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New Combinations in the Gleicheniaceae  
and in Styphelia (Epacridaceae)  
Pacific Plant Studies 1<sup>1</sup>

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GLEICHENIACEAE

The large genus *Gleichenia* had been subdivided several times, but this partition had not won general acceptance. After long maintaining *Gleichenia* in the aggregate sense and after renewed investigations, the two authorities, C. Christensen and E. B. Copeland, accepted several segregate genera from the large genus and gave convincing statements of the generic differences. Christensen (Verdoorn, F., Manual of Pteridology, 530, 1938) gave only a generic synopsis; Copeland (Philip. Jour. Sci. 75:347-359, 1941) gave a brief key and a revision of the species of New Guinea.

The writer has checked the new classification and found it good. While verifying the Polynesian and other Pacific species available at Bishop Museum, it has appeared to the writer that several new combinations are needed. These, together with a modified key and an enumeration of the species of various Pacific archipelagoes, are here presented. The widespread and weedy species *Dicranopteris linearis* occurs on nearly every high island in the South Pacific, and no attempt has been made to include the myriad of locality records for islands supporting no other species of the Gleicheniaceae.

<sup>1</sup>This is the first in a series of papers designed to present descriptions, revisions, and records of Pacific island plants.

Key to Genera of Gleicheniaceae

- Segments minute (1-4 mm. long), round or roundish  
 Frond simple, pinnate; segments 2-4 mm. long; rhizome scaly or scaly and hairy  
 Veinlets undivided ..... **Platyzoma.**  
 Veinlets forked ..... **Stromatopteris.**  
 Frond bipinnate or more compound; segments 1.5 mm. long or less, concave; sori terminal, superficial or sunken in cavities; rhizome and axes scaly or scaly and hispid or glabrescent..... **Gleichenia.**  
 Segments much longer (5 mm. long or longer), mostly elongate  
 Fronds 1-pinnate (pectinate) above the highest fork  
 Veins or at least the lower ones of the segments more than 2-branched; rhizome and stipes hairy or naked; sporangia more than 6.....  
 ..... **Dicranopteris.**  
 Veins of segments 2-branched; rhizome and stipes scaly or glabrescent; sporangia up to 6 in number..... **Sticherus.**  
 Fronds bipinnate above the last fork; rhizome and stipes scaly or glabrescent; sporangia up to 6; veins of segments 2-branched..... **Hicriopteris.**

NEW COMBINATIONS

**Dicranopteris caudata** (Copeland), comb. nov.

*Gleichenia caudata* Copeland, B. P. Bishop Mus., Bull. 59: 9, 32, pl. 2, 1929.

**Hicriopteris pinnata** (G. Kunze), comb. nov.

*Mertensia pinnata* G. Kunze, Anal. Pterid., 6, 1837.

*Mertensia glabra* Brackenridge, U. S. Expl. Exped. Bot. 16: 292-293, 1854.

*Gleichenia glabra* (Brackenridge) Mann, Am. Acad. Arts Sci., Proc. 7: 211, 1867.

*Gleichenia glauca* (Thunberg) Hooker var. *glabra* (Brackenridge) C. Christensen ex Skottsberg, Hort. Gothob., Acta 2: 200, 1926.

*Gleichenia longissima* of Hillebrand, Fl. Haw. Ids., 544, 1888, not of Blume, Enum. Plant. Jav. 2: 250, 1830.

*Gleichenia glauca* of C. Christensen, B. P. Bishop Mus., Bull. 25: 6, 22, 1925, not of Hooker, Spec. Fil. 1: 4, t. 3B, 1846.

Christensen and others have accepted *Gleichenia glauca* as one species ranging from the type locality (Java) to Japan, southern tropical Asia, and to Polynesia. It is not possible at present to settle the status of the plants of all these areas, but it is evident that they are not one uniform species. The Hawaiian plant seems distinct in its black, lanceolate, cartilaginous scales of the rhizome, stipe, and

*Ching Sunyatsenia* 5(4): 280, 1940.

parts of the frond. Brackenridge accepted *Mertensia glauca* as well as his new *M. glabra*, which he separated on the basis of a glabrous stipe. The large collections in Bishop Museum do not show two such species, nor is the isotype of Brackenridge's *M. glabra* lacking in scales. The earliest available name was given by G. Kunze in 1837, when he described as new a specimen from Byron's Bay, Owyhee [Hilo, Hawaii], collected by Macrae in 1825.

- Hicriopteris glauca** (Thunberg) ~~comb. nov.~~ *Ching* P. 279  
*Polypodium glaucum* Thunberg, Fl. Jap., 338, 1784.  
*Gleichenia glauca* Hooker, Spec. Fil. 1:4, t. 3B, 1846, not of Swartz, 1806.  
*Gleichenia japonica* Sprengel, in Linnaeus, Syst. Veg., ed. 16, 4 (1): 25, 1827.
- Sticherus Brackenridgei** (Fournier), comb. nov.  
*Gleichenia Brackenridgei* Fournier, Paris Sci. Nat. Bot., Ann. V, 18: 269, 1873.
- Sticherus Cunninghamsi** (Heward ex Hooker), ~~comb. nov.~~ *Ching* P. 283  
*Gleichenia Cunninghamsi* Heward ex Hooker, Spec. Fil. 1:6, t. 6B, 1844.
- Sticherus flabellatus** (R. Brown), comb. nov.  
*Gleichenia flabellata* R. Brown, Prodr. Fl. N. Holl., 161, 1810.
- Sticherus Kajewskyi** (Copeland), comb. nov.  
*Gleichenia kajewskyi* Copeland, Philip. Jour. Sci. 60: 102, 1936.
- Sticherus oceanicus** (Kuhn), ~~comb. nov.~~ *Ching* P. 284  
*Gleichenia oceanica* Kuhn, Wien Zool. Bot. Ges., Verh. 19: 583, 1869.
- Sticherus owhyhensis** (Hooker), ~~comb. nov.~~ *Ching* P. 284  
*Gleichenia Owhyhensis* Hooker, Spec. Fil. 1:9, (1846)= 1844.  
*Mertensia Hawaiiensis* Brackenridge, U. S. Expl. Exped. Bot. 16: 295, 1854, not of Nakai, Bot. Mag. Tokyo 39: 181, 1925, which equals *Dicranopteris sandwicensis* Degener.  
*Gleichenia Hawaiiensis* ("Hooker") Hillebrand, emend., Fl. Haw. Ids., 544, 1888.  
*Dicranopteris owhyhensis* (Hooker) W. J. Robinson, Torrey Bot. Club, Bull. 39: 241, 1912.

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*Sticherus pedalis* (Kaulfuss), ~~comb. nov.~~ <sup>Ching p. 284 misspelled by him as pedalis</sup>  
*Mertensia pedalis* Kaulfuss, Enum. Fil., 39, 1824.  
*Gleichenia pedalis* (Kaulfuss) Sprengel, in Linnaeus, Syst. Veg.,  
ed. 16, 4(1): 26, 1827.

*Sticherus quadripartitus* (Poiret), ~~comb. nov.~~ <sup>Ching p. 284</sup>  
*Mertensia quadripartita* Poiret, in Lamarck, Encyc. Méth. Bot.,  
Suppl. 3: 669, 1813.  
*Gleichenia quadripartita* (Poiret) Moore, Ind. Fil., 382, 1862.

*Sticherus tahitensis* (Copeland), comb. nov.  
*Gleichenia tahitensis* Copeland, B. P. Bishop Mus., Bull. 93: 28-29,  
pl. 4, 1932.

ENUMERATION OF THE GLEICHENIACEAE OF THE  
EASTERN AND SOUTHERN PACIFIC ISLANDS

Galapagos Islands

*Dicranopteris linearis* (Burmans) Underwood  
*Dicranopteris pectinata* (Willdenow) Underwood

Juan Fernandez

*Sticherus pedalis* (Kaulfuss) ~~St. John~~ <sup>Ching</sup>  
*Sticherus quadripartitus* (Poiret) ~~St. John~~ <sup>Ching</sup>

Hawaiian Islands

*Dicranopteris linearis* (Burmans) Underwood  
*Dicranopteris sandwicensis* Degener  
*Hicriopteris pinnata* (G. Kunze) ~~St. John~~ <sup>Ching</sup>  
*Sticherus owhyhensis* (Hooker) ~~St. John~~ <sup>Ching</sup>

Society Islands

*Dicranopteris linearis* (Burmans) Underwood  
*Hicriopteris glauca* (Thunberg) ~~St. John~~ <sup>Ching</sup>  
*Sticherus Brackenridgei* (Fournier) St. John  
*Sticherus tahitensis* (Copeland) St. John

Samoa

*Dicranopteris linearis* (Burmans) Underwood

Gleichenia dicarpa R. Brown  
Sticherus oceanicus (Kuhn) ~~St. John~~ *Ching*

Fiji

Dicranopteris caudata (Copeland) St. John  
Dicranopteris linearis (Burmann) Underwood  
Hicriopteris glauca (Thunberg) ~~St. John~~ *Ching*  
Sticherus Brackenridgei (Fournier) St. John  
Sticherus oceanicus (Kuhn) ~~St. John~~ *Ching*

New Hebrides

Dicranopteris linearis (Burmann) Underwood  
Sticherus Brackenridgei (Fournier) St. John  
Sticherus oceanicus (Kuhn) ~~St. John~~ *Ching*

New Caledonia

Dicranopteris linearis (Burmann) Underwood  
Gleichenia circinnata Swartz  
Sticherus Brackenridgei (Fournier) St. John  
Sticherus flabellatus (R. Brown) St. John  
Stromatopteris moniliformis Mettenius

New Zealand

Dicranopteris linearis (Burmann) Underwood  
Gleichenia circinnata Swartz  
Gleichenia dicarpa R. Brown  
    var. alpina Hooker f.  
Sticherus Cunninghami (Heward ex Hooker) ~~St. John~~ *Ching*  
Sticherus flabellatus (R. Brown) St. John

Australia

Dicranopteris linearis (Burmann) Underwood  
Gleichenia circinnata Swartz  
Gleichenia dicarpa R. Brown  
Platyzoma microphyllum R. Brown  
Sticherus flabellatus (R. Brown) St. John  
Sticherus laevigatus (Willdenow) Presl

EPACRIDACEAE

**Styphelia Douglasii** (Gray) F. von Mueller var. **struthioides** (Gray), comb. nov.

*Cyathodes Douglasii* Gray var.  $\beta$  *struthioides* Gray, Am. Acad. Arts Sci., Proc. 5: 325, 1862.

**Styphelia Tameiameiae** (Chamisso) F. von Mueller var. **Brownii** (Gray), comb. nov.

*Cyathodes Macraeana* A. P. DeCandolle, Prodr. 7: 742, 1838.

*Cyathodes Tameiameiae* Chamisso var.  $\beta$  *Brownii* Gray, Am. Acad. Arts Sci., Proc. 5: 325, 1862.

*Cyathodes Tameiameiae* Chamisso  $\beta$  var. *Macraeana* (A. P. De Candolle) Hillebrand, Fl. Haw. Ids., 273, 1888.

Var. *Brownii* Gray was a new name in the varietal category for *Cyathodes Macraeana* A. P. DeCandolle, and for the doubtful *C. Banksii* Gaudichaud ex A. P. DeCandolle. Being the earliest name in the varietal category, Gray's varietal name should be adopted. It is not a synonym of the West Australian *S. Brownii* Sprengel (in Linnaeus, Syst. Veg. ed. 16, 5: 683, index, 1828) which equals *Leucopogon reflexus* R. Brown (Prodr. Fl. Nov. Holl., 544, 1810).