cm long, atro-castaneous, densely fibrillose-scaly throughout, lamina linear-lanceolate, 1-3 cm broad, varying from 10-30 cm long, narrowed towards both ends, bipinnatifid or rarely subpinnate, rachis quite glabrous, castaneous below, green towards apex which often prolonged and rooting at tip; pinnae 15-28-jugate, shortly petiolate, ovate-oblong to oblong-lanceolate, patent, 0.5-2.5 cm long, deeply incised into 3-6 pairs of oblong, dentate segments with the anterior basal segment not infrequently being the largest and subpinnatifid; tertiary herbaceous, both sides glabrous; veins obscure, each tooth with one veinlet; sori elongate, indusium membranaceous, gray, entire, opening mostly towards the costa of pinna, but those on the anterior basal pinnales often towards costules.

Yunnan: Lan-koang, Delavay, April 7, 1883 (type of *A. yunnanense*); Mengtze, *A. Henry* 10180, 12003; Hancock 56 (1891); Pu-seh Cliff, *Henry* 15792; Chung-fen Plateau, *Forrest* 12042; Mekong, *Forrest* 12679A; Kin-ohang Chow, *E. E. Meise* 2803; Yunnan-fa near Laka Tang, *Schneider* 488 (1914); Yangling Mt., *Forrest* 12522; Hockiang, *Schneider* 2780; Tchou-Ku-Tze-Tang, *Meise* 1418A. Szechwan: Moupin, *Davies*, *Wilson* 2028, 2320; 2329; Nin-Yuan-Fu, *Henry* 5204 1801 (type of *A. jankowskii*). Kweichow: Ma-jo, *Cavalerie* (1908); Pin-fa, *Cavalerie* 000 (pro parte); Kiang-koang, *Michel* 592; *Cavalerie*, Jan. 1910; without locality, *Espirel* 793.

Tibet: Muti, *Capt. Knapton Ward* 4307.

Also Himalayas, South India, Tonkin and Luzon, the Philippine Islands (leg. *Lohr*, type of *A. Lohriense*).

A distinct but very variable fern, now known rather extensively in Asia. The frond varies from scarcely 5 mm to over 3 cm in width and leaf apex sometimes prolonged and rooting at tip. The nearest relative is evidently *A. jankowskii* (L.) Benth. from which it differs in less pinnatifid fronds of dark green color, in costal sori and sometimes prolonged and rooting leaf apex. The type based upon a specimen from Mt. Nilgiri, South India, represents a small and simple form with some fronds having prolonged and rooting apex and agrees well with *A. jankowskii* C. Chr. The Philippine plant described under *A. Lohriense* differs from the mainland form in no respect. The Mexican *A. Gleasonii* Baker has been found not specifically different from the typical form of our fern, as already pointed out by Hope (l. c.) long ago.

Plate 174. Fig. 1. Habit sketch (natural size). 2. Lateral pinna ($\times 5$). 3. Scale from the base of stipe ($\times 50$).

第一百七十四圖
低頭鐵角蕨(水龍骨科)

ASPLENIUM EXIGUUM Beddome

地下莖短而直立，具黑色小繖狀披針形之鱗片；葉簇生，葉柄長一、五至三釐，深紫色，葉面與鱗片，葉體為線狀披針形，長十至三十釐，寬一至三釐，向兩端漸狹，二回羽狀深裂，中軸光滑，其頂部常延長而着地生根；一回小葉十五至二十八對，具短柄，卵狀橢圓形或橢圓狀披針形，圓頭，長五釐至二、五釐，深裂成三五六對橢圓形之裂片，其基部上方一裂片較大，葉齒尖銳，薄紙質，兩面光滑，葉脈分叉，直達葉齒；子囊果形長，蓋為圓蓋，灰白色，全緣，向中裂開，葉生基部上方之二回小葉者，則向其主脈開。

分佈：雲南，四川，貴州，西康，貴州桂西山，印度南部及菲律賓羣島之處。

本種分佈甚廣，形體大小變異極大，異名甚多，實係一雜也。

附註：1. 本種全形(自然大)，2. 一回小葉(放大六倍)，3. 葉柄基部鱗片(放大二十四倍)。





ASPENIUM EXIGUUM Boshoms

低頭鐵角蕨

ASPLENIUM LORICEUM Christ

POLYPODIACEÆ

ASPLENIUM LORICEUM Christ in C. Chr. Ind. Fil. 119 (1905).

Asplenium formosum Christ (non *A. formosum* Baker, 1891), Bull. Herb. Bot. U. 4: 563 (1904).

Asplenium Malinot Yabe in Matsum. et Hayata, Form. Fl. Form. in Journ. Coll. Sci. Imp. Univ. Tokio 22: 600 (1906).

Asplenium Malinot Hayata, Ic. Pl. Form. 4: 224 f. 154 (1914); C. Chr. Ind. Fil. Suppl. 1: 6 (1907-07).

Asplenium Wrightianum Merr. (non Wall. 1828), Exsicc. Hainan Pl. in Lingnan Sci. Journ. 2: 55 (1902).

Rhizome rather thick, short, erect, densely radiceous, sparsely scaly; scales lamellate, brown, fimbriate; fronds caespitose, stipe 20-24 cm long, pale stramineous, herbaceous, sparsely scaly, with rachis compressed upon drying, lamina ovate-oblong, 17-24 cm long, 7-14 cm broad, impari-pinnate (sometimes simple and lanceolate); pinnae 2-4-jugate, 10-15 cm long, 1.6-2.5 cm broad, lanceolate, long-acuminate, base subequal, short-attenuate on petiole about 5 mm long, margin remotely incisely-serrate above base and below long-acuminate entire apex; texture soft herbaceous, pale green, with a few small scales on the under side; costa prominent on both sides; veins quite distinct, mostly forked, veinlets oblique, parallel, extending to some way below leaf-margin; sori straight, oblique, about 8 mm long, borne on the anterior veinlet of each group, extending from costa to one-third way from margin, induratum gray, linear, entire, persistent.

Hainan Island: Ng Chi Leng, F. A. McClure 8396, 8554; Katsunoda 6387 ex Herb. Hongkong; W. Y. Chun 6024 in Herb. Univ. Nanking; Eryi Smith 1480; Sha Po Leng, W. T. Tsang 10188. Kwangtung: Sunyi, Sick Toon, C. Wang 30039 in moist place in resin.

Formosa: Uras, Farris 403 (type), 453; Taihoku, S. Sasaki 21505; Y. Shimada 114 (1913).

Annam: Thau-Lui, Cadier 100, 161; Cavalet 38, 71A.

Tonkin: Billot 7797.

This distinct species is closely related to *A. Wrightianum* Wall. from S. India and Ceylon, differs in fewer and broader pinnae with subequal base and only a few remote incisions on the margin below the entire long-acuminate apex.

Plate 175.—Fig. 1. Habit sketch, (natural size). 2. Portion of pinna, showing venation and serrature ($\times 4$). 3. Scale from base of stipe ($\times 10$). 4. Scale from under side of pinna ($\times 20$).



第一百七十五圖
南海鐵角蕨(水龍骨科)

ASPLENIUM LORICEUM Christ

地下莖四稜形，斜而立，被披針形之鱗片；葉簇生，柄長二十公分，淡褐色，略具細長鱗片，扁形，葉面似紙質。長十七至二十四公分，寬七至十四公分，一回奇數羽裂分裂(偶為披針形之單葉)；小葉二至四對，長十至十五公分，寬一、六至二、五公分，披針形，基部楔形，上部略等形，稍平展，具短柄，邊緣具疏鋸齒之葉齒，僅基部及端部全緣，紙質，淡綠色，下面覆有疏生，微顯明顯，分叉，倒生，不達於葉邊；子葉呈線形，長約六公分，生於上方小葉，倒生，僅於小葉寬三分之二，並與葉全緣，宿存。

分佈：廣東之信宜縣及瓊州島；在粵、閩、安南亦產之。

此種在其分佈區域內甚為普通，其形體極似海南產之 *A. Wightianum* Wall. 惟小葉較短少銳尖，基部為楔形，葉部全緣，缺刻形之葉齒疏生，故易分別。

附註： 1. 本圖全形(自然大)， 2. 小葉之一部，表示葉面及側面(放大四倍)， 3. 葉柄上之鱗片(放大十六倍)， 4. 葉下面之鱗片(放大二十倍)。





ASPENIUM LORICEUM Christ

南海鐵角蕨

ASPLENIUM INTERJECTUM Christ

POLYPODIACEAE

- ASPLENIUM INTERJECTUM** Christ, Bull. Acad. Géogr. Bot. (1902) 241; (1907) 149; C. Chr. Ind. Fil. 116 (1905); Blot, Aspl. d. Tonkin 42 1, 2, f. 3 (1932).
Asplenium cuspidatum var. *sepioides* Christ, loc. cit. p. 249.
Asplenium interjectum var. *slatum* Christ, Bull. Acad. Géogr. Bot. (1907) 149.
Asplenium mesofolium Christ (non Vir. 1866), Bull. Acad. Géogr. Bot. (1902) 13.
Asplenium longicaule Rosent. in Fedde, Report Sp. Nov. 13: 123 (1913); C. Chr. Ind. Fil. Suppl. II, 6 (1913-17).

Rhizome short, erect, densely radiceous, sparsely scaly; scales linear-subulate, blackish, thin, clathrate, iridescent; *fronds* caespitose, stipe 15-12 cm long, atro-castaneous throughout, or green, naked, herbaceous, lamina deltoid, 10-15 cm long, and nearly as broad, tripinnate at base; *pinnae* 5-7-jugate under simple pinnate and acuminate apex, petiolate, patent, the basal pair much the largest, to 9 cm long, 6 cm broad, deltoid, with unequal base; petiolate (petiole 1 cm long), bipinnate; *pinnaules* 3-4-jugate, anadromously arranged (i.e. the pinnaule nearest to the rachis is borne on the upper side of rachis), petiolulate, the lower ones 2-3 cm each way, deltoid-ovate, obtuse, pinnatifid or deeply lobed into 2-3 ovate, rounded, dentate lobes, the upper ones rhombic, incised and eroso-dentate; *venae* thin herbaceous, light green, glabrous on both sides; *veins* sub-bilaterally forked, with venet running into each tooth but falling short of the tip; *axils* linear, straight or slightly curved, to 5 mm long, *indusium* narrow, gray, entire, opening towards costule of ultimate lobes, or towards costa on the apical portion of pinna, or of pinnaule.

Kweichow: Tsin-gay, *Bodiniis* 2031 (type); Tchen-fan, *Esquirol* 801, 1017, 707; Hoang-Ko-Chou, *Bodiniis* 2537; Long-Ka, *Cavaleris* 3773 (type of *A. longicaule*).
 Also Tonkin.

A distinct endemic fern, closely related in habit to *A. adiantum nigrum* L. of Europe, differing in much less divided green leaves of this herbaceous texture.

Plate 176. Fig. 1. Habit sketch (natural size). 2. The same but young form (natural size). 3. Upper pinna, showing venation, and cost (x 25). 4. Scale from base of stipe (x 27).

第一百七十六圖
黔鐵角蕨(水龍骨科)

ASPLENIUM INTERJECTUM Christ

根下散生有之。根深黑黑色之細長線片；葉簇生，柄長十二至十五份，葉色或綠色，光滑。葉體三角卵形，極大者，長十至十五份，寬亦如之，下部三回羽狀分裂；小葉五至七對，具柄，同長，基部一羽最大，長九份，寬六份，三角形，基部不等邊，柄長一份，羽脈分叉，二回小葉二至四對，具柄，基部下方一羽長二至三份，寬如之，卵狀三角形，鈍頭，葉狀深裂；葉片二至三對，卵形，有圓齒，薄紙質，光線無毛，葉脈呈狀分叉，每葉面一脈，僅不達於尖端；子囊果成線形，成排呈扇形，長五瓣，蓋膜質，全緣。

分佈： 貴州重慶；明教現於交趾。

此類形體的假陸兩產之 *A. adiantum nigrum* L. 極葉質較薄，分裂較少耳。

圖註： 1. 本種全形(自然大)。 2. 同上，幼形(自然大)。 3. 上部小葉，表示葉脈及子囊果(放大三倍)。 4. 葉柄基部之鱗片(放大二十七倍)。





ASPLENIUM INTERJECTUM Christ

黔鐵角蕨

ACROPHORUS STIPELLATUS (Wallich) Moore

POLYPODIACEAE

ACROPHORUS STIPELLATUS (Wallich) Moore, Gard. Chron. (1854) 138; C. Chr. Ind. Fil. 4 (1905) pro parte, Contr. U. S. Nat. Herb. 26: 273 (1931); Wu Polyp. Yunnan in Bull. Dept. Biol. Coll. Sci. San Yatsen Univ. No. 3: 20 t. 1 (1932); Ogata, Ic. Fil. Jap. 5: 1, 301 (1933).

Davallia stipellata Wallich List no. 250 (1848, non. ind.).

Acrophorus nodosus J. Sm. Hist. Fil. 321 (1875); Christ Faunfr. d. Erde 265 (1867); Diels in Engl. u. Prantl: Nat. Pflanzenfam. 7: 4, 354 (1896) pro parte, Bot. Ferns Brit. Ind. 1, 93 (1885).

Davallia nodosa Bl. sp. Fil. 1: 157 (1843) Bl. Journ. Bot. (1857) 9: 1, 10; Syn. Fil. 92 (1847) pro parte.

Leptopteris nodosa Bodd. Ferns Brit. Ind. Suppl. 4 (1846); Hook. Ferns Brit. Ind. 56 (1848).

Rhizome subterraneous, thick, woody, oblique or short-crooping, densely scaly; scales large, bright brown, over 1 cm long, ovate-acuminate, thin, entire, extending upward to some distance above base of stipes; fronds caespitose, stipes 30-45 cm long, nearly 1 cm thick at base, stramineous, subnitid, lower part densely scaly and surmounted by transversely scars from the persistent base of fallen scales, lamina imbricate, ovate, to 70 cm long, nearly as broad, acuminate, 4-pinnate; pinnae about 10-jugate, opposite, horizontally patent, sessile, the lower pairs 12 cm apart, the basal pair much the largest, to 40 cm long, 30 cm broad, ovate, acuminate, rachilet curved upward, pinnales of first order about 20-jugate, sessile, patent, basal pair opposite and much shortened, 4 cm long, the second one on posterior side much the largest, to 15 cm long, those on the anterior side all much smaller than those on the other side, oblong-lanceolate, acuminate, far apart; pinnales of second order about 10-jugate, perpendicular to rachilet, oblong-lanceolate, sessile, basal pair opposite, shortened, against rachilet of first order, the second pair 3-5 cm long, 1.2 cm broad; ultimate pinnales 6-9-jugate, oblong-ovate, cuneate, rounded, lobes incised with 1-2-3 pairs of rounded angular uninnerved scaberulous lobes; texture herbaceous, pale green or brownish, glabrous beneath except base of pinnae and pinnales of different order being provided with a few large broadly ovate acuminate deeply cordate scales at the point of insertion, upper side of rachis and rachilets pustulately hairy, of ultimate segments with a few short, appressed, rust-red, articulated hairs, of costa somewhat spinulose; veins in ultimate pinnales distinct, pinnate, one to each lobe, falling far short from margin, very small, rounded, one to each lobe, terminating the veinlet some distance below margin, indistinct small, gray, incombent crossed at top, free on all sides except being euculcate at base; spones broadly winged.

Yunnan: Between Tengyueh and Burmese border, J. F. Rock 7368. Kwoi-chow, Pin-fa, Cavalerie 8857; Tuhshue, Y. Tsing 4859, 6789; Van-chin Shan, Stewart et Chia 858. Kwangtung: Lohchong, N. K. Chao 4849. Kwangsi: Yao Shan, S. S. Sze 4394. Szechwan: Without locality, W. P. Fang 8957.

Formosa: Mt. Artson, Drs. F. et C. Baker, Nov. 1924, 2500 ft. alt., (pro parte); U. Faurie 608.

Also Himalayas, Khasia and Tonkin.

The genus *Acrophorus* comprises to-day two species, the other being *A. Blumei* Ching [*Aspidium nodosum* Bl.] from Malasia Polynesia, which differs from the continental one in smaller size, more finely dissected leaves of an opaque color when dried, more copiously scaly and hairy lamina and much larger indusium of brown color and rigid consistency.

Fern students have been much divided in their opinions as to the systematic position of this rather isolated genus, but in the light of anatomical and morphological evolutions, I am convinced that its natural position falls with Davallioid ferns, and especially *Leucostegia* (*L. postarans* Christ, for instance).

Plate 177. Fig. 1. Habit sketch (natural size). 2. Pinnales of 2nd. order, showing venation, position of vein and the large orbicular scale of its base beneath ($\times 25$). 3. Ultimate pinnales, showing venation, position of vein and manner of individual attachment ($\times 10$). 4. Scale detached from the base of pinnales of each order ($\times 25$). 5. Hairs from the upper side of rachilet ($\times 75$). 6. Hairs from the upper side of pinna ($\times 75$). 7. Scale from base of stipes ($\times 10$).

第一百七十七圖
擬鱗毛蕨(水屋骨科)

ACROPHORUS STIPELLATUS (Wall.) Moore

地下莖木質，粗肥，節位成臥室，被高棕色之細狀大鱗片，黃赤一色；葉莖常，柄長三十至四十公分，基部粗壯一節，下部稍縮並具鱗片，細棕色，光亮。葉體大卵形，長達七十公分，寬亦如之，漸尖頭，四角狀分裂；一回小葉的十對，對生，圓錐，無柄，下部葉對數約十二對，基部一對最大，長達四十公分，寬約三十公分，卵形，漸尖頭，中脈向上彎曲；二回小葉約十對，無柄，卵形，基部一對對生，且甚短，寬僅二回小葉之中軸，第二對長達三至五公分，寬約一—二公分；末回小葉六至九對，橢圓形，頂端具細微形，柄甚短，葉片一至二對，圓形，具緣內，且小葉一枚，紙質，光潤，僅各回之基部着生處具一二心臟形之膜質大鱗片；子囊果小，圓形，每葉片一個，僅於小葉之頂，蓋小，圓形，紙質，係基節着生。

分佈：雲南，四川，貴州，廣東，廣西，台灣，安南及印度均產之。

圖說：1. 本種全形(自然大) 2. 二回小葉，表示葉脈，子囊果位置及其基部着生之鱗片(放大三倍) 3. 末回小葉，表示子囊果及其着生情形(放大十倍) 4. 着生於各回小葉基部下面之鱗片(放大十六倍) 5. 中肋上面之毛(放大七十六倍) 6. 葉上面之假狀毛及其着生情形(放大七十六倍) 7. 葉柄基部之鱗片(放大十倍)





ACROPHORUS STIPELLATUS (Wal.) Moore

擬鱗毛蕨

DROPTERIS SERRATO-DENTATA (Boddome) Hayata

POLYPODIACEÆ

DROPTERIS SERRATO-DENTATA (Boddome) Hayata, *lc. Pl. Form.* 4: 179 f. 116 (1914);
C. Chr. *Ind. Fil. Suppl.* III, 98 (1934).

Leitnia filix-mas var. *serrato-dentata* Bodd. *Handb. Ferns Brit. Ind. Suppl.* 55 (1894).

Nephodium serrato-dentatum Hope, *Journ. Bomb. Nat. Hist. Soc.* 52: 621 t. 16 (1896).

Nephodium filix-mas var. *obtusiloba* Baker (non *Leitnia obtusiloba* Moore, 1858), *Syn. Fil. ed.*
2, 498 (1874), *pro parte*; Bodd. *Ferns Brit. Ind. Suppl.* 1, 371 (1878).

Nephodium obtusiloba Clarke (non *Leitnia*, Moore, 1858), *Trans. Linn. Soc. II, Bot. t.* 521
(1886).

Leitnia obtusiloba Bodd. (non Moore, 1858) *Handb. Ferns Brit. Ind.* 248 t. 128 (1883).

Woodsia Fritschii Christ, *Bull. Acad. Géogr. Bot.* (1906) 141; C. Chr. *Ind. Fil. Suppl.* 1, 74 (1917).

Rhizome short, erect or oblique, densely scaly; scales broadly lanceolate, finely acuminate, denticulate, atro-brown or castaneous; fronds caespitose, stipe to 14 cm long, soft, dark-stramineous below with lax lanceolate smaller scales, lamina to 20 cm long, 8 cm broad at base, oblong-lanceolate, acuminate, base hardly narrowed, truncate, subbipinnate; pinnae 6-10-jugate, patent, short-petiolate, oblong-lanceolate, acuminate, to 4 cm long, 2 cm broad at truncate-cordate base, pinnate; pinnales to 10-jugate, sessile or more or less adnate, patent, ovate-oblong, rounded, base truncate, to 1 cm long, 6 mm broad, pinnatifid half-way down with 3-4-jugate, rounded, sharply dentate teeth; *axillares* thin, soft, becoming hyaline towards margin, rachis and costa of pinnae fibrillose-scaly, otherwise glabrous; veins very distinct, pinnate in ultimate segments, one to each tooth, but not reaching the tip, *costae* rather small, rounded, one-rowed and nearer to costa of pinnales than margin, borne on the lower middle of anterior basal veinlet of each ultimate segment, *indusium* fairly large, rounded, deeply notched, gray, membranaceous, with fimbriate margin.

Stachyon: Wilcox locality, E. H. Watson 4200 (type of *Woodsia Fritschii*).
Yunnan: Tibet border, *Céle. Kingdom Ward* 730 (1913). Hope: Ichang, *A. Henry*
(1889).

Himalayas, Sikkin and Bothan; also Formosa Island; very common in Sikkin.

A distinct rather little fern of the genus, characterized by, above all, spinulose-dentate serrature and gray membranaceous indusium with rather long-fimbriate margin.

Plate 178. Fig. 1. Habit sketch (natural size). 2. Pinna, showing venation and position of *costae* ($\times 5$). 3. *Indusium* ($\times 20$). 4. Scale from base of stipe ($\times 15$).

第一百七十八圖

高山鱗毛蕨(水龍骨科)

DRYOPTERIS SERRATO-DENTATA (Bedd.) Hayata

地下莖斜的直立或升生，被圓枕形之深棕色或紫褐色鱗片；葉簇生，柄長達十四份，深棕色，略具鱗片，葉柄長達二十份，寬八份，橢圓披針形，漸尖頭，基部截形，不甚明顯，葉二回羽狀分裂；一回小葉六至十對，開展，具短柄，橢圓披針形，漸尖頭，長達四份，寬二份，基部急截形，略為心臟形，羽狀深裂；二回小葉達十對，無柄或稍合生，開展，卵狀橢圓形，圓頂，基部截形，長的一份，寬六份，羽狀深裂，裂片三至四對，圓形，具短柄之銳形頂，紙質，光滑，葉中脈及中肋略具細長鱗片，葉脈明顯，羽狀分叉；子葉極小，圓形，在於二回小葉，一明，大蓋，圓形，紙質，邊緣具刺狀之齒。

分佈：西川，雲北，西藏，喜馬拉亞及台灣高山等之。

圖註：1. 本種全形(自然大) 2. 小葉，表示葉柄及子葉之位置(放大五倍) 3. 子葉全形(放大二十倍) 4. 葉柄基部之鱗片(放大十六倍)。





DRYOPTERIS SERRATO-DENTATA (Isid.) Hayata

高山鱗毛蕨

DRYOPTERIS SCOTTII (Bedd.) Ching

POLYPODIACEÆ

DRYOPTERIS SCOTTII (Bedd.) Ching, Bull. Dept. Biol. Coll. Sci. Sun Yat-sen Univ. No. 6: 3 (1933); C. Chr. Ind. Fil. Suppl. III, 97 (1934).

Polypodium Scottii Bedd. Ferns Brit. Ind. t. 345 (1876).

Phegopteris Scottii Bedd. Ferns Brit. Ind. Suppl. 19 (1878).

Phegopteris grossa Christ, Bull. Herb. Boiss. T. 13 (1892).

Dryopteris grossa C. Chr. Ind. Fil. 269 (1925).

Dryopteris airtipes C. Chr. Ind. Fil. 270 (1925), pro parte; Wu (non O. Ktze.) Polyp. Yaoshan in Bull. Dept. Biol. Coll. Sci. Sun Yat-sen Univ. No. 3: 26 pl. 4 (1931).

Dryopteris subobovata Hayata, Ic. Pl. Form. 2: 118 f. 119 (1914); C. Chr. Ind. Fil. Suppl. II, 17 (1923-24).

Rhizome short, thick, erect, densely scaly; scales black, large, lanceolate, hair-pointed, entire; fronds crispitate, stipe 25-35 cm long, stramineous, basal part densely clothed in black lanceolate scales, sparingly fibrillose-scaly upwards, lamina oblong, 25-35 cm long, 15-20 cm broad, acuminate, base not narrowed, single pinnate under the large, deltoid acuminate adnate apical pinna with lower part pinnatifid; pinnae 6-10-jugate, lanceolate, acuminate, 10-15 cm long, 1.5-2 cm broad or broader, subsessile, base rotund-truncate, patent, alternate, margin regularly serrated with crenate-cuspidate teeth; leaflets herbaceous, glabrous above, sparingly fibrillose-scaly on rachis as well as costa beneath; veins distinct, lateral main vein flexuose, veinlets 3-4-jugate, ascending-oblique, all reaching margin except the basal pair, which stop somewhere midway; sori rounded, 2-3 irregularly seriate, dorsal on veinlets, exsultate.

Yunnan: Mengtze, A. Henry 10205, 11668 (type of *Phegopteris grossa* Christ); Hancock, Oct. 1883; Souan-tsuai-owen, Maire, alt. 600 m. Kweichow: Pin-fa, Cavalieri 2874; Esquirol 818; Kengfeng, Y. Tsiang 2245; Sibing, Y. Tsiang 8727; Chengde, Y. Tsiang 2245; Van-chin Shan, Y. Tsiang 7874, 7864, 7682, 7768; Tuhshan, Y. Tsiang 7692; Siao-tchang-Oaglan, Cavalieri 2221. Kwangtung: Loh-shan Shan, N. K. Kuhn 2248; North River, C. L. Tso 20692; Sanyü, Y. K. Wang 21017; Yao Shan, S. P. Ko 21907, N. K. Kuhn 22025, 22435. Kwangsi: Ping-nam, Yao-shan, S. S. Sien 2212B.

Formosa: Faurie 401.

Tonkin: Chapa, A. Pellit 2509 (1929); Colani 2825, 2539; Lang-Bien, Chevalier 2888, N. W. India: Kashmir, C. B. Clarke 2828, Nov. 7, 1885.

The species, now found to be common in the localities cited, resembles *D. airtipes* (Bl.) O. Ktze. in general habit, to which it has generally been referred, from which, however, it differs in exsultate sori, lower and more distant lateral pinnae with crenate-cuspidate serrature, thinner texture and sparingly fibrillose-scaly rachis and upper part of stipe. *D. airtipes* (Bl.) has never been found in China, Himalayas and Tonkin and its report therefrom by authors in the past has chiefly been a mistake for the present fern.

PLATE 179. Fig. 1. Habit sketch (natural size). 2. Portion of pinna showing venation and position of sori ($\times 5$). 3. Scale from base of stipe ($\times 10$). 4. The same from upper part of stipe ($\times 10$). 5. Cross section of rhizome, showing arrangement of stipes ($\times 4$).

第一百七十九圖
史氏鱗毛蕨(水龍骨科)

DRYOPTERIS SCOTTII (Bedd.) Ching

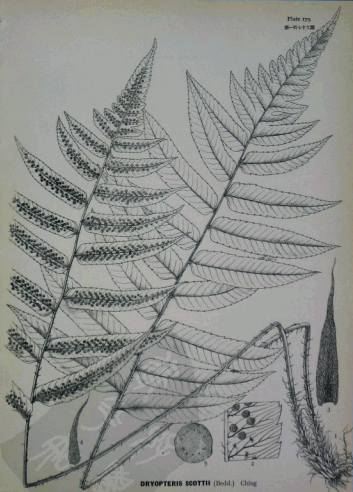
地下莖短粗，短而直立，被大披針形之細長黑色細毛鱗片；葉簇生，柄長二十五至三十五公分，深綠色，基部被披針形之黑色毛鱗片，向上部細長鱗片疏生。葉體橢圓形，長二十五至三十五公分，寬十五至二十公分，漸尖頭，基部窄寬，一回羽狀分裂，頂部三角形，卵狀頭，羽狀深裂；小葉六至十對，披針形，卵狀頭，長十至十五公分，寬一、五至二公分，或稍寬，雙脈稀，基部闊楔形，兩翼，互生，邊緣具整齊之淺鋸齒，紙質，上翼及羽脈無毛，中肋及羽下脈具細長鱗片，葉脈明顯，側脈由羽，羽狀分裂，小葉二三對，全羽狀，除基部一對外並均漸窄邊；子囊群圓形，偶不見羽之二三對，生於小葉上，無蓋。

分佈：雲南，貴州，廣東，廣西，台灣，安南及印度西北部的產之。

此種在以上各地極爲普通，其形體極類 *D. hirtipes*，惟子囊群無蓋，小葉數較少，在雜叢中，其體弱而，葉質較薄，中肋較具細長鱗片，故易分別；且 *D. hirtipes* 在中國，安南及貴州產出均未見之。

附註：1. 本種全形(自然大)。 2. 小葉之一部，表示葉脈及子囊群之位置(放大五倍)。 3. 葉柄基部之鱗片(放大十六倍)。 4. 中肋上部之鱗片(放大十六倍)。 5. 地下莖之縱切面，表示鱗片之構造(放大四倍)。





DRYOPTERIS SCOTTII (Bedd.) Ching

史氏鱗毛蕨

DRYOPTERIS LIANKWANGENSIS Ching

POLYPODIACEAE

DRYOPTERIS LIANKWANGENSIS Ching, sp. nov.

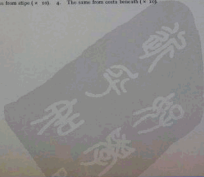
Species *D. Scottii* (Bodd.) Ching proxime affinis, differt multo majore, pinnis lateralis numerosis, longioribus, pulvis stipitis rachisque rubro-brunneis creberris, majoribus, persistentibusque.

Rhizome thick, woody, erect or procumbent; fronds caespitose, stipe 45-60 cm long, over 1 cm thick near base, broadly grooved above, densely clothed throughout in subdimorphic rusty-brown, lanceolate, hair-pointed, membranaceous, spreading scales to 1.2 cm long, lamina oblong-ovate, 80-100 cm long, 30 cm broad, simple pinnate under the rather short, cordate, deltid, pinnatifid and acuminate apical part; pinnae 20-jugate or more, basal ones not shortened, 30 cm long, 2.5 cm broad, the uppermost ones to 8 cm long, 1.2 cm broad, broadly linear, acuminate, base truncate, slightly oblique, subsessile, patent, alternate, 3-4.5 cm apart, incisely crenato-serrate with large roundish teeth; texture herbaceous, green, rachis densely scaly with similar but smaller scales as those on stipe, glabrous above, fibrously scaly beneath, and especially on the lower part of costa; venation free, distinct, lateral main veins flexuose, pinnate with 5 pairs of obliquely ascending veinlets, of which the basal pair stop short midway, the rest extending towards margin; sori rather small, rounded, irregularly 2-3-seriate, exindusiate, leaving rather a broad sterile margin.

Kwangsi: Sun Fan, Chu Fen Shan, north of Lu-chen Hsien, R. C. Ching 1932 (type), in deep wooded ravine, very common. Kwangtung: Suni, Y. K. Wang 1932, July 22, 1931, in moist ravine.

This distinct endemic species of the group of *D. histioides* (Bl.) resembles same but perhaps *D. Scottii* (Bodd.), with which it has in common exindusiate sori, from which, however, it differs in enormously larger size with numerous close, longer pinnae and very dense reddish-brown linear-lanceolate large thin scales not only on stipe but also on rachis.

Plate 150. Fig. 1. Habit sketch (natural size). 2. Portion of pinna, showing venation and sori ($\times 3$). 3. Scales from stipe ($\times 10$). 4. The same from costa beneath ($\times 10$).



第一百八十圖
兩廣鱗毛蕨(水龍骨科)

DRYOPTERIS LIANKWANGENSIS Ching

地下莖根肥，木質，直立或斜生；葉叢生，柄長四十五至六十份，基部厚達一份，並在淺色初二年之放射形薄黃鱗片，長達一份，葉體長橢圓形，長八十至一百份，寬達三十份，一回羽狀分裂，頂部為短三角形，羽狀分裂；小葉約二十對或較多，長二十份，寬二、五份，位於基部者等長，向頂部者長約八份，寬僅一、二份，圓狀倒卵，漸尖頭，基部為斜截形，整無柄，兩翼，互生，彼此相距三至五份，邊緣具鋸齒，紙質，綠色，中軸及下面被細長之黃鱗片，上面光澤，葉脈分離，頂部，全羽，羽狀分裂，互對，斜出，其基部一對僅達於小葉之中部，子葉卵狀小，圓形，為不規則之二至三列，無蓋，於中肋兩側分離。

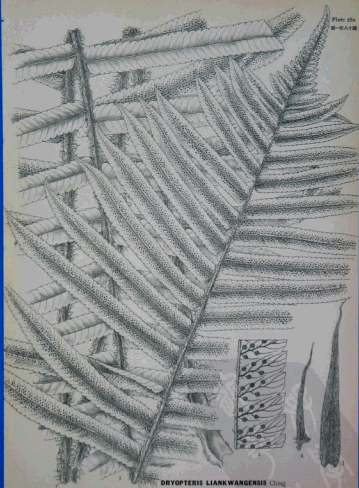
分佈：廣西靈城第三防區西二十里之九真山及廣東信宜縣南之。

本圖種為本區特種之類，其葉片最顯著，為具較闊特大，小葉多至二十餘對，全體寬度頗長者鱗片是也。

圖註：1. 本種全形(自然大)，2. 小葉之一部，表示葉脈及子葉草(比大三倍)，3. 葉柄上之鱗片(比大十倍)，4. 小葉中肋下面之鱗片(比大十倍)。



Plate 250
第一四八八号



DRYOPTERIS LIANKWANGENSIS Ching

兩廣鱗毛蕨

C. B. Fang Det. et Lith.

DRYOPTERIS CHAMPIONI (Benth.) C. Christensen

POLYPODIACEAE

DRYOPTERIS CHAMPIONI (Benth.) C. Christensen apud Ching, *Sinensia* 3: 327 (1933), C. Chr. Ind. Fil. Suppl. III, 83 (1935).

Aspidium Champsoni Benth. Fl. Hongk. 456 (1851).

Polypodium chinorum Baker (non 1894), Ann. Bot. 6: 457 (1894).

Nephrolepis chinorum Hand.-Mitt. 5296a, Sin. 4: 24 (1899).

Dryopteris leptocladis C. Chr. Ind. Fil. 274 (1909).

Aspidium erythrorum var. *amoyense* Christ. in Warburg, *Monsunia* 4: 80 (1909).

Dryopteris erythrorum var. *Catalpaui* Ravnst. in Fedde, *Repert. Sp. Nov.* 82: 131 (1914).

Dryopteris sinensis Hayata, Ic. pl. Form. 3: 281 f. 109 (1915).

Dryopteris erythrorum sect. *plur.* sp. nov. plant. chin.

Rhizome thick, woody, oblique or erect, densely scaly; scales bright ferruginous-brown, to 1 cm long, broadly lanceolate, long-acuminate, membranaceous, imbricate, mixed with smaller linear ones; fronds caespitose, stipe 20-35 cm long, stout, radio-stramineous, densely clothed throughout in similar but somewhat smaller spreading curled scales, which extend upward over entire rachis and base of pinnae beneath, lamina oblong-ovate, 35-60 cm long, 17-25 cm broad, acuminate, base not narrowed, bipinnate; pinnae 8-14-jugate, 10-20 cm long, 3-4 cm broad, linear-lanceolate, acuminate, subpatent, basal ones opposite, upper ones subopposite, 5-6 cm apart, short-petiolate, base truncate, slightly cordate, fully pinnate under deeply pinnatifid apical part; pinnales 14-18-jugate, 1.5-3.5 cm long, 5-10 mm broad, deltoid-oblong, subopposite, sessile, obtuse with acriculately broadened base on both sides, basal ones at the basal pinnae rarely any longer than neighbouring ones, subentire, or crenate-serrate or, in large forms, lobate-pinnatifid half-way down into 4-6 pairs of oblong truncate lobes under serrate acuminate apex; texture coriaceous, light green, glabrous above, rather copiously fibrillose-scaly on costa of pinnae beneath, stipe and rachis moderately muricate by the persistent base of fallen scales; venation obscure, veins in pinnales of lobes pinnate; nervi tomentose, medium-sized, brown, one-toward midrib between costa and margin or often much nearer to the margin, dorsal on the anterior basal veinlet of each group; *involucium* rotundo-reniform, notched, brown, subcoriaceous and fallen off at last.

Kiangsi: Shanghai, Fen Wang Shun, *Forbes* 222; C. G. Matthes, June 1, 1904; Tai Ho, *Schindler* 254; Cheng Cho, Yi Shun, *J. R. Chin.* 3052; T'ung-ching, Long Chi Shun, R. C. Ching & C. L. Tu 207, 1861, Y. L. King 2029; Nanking, Tschia Shun, *Nat.* 22, 27 69 or Herb. *Memoirs Mus. Nat. Hist. Cheking*; Ningpo, *Forbes* 222; Shantung: C. G. Matthes 222; *Evans* 18974; Su Kua, Fen Chiao, K. C. Ching 2028; Hsiangchow, Ling-yin Tu, R. C. Ching 2001; T. F. Yü 2038; Yangtze Shun, C. Y. Ching 1217; Tientsin Shun, K. K. Tsung 255. *Fokien*: Amoy, Gofan 2569 or Herb. Warburg, *Sun* 26; Inoh, *Martens*, Oct. 5, 1907; *Griseb.* 19129 in Herb. *Hortus*; Chiao Chow, H. H. Ching 2025; Yungping, H. H. Ching 2022; T. S. Dunn 2024; Fenchow, Ku-chun, T. S. Ging 2023, 2025. *Hiangsi*: Kiching, Lo-tsun, *Forbes* 2074 (1874); *Schindler* 277 (1908); *Mitt. Bot. G. Marten*; Shantung, Dr. *Shauer*; C. E. DeVol 194, 195, 198; R. C. Ching, Lienshi Shun, Ningpo, Lingchow, Y. *Tsing* 2024; Hsueh Ichang, Nankai, A. *Henry* 217 (1881); *Acridium*: Fung-tow, *Exposit.* 2027; *Canada* 2071, 2087; *Friedl.*, *Canada* 2080; *Tsin-ting*, *Canada* 2085, 212; *I-tsi-yang*, *Baldwin* 2184; *Gen-pia*, *Martin* 2070; *Yan-chin* Shun, Y. *Tsing* 2027; *Yü-shun*, Y. *Tsing* 2070; *Yuyun*, Y. *Tsing* 2026. *Szechwan*: Mt. Omei, W. P. Fang 2023. *An-hui*: Yu-tung, *Lan-tien* Hsin, K. K. Tsung 2120, 2220; Chu Hwa Shun, K. C. Ching 2112; *Hsing Shun*, A. N. Seward 7148; *Ewingtung*: *Canton*, *Honnan* Island, F. J. Merrill 2020; Y. *Tsing* 2020; *Lohlan* Shun, C. G. *Lance* 2126; *North River*, *Taylor* 2075, 2172; C. E. Tu 2049; *Lokong*, N. K. Chao 2202; Y. K. Wang 2022; *Miao* 2072. *Taiwan*: *Macao*, *Gandobland*.

Hongkong: *Champion* (type), *Exposit.* in *Forb.* 11.

Also Japan and Formosa.

This distinct fern, now found to be very common in the eastern and south-eastern parts of China, resembles in general habit *D. erythrorum* (Eaton) with which it has hitherto been considered as identical and from which, however, it can always be distinguished by, above all, the characteristically golden brown, spreading, broadly lanceolate, imbricate, curled, dense large scales from base of stipe upwards throughout the entire length of rachis and the underside of costa, by somewhat oblong-deltoid-falcate pinnales with acriculately broadened base and thick texture.

Plate 181. — Fig. 1. Habit sketch (natural size). 2. Soree with *involucium* ($\times 40$). 3. Scale from stipe ($\times 10$). 4. Scale from rachis ($\times 10$).

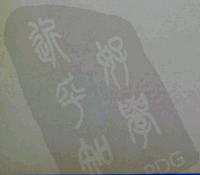
第一百八十一圖
 張氏鱗毛蕨(水龍骨科)

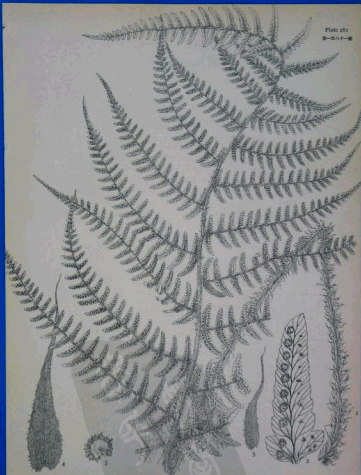
DRYOPTERIS CHAMPIONI (Benth.) C. Christensen

地下莖木質，粗壯，直立或斜生，具紅紫色之縱條紋形鱗片，長半一釐；葉面生，柄長二十至二十五釐，粗圓，棕褐色，紅紫色之鱗片密生。葉四裂，葉體彎圓卵形，長二十五至六十釐，寬十七至二十五釐，或過之，漸尖頭，基部圓形，二回羽狀分裂；小葉八至十四對，長十至二十釐，寬二至四釐，披針形，漸尖頭，羽緣長，基部一對對生，上部各對互生，彼此相距五至六釐，具短柄，呈卵形，緣呈心臟形，羽狀分裂，二回小葉十四至十八對，長一、五至三、五釐，寬五至十釐，彎圓卵形，以對生，無柄，莖頭，基部兩側耳形加大，幾等長，並全緣或具鈍齒或具特殊厚皮，並革質，上面光滑，下面略具小鱗片，葉脈不甚明顯，羽狀分叉；子葉卵圓形，一列，常貼近葉邊生，呈腎臟形，具一深缺刻，革質，最厚較深。

產於：江蘇，浙江，福建，廣東，香港，江西，安徽，湖北等省均甚普遍；日本及台灣亦產之。此蕨尚因溫帶各省習見之原種，昔人曾視爲 *D. erythrona*，實則以葉柄及其他各部分具紅紫色之鱗片與二回小葉之基部兩側耳形為憑，頗有區別。

圖說：1. 本種全草(自然大)； 2. 小葉，表示葉柄及子葉緣與莖頭(放大八倍)； 3. 子葉單面(放大四十倍)； 4. 葉面上之鱗片(放大十六倍)； 5. 中肋上之鱗片(放大十六倍)。





DRYOPTERIS CHAMPIONI (Benth.) C. Christen

張氏鱗毛蕨

POLYSTICHUM CHINGAE Ching

POLYPODIACEAE

POLYSTICHUM CHINGAE Ching, sp. nov.

Species *P. siphophyllis* Baker proxime affinis, differt paleis stipitis rachisque castaneo-brunneis, ovatis, pinnis majoribus, falcatis, basi anteriore auricula deltoidea magna acutissima instructa, soris utraque costa latero biserialis.

Rhizome short, erect, densely scaly; scales linear-lanceolate, ferruginous brown; fronds caespitose, stipe 16-30 cm long, stramineous, or rufo-brown on the lower part, nitens, sparsely clothed in large ovate, castaneous-brown shining scales, lamina oblong, 25-35 cm long, 10-14 cm broad, base not attenuate, simple pinnate under rather short acuminate, cordinate apex; pinnae 13-17-jugate, horizontally patent, close, 6-8 cm long, 1.5 cm broad at middle, falcate-lanceolate, long-acuminate, the basal ones as long as next above, more or less deflexed, the uppermost ones shortened, subsessile, anterior side provided with a large deltoid, sharply pointed auricle, the posterior side cuneate, margin remotely serrate with low, sharply pointed and appressed teeth; *tektare* coriaceous, color green, glabrous above, under side and rachis copiously clothed in light brown, lanceolate, fimbriate, appressed scales; venation not distinct on both sides, lateral veins flexuose, pinnate, 4-6 in each group, the anterior basal one stops midway, the rest extend to margin; sori small, rounded, irregularly 2-rowed, dorsal on veinlets, inflexion small, rounded, fugacious.

Yunnan: Without locality, H. T. Tsai 51880, 51928 (type).

This remarkably distinct species, resembling *Cystostium Balanense* Christ in general habit but with free venation, finds no close relative in the genus but *P. siphophyllum* Baker, which differs in much smaller size, coal-black subulate scales on stipe and rachis, in smaller pinnae with at most bluntly auriculated anterior base and always uniseriate sori on each side of costa.

The species is named after my wife, in recognition of her untired assistance in ably typesetting my manuscripts for this Icones and many other papers so far published.

Plate 182. Fig. 1. Habit (scale lateral view). 2. Pinna, showing venation and sori ($\times 2$). 3a. Scales from stipe ($\times 16$). 3. The same from costa beneath ($\times 16$). 4. Inflexion ($\times 24$).

第一百八十二圖

蕨耳蕨(水龍骨科)

POLYSTICHUM CHINGAE Ching

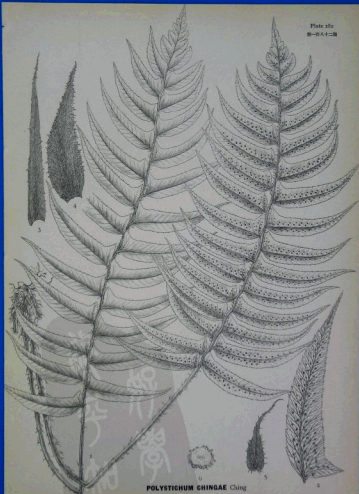
地下莖短肥，直立，被疏於波狀形之黃褐色密鱗片；葉叢生，柄長十六至三十份，初綠色，或下部呈紅褐色，光禿，被大形之棕色鱗片，葉體彎曲形，長二十五至三十五份，寬十至十四份，基部等大，一回羽狀分裂，基部短縮式頭，三角形，羽狀深裂；小葉十二至十七對，水平開展，彼此稍近，長六至八份，寬一—五份，線狀波狀形，長條狀羽，基部微對等長，下向，向頂部漸短，幾無柄，基部上方呈尖銳三角形凸出，下方為楔形，邊緣具疏短銳齒，革質，綠色，上面光滑無毛，中肋及葉下面被細長鱗片，基部不顯明，羽脈直羽，羽裂分裂，小葉四至六對，其基部上方一脈僅達小葉之中部，僅達於葉邊；子囊葉小，圓形，不達羽二列，生於小葉上，甚小，圓形，早落。

分佈：此蕨雲南特產。

本新種為本屬特殊之種，其形態極似買來屬之 *Cyrtosium Balanica*，然其葉脈不為網狀，故異區別。

圖版：1. 本種全形(自然大)。 2. 小葉，表示葉脈及子囊葉(放大二倍)。 3-4. 葉柄上之鱗片(放大十倍)。 5. 小葉下面之鱗片(放大十倍)。 6. 子囊葉蓋(放大二十倍)。





POLYSTICHUM CHINGAE Ching

蕨耳蕨

CYRTOMIUM AEQUIBASIS (C. Chr.) Ching

POLYPODIACEAE

CYRTOMIUM AEQUIBASIS (C. Chr.) Ching, Bull. Chin. Bot. Soc. **2**: 99 (1936)

Cyrtomium carystoides var. *aequibasis* C. Chr. Amer. Fern Jour. **28**: 52 (1936)

Aspidium falcatum Christ (non Sw.), Bull. Herb. Bot. **6**: 989 (1896)

Rhizome short, thick, oblique, densely scaly; scales large, ovate-oblong, acuminate, intermixed with linear-lanceolate ones, black or atro-brown, sparingly fimbriate, extending over half way up the stipe; **fronds** copiose, stipe 15-25 cm long, sordid brown, densely scaly on the lower part, sparsely so upwards, lamina oblong, 20-40 cm long, to 15 cm broad, impari-pinnate; **pinnae** 4-6-jugate, 10-15 cm long, 2-3 cm broad, subopposite or alternate, lanceolate, shortly petiolate, long-attenuate towards apex, base equal, cuneate or subrounded, margin regularly minutely cuspidate-serrate above base, the terminal pinna much the largest, long-petiolate, hastately tri-lobed, base cuneate; **textura** thin chartaceous, glabrous, sparsely fibrillose-scaly on rachis, petiole and costa beneath, color brownish when dried; **lateral veins** subconspicuous, flexuose, areole generally with 2 included setiferous venule; **spores** rounded, scattered, **rudusium** rounded, brown, coriaceous.

Yunnan: Mengto, Hancock # (type), 26, 189, in a deep dark gles, very rare. **Szechwan**: Henry 5129A, 5129B; Without locality, Handel-Mazzetti 6862; H. T. Tsoi 5633; Long-ky, E. E. Maire (pro parte).

An endemic species, closely related to *C. carystoides* (Wall.) Presl, differing chiefly in lanceolate lateral pinnae with equal and exaristulate base, which varies from cuneate to subrounded.

Plate 183. Fig. 1. Habit sketch (natural size). 2. Sorus with indusium ($\times 10$). 3. Spores ($\times 15$). 4. Scales from base of stipe.



第一百八十三圖

蕨貫衆(水龍骨科)

CYRTOBIUM AEQUIBASIS (C. Chr.) Ching

地下莖短粗，節生。葉線形或長卵形大葉片，常以細長之小葉片；葉披針，柄長十五至二十五
粉，土褐色，下部被黃毛，上部較疏，葉體長橢圓形，長二十至四十粉，寬十至十五粉，各脈狀分發；
小葉四至六對，長十至十五粉，寬二至三粉。葉對生或互生，間雜針形，具短柄，向葉尖延長，葉面為
卵形，或心臟形，葉緣具小尖鋸齒，頂部一小葉較大，具長柄，通常為三裂，紙質，側脈顯而易見，
葉背，小葉網脈，網脈為多角形，疏引，中有二枚外凸之着生子囊單之單葉；子囊單圓形，散生，蓋圓
形，革質。

分佈：雲南特產。

本種形態極類似蕨貫衆 (*C. Cyrtoides*)，惟小葉為披針形，基部上方不為葉形凸出，故易區別。

圖註：1. 本種全形(自然大)；2. 子囊單及蓋(放大十六倍)；3. 孢子(放大一百五十倍)；
4. 葉柄基部之鱗片(放大八倍)。





CYRTOMIUM AEQUIBASIS (C. Chr.) Ching

蕨 蕨 菜

PDG

CYRTOMIUM MUTICUM (Christ) Ching

POLYPODIACEE

CYRTOMIUM MUTICUM (Christ) Ching in C. Chr. Ind. Fl. Suppl. III, 66 (1933)

Cyrtomium falcatum var. *muticum* Christ in Lecomte, Not. Syst. 3: 37 (1909).

Polystichum falcatum var. *macropterum* Diels in Engl. Bot. Jahrb. 29: 195 (1906); C. Chr. Acta Hort. Gotob. 2: 72 (1914).

Cyrtomium falcatum var. *macropterum* Christ, Bull. Soc. Bot. Franco 52: Mém. I, 39 (1905); Bull. Acad. Génér. Bot. (1907) 125.

Aspidium falcatum var. *macrophyllum* Nakino, Bot. Mag. Tokio 56: 90 (1903).

Polystichum falcatum var. *macrophyllum* Matsum. Ind. Pl. Jap. 4: 542 (1904).

Polystichum carpitaleum var. *macropterum* Nakai, Bot. Mag. Tokio 29: 115 (1916).

Polystichum macrophyllum Tagawa, Acta Phytotax. et Geobot. 2: 244 (1913).

Cyrtomium macrophyllum Tagawa, Ibid. 3: 63 t. 3 f. 5-7 (1914).

Rhizome short, thick, erect, densely radiceous and scaly; scales large, fusco-brown or nearly black, shining, ovate, acuminate, densely fimbriate, extending, when young, over the whole length of stipe; *fronds* caespitose, stipe 16-20 cm long, dark stramineous, densely scaly near the base, lamina oblong, 20-35 cm long, 13-16 cm broad, pinnate with a large, hastate, cuneate terminal pinna; pinnae 2-5-jugate, subopposite or alternate upwards, falcate, basal ones broadly ovate, the upper ones oblong-ovate, 20 cm long, 5-7 cm broad, acuminate, base rounded or rotundo-cuneate, nearly equal or much broadened above, shortly petiolate, the uppermost ones under the 3-lobed end-pinna only slightly smaller, margin obscurely or minutely cuspidate-serrate above the middle; *texturae* chartaceous, green, glabrous above, moderately filiclose-scaly on rachis, petiole and costa beneath; lateral veins distinct, oblique, flexuose, intervening veinlets anastomosing in T-rowed angular areolae each with 2-3 (only 1 in the costal areolae) excurrent sciriferous included veinlets after the goniopteroid type; sori rounded, scattered, dorsal or subapical or included veinlets, indusium large, gray, coriaceous, subentire.

Yunnan: San-shan près Tchen-hsiang, *Dunlop* 5099 (type); *E. E. Moore*, Shweli-Salwin divide, North of Ho-hsu, *Forrest* 26541; *Gossou-Kay*, *Delavay* 1724, Sept. 1886; *Ta-ton* près Ta-pin-tse, *Delavay* 6911; *Lan-ping* Hsien, *H. T. Tsai* 54021; *Wei-se* Hsien, *H. T. Tsai* 57863; without locality, *H. T. Tsai* 52994, 52758, 52773, 52958, 53044, 53072; *Kwei-chow*: *Sih-feng*, *Y. Tsang* 6725; *Tuyun*: *Y. Tsang* 5816; *Kiangtse*, foot of Yun-ching Shan, *Y. Tsang* 7549, 8614; *Huang Chia Wan*, *Sleumer*, *Chiao & Chen* 444; *Loi-mong-tsun*, *Canalier* 1668; *Perry* (1858). *Szechwan*: *Farges* 5316 A, 4937; *Hai-tang*, *Harry Smith* 1987; *Nanchuan*, *Rothman* 45 (var. *macropterum* Diels); *Mt. Omei*, *E. Faber* 1053; *W. P. Fung* 2168; *Wilson* 5359; *Lo-po* Hsien, *T. T. T'w* 8548; *Hupei*: *Putung*, *Henry* 8607; *Wilson* 196, 8098, 8081.

Himalayas: Simla District of Bashahr State, *R. N. Parke* 8018.

Japan, common.

A large fern of the habit of *C. arystatum* (Wall.), from which it differs in generally larger, oblong-ovate pinnae with rounded or rotundo-cuneate and almost equal-sided base without deltoid auricle, subentire margin from base upward and a few remote small teeth towards apex, and in indusium with subentire margin. A very common fern in West China from where I have seen unattractive specimens.

Plate 184. Fig. 1-2. Habit sketch (natural size). 3. Portion of pinna, showing venation, and sori ($\times 1.5$). 4. Sori with nearly entire indusium ($\times 15$). 5. Scale from base of stipe ($\times 5$). 6. Cross section of basal part of stipe ($\times 5$).

第一百八十四圖
大葉貫衆(水龍骨科)

CYRTOMIUM MUTICUM (Christ) Ching

地下有短根，直立，圓錐深褐色之塊根大塊片；葉叢生，柄長十六至二十份，下部被密鱗，上部較稀，葉卵圓形，長二十至二十五份，寬十三至十六份，葉脈網狀明顯，小葉二至五對，互生或互生，卵狀橢圓形，略呈鐘形，基部一對葉大，長至十份，寬五至七份，無尖頭，基葉圓形或倒戟形，兩邊鑿形大，或上邊稍呈圓耳形，具深柄，上部數對小葉極小，頂部一小葉甚大，三裂，邊緣與心全緣或小而齒狀生，直徑葉面，厚紙質，中肋及葉柄具細長鱗片，細鱗可見，小葉網狀，總葉具二至三數外出之生子囊單之厚鱗；子囊單圓形，數大，蓋大，圓形，革質，全緣。

分佈：雲南，四川，貴州，湖北山林中均產之，在日本亦甚普通。

本植物體極類似葉貫衆 *C. Grayioides*，惟較大，小葉基部不具三角形之尖耳形凸部，邊緣不具刺狀之尖齒，故易分別。

圖註：1-8. 本種全形(自然大)，3. 小葉之一部，表示葉脈及子囊單(放大一倍半)，4. 子囊單及其蓋(放大十六倍)，5. 葉柄基部鱗片(放大八倍)，6. 葉柄基部鱗片切面(放大八倍)。





CYRTOMIUM NUTICUM (Christ) Ching

大葉買棠

C. E. Fang Del. et Lith.

HEMIGRAMMA DECURRENS (Hooker) Copeland

POLYPODIACEÆ

HEMIGRAMMA DECURRENS (Hooker) Copeland, Phil. Journ. Sci. **37**: 404 (1928); C. Chr. Ind. Fil. Suppl. III, 109 (1934), cum. syn.

Gymnopteris decurrens Hk. Journ. Bot. **6**: 359 (1837); Fil. Exot. t. 94 (1836); Botch. Fl. Hongk. 443 (1861) (non Hk. Gard. Ferns t. 6, 1850).

Arenolobium decurrens Hk. Sp. Fil. **6**: 274 (1864); Syn. Fil. ed. 2, 128, (1874); Denn & Tutchin, Fl.

Kwangsi & Hongk. 355 (1910).

Leptochilus Harlandii C. Chr. Ind. Fil. 373 (1923), cum. syn.

Polypodium discorphan Baker (non Link., 1813), Ann. Bot. **6**: 477 (1891).

Polypodium hainanense C. Chr. Ind. Fil. 531 (1929).

Gymnopteris Bonii Christ, Bull. Herb. Bot. II, **4**: 619 (1904) Copel. l. c. 405.

Leptochilus Kanashiroi Hayata, Ic. Pl. Form. **1**: 268 t. 220 (1925).

Tataria distyrena Cop. Phil. Journ. Sci. **28**: 377 (1923).

Hemigramma distyrensis Ching, Bull. Fan Mem. Inst. Bot. **1**: 126 (1930).

Rhizome thick, woody, oblique or short-creeping, densely scaly at extremity and base of stipe; *scapes* linear-subulate, over 1 cm long, atro-brown or castaneous, shining, rather thick and firm; *fronds* caespitose, strongly dimorphous, sterile ones with rufo-brown or castaneous shining stipe, 10-25 cm long, broadly windled over two-thirds way towards scaly base, lamina ovate, 16-25 cm long, less broad; pinnatifid or pinnate at base (sometimes simple) with 1-2 or 3 pairs of opposite, broadly lanceolate, acuminate, entire pinnae to 20 cm long, 5 cm broad, narrowed towards decurrent or sessile base, the terminal pinna much the largest, narrowed towards both ends and connected with the lower lateral pair by broad decurrent wing on each side; *testae* subcoriaceous, firm, rich brown-green, glabrous on both sides, costa and rachis shining brown or light castaneous beneath; venation distinct, lateral main veins oblique, connected by finer transverse ones, intervening veinlets copiously anastomosing in several rows of large angular areolae with divaricate clavate veinlets; *fertile fronds* with stipe to 40 cm long, lamina conform but smaller with contracted decurrent pinnae to 30 cm long, 2 cm broad, areolae mostly without included veinlets; *axils* indefinite, appear at first in a medial band along veinlets between main veins, finally confluent over the entire under surface.

Hongkong: *Harland* (type), *Wilford* 310; *G. G. Mathew*, March 25, 1907; *Hance* 32; *Forbes* 587.

Kwangtung: North River, *C. Ford*, May 26, 1888 (l. simplex); Lungtzu Mt., C. O. Lewis 1849 (type of *Tataria distyrena* Cop.); Koehne, Y. Tsung 6702 (type of *H. distyrensis* Ching); Swinhoe, Thai-yong, *Dalziel*, Tai-loy, *Mathew*, Nov. 25, 1907; Tung Wu Shan, S. P. Ko 26844; S. Y. Lau 26228; Nambui, Sai Chiu Shan, S. P. Ko 45536; Hainan Island: *H. Y. Liang* 6267, 6267. *Rev. A. G. Henry* 80B (type of *Polypodium discorphan* Baker).

Fructicos: *Tarson*, *Hance* 47; *Jatsuegatake* 230, Oct. 2, 1929.

Anatom: *Cadue* 92 (type of *Gymnopteris Bonii* Christ).

The species represents the type of the genus *Hemigramma* Copeland now comprising 4 or 5 species in the warm parts of Asia and Polynesia. As a genus, which is closely related to *Robbitia* Schott, *Hemigramma* is characterized by thick short woody rhizome, octavate type of scale and venation, dimorphous leaves with strongly contracted fertile ones and indefinite axils.

A variable fern as to the degree of pinnation. *Gymnopteris Bonii* Christ differs in frond having 2-3 pairs of lateral pinnae, of which the lower 1-2 pairs not decurrent along stipe and rachis, but sessile or short-petiolate in basal pairs. *H. distyrensis* Ching, based upon Y. Tsung's No. 2782 from southwestern part of Kwangtung, proves to be the same, as represented by our plate.

Plate 185, Fig. 2. Habit sketch (natural size). 3. Portion of sterile frond, showing venation ($\times 4$). 4. Portion of fertile frond, showing venation and position of axils ($\times 4$). 5. Section from base of stipe ($\times 8$). 6. Cross section of rhizome, showing arrangement of stipes ($\times 10$).

第一百八十五圖
擬叉蕨 (冰龍骨科)

HEMIGRAMMA DECURRENS (Hooker) Copeland

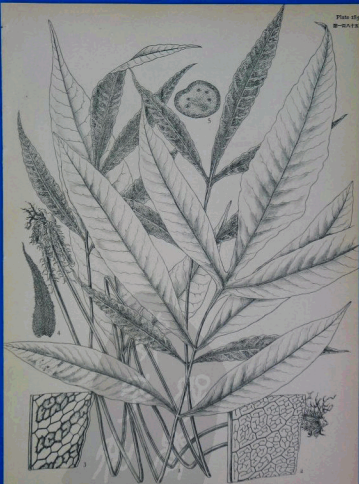
地下莖粗厚，木質，斜出或臥生，被微狀深褐色厚質鱗片，長達一粉；葉叢生，二形，不生子囊葉之柄為紅褐色，光亮，長十至二十五粉，基部具鱗片。葉闊卵形，長十六至三十五粉，葉緣向之，基部由柄下延，各葉柄狀深裂或分裂。(同為單葉)；小葉一至二對，對生，闊披針形，基部下延或否，而具短柄，長達二十粉，寬五粉，漸尖頭，向基部漸狹，全緣，基部一小葉較長，如木質，則則呈淺褐色，兩面光滑，側脈明顯，小葉網狀，網眼內具分叉或簡單小脈；生子囊葉葉之柄較長，葉體斜狀分裂(或為單葉)，小葉較窄，長僅十粉，寬二粉，下面子囊滿佈，僅中脊可見。

分佈：香港，雲南，瓊州島，台灣，爰是均產之。

本葉在亞洲大抵與此一種，其形體似似又前，惟葉為二形，子囊不成羣，僅散佈於葉之下面，且無莖。

附註：1. 本種各形(自然大)，2. 不生子囊葉之一部，表示葉面(放大四倍)，3. 生子囊葉之一部，表示葉面及子囊着生情形(放大四倍)，4. 葉柄基部之鱗片(放大八倍)，5. 葉之縱切面，表示葉管葉之構造(放大十倍)。





C. H. Peng Det. et Lith.

HEMIGRAMMA DECURRENS (Hooker) Copeland

擬叉蕨

LEUCOSTEGIA IMMERSA (Wallich) Presl

POLYPODIACEAE

LEUCOSTEGIA IMMERSA (Wallich) Presl, Tent. Pterid. 95 t. 4, f. 11 (1836); Hk. Gen. Fil. t. 52A (1840); J. Sm. Hist. Fil. 84 (1875); Beeld. Handb. Ferns Beil. Ind. 51 (1883); Cop. Phil. Jour. Sci. 34: 246, 252 (1927); C. Chr. Contr. U. S. Nat. Herb. 28: 293, 331 (1937); Ind. Fil. Suppl. III, 120 (1934).

Dacotila immersa Wallich, List no. 256 (1828, nom. nud.); Hk. Sp. Fil. 1: 156 (1846); Fil. Exot. t. 79 (1856); Hk. et Bok. Syn. Fil. 91 (1854); Clarke, Trans. Linn. Soc. II, Bot. 7: 443 (1884); Christ, Faerøer. d. Erde 303 (1847); C. Chr. Ind. Fil. 111 (1925).

Aerophoras immersa Moore, Proc. Linn. Soc. 2: 286 (1854); Ind. Fil. 2 (1857); Beeld. Ferns S. Ind. t. 11 (1865).

Humata immersa Mett. Fil. Hort. Lips. 102 (1856); Diels in Engl. u. Prantl, Nat. Pflanzenfam. 1: 4, 209 (1893).

Rhizome thick, woody, wide-creeping, hypogeous (subterraneous); scales linear-lanceolate, thin, rusty brown, sparse or rather copious at growing tip or base of stipe; frond far apart, stipe 20-35 cm long, firm, erect, dark-stramineous or pale colored, smooth, striate, glabrous from base upwards, lamina deltoid-ovate, acuminate, 23-25 cm long, and nearly as broad at base, tripinnate, pinnae about 10-jugate, oblique, long-petiolate, alternate, the basal pair much the largest, elongate-deltoid, 12-20 cm long, 6-10 cm broad, bipinnate; pinnales about 10-jugate under pinnate acuminate apex, the posterior basal one much the largest and produced, all petiolulate; ultimate pinnales 1-1.5 cm long, to 2 cm broad, subrhombic-ovate, sessile, cuneate, apex roundish, lobate-incised with 2-3 ovate lobes with bluntly dentate teeth; the upper pinnae narrowly oblong-lanceolate and gradually shortened; stipes herbaceous, pale green, glabrous in all parts; veins in ultimate pinnales fine, repeatedly branched, one to each tooth, but not reaches tip and ended in a clavate hydathode; sori large, 1-2 to each ultimate pinnae, terminating veinlet near the margin; indusium large, semi-orbicular, gray, membranaceous, entire, persistent, free on all sides except the lower side.

Yunnan: Shweli-Salween divide, *G. Forrest 26789*, *Simson, Henry 10083*; Mengtze, *Rancek 65* (Kew No.); Yunnan-sen, *Duclos 1386, 6589*; between Tengyueh and Lungling, *Roch 7239*; east of Tengyueh, *Roch 7618*.

Also North India generally, Indo-China, Siam, Formosa, Luzon, the Philippine Islands and Malasia-Polynesia.

This distinct fern resembles none of the genus, to which it belongs, by subterranean habit, pale green leaves with broad segments and large membranaceous indusium.

Plate 186. Fig. 1. Habit sketch (upward view). 2. Portion of frond, showing venation and position of sori ($\times 10$). 3. Scale from rhizome ($\times 27$).

第一百八十六圖

鐵蓋蕨(水龍骨科)

LEUCOSTEGIA IMMERSA (Wall.) Presl

地下莖木質，橫行，節被線狀披針形之膜質黃色鱗片；葉叢生，柄長二十至三十五份，暗褐色，光滑，無毛。葉體卵狀三角形，漸尖頭，長二十五至三十五份，寬亦如之，三回羽狀分裂；小葉約十對，斜出，具柄，互生，基部一對最大，長三角形，長十二至二十份，寬六至十份；二回小葉約十對，基部下方一片最大，均具柄；三回小葉長一至一·五份，寬達一節，近圓方形，無柄，黃頭，基部楔形，深裂，裂片具鋸齒，紙質，淡褐色，兩面光滑無毛，葉面羽狀分叉，小葉每側齒一數，不於邊緣；子囊群卵形大，每二回小葉具一至二個，集於小葉之頂，蓋大，為半圓形，紙質，全緣，由脊，僅基部着生於葉背。

分佈：雲南，印度北部，安南，暹羅，台灣及菲律賓群島均產之。

圖註：1. 本種葉形(自然大)，2. 一回小葉，表示葉脈及子囊群之位置(放大十倍)，3. 地下莖上之鱗片(放大二十七倍)。





LEUCOSTEGIA IMMERSA (Wak.) Presl

賴 蕨 蕨

LEUCOSTEGIA HOOKERI (Moore) Beddome

POLYPODIACEÆ

LEUCOSTEGIA HOOKERI (Moore) Bedd. Handb. Ferns Brit. Ind. 52 (1883).

Acrophorus Hookeri Moore, Ind. Fl. 2 (1857, non. n. n.), Bedd. Ferns Brit. Ind. 1. 95 (1865).*Davallia Glasbei* Baker in Hk. et Bak. Syn. Fl. ed. 2, 40 (1874); C. Chr. Ind. Fl. 208 (1898), pro parte.*Leucostegia Clarkei* (Baker) C. Chr. Contr. U. S. Nat. Herb. 26: 294 (1911); Ind. Fl. Suppl. III. 120 (1934).*Arachniopsis Clarkei* Cop. Phil. Journ. Sci. 24: 241 (1917).*Davallia davayana* Leveillé ex Claret, Trans. Linn. Soc. II. Bot. 1: 445 (1886), pro parte.*Leucostegia davayana* Bedd. Ferns Brit. Ind. Suppl. 4 (1876), pro parte.*Arachniopsis parva* Cop. Univ. Calif. Publ. Bot. 12: 399 pl. 53A (1911).*Leucostegia parva* C. Chr. Ind. Fl. Suppl. III. 121 (1934).

Rhizome thick, woody, wide-creeper, epigeous, densely scaly; scales dense, golden brown, ovate-lanceolate, finely acuminate, spreading; frond approximate, stipe 5-10 cm long, reddish-brown, persistent, nitens, glabrous or with a few large deciduous scales, lamina deltoid-oblong, 7-15 cm long, to 7 cm broad, 4-pinnate or pinnatifid; pinnae 20-jugate, patent, sessile, to 5 cm long, ultimate pinnales pinnatifid with 3-4 small ligulate acute uniserved segments, 1-2 mm long, 0.5 mm broad; texture thin herbaceous, pale green, glabrous; sori small at the base or forking of ultimate lobes, indusium small, membranaceous, gray, persistent, broader than long.

Yunnan: Ho-kin, Delavay, July 24, 1883; G. Forrest 1880; Lei-lung Shan, Forrest 1888 (1927); Muji, west of Yaking River, Rock 17850. Tibet: Ya-tung, Hobson (1897); Yunnan-Tibetan border, Capt. Kingdon Ward 789.

North India generally: Sikkim, Hooker fil. et Throsson 315 (type).

Rather a small fern characterized by the dense, large, broadly lanceolate scales with spreading long-acuminate tips and the dead persistent, reddish-brown soft stipes, which often break at 2-3 cm above base. In scale the species is very closely related to *L. pedicularis* (Christ) Hieron, which differs by much larger size, without so characteristically persistent dead stipes of previous years. In habit and size, it resembles *L. Delavayi* (Bedd.) Ching, but differs in chromatic scales being not ovate and imbricate. From *L. davayana* (Hk.) Bedd., our fern differs in sessile pinnae, indusiate sori and shape and color of scales.

The nomenclature of this fern has been very much confused. By priority, *Acrophorus Hookeri* Moore is found the legitimate name, because Moore's *novus novus* was subsequently effectively described and illustrated by Beddome in 1865, and is much older than *Davallia Clarkei* Baker. It was, however, unfortunate that Beddome himself later (Handb. p. 316) withdrew the figure under *Acrophorus Hookeri* in his Ferns Brit. Ind. 1. 95 as being a mistake for *Polypodium davayana* Hk., an eximiate species, but his plate represents, in fact, a fern with fairly large indusia and, in this respect alone, agrees well with Moore's species based upon a specimen collected in Sikkim by Hooker and Thomson.

Plate 187. Fig. 1. Habit sketch (partial view). 2. Portion of frond, showing venation and position of sori ($\times 25$). 3. Scale from rhizome ($\times 100$).

第一百八十七圖

霍氏鵝蕨(水龍骨科)

LEUCOSTEGIA HOOKERI (Moses) Boddome

地下部木質，粗黑，橫生，被金黃色之厚狀披針形之迷鱗片；葉叢叢生，柄長五至十餘，紅褐色，基部，應處枯腐時宿存，光淨或具疏鱗片，葉體橢圓三角形，長七至十五餘，寬達七餘，四回羽狀分裂或深裂；一回小葉十對，圓錐，無柄，長達五餘；末回小葉羽狀深裂；裂片三至四數，線狀披針形，尖頭，具小葉一枚，薄紙質，光澤；子囊單小，圓形，生於裂片之基部，甚小，膜質，宿存，寬過於長。

分佈：雲南，西貢及印度北部。

本種形體極似 *L. Delavayi* (Bodd.)，惟其葉上鱗片不具卵形而具厚狀披針形，具長漸尖頭，故易分別。

圖註：1. 本種全形(自然大)， 2. 小葉之一部，表示葉脈及子囊單之着生情形(放大十倍)， 3. 葉上之鱗片(放大十六倍)。





LEUCOSTEGIA HOOKERI (Moore) Boddrome

霍氏披蓋蕨

LEUCOSTEGIA MULTIDENTATA (Wallich) Beddome

POLYPODIACEÆ

- LEUCOSTEGIA MULTIDENTATA** (Wallich) Beddome, Ferns Brit. Ind. Suppl. 4 (1876); Handb. Ferns Brit. Ind. 51 (1883); C. Chr. Ind. Fil. Suppl. III, 421 (1934).
Aspidium multidentatum Wallich, List no 346 (1848, non. 2nd.).
Davallia multidentata Hk. Syn. Fil. 91 (1867); Clarke, Trans. Linn. Soc. II, Bot. 1: 443 (1886); C. Chr. Ind. Fil. 212 (1905).

Hemitelia multidentata Diels in Engl. u. Prantl, Nat. Pflanzenfam. 1: 209 (1895).

Arachnopus multidentata Cop. Phil. Journ. Sci. 34: 648 (1897).

Acrophorus Thomsoni Moore, Ind. Fil. 4 (1897, non. red.).

Microlopia pteropus Bodd. Ferns Brit. Ind. 1, 323 (1896).

Rhizome thick, wide-crooping, epigeous, densely scaly; scales large, ovate-oblong, acuminate, bright brown, thin; **frond** distant, stipe 15-25 cm long, dark-stramineous, nitente, densely at base and sparingly upwards clothed in large broadly ovate, acuminate, thin, brown scales, lamina ovate-deltoid, acuminate, 35-60 cm long, 17-30 cm broad near base, tripinnate; **pinnae** 10-15-jugate, patent, far apart, subalternate, petiolate (petiole about 1 cm long), the basal pair larger, 25-25 cm long, 7-10 cm broad, deltoid-oblong, acuminate, base subequal, bipinnate; **pinnales** to 10-jugate, alternate, petiolulate, the basal pair much the largest, 5-7 cm long, 3-4 cm broad at unequal base, deltoid-acuminate, pinnate to a narrow wing along costa; ultimate **pinnales** about 10-jugate, close, anterior basal one much larger, to 2 cm long, 1 cm broad, ovate-oblong, acute, deeply pinnatifid into 4-7-pairs of oblong acute segments, the lower ones again inciso-serrate; **laxare** thin herbaceous, rachis and rachilets glabrous except the base of pinnae, pinnales and costa being clothed with a few large, ovate membranaceous, brown scales, glabrous or glandular beneath, rachis, rachilets and costa above densely hirsute; veins fine, distinct, in segments pinnate, one to each sharp tooth, but never reaches tip; sori small, 2-12 to each ultimate pinna, placed at the base of its teeth on the upper side of veinlets; **indusium** small, horse-shoe shaped, brown, membranaceous, fugacious, free on all sides except the base.

Yunnan: Shweli-Salween divide, *G. Forrest 24701*; Tengyueh, *G. Forrest 27182* (1925); Hsianggan, *G. Forrest 27010*; Mengtze, *Hance 77* (1893).

Himalayas: From Nepal to Bhotan. Also Khasia, common.

Another distinct species of the genus, characterized by the presence of large broadly ovate thin brown scales on stipe, rachis, rachilets, and costa beneath and densely hirsute above. In hairiness, the species is closely related to another Himalayan species, *L. membranifera* Wall., which differs by much smaller size, pinnate or bipinnatifid lanceolate leaves and pale brown lanceolate scales on rhizome.

Plate 188. Fig. 1. Habit sketch (natural size). Portion of frond, showing venation and position of sori ($\times 10$). 2. Scale from rhizome ($\times 20$). 3. Scale from the costa of pinna above ($\times 250$). 4. Scale from the costa of pinna beneath ($\times 25$).

第一百八十八圖

七號蕨麻 (水龍骨科)

LEUCOSTEGIA MULTIDENTATA (Wall.) Bedd.

地下莖木質，圓形，橫行，被薄狀鱗圓半之紅黃色大鱗片；葉遠生，柄長十五至二十五份，深暗綠色，光潤，幼葉鱗片，葉體卵狀三角形，漸尖頭，長三十五至五十份，寬十七至三十份，三回羽狀分裂；一回小葉十五至十五對，闊線，相距甚近，互生，具柄，基部一對較大，長十五至二十五份，寬七至十份，闊圓三角形，除尖端，基部必等形，二回羽狀分裂；二回小葉約十對，互生，具柄，基部一對最大，長五至七份，寬三至四份，基部不等形，三角形，漸尖頭，葉狀深裂；末回小葉十對，尖棗，基部上方一片最大，深裂成四至七對橢圓形急尖頭之裂片，薄紙質，各回小葉基部具一二厚形披針狀鱗片，葉體上面疏生短毛，葉脈明顯，每裂片具一數小脈；子囊群小，位於葉面之基部，甚小，為球形，膜質，厚薄，僅基部着生。

分佈：雲南及印度東北二邦產之。

此種蕨於本屬其他各種者，為其披針形毛之葉體是也。

圖註：1. 本種全形 (自放大)； 2. 小葉之一部，表示葉脈及子囊群之位置 (放大十倍)； 3. 葉上之鱗片 (放大二十倍)； 4. 中肋上疏之毛 (放大一百五十倍)； 5. 中肋下疏之鱗片 (放大二十七倍)。

水龍骨科
七號蕨麻



LEUCOSTEGIA MULTIDENTATA (Wall.) Beddome

毛蕨蓋蕨

LOXOGRAMME GRAMMITOIDES (Baker) C. Christensen

POLYPODIACEÆ

LOXOGRAMME GRAMMITOIDES (Baker) C. Christensen *Ind. Fil. Suppl.* II, 21 (1946); III, 125 (1954).

Gymnogramme grammitoides Baker, *Journ. Bot.* (1889) 196.

Polypodium grammitoides Diels in Engl. Bot. Jahrb. **29**: 209 (1900); C. Chr. *Ind. Fil.* 539 (1905).

Selaginum grammitoides Christ, *Bull. Herb. Boiss.* II, **3**: 310 (1903).

Gymnogramme lamellata var. *minor* Baker, *Mokuro, Bot. Mag. Tokio* **48**: 176 (1896).

Loxogramme minor Mak. *Bot. Mag. Tokio* **38**: 139 (1925).

Polypodium Yaluensis Christ, *Bull. Herb. Boiss.* II, **7**: 2024 (1907); C. Chr. *Ind. Fil.* 575 (1905).

Kodama in *Hortens. Ic. Pl. Kōkō*, **1**: 66, 3, pl. 42 (1912).

Loxogramme Yaluensis C. Chr. *Ind. Fil. Suppl.* II, **22** (1946).

Loxogramme spatulata Cop. *Phil. Journ. Sci.* **26**: 232 (1905).

Rhizome epigeous, slender, wide-creeping, densely clothed in fusco-brown, lanceolate, acuminate, thin, clathrate scales; *fronds* distant, 3-10 cm long, 0.5-1 cm broad at the broadest part in the uppermost part, oblanceolate, much broadened below acute or short-acuminate apex, gradually long-attenuate until base, margin entire, thin; *texture* subcoriaceous, greenish-brown when dried; *midrib* prominently raised above, only slightly keeled or not visible beneath, veins not seen, forming two rows of elongate oblique areolæ on each side of midrib; *sori* linear-oblong, very oblique, 2-4 pairs, confined to the uppermost broadest part, subcostal, not reaching margin.

Hupeh: Ichang, *A. Henry* 5451 (type), 5451A; *Wilson* 670 (type of *L. spatulata*). *Kuichow*: Kianghsow, foot of Van-chin Shan, *Y. Tsing* 7556, 7888. *Szechwan*: Hsing-ya Hsien, *W. P. Fang* 8486, August, 1939. *Kiangsi*: Wang Lung Tse, *R. C. Ching*, Oct. 1935, on wet moss-clad rock cliff under woods. *Yunnan*: Long-ki, *Delavay*, August, 1893; *E. E. Moore*.

Japan: Yokohama, *Maximowicz* 22 (1867), and other localities.

Also Loochoo Islands.

This fern represents one of the smallest species of the genus, being characterized by small sessile oblanceolate or spatulate leaves, much broadened in the upper one-fifth part, thence gradually narrowed and attenuate until base, by a few pairs of short and very oblique subcostal sori, confined to the uppermost broadest part. The Japanese *L. Yaluensis* (Christ) appears not specifically different from Chinese type.

Plate 189. Fig. 1. Habit sketch (natural size). 2. Portion of frond showing venation, and sori ($\times 5$). 3. Scales from rhizome ($\times 10$).

第一百八十九圖
小葉劍蕨(水龍骨科)

LOXOGRAMME GRAMMITOIDES (Rak.) C. Chr.

地上莖細長，橫行，被深褐色之披針形鱗質薄片；葉遠生，長三至十公分，寬五至十釐，圓披針形，急尖頭，頂部最寬，向下漸狹，尾長至基部，全緣，肉質，中肋上面圓凸，下面稍隆起，葉脈不見，網脈二列；子囊單線形，二至四對，急斜出，位於葉頂部之前寬處，不達於葉邊。

分佈：湖北，四川，江西，雲南，日本及琉球羣島均產之。

此蕨本屬極小之種之一，其個體計形之葉，以頂部最寬闊，其二至四對急斜出之子囊單，為基礎型。

圖註：1. 本種全形(自然大)，2. 葉體之一部，表示葉脈及子囊單之位置(放大五倍)，3. 葉上之鱗片(放大二十八倍)。





LOXOGRAMME GRAMMITOIDES (Haller) C. Christenhusz

小菜劍蕨

第一百九十圖
柳葉劍蕨(水龍骨科)

LOXOGRAMME SALICIFOLIA Makino

地下莖細長，橫行，略被單環狀針形之深褐色鱗片；葉散生，長十五至二十五餘，寬一，二至二·五餘，長披針形，上部三分之一處最闊，向下漸狹，沿葉柄下延，葉基部上部二至六對處，柔綿，近革質，光滑，呈淡黃色，中肋上面凸形，下面隆起，刺蝟不見；子囊果線形，細長，似尾，自中肋近葉端。

分佈：雲南，四川，湖北，貴州，廣東，廣西，福建，江西，香港，朝鮮，日本，在暹，琉球，安汶及吉打坡均有產之。

此蕨與我國各省習見之種，形體大小不一，異名甚多，要皆同種也。

圖註：1. 本種全形(自然大)，2. 葉體之一部，其示葉脈及子囊果之位置(放大八倍)，3. 地下莖上之鱗片(放大十六倍)，4. 地下莖之橫切面，表示維管束之構造(放大十六倍)。





LOXOGRAMME SALICIFOLIA Makino

楊葉劍蕨

LOXOGRAMME ENSIFORMIS Ching

POLYPODIACEAE

LOXOGRAMME ENSIFORMIS Ching, sp. nov.

Species magnitudine et configuratione *L. insolatae* (Don) himalayense magis similis differt paleis rhizomatis duplo parvisioribus, latis ovatis, apice breve acuminatis (laminis parvisioribus rotundatis, creberrimis); soris multis brevioribus, crassis, costis, a se magis distantibus, nec costae nec marginem frondis attingentibus; costa centrali supra prominenti.

Rhizome short, erect, densely scaly, scales light brown, broadly ovate, short acuminate, entire, 5 mm long, consisting of numerous small roundish brown laminae; *fronds* caespitose, stipe short, thick, 2 cm long, compressed, lamina oblanceolate, long acuminate, 20-25 cm long, 3-3.5 cm broad at the upper two-thirds part, gradually attenuate along a long narrowly winged stipe; *texture* chartaceous, greenish, naked, midrib distinct on both sides, slightly keeled below and raised above; *veins* not seen but distinct against light, the lateral veins oblique, areole elongate, only occasionally with one short included veinlet; *sori* oblique, thick, brown, raised, about 5 mm apart, confined to the upper half of leaf, extending from near the costa to one-third way from the margin.

Szechwan orientalis. Without locality, T. F. Lee 621 (type); without locality Wü-ssu 6248 (pro parte). Kweichow: Lin-tchang, Cavalieri 1889, April, 1909; Pin-fa to ganchow, Cavalieri 1805, 178.

The present fern appears to alike the Himalayan *L. insolata* (Don) that it might well be passed for that species, from which, however, it can easily be distinguished by its broadly ovate and half as long scales with short acuminate apex and much smaller, round and more numerous brown laminae, by leaves of green color, gradually attenuate downward from the broad upper half, and by much thicker, shorter, fewer and more widely separate sori extending from near the costa to only one-third way from the margin. The costa is slightly raised on the upper side. *L. insolata* (Don) has broadly lanceolate rhizomatic scales to 1 cm long, consisting of large, clear elongate laminae, much longer, narrower and very oblique sori extending from costa to near the margin and not raised midrib above.

Plate 191. Fig. 1. Habit sketch (natural size). 2. Portion of lamina, showing venation, and sori (x 3). 3. Scale from rhizome (x 10).



第一百九十一圖

闊葉劍蕨(水龍骨科)

LOXOGRAMME ENSIFORMIS Ching

地下莖短而直立；鱗片圓形，深灰色，淡黃色；葉疏生，柄長僅二份，扁形，葉體倒披針形，長丈餘，下部漸狹，沿葉柄下延，長二十五至二十五份，寬三至三、五份，以上部三分之二為葉柄，葉革質，兩面光滑，中肋上面凸出，下面隆起，葉脈網狀，不見，網脈長形，間具一數單線；子葉單線形，斜出，行距約五釐，位於葉之上部，自中肋起葉體三分之二。

分佈 四川及貴州處之。

本種極似印度北部產之 *L. vivipara*，然其葉上鱗片較小，網脈亦異，子葉單自此相離異處，不達於葉邊，故可分別。

同誌： 1. 本種全形(自然大)， 2. 葉體之一部，表示葉脈及子葉單(比大三倍)， 3. 地下莖上之鱗片(放大十倍)。





LOXOGRAMME ENSIFORMIS Ching

圓葉劍蕨

DRYNARIA FORTUNEI (Kun.) J. Smith

POLYPODIACEÆ

DRYNARIA FORTUNEI (Kun.) J. Smith in Bot. Voy. Herald. 425 (1857); Diels in Engl. u. Prantl. Nat. Pflanzenfam. 1: 4, 330 (1899); C. Chr. Ind. Fā. 247 (1905); Acta Hort. Gotthelb. 7: 266 (1924).

Polypodium Fortunei Kun. apud Mett. Farnpfl. Polyp. 121 t. 3 f. 40-45 (1857); Hk. Sp. Fil. 8: 95 (1854); Hk. in Bot. Beech. Fil. 367 (1858); Christ, Faruk. d. Fide 116 (1862); Baker, Journ. Bot. (1868) 230; Franch. Pl. David. in Nouv. Arch. Mus. II. 90: 122 (1857); Christ, in Warburg, Monasteria 1: 63 (1906); Bull. Soc. Bot. Ital. (1901) 297.

Dryas parvifolia Hk. (non J. Sm.) Journ. Bot. (1852) 232.

Polypodium fortunei Loeb. Fl. Cochinch. 827 (1795) Sw. Syn. Fil. 62 (1866).

Polypodium parvifolia Hk. (non L. 1753) in Blakiston, Five Months on the Yangtze 766 (1882).

An epiphytic fern on tree trunks or rocks. Rhizome wide-creeping, fleshy, thick as a finger, densely clothed in bright ferruginous, frizzy, linear-subulate scales with long-fimbriate margin; fronds dimorphic, the sterile ones sessile, reddish-brown (without chlorophyll), dry, coriaceous, nitrate, imbricate, with coarse venation, 5-7 cm long, 3-6 cm broad, broadly ovate, cordate at base, acute at apex, margin crenate below, lobato-pinnatifid in the upper half with 4-6 pairs of detoid, very acute, entire lobes 1-1.5 cm long, shining glabrous above, shortly pubescent on costa and veins beneath; the fertile ones 25-40 cm long, including winged stipe 5-8 cm long, 14-18 cm broad at middle, oblong, acute, pinnatifid nearly down to rachis; segments patent, 7-15-jugate under the cordate apex, 7-9 cm long, 2-3 cm broad above the beaded base, lanceolate, acute or obtusish, margin with remote incisions, the lowest ones somewhat shorter, followed by a few auricles, the upper ones gradually shortened, sinuses broad, roundish or acute at bottom; texture crass chartaceous, green and glabrous on both sides; venation prominent on both sides, lateral veins distinct, oblique, connected by transverse veins, forming 4-5 quadrangular sericeous areole, filled with fine or netted included veinlets; sori large, roundish, copious, regularly seriate, 2-4 between costa and margin, one in each 4-angular areole, ex-imbriate.

Chekking, Chusan, Robert Fortune; Siepp, Hanoi 30; Coepfe (1854); Tschow, R. C. Ching 250; Ping-yang Hsin, H. H. Hu 90; Weychow, K. Ling 720 (1924); Szechwan Hsin, R. C. Ching 2500; Kiang: Linking, J. A. S. Steward 2001; Kwai-tai Chiao (Goddess of Mercy Island), R. C. Ching, numerous specimens, C. F. DePal 20, August 1, 1915; Tungting, F. Tsiang 18708. Kwei-chow, Gan-chow, Cantonia 2742, 1797. Hapok: Ichang, Mavor (1864); Putang Hsin, Henry Str. Wilson 9221. Szechwan: Ho, Ouel, B. Fehr 3072; Brown 75; Ching-chow, Lamproche (1913); Cf. Sord. R. Francis (1924) Blakiston in Herb. Hb.; Hsueh-shan Hsin, Weychow 210, May 3, 1919. Yunnan: Mengzi, Hanoi 112; Mia, Henry 10174, 10175. Kwangtung: North River, Tschow 19120; Lo-fai Shao, C. Ford (1875); Swatow, Tai-yung, Dalselt, Sept. 1897; Gerlach: Lien-chow, Mathew, Dec. 1907; Linking, N. K. Chun 12427; C. L. Tai 27128; Yingtai, Wuyang Shao, H. Y. Long 19109; Longtan Shao, Y. K. Wang 27507. Kweichow: Lungchow, Moore 7; Wuy-chow, S. S. Sui & K. K. Wang 2 (1925); Liu-chia Hsin, Te Poo, R. C. Ching 2312. Fokien: Fouchou, R. Fortune 11 (1857); La Touche, Forbes 2392; L. Y. Tai 11170; T. S. Gung 7361; Ka-shun, T. S. Gung 882; Ling-shan, Alexander, Amy, Malheur in Herb. Boree 1200; Yuen-sh, Warburg; Chung-chow, H. H. Chung 901; Hinglou, H. H. Chung 902; Sun-sh Tai, Mathew, Oct. 6, 1907.

Also Formosa and Tonkin.

A common epiphytic fern in the warm parts of China and differs from *D. parvifolia* (L.) J. Sm. of Tropical Asia in much smaller size in all parts and the large uniseriate sori between lateral veins.

Plate 192. Fig. 1. Habit sketch (natural size). 2. Portion of segment, showing venation and position of sori ($\times 4$). 3. Scales from rhizome ($\times 15$). 4. Hair on underside of sterile leaf ($\times 75$).

第一百九十二圖
 解蕨(水龍骨科)

DRYNARIA FORTUNEI (Ktze.) J. Sm.

一種附生於樹幹或石壁上之蕨類，地上莖橫行，肉質，肥厚如根，披針形之葉由葉柄部生；葉二型，其不生孢子囊之葉爲圓形，無柄，彼此互茂，長約五至七份，寬三至六份，灰綠色，葉厚革質，邊緣淺裂，葉脈顯凸，網脈，其通常生孢子囊之葉爲綠色，長二十五至四十份，寬十四至十八份，長橢圓形，具有極之短柄，葉體向基部漸廣，厚紙質，兩面光滑，葉脈深裂，羽片七至十三對，長七至九份，寬二至三份，楔狀圓，基部二三次羽裂爲葉形，邊緣具淺淺缺刻，葉無網脈，顯凸；孢子囊大，略呈圓形，數列，無蓋。

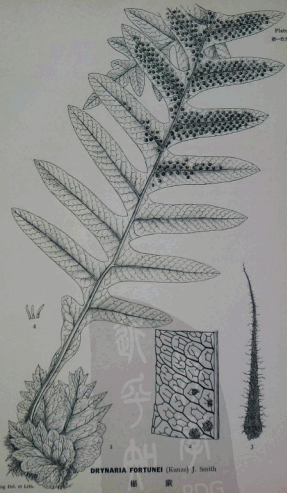
分佈： 浙江，湖北，雲南，四川，廣東，廣西，福建；台灣及安南亦產之。

此種中國蕨類各著名書道之蕨類，常附生於樹幹或石壁之上，以其肉質之根及顯圓形之葉葉收效而水與空氣以爲其養料，至開兩年。

圖註： 1. 本種全形(自然大) 2. 葉之一部，表示葉脈及子囊葉之位置(放大六倍) 3. 地上莖之鱗片(放大十六倍) 4. 不生孢子囊葉下層之毛(放大七十六倍)。



Plate 191
第 191 号图



DRYNARIA FORTUNEI (Kunze) J. Smith

槲 蕨

C. K. Ping Det. et Lith.

PDG

DRYNARIA SINICA Diels

POLYPODIACEAE

DRYNARIA SINICA Diels in Engl. Jahrb. **29**: 298 (1900); C. Chr. Ind. Fil. 249 (1903); Acta Hort. Gothob. **1**: 196 (1924); Journ. Wash. Acad. Sci. **17**: 498 (1927).

Polypodium Baroni Christ (non Baker 1885). Trav. Gioc. Bot. Itat. n. s. **4**: 200 t. 2 (1897); Farkas, J. Erde **120** (1897).

Drynaria Baroni Diels in Engl. u. Pracht. Nat. Pflanzenfam. **1**: 4. 330 (1895); Christ, Bot. Soc. Bot. France **52**: Mém. I. 23 (1905).

Drynaria robusta Christ in C. Chr. Ind. Fil. 247 (1903); C. Chr. Bot. Gaz. **86**: 332. 1913.

Rhizome wide-creeping, fleshy, thick as a small finger, densely scaly; scales bright ferruginous, frizzy, lanceolate-subulate, densely fimbriate; fronds dimorphous, the sterile ones rather scarce, pale green or light brown, chartaceous, or subcoriaceous, sessile, to 10 cm long, 4-5 cm broad at middle, oblong lanceolate, acuminate, pinnatifid down nearly to rachis with deltoid-lanceolate, acute segments 2-3 cm long, with the lowest ones much reduced, glabrous beneath, pubescent above; fertile fronds distant, stipe 8-15 cm long, dark stramineous, with narrow wing on each side running down nearly to the base, lamina 17-40 cm long, 7-11 cm broad, oblong-obovate, pinnatifid down nearly to rachis, 14-20-jugate, patent, broadly linear-lanceolate, acute or bluntish, or rounded, the middle ones 4-6 cm long, 1-1.5 cm broad above the dilated base, the basal 1-2 pairs shortened or reduced into more pair of auricles, margin finely and closely serrate with low acute sharp teeth; texture crass chartaceous, green, more or less pubescent especially on rachis and costa above; venation distinct on both sides, lateral veins erecto-patent, intervening veinlets anastomosing in 3-4 rows of angular areole occasionally with one short included veinlet; sori large, roundish, costal, uniseriate on each side, near the upper base of lateral veins.

Szechwan: Nanchuan, Resthous 2181 (type); Mt. Orsi, Scullan; Ta-chien-lu, Soulie 212 (1891); without locality, Wilson 2883; Mao-chow, F. T. Fang 2181A; Tungyuan Hsien, W. P. Fang 2422; Kangtun Hsien, W. P. Fang 2687; Hung-yuan Hsien, W. P. Fang 2692, 2693; Deogochi, Harry Smith 2502; C. S. Liu 705, July 13, 1933; Ma-pien Hsien, T. T. Yu 2500 (pro parte). Yunnan: Tong-chow, E. E. Maire 1878, 1883 (1913); Tuckey, Moonbeig 277. Shensi: Ki Shan, Giraldi (type of *Polypodium Baroni*); Mt. Zulu, Giraldi, August, 1894; Paulson 87. Kansu: Pingfan Hsien, R. C. Ching 181, forming dense carpet on moist foothill.

This endemic species is closely related to the Himalayan *D. mollis* Bedd., differs chiefly in less pubescent fertile leaves of thicker texture and the basal part of stipe being not of dead straw-colored appearance.

Plate 193. Fig. 1. Habit sketch, (natural size). 2. Portion of segment showing venation, position of sori and serratures ($\times 6$). 3. Scale from rhizome ($\times 10$). 4. Hairs from the upper side of rachis ($\times 70$). 5. Cross section of rhizome, showing arrangement of scales ($\times 4$).

第一百九十三圖
華蓴蕨(水龍骨科)

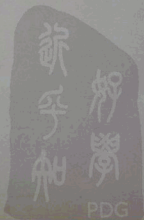
DRYNARIA SINICA Diels

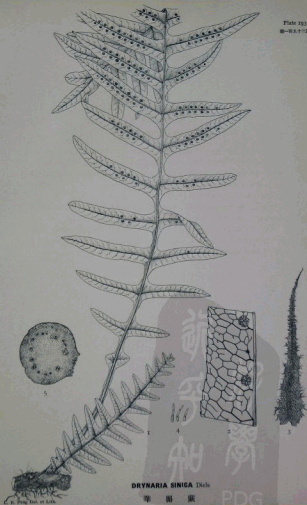
本種形體頗顯特殊，惟其不生子囊草之繁殖生成往往罕見，且其形體與生子囊草之葉無大異，僅較小，為橢圓披針形，呈黃綠色或淡褐色，其生子囊草之葉之兩側被甚多之短毛。(尤以中肋上面為甚)，孢子囊一列，位於中肋兩側，呈基分列；又此種之生殖為半寄生或土生，因其莖或葉有十種的根，可以利用土中養料。故其不生子囊草之葉往往視為生子囊草者。

分佈：四川、雲南、陝西、甘肅。

此種本屬分佈極北而最稀罕之種，其類當為從亞山所產之有根蕨 (*D. caudex* Hook.) 惟其葉柄下部不為光禿褐色，葉面之毛較疏，故尚易區別。

圖註：1. 本種各形(自然大)。2. 生子囊草之一部，表示葉脈、孢子囊之位置及短毛(放大六倍)。3. 莖上之鱗片(放大十六倍)。4. 葉之中肋上面之短毛(放大七十六倍)。5. 莖之橫切面，表示葉管束之位置(放大四倍)。





DRYNARIA SINICA Diels

華 爾 蕨

C. H. Peng Det. et Lith.

PDG

COLYSIS WUI (C. Chr.) Ching

POLYPODIACEAE

COLYSIS WUI (C. Chr.) Ching, Bull. Fan Mem. Inst. Biol. **4**: 322 (1933).

Polypodium sp. nov. Wu, Polyp. Yunnan, in Bull. Dept. Biol. Coll. Sci. Szechuan Univ. No. **2**: 258 t. 19a (1931).

Polypodium Wai C. Chr., L. c. No. **4**: 17 (1933); *Id.*, Fil. Suppl. III: 164 (1934).

Rhizome wide-creeping, densely scaly; scales fusco-brown, linear-lanceolate from rounded base, thin, clathrate; fronds 1-2 cm apart, scarcely subdimorphic, the fertile one with stipe 30-35 cm long, stramineous, glabrous, lamina 15-20 cm long, 5-6 cm broad at base, oblong-ovate, gradually acuminate, base rotundo-truncate, decurrent a short way along stipe, margin narrowly cartilaginous, repando-undulate; leaflets herbaceous, green, glabrous on both sides; lateral veins distinct, erecto-patent, flexuose, venetlets anastomosing on each side in a row of elongate areole with divaricate included veinlet; sori linear, oblique, extending regularly from costa to margin; sterile fronds conform, but with somewhat broader lamina on shorter stipe.

Kwangsi: Yao Shan, Sheng-tang Ling, S. S. Sui et K. K. Wang 619 (type), June 15, 1928; Sze-loh Hsien, Kwangsi Natural History Museum No. 27; Kwangtung: Tung Shin Hsien, Nardien, K. K. Tseng 1967; Tai-hung Tung, Ku Wai Shan, C. L. Tso 2210 (1929).

An endemic species, closely related to *C. pedunculata* (Blk. et Grev.) from Sikkim-Himalayas, differing in broadly ovate-oblong leaves being scarcely dimorphic, with rotundo-truncate base shortly decurrent along stipe and narrower sori being more wide apart from each other.

Plate 194. Fig. 1. Habit sketch (natural size). 2. Portion of lamina, showing venation and sori ($\times 1.5$). 3. Scale from rhizome ($\times 30$).



第一百九十四圖

吳氏狸藻 (水龍骨科)

COLYSIS WUI (C. Chr.) Ching

地下莖橫行，被深褐色之絲狀放射形鱗片；葉生於二年，柄長三十至二十五份，暗紫色，光滑，葉體長十五至二十份，基部寬五至八份，卵狀橢圓形，漸尖頭，基部甚深截形，向下漸縮長，葉邊呈淺波狀，紙質，葉面光滑，側脈明顯，圓形，網脈可見；子囊單線形，自中脊處聚生；不生子囊單之葉體較寬，具相反之柄。

分佈：廣東及廣西之深山產之。

此為罕見之種，其卵狀橢圓形之葉體具二倍長之葉柄，葉與本屬各種分離。

圖註：1. 本種全形 (自然大)。2. 葉體之一部，表示葉脈及子囊單 (放大一倍半)。3. 地下莖上之鱗片 (放大三十倍)。





COLYSIS WUI (C. Chr.) Ching

吳氏線蕨

COLYSIS HEMIONITIDEA (Wallich) Presl

POLYPODIACEAE

COLYSIS HEMIONITIDEA (Wallich) Presl, *Epim. Bot.* 147 (1849); *Ching. Bull. Fan Mem. Inst. Biol.* 4: 320 (1933).

Polypodium hemionitideum Wallich, *List. no. 284* (1816, nom. nud.); *Mém. Fam. Nat. Polyp.* 133 (1817); *Hb. Sp. Fil.* 4: 73 (1845); *Syn. Fil.* 36 (1864); *Clarke, Trans. Linn. Soc. II. Bot.* 3: 537 (1886); *Christ, Farnkr.* 4: *Folio* 105 (1897); *Décl. in Engl. v. Presl, Nat. Pflanzsam.* 1: 4-315 (1894); *C. Chr. Ind. Fil.* 553 (1904); *Christ, Journ. Bot. de France* 16: 27 (1905); 1044, II. 1: 9 (1906); *Talbot, Notes, R. Bot. Gard. Edinb.* 3: 368 (1915); *Wu, Polyp. Yunnan. in Bull. Dept. Biol. Coll. Sci. Szechuan Univ.* No. 3: 282 pl. 232 (1934).

Seligeria hemionitidea Presl, *Text. Florid.* 216 t. 9 f. 17 (1835).

Platydictya hemionitidea Maxon, *Ind. Fil.* 476 (1882); *Bodd. Ferns S. Ind.* t. 292 (1868); *Handb. Ferns Brit. Ind.* 259 (1883).

Cyrtopogon Fil. 4. anomala Bodd., *Ferns Brit. Ind.* t. 274 (1868).

Rhizome wide-creeeping, sparsely scaly; scales rufo-brown, ovate-lanceolate, acuminate, thin, clathrate; *foveol* distant, 40-60 cm long, 5-7 cm broad, broadly lanceolate, acuminate, entire, gradually narrowed and long-decurrent down ten cm the base of sparsely scaly stipe; *lesher* herbaceous, brownish-green upon drying; venation distinct, lateral main veins subparallel, parallel, flexuose, about 8 mm apart, the intervening veinlets anastomosing in 3-angled rectangular areolae with divaricate included veinlets; *cost* large, oblong, short linear or roundish, one-rowed between each pair of lateral veins, exindusiate.

Kuangtung: Loh-fan Shan, N. K. Chun 21586, 21898, 26454; C. Ford, C. O. Leveine 596. Swatow, Thai-yong, Dr. Dalziel, July, 1901; Tai-mo Shan, C. G. Matthee, Oct. 15, 1907; Yingtak, Tai Chun, C. L. Yoo 22026; 1964, Jewhan, H. Y. Liang 61896; Sunyi, S. P. Ko 61892; Tsing-tan Hsien, K. K. Tsang 12895. Kwangsi: Tze-poo, Lu-chun Hsien, R. C. Ching 5574; Lin Yen Hsien, Tsung-lung Shan, R. C. Ching 6307; Yao Shan, Ping-nam Hsien, S. S. S'w 104A, 104B. Hainan Island: Ng Chi Leng, F. A. McClure 9322. Hong-kong: Lantau Island, C. Ford (1874); *Tsichow* 628 (1909). Yunnan: Mengto, Henry 10522, 11488A; *Bancoc* 26 (1893). Kweichow: Without locality, *Casaheria* 8295.

Also Tonkin, East India, Formosa and the Philippine Islands.

A distinct and also perhaps a linking species between the genera *Colysis* and *Microrisium*, as indicated by its unstable secal conditions, which are generally interrupted into oblong or roundish shape.

Plate 195. Fig. 1. Habit sketch (natural size). 2. Portion of hood, showing venation and secal condition ($\times 2$). 3. Scale from rhizome ($\times 25$). 4. Scale from base of stipe ($\times 15$).

第一百九十五圖

斷續蕨(永龍骨科)

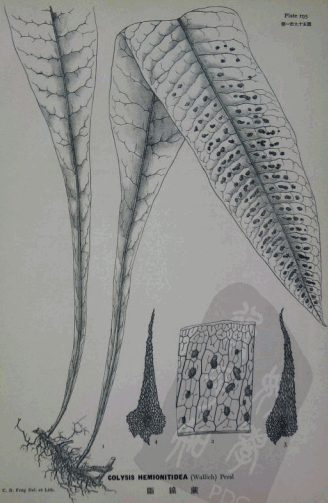
COLYSSIS HEMIONITIDEA (Wallich) Presl

地下莖橫行，披針形或之狀軟性針形或鱗片；葉疏生，長四十至六十公分，寬五至七公分，披針形，漸尖頭，全緣，下葉漸尖，上葉柄下延發達基部，紙質，光澤，乾則呈淡黃色，葉脈明顯。 葉面少許有，齒形，間距八厘米，線形或狀，葉片又小葉；子葉甚大，橢圓形，葉柄厚皮即葉柄，一行排列，不具蓋。

分佈：廣東，廣西，雲南，香港，雲南，貴州，安徽，印度，台灣及菲律賓羣島均產之。
本種異於本屬其他各種者，爲其子葉呈不成透直線形而等齒爲橢圓形並有圓形是也。

圖註：1. 本種全形（自然大）， 2. 葉體之一部，表示葉脈與子葉之情形（放大二倍）， 3. 葉上之鱗片（放大十六倍）， 4. 葉柄基部之鱗片（放大十六倍）。





COLYSIS HEMIONITIDEA (Wallich) Presl

C. B. Peck Det. et Lab.

斷 續 圖

PDG

COLYSIS WRIGHTII (Hooker) Ching

POLYPODIACEÆ

COLYSIS WRIGHTII (Hooker) Ching, Bull. Fan Mem. Inst. Biol. 4: 324 (1933).

Gymnogramme Wrightii Hooker, Sp. Fil. 4: 366 t. 93 (1842; Syn. Fil. 598 (1851).

Polypodium Wrightii Mett. ex Deless in Edg. u. Prassl Nat. Pflanzenfam. I: 4: 316 (1896); C. Chr. Ind. Fil. 375 (1905).

Sellignea Wrightii J. Sm. Hist. Fil. 102 (1875).

Polypodium bambusaceum Hayata, Ic. Pl. Form. 4: 330 t. 137 (1915); C. Chr. Ind. Fil. Sept. II, 85 (1912-14).

Rhizome wide-creeping, densely scaly; scales fusco-brown, lanceolate from rounded base, thin, clathrate, broad distant, 25-35 cm long including wingless stipe 2-5 cm long (sterile leaves almost without wingless stipe), lanceolate, 4-3 cm broad, acuminate, rather gradually narrowed and decurrent along stipe in a broad wing on each side, margin repando-undulate; texture thin herbaceous or submembranaceous, glabrous on both sides, turning blackish upon drying; venation distinct, lateral main veins subpatent, flexuose, intermediate veinlets anastomosing in 2-rowed elongate areole with simple or divaricate included veinlets; sori linear, extending from costa to near the margin.

Hongkong: *Bodiner* 145, May 2, 1838. Kwangtung: Tang Shing Hsien, K. K. Tseng 445, 4905, 1880, 1148; Yao Shan, C. L. Tse; North River, C. G. Mathew, Nov. 26, 1907; Swatow, Thai-yung, Dr. David, August, 1897; July, 1901; Sept. 1899. Chekiang: Pin-yang Hsien, H. H. Hu 1898.

Also Tonkin, Formosa and Loosho (C. Wright, type).

A very distinct species which, by its present distribution, seems to be more common in the Islands Formosa and Loosho than on the mainland. It is most closely related to *C. Lovellii* (Christ) Ching but differs in its submembranaceous leaves with repando-undulate margin, always turning blackish upon drying, of which the fertile ones are generally provided with short wingless stipes.

Plate 196. Fig. 1. Habit sketch (natural size). 2. Portion of lamina, showing venation and sori ($\times 2$). 3. Scale from rhizome ($\times 30$).

第一百九十六圖
萊氏綠蕨(水龍骨科)

COLYSIS WRIGHTII (Hooker) Ching

地下莖橫行；鱗片圓披針形，黑褐色，質薄。囊葉明顯；葉叢生，長二十五至三十五公分，寬三至四公分，披針形，兩頭尖，基部自葉柄兩側下延，僅其二至五公分長無翅之柄，邊緣呈波形，側脈具長，網脈顯明，薄紙質。乾則呈黑褐色；子囊葉線形，自中肋近葉邊。

分佈：廣東，香港，台灣，琉球及安南處之。

此種本區特種之蕨類，其關於分類者，已詳於該類，茲不贅述。

圖註： 1. 本種全形(自然大)， 2. 葉柄之一部，顯示葉鱗及子囊葉(放大二倍)， 3. 地下莖上之鱗片(放大三十倍)。





COLYSIS WRIGHTII (Hooker) Ching

萊氏銀蕨

COLYSEIS HEMITOMA (Hance) Ching

POLYPODIACEAE

COLYSEIS HEMITOMA (Hance) Ching, Bull. Fan Mem. Inst. Biol. **4**: 376 (1915).

Polypodium hanceanum Hance, Journ. Bot. (1883) 266; C. Chr. Ind. Fil. 532 (1905).

Polypodium macrophyllum var. *fulvescens* Cop. Phil. Journ. Sci. Bot. **3**: 283 (1908).

Polypodium sp. nov. Wu. Polyp. Yunnan, in Bull. Dept. Biol. Coll. Sci. Sze-Tsuen Univ. No. **3**: 319 t. 149 (1932).

Rhizome wide-creeping, densely scaly; **stipes** fuscous-brown, lanceolate from rounded dentate base, thin, clathrate; **frond** far apart, stipe 20-25 cm long, (half as long and broadly winged throughout in sterile leaves), stramineous, sparsely scaly, winged half way down, lamina broadly lanceolate, acuminate, generally with hastate base, thence broadly decurrent downward, entire or more frequently with 1-2 pairs of lanceolate, horizontally patent lobes, or sometimes (as in type) regularly lobato-laciniate with 5-6 linear-lanceolate lobes on each side, margin entire, but undulate; **texture** herbaceous, glabrous above, more or less sparsely scaly on veins and costa beneath when young; **venation** distinct, lateral veins oblique, flexuose, veinlets anastomosing along main vein in one row of elongate areole with divaricate included veinlet; **vein** linear, flexuose, extending from costa to margin, often interrupted.

Kwangtung: Lien-chow, B. C. Henry (1881), 22104 in Herb. Hance (type); *ibid.*, Pak Shan, C. L. Tso 28986 (typical), Oct. 5, 1930; Lung-tai Shan, In village, T'o & Tsang 28158, 18981, May 27, 28, 1924; *ibid.*, Ku Kwoeng, Y. K. Wang 27658; North River, Lan-lan Kan, N. K. Chun 5807; Yintak, C. L. Tso 28980; Lok-cheng, Kook Klung, S. P. Ko 58927; Y. K. Wang 27481; N. K. Chun 23086, Fukien: Central kant. S. T. Dunn 2692, Kwangsi: Yao Shan, S. S. Siu & K. K. Wang 100; *ibid.*, S. S. Siu 2701 (*f. integra*); May 26, 1928, *ibid.*, Y. J. Wang 2809, 2508, 5322, 218.

A peculiarly distinct endemic fern, only related to *C. Wrightii* (Hk.) Ching, differing in hastate or lobato-laciniate lamina on a long and broadly winged stipe, and green color of leaves with less undulate margin. There is an entire-leaved form (*f. integra*) which resembles *C. Wrightii* so closely that it can be distinguished from that species only by proportionally short broad lamina rather suddenly narrowed towards base and much longer stipe, which is generally winged only half way down.

Plate 197. Fig. 1. Habit sketch, representing typical form (natural size). 2. The same, but with only 1-2 lobes on each side (natural size). 3. Portion of lamina, showing venation and vein ($\times 5$). 4. Scale from costa beneath ($\times 40$). 5. The same, from stipe ($\times 40$). 6. The same, from costa beneath ($\times 40$). 7. The same, from veinlet beneath, terminated with vein ($\times 40$).

第一百九十七圖

胃葉換蕨(水龍骨科)

COLYSSIS HEMITOMA (Hance) Ching

地下莖橫行，被深褐色之披針形鱗片；葉叢生，柄長二十五至二十五份，（不生子葉草之葉之柄長僅中之），每葉細長披針形，葉體厚紙三角形，長十至十六份，基部寬達六至十份，漸尖頂，葉脈下脈連續或二至七對離其披針形之鱗片，基部極狹而平展，黃紙質，乾則常呈黑褐色，側脈具網，網脈可見；子葉單線形，自中肋連葉基，僅當斷裂。

分佈： 黃巖北部，福建中部，廣西南部及之。

圖註： 1. 本種全形（自然大）， 2. 同上，葉少分葉（自然大）， 3. 葉體之一部，表示葉脈及子葉脈（放大一倍半）， 4. 地下莖上鱗片（放大四十倍）， 5. 柄上鱗片（放大四十倍）， 6. 葉體下面中肋上之鱗片（放大四十倍）， 7. 葉體下面小脈上子葉草中之鱗片（放大四十倍）。





COLYSIS HEMITOMA (Hance) Ching

胃菜蕨

COLYSSIS DIGITATA (Baker) Ching

POLYPODIACEE

COLYSSIS DIGITATA (Baker) Ching, Bull. Fan Mem. Inst. Biol. 4: 328 (1935).

Gymnosorus digitata Baker, Journ. Bot. (1898) 267.

Polypodium digitatum C. Chr. Ind. Fil. 522 (1905).

Grammitis Finlaysonianae Wall. List 248, No. 776 (1869, nom. nud.).

Seligeria Finlaysoniana Moore, Ind. Fil. LXVI (1877); Christ, Journ. Bot. 6. France 2^e sér. 11: 13 (1908).

Gymnosorus Finlaysoniana Baker, Ann. Bot. 5: 486 (1891).

Colysis trilobatifolia Fin, Gea. Fil. 178 (1850-52, nom. nud.).

Polypodium annamense Christ, Journ. Bot. 6. France 11: 77 (1902); C. Chr. Ind. Fil. 528 (1908); Merr. Essai. Haïkous Fl. in Lingnan Sci. Journ. 1: 28 (1927).

Polypodium amplifolium Christ, l.c. p. 76; C. Chr. l.c.; Merr. l.c. p. 27.

Polypodium palustre Christ, l.c. p. 125; C. Chr. l.c. 555.

Polypodium Cadieri Christ, l.c. p. 75; C. Chr. l.c. p. 515.

Rhizome wide-creeping, copiously clothed in lanceolate hair-pointed atro-brown and glabrate thin scales; fronds subdimorphic, 1-3 cm apart, stipe 20-30 cm long, pale stramineous, naked, base articulated, lamina 10-18 cm each way, generally palmately divided (sometimes 2-3 lobed or simple), base rarely shortly decurrent, segments 3-5, lanceolate, acuminate, 10-16 cm long, 1.5-3 cm broad, base somewhat narrowed, margin thickened, entire but repandulous; leaflets chartaceous, glabrous on both sides, pale green; lateral veins oblique, flexuose, visible; sori linear, oblique, between lateral main veins, extending from costa to margin; sterile frond conform, but on much shorter and often winged stipe and with broader segments.

Kuangsi: Lungchow, Morse 45; Lu-chun Hsien, R. C. Ching 6280, on rocks along stream under forest. Hainan Island: Lu Mai, Eryl Smith 1515, Jan. 4, 1923, on stream side; South of Fan Ta, Tsang Wai-tek 17797 (1929); Five Finger Mt., F. A. McClure 8980, 8982; W. Y. Chan 6804 (in Herb. Univ. Nanking); Eryl Smith 2542 (l. simplex), on tree; Hoichow, Hancock 20; Lin-fa Shan, F. A. McClure 8070; Tsang Wai-tek 17004, 15889; W. Y. Chan 6905; Pat Ka Shan, F. A. McClure 8552 (l. simplex); Tun Kuo, Eryl Smith 1510, 1512, 1511; Hupohia, W. Y. Chan 1516; Lolse, Mrs. Mansinger 285.

Tonkin: Balansa 700 (type); Lang Biang, Eberhardt 108; Gaudichaud, Mrs. Gleason 4764. Annam: Cadier 45 (type of *Polypodium annamense*); Cadier 168 (type of *P. Cadieri*).

A very distinct and pretty fern, now found to be fairly common in the localities noted, but still unknown elsewhere. It differs from the other species of the genus in its palmatifid leaves with 3-4-5 lanceolate entire segments and wingless stipe, but forms with 2-3 lobed or even simple leaves have also been found not uncommon even in the same collection or on the same rhizome. *Polypodium annamense* Christ differs only in the slightly winged upper stipe, while *P. Cadieri* Christ has simple or 2-3 lobed leaves with much contracted linear fertile segments.

Plate 198. Fig. 1. Habit sketch (natural size). 2. Portion of fertile segment, showing venation and position of sori ($\times 20$). 3. Sporangium ($\times 100$). 4. Scale from rhizome ($\times 30$). 5. Cross section of rhizome, showing the arrangement of stipes ($\times 10$).

第一百九十八圖

掌葉蕨蕨 (水龍骨科)

COLYSIS DIGITATA (Baker) Ching

地下莖橫行，具黑褐色之披針形鱗片；葉簇生，二型，葉柄長二十至三十公分，淡褐色，光滑，葉體長十至十八公分，寬亦如之，掌狀全裂(即爲二至三裂，或單葉)，基部略延長，裂片二至五枚，披針形，漸尖頭，長十至十六公分，寬一·五至二公分，基部截形，全緣或呈淺波狀，紙質，兩側光滑，葉脈斜出，疏而可見，網脈二列，內具小脈；子葉線形，斜出，自中肋近葉邊；不生子葉之葉具較短之柄與較廣之裂片。

分佈： 廣西，潯州府；雲南，安縣亦產之。

本種適宜因其掌狀全裂之葉，故易於區別，然與有三至二裂者，或具有不分裂者，是當注意耳。

圖註： 1. 本種全形(自然大)， 2. 裂片之一部，表示葉脈及子葉之位置(放大三倍)， 3. 子葉(放大一百〇八倍)， 4. 地下莖上之鱗片(放大三十六倍)， 5. 地下莖之橫切面，表示葉管束之佈置(放大二十倍)。

掌葉蕨蕨



COLYSIS DIGITATA (Baker) Ching

掌葉線蕨

COLYSIS PENTAPHYLLA (Baker) Ching

POLYPODIACEAE

COLYSIS PENTAPHYLLA (Baker) Ching, Bull. Fan Mem. Inst. Biol. **4**: 332 (1933).

Cymatopyrum pentaphyllum Baker, Rev. Bull. (1905) 233.

Polygodium pentaphyllum Christ (non Baker, 1901), Bull. Acad. Génér. Bot. (1906) 248.

Polygodium ellipticum var. *pentaphyllum* C. Chr. Ind. Fil. 524 (1925).

Polygodium multicarum Ching, Bull. Fan Mem. Inst. Biol. **2**: 39 t. 4 (1931); C. Chr. Ind. Fil. Suppl. III, 253 (1934).

Rhizome wide-creeping, densely radiceous and scaly; scales ovate-acuminate, light brown, iridescent, thin, chalcinate, dorsally affixed; **frond** distant, stipe 35-55 cm long, stramineous, glabrous above base; lamina ovate, 15-20 cm long, nearly as broad, pinnate; pinnae 1-3-jugate, or rarely more, 14 cm long, to 3 cm broad, broadly lanceolate; opposite, acuminate, base attenuate and decurrent along rachis, equal-sized, margin entire, slightly repand; **leaves** herbaceous, green, glabrous; **costa** prominent on both sides, **lateral veins** visible above, veinlets anastomosing in 4 rows of elongate, oblique areolae with included recurrent simple veinlets; **tori** linear, oblique, extending over two-thirds way to the margin.

Yunnan: Mengtsze, A. Henry 9333A, 9658 (type), 9691; Wen Shan Hsien, Lou-chin Shan, H. T. Tsai 5127; *ibid.*, Da Tsün, H. T. Tsai 5167.

A distinct endemic species, closely related to *C. elliptica* (Thbg.) var. *petiolaris* (Don) Ching in habit, differing in very long-stipitate leaves and proportionally short ovate-lamina with only 1-3 pairs of broadly lanceolate pinnae, thick and rather short sori and the broadly ovate-acuminate, light brown scales on rhizome.

Plate 199. Fig. 1. Habit sketch (natural size). 2. Portion of pinna, showing venation and sori ($\times 25$). 3. Scale from rhizome ($\times 20$).

第一百九十九圖

漢維蕨(水龍骨科)

COLYSIS PENTAPHYLLA (Baker) Ching

塊下莖橫行，頂端半圓形或鐘形之鱗片；葉散生，柄長二十五至五十五釐，暗棕色，光滑，葉體卵形，長十五至二十釐，寬約如之，羽狀分裂；小葉一對至三對，對生，長十四釐，寬僅三釐，倒披針形，無葉柄，基部楔形，頂中葉延長，葉邊各緣面稍反捲，紙質，光滑，葉脈明顯，網脈可見；子葉線形，斜出，自基部生出，葉長寬三分之二。

分佈： 雲南特產。

本種所屬之加標蕨類屬 (*C. elliptica*) 之亞葉變種 (*var. petiolata*)，僅其葉柄特長，葉體較短，僅具一至二對之小葉，葉上鱗片為倒披針形，呈淡黃色，故易識別。

圖註： 1. 本種全形(自然大)。 2. 小葉之一部，表示葉脈及子葉基之位置(放大二倍半)。 3. 塊下莖上之鱗片(放大二十倍)。





GOLYSIS PENTAPHYLLA (Baker) Ching

五叶蕨

GOLYIS MORSEI Ching

POLYPODIACEAE

GOLYIS MORSEI Ching, Bull. Fan Mem. Inst. Biol. 4: 330 (1933).

Polyodium Morsei Ching, Bull. Fan Mem. Inst. Biol. 2: 17 t. 1 (1931); C. Chr. Ind. Fil. Suppl. III. 154 (1934)

Rhizome wide-creeping, densely scaly; *scales* fusco-brown, linear-lanceolate from ovate base, chartrate, entire; *fronds* far apart, subdimorphic, the fertile one with stipe to 20 cm long, stramineous, glabrous, lamina 20-24 cm long, to 8 cm broad, oblong-elongate, with caudate apex, simple pinnate; *pinnae* to 16 pairs, subopposite, obliquely patent, to 5 cm long, 7 mm broad, basal ones not shortened, gradually abbreviated towards the caudate apex, narrowly lanceolate, acuminate, entire, considerably constricted above decurrent base, the upper ones are connected by a narrow wing along rachis; *texturae* herbaceous, green, glabrous on both sides; *veins* anastomosing only in two rows of oblique areolae along costa; *soei* linear, oblique, extending from near the costa to margin; *sterile fronds* conform but much shorter, on stipe 10 cm long, lamina 15 cm long, to 7 cm broad; *pinnae* 3.5 cm long, 1 cm broad, lanceolate, narrowed above decurrent base.

Kwangsi: Lungchow, Ah Chin, n. w. hills, *H. B. Morse* 66, 64 (type); Lin Yen Hsien, *R. C. Ching* 6633.

Tonkin: Than-Moi, *Balausa* 36, 366, sur les roches calcaires, Jan. 19, 1886; *Pfledt* 4107.

A pretty and gracile fern, closely related to the typical form of *C. elliptica* (Thbg.), differing chiefly in more pronounced dimorphism of leaves, more numerous and much narrower pinnae with anastomosed venation of simpler type.

PLATE 200. Fig. 1. Habit sketch (natural size). 2. Fertile pinna, showing venation and sei ($\times 4$). 3. Scale from rhizome ($\times 50$).

第 二 百 圖
馬氏龍蕨(水龍骨科)

COLYSIS MORSEI Ching

地下莖橫行，被深褐色鱗狀排列之鱗片；葉散生，羽二形，柄長達二十公分，光滑，葉體長二十至二十四公分，寬達八公分，長橢圓形，端呈尾狀，羽狀分裂，小葉達十六對，互對生，狹披針形，長僅五公分，寬七個，基部相對等長，向葉端漸短，漸尖頭，各條，基部較寬而下延，彼此分離，惟上部數對間各有兩條連接，紙質，光滑，側脈缺如，小葉成二列斜出之網眼；子葉線形，斜出；不生子葉草之葉之網脈達十對，葉體較寬，小葉寬達一分，中軸具軟毛。

分佈：廣西及安徽產之。

本種形體極其雅麗，惟其葉甚顯著之羽形，小葉數較多而較狹，故具分別。

圖註：1. 本種全形(自然大)，2. 生子葉草之小葉，表示葉脈及子葉草(放大二倍)，3. 地下莖上之鱗片(放大五十倍)。





ADIANTUM MORSEI Ching

馬氏綠蕨

C. B. Peng Det. et Lith.