

SOME NEW SPECIES OF FERNS FROM SOUTH AMERICA

By A. H. ALSTON

RESUMEN

Algunas especies nuevas de helechos de sudamérica.— El autor describe *Cyathea o'donelliana* sp. n., *Trichomanes lacinosum* sp. n., *Adiantum ceciliae* sp. n., *Cheilanthes saundersii* sp. n. y *Xiphopteris reitzii* sp. n. y efectúa las siguientes nuevas combinaciones: *Botrychium dusenii* (Christ) (= *B. lunaria* var. *dusenii* Christ), *Thelypteris torresiana* (Gaudich.) (= *Polystichum torresianum* Gaudich.), *Athyrium lilloi* (Hicken) (= *Nephrodium lilloi* Hicken) y *Ctenitis ericaulis* (Fée) (= *Aspidium ericaulis* Fée).

OPHIOGLOSSACEAE

Botrychium dusenii (Christ) Alston comb. nov.

- B. lunaria* var. *dusenii* Christ in Ark. for Bot. 6, N° 3 : 5, f. 4-8 (1906);
Clausen in Mem. Torr. Bot. Club 19 : 69 (1938).
B. ramosum var. *patagonicum* Christ l.c. 3 f. 2-3.
B. ramosum ssp. *patagonicum* (Prantl) Clausen in Mem. Torr. Bot. Club 19 : 89, (1928).
B. lunaria (non Sw.) Milde in Verh. zool.-bot. Ges. 19 : 103 (1869) p.p. quoad pl Banks.

I consider that there is only one species represented by these two varieties. Christ's figures 2 & 6 are hardly distinguishable. The plant is smaller than *B. lunaria* (L.) Sw. the largest specimens being 10 cms high. The swollen base mentioned by Christ is correlated with the size of the young leaf within the sheathing stipes and is perhaps therefore seasonal. The lamina is shorter in proportion to its length than in *B. lunaria* and is broadest at base. The spores are verrucose.

The following specimens are available at the British Museum:

ARGENTINA. *Malvinas Is.*: waterlogged sand, Peninsula E. of Stanley, A. G. Bennet; Stanley Common, J. E. Hamilton. *Patagonia*: bare slopes

c. 800 m, Rio Fosiles, near Lake San Martín, *Dusen* (type-collection); Lage Penhe, 200 m, *Donat* 410; Viedma, 200, *Donat* 313. *Tierra del Fuego*: Bay of Good Success, *Banks*. *Staten Land*: Puerto Roca, *Castellanos* 12790.

CYATHEACEAE

Cyathea o'donelliana Alston sp. nov.

(Pls. I-II)

Euicyathea: caudice arborescenta; frondibus 1 m longis, 60 cm latis, tripinnatifidis; stipitibus 30 cm longis, basi 1.5 cm latis, apice 7 mm, latis, spinulis nigris indutis, in sicco pallide brunneis, basi dense squamosis, squamis centro cellulis nigris, nitentibus, murisque incrassatis, margine pallidis fimbriatis; pinnis c. 11 utroque latere, basalibus minoribus, c. 20 cm longis, rhachitibus in sicco substramineis, supra dense hirsutulo, subtus minus induto; pinnuli ultimis c. 6 cm longis, 2 cm latis, profunde lobatis, lobis longioribus quam latioribus; pinnulorum costis supra pilis recuratis crebre indutis subtus subglabris; loborum costis supra glabris, subtus pilis hinc et ille ferentibus; nervillis latioribus c. 9 utroque latere, simplicibus aut furcatis in dentibus exeuntibus; soris juxta costam dispositis, indusiatis, receptaculis incrassatis, pilosulis.

ARGENTINA. Salta. Dep. Orán: San Andrés, 1000 m, *Willink* 285 (BM syntype, fertile pinna) cultivated at Instituto Lillo, *O'Donell* (BM syntype, sterile frond, 3 sheets).

Cyathea rojasii Christ is separated by its pale scales which completely lack the black thickened central area of the new species, moreover the segments of the pinnulis are entire and have stellate hair-like scales on the costae.

C. caesariana Christ seems very similar to *C. rojasii*.

Cyathea hassleriana Christ has uniform brown scales, serrate — sinuate margins and stiff hairs on costae.

C. yungensis C. Chr. differs by having numerous scales on the costae and entire margins to the segments.

C. setosa (Kaulf.) Dom. has rather similar scales but is separated by the presence of aphlebiae near the base of the frond.

HYMENOPHYLLACEAE

Trichomanes (Neuromanes) laciniosum Alston sp. nov.

(Pl. III)

Species ex affinitate T. huberi et T. pennati, sed indusiis stipitatis, pinnis pectinate, laciniatis, magnitudine que distinguitur.

Species probabiliter terrestris, rhizomate breviter repente, circa. 1.5 cm longo, crassitudine 2 mm, apicem versus foliis circa 7 praedita; stipitibus foliorum sterilium plerumque circa 2 cm longis, crassitudine c. 0.75 mm, squamulis filiformibus, nigris, sparse instructis; laminis ambitu oblongis, c. 4.5 cm longis, 2.5 cm latis, apicem abrupte attenuatis, pinnatis, pinnis c. 8 utroque latere, jugo basale, paullo minor; pinnis trapezoideo-oblongis, c. 5 mm latis, basi dimidiatis, latere anteriore profunde lacinata, laciniis anguste deltoideis, latereque postica laciniis setaceis, recurvatis praedita; costis conspicuis glabris; nervis lateralibus simplicibus vel unifurcatis, nervillis tertiariis non visis; muris cellulorum sinuatis; foliis fertilibus quam steriles duplo longioribus, 9-14 cm longis (stipitibus 5-9 cm inclusis) imparipinnatis, pinnis c. 3 utroque latere, anguste oblongis, apice laciniatis, urceolis pedunculatis utroque latere gerentibus.

BRITISH GUIANA: Kaieteur Falls, C. Appun (BM type); Demerara, T. B. Blow (BM). Mt. Aricaru, N. G. L. Guppy 50 (BM, L).

ADIANTACEAE

Adiantum ceciliae Alston sp. nov.

(Pls. IV-V)

Species habitu A. urophyllii Hook. (Syn A. kalbreyeri C. Chr.) sed soris percrassis pinnulisque stipitatibus facile distinguitur.

Species terrestris, rhizomate breviter repente, c. 4 cm longa, 4 mm crassa, squamulis fere linearibus, obscure brunneis nigro-costatis induta; stipitibus c. 30 cm longis, nigris, plusminusve sulcatis, setis appressis, irregulariter dispositis, munitis; frondis c. 25 cm longis 20 cm latis, bipinnatis; pinnis 2-3 utroque latere emergentis; pinnulis sterilibus trapezoideis, dimidiatis, apicem versus distante serratis, glabris, venulis furcatis; petiolulis 2 mm longis; pinnulis fertilibus soros ad apicem et laterum superiorem c. 10 ferentibus; indusiis falsis crassia, elongatis, levi-

ter curvatis, c. 3 mm longis, 2 mm latis; annulis c. 15 cellulatis; sporis *triletis*, *sublaevibus*.

PERÚ. Dep. Junín on south bank of R. Perone, within 15 miles from the confluence of the Chanchamayo and Paucartambo Rivers, 2500 ft. moist sandstone on edge of forest, Mrs. Stella Gascoyne-Cecil 50 (BM type), 47 (BM).

A. latifolium Lamk. differs by its wide-creeping rhizome, narrow sori and regularly acute serrate sterile pinnules.

***Cheilanthes saundersii* Alston sp. nov.**

(Pl. VI)

Species insignis habitu C. brandegeei D. C. Eat et C. capensis (Thunb.) Sw. sed frondibus majus pubescentibus et paleis magnis albidis facile distinguitur.

Rhizomate erecto, crasso, dense squamoso; squamis lineari-lanceolatis, 6 mm longis, 1.25 mm latis, leviter sinuatis, nonnunquam distante serrulatis, apice in ciliam attenuatis, albido-hyalinus sed senectute plus-minusve brunnescentibus; stipitibus circa 5 cm longis, 1.25 mm in diametro, tenuissime breviterque languinosis, teretis, nigris, nitentibus; laminis ambitu deltoideis vel ovato-deltoideis, 5-9 cm longis, 4-6 cm latis, bi-pinnatis vel bipinnatifidis, margine sinuatis, ciliatis, supra tenuter lanuginosis, venulis pinnatis, non astomosantibus, incrassatis; pinnis 4-6 jugis, suboppositis, infimis 1-1.5 cm inter se distantibus, ovato-deltoideis, subsessilibus, catadrom icis, apice rotundato-obtusis; segmentis infimis liberis, aliis adnatis; indusiis distinctis, membranaceis, ciliatis; sporis nigrescentibus, triletis.

PERÚ. Dept. Lima: Prov. Huarochiri: Distr. Sureo: Km 64 Central Highway, 5,500-6,500 ft. under rocks on rocky hillside, S. G. E. Saunders 350 (BM, type); Km 68, 6,000 ft., Saunders 219 (BM).

GRAMMITIDACEAE

***Xiphopteris reitzii* Alston sp. nov.**

(Pl. VII)

Polypodium schenckii var. *villosa* C. Chr. ex Dutra, in An. Prim. Reun. Sul. Am. Bot. 2: 55 (1940).

Ex affinitate X. organensis (Gardn.) Copel., sed frondibus profunde lobatis basi ciliatis facile detecta.

Planta epiphytica, rhizomate erecto, squamolis ferrugineis, linearibus ciliatis instructo; squamulorum cellulis muris incrassatis, luminibus angustis; stipitibus fasciculatis, basin versus setis pallidis patentibus gerentibus, c. 2 mm longis; laminis 6-10 cm longis, c. 5 mm latis, subtus longe setosis, supra glabris pinnatifidis; lobis fere oblongis, usque ad 3 mm longis, 1.5 mm latis, apice rotundatis, basi confluentibus, subcoriaceis; venis simplicibus supra inconspicuis, subtus prominentibus; soris crassis; sporangiiis glabris, setis longi intermixtis; annulo 14-cellulato; sporis laevibus.

BRASIL. Santa Catarina. Cambajuva, S. Joaquim, epiphyte nos capoes do campo, R. Reitz 3446 (BM, type). Rio Grande do Sul. Bomjesus, epiphyte on Aparados on steep slopes, Serra dos Ausentes, 1100 m, J. Dutra 195 (BM).

THELIPTERIDACEAE

Thelypteris torresiana (Gaudich.) Alston comb. nov.

Polystichum torresianum Gaudich. in Freye. Voy. Bot. 333 (1827).

Lastrea torresiana (Gaudich.) Moore Ind. Fil.: 86 (1856).

Aspidium uliginosum Kunze in Linnea 20: 6 (1847).

Dryopteris uliginosa (Kunze) C. Chr. Ind. Fil. Suppl. 3: 100 (1934) non Kuntze ex Druce.

Polypodium trichodes Reinw ex J. Sm. in Journ. Bot. 3: 394 (1841).

Dryopteris tricodes (Reinw.) Ros. in Med. Riks. Herb. N° 31: 6 (1917).

This species was originally described from the Mariannas and is widespread in Tropical Asia. It occurs in Trinidad, Brazil and Argentina as an introduction.

ATHYRIACEAE

Athyrium lilloi (Hicken) Alston comb. nov.

Nephrodium lilloi Hicken, An. Soc. Cient. Argentina, 63: 8 & tab. (1907).

Dryopteris lilloi (Hicken) C. Chr. Ind. Fil. Suppl. 1: 34 (1913).

ARGENTINA. Tucumán. La Casita, valley of River Cañaorecón, 1700 m, Lillo 2932 (BM type collection), 7377 (BM); 1750 m, Lillo 2930 (BM); Puesto Santa Rosa, Dept. Chichigasta, 1050 m, Meyer 15417 (BM). Salta: Cerro Astillero, Dept. Orán, 2800 m, Pierotti (BM).

An examination of the material at the British Museum shows that the sori are distinctly elongate and that the stipes have two vascular strands only, so that the species is to be placed under *Athyrium* instead of *Dryopteris*.

ASPIDIACEAE

Ctenitis eriocaulis (Fée) Alston comb. nov.

Aspidium eriocaulon Fée, Crypt. Vasc. Bras. 1 : 136 t. 4 p. 1 (1869).

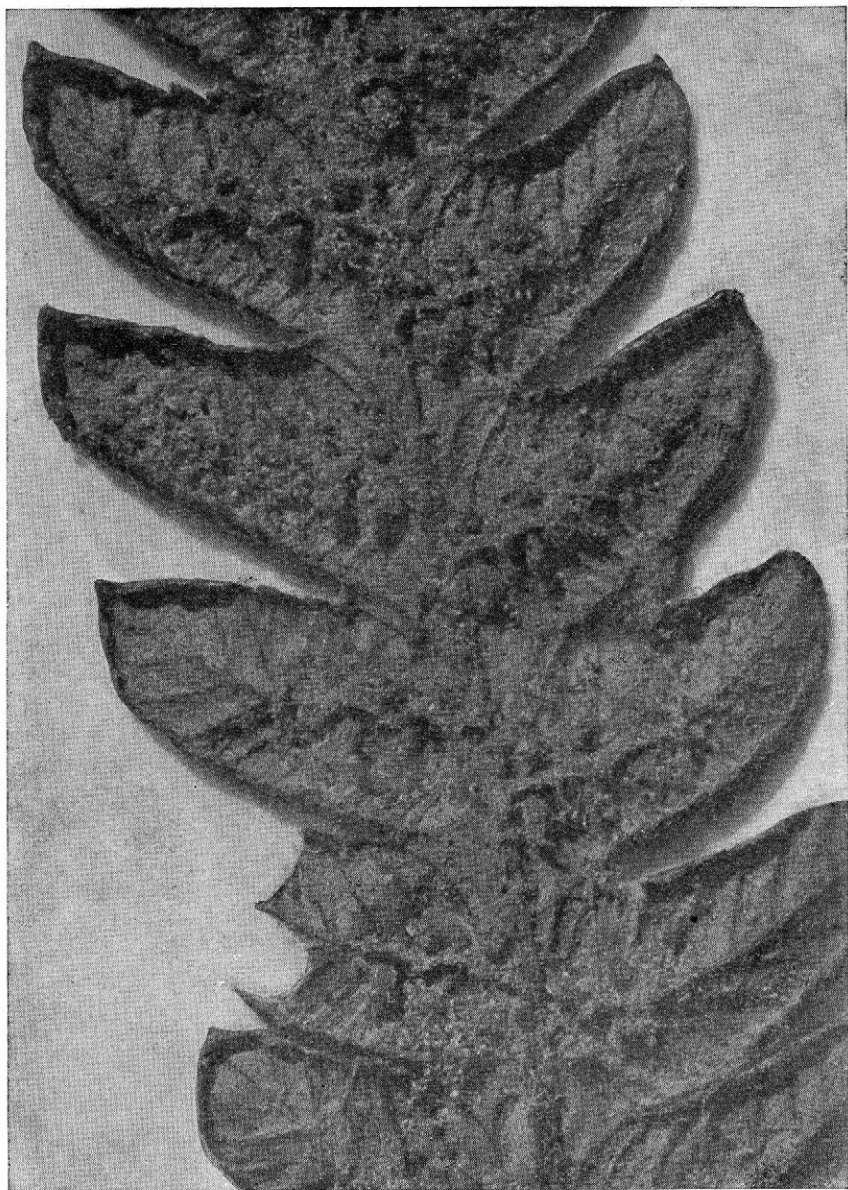
Dryopteris eriocaulis (Fée) Kuntze Rev. Gen. 2 : 812 (1891); Hassler in Trab. Inst. Bot. Buenos Aires, 45 : 23 (1928).

D. cirrhosa var. *eriocaulis* (Fée) C. Chr. in K. Danske Vid. Selok. Skrift. ser. 7, 10 : 102 (1913).

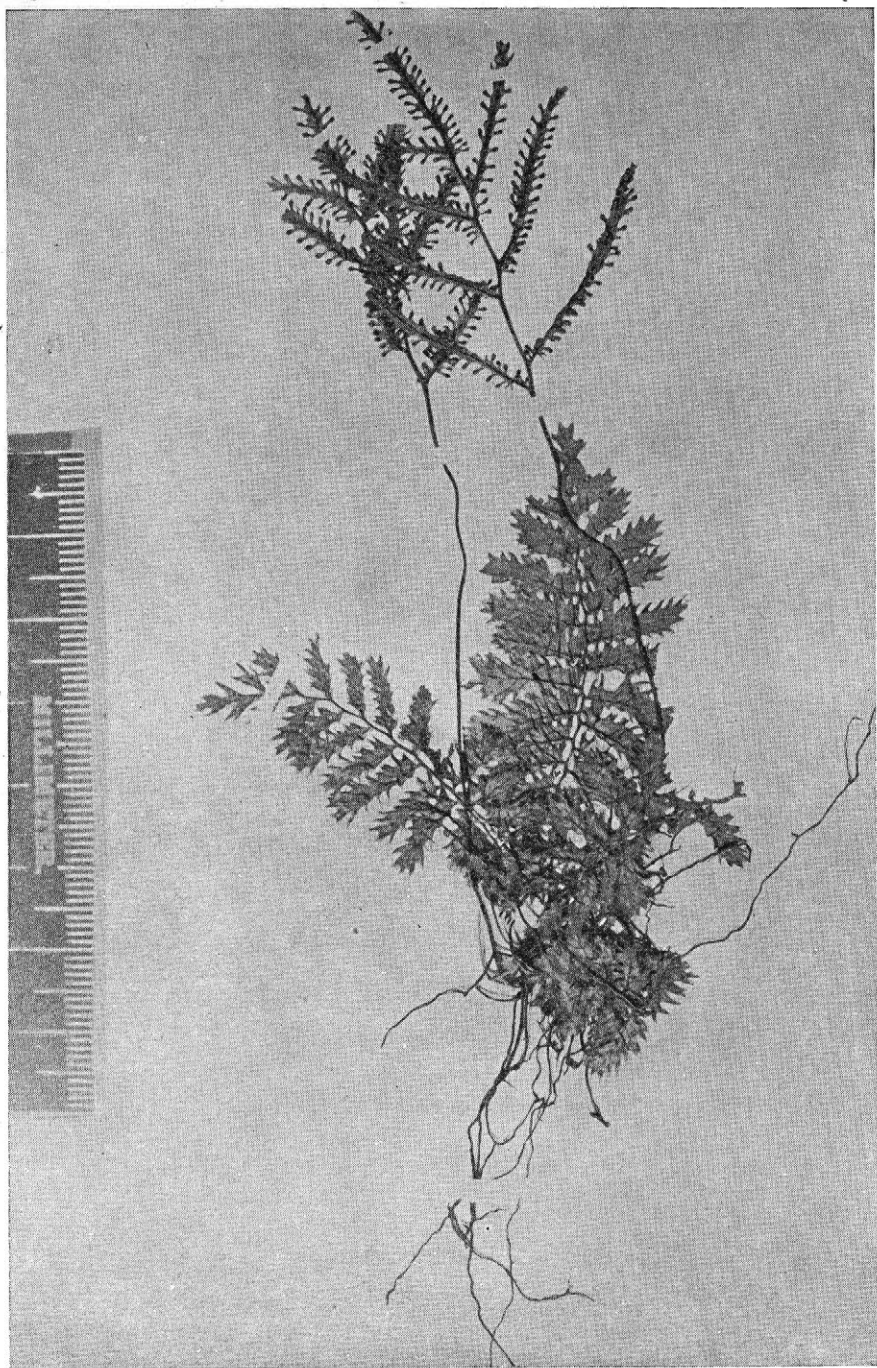
I agree with Hassler in treating this species as distinct from *Ctenitis cirrhosa* (Schum.) Copel. I have seen both in cultivation under the same conditions and *C. eriocaulis* is a much larger plant with far more densely scaly stipes.



Cyathea o'donelliana Alston. Base and top of frond. Argentina, cult. Instituto M. Lillo, leg. O'Donell (BM), syntype.



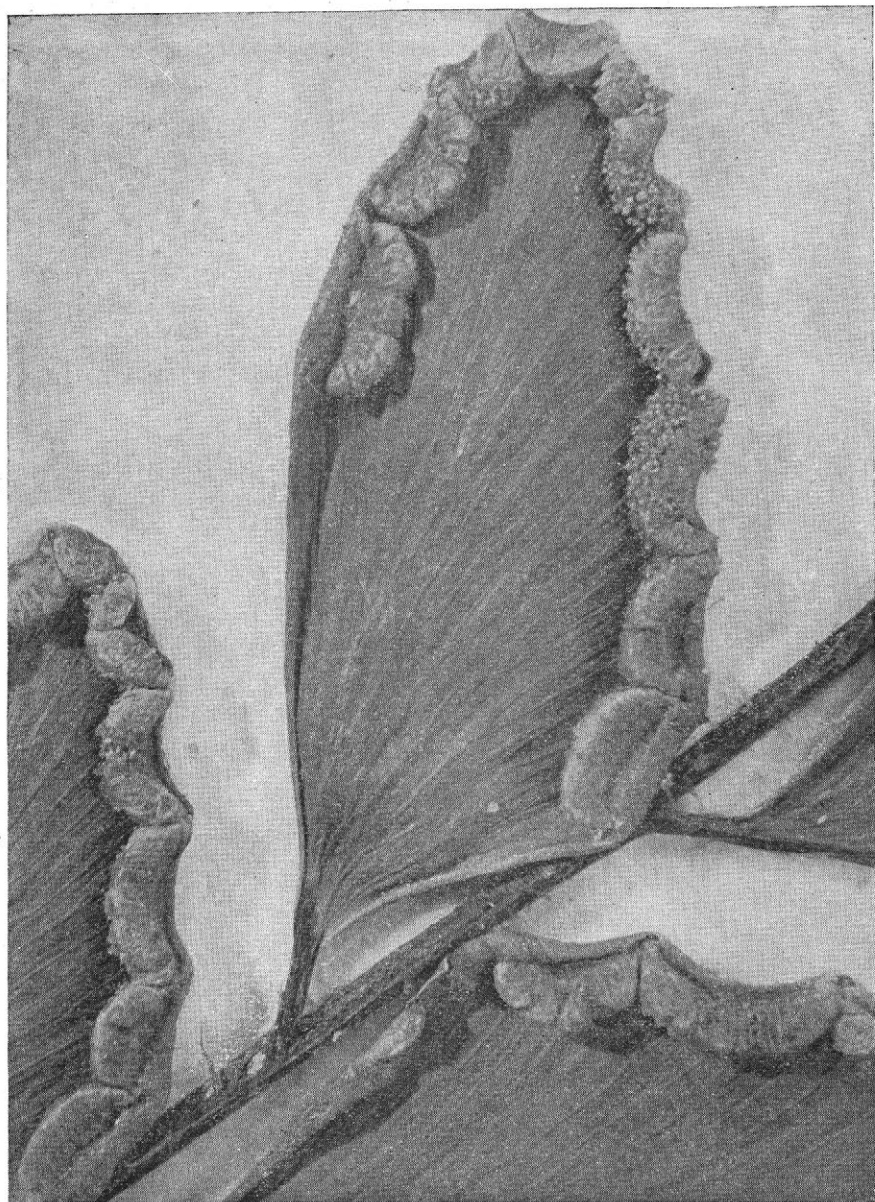
Cyathea o'donelliana Alston. Portion of fertile frond (x 9).



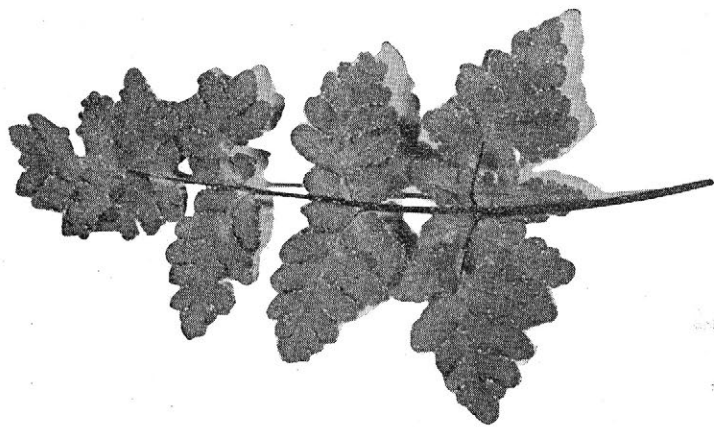
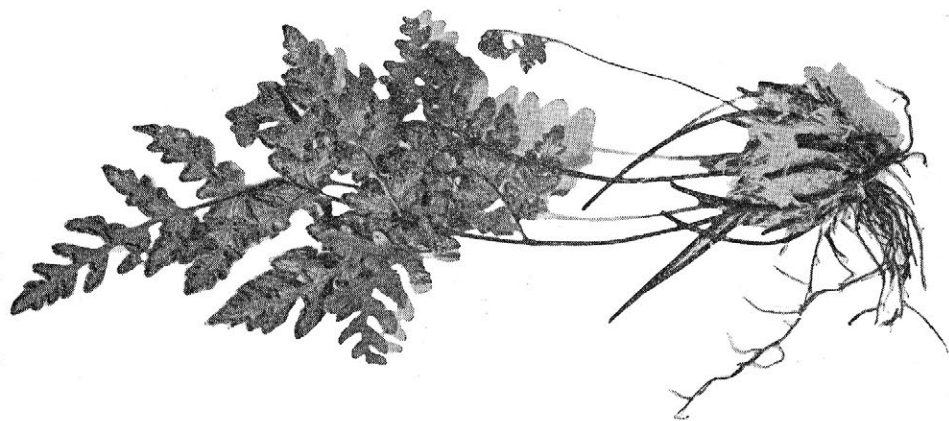
Trichomanes laciniosum Alston.



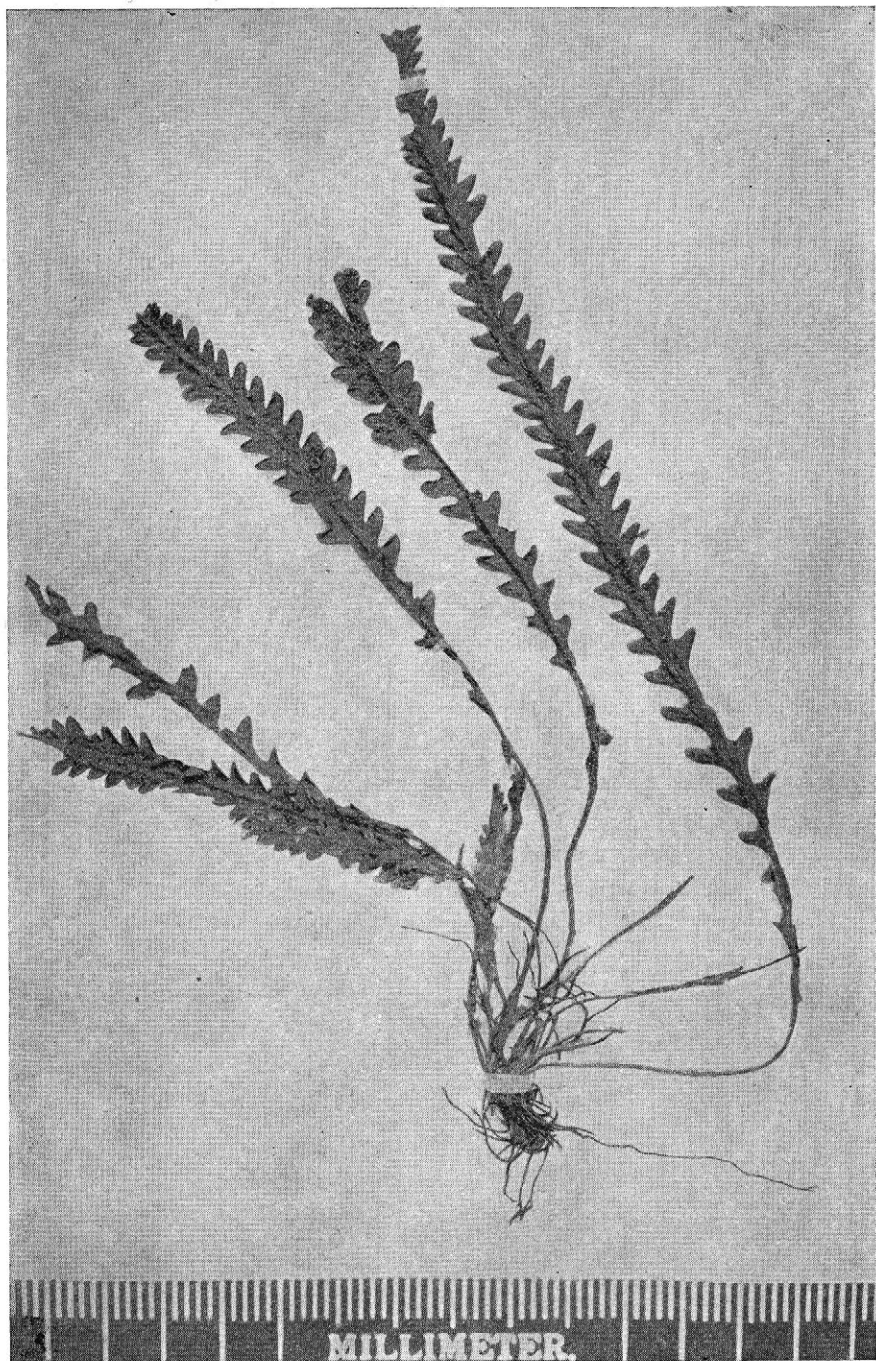
Adiantum ceciliae Alston.



Adiantum ceciliae Alston. Portion of frond (x 6).



Cheilanthes saundersii Alston.



Xiphopteris reitzii Alston.