



# Transfer of Papua New Guinea's *Gleichenia hooglandii* to *Sticherus* (*Gleicheniaceae*)

L.R. Perrie<sup>1</sup>

## Key words

*Gleichenia*  
*Gleicheniaceae*  
Papua New Guinea  
*Sticherus*  
taxonomy

**Abstract** Based on its morphology and in accordance with modern circumscriptions of genera among the *Gleicheniaceae*, a new combination in *Sticherus* is made for the Papua New Guinean fern originally described as *Gleichenia hooglandii*.

**Published on** 20 July 2018

## INTRODUCTION

Present day treatments assign the approximately 160 extant fern species of *Gleicheniaceae* C.Presl to six genera: *Dicranopteris* Bernh., *Diplopterygium* (Diels) Nakai, *Gleichenia* Sm., *Sticherus* C.Presl, the monotypic *Gleichenella* Ching which occurs in central and southern America, and the monotypic *Stromatopteris* Mett. of New Caledonia (Chinnock & Bell 1998, Mickel & Smith 2004, Gonzales & Kessler 2011, Xiaofeng et al. 2013, Perrie & Brownsey 2015, PPG I 2016, Chen et al. 2017). In his account of the *Gleicheniaceae* of Malesia, Holttum (1959) accepted just two genera for the region, *Gleichenia* and *Dicranopteris*, and treated *Diplopterygium* and *Sticherus* as *Gleichenia* subg. *Diplopterygium* (Diels) Holttum and *G.* subg. *Mertensia* (Willd.) Hook, respectively. All of the species placed by Holttum (1959) in *G.* subg. *Diplopterygium* and *G.* subg. *Mertensia* now have combinations in *Diplopterygium* and *Sticherus*.

However, Holttum (1967) later added a new species of *Gleichenia* for Papua New Guinea, *G. hooglandii* Holttum. He compared it to *G. erecta* C.Chr. and *G. bolanica* Rosenst., both of which he placed in *G.* subg. *Mertensia*, and which are now known as *Sticherus erectus* (C.Chr.) Copel. and *S. bolanicus* (Rosenst.) Copel., respectively.

## METHODS AND RESULTS

Examination of online images of the type collection, *Hoogland & Schodde 7692*, and other collections attributed by Holttum (1967) to *Gleichenia hooglandii* (including paratypes: *Brass 29923* (L 3534663), Mt Wilhelm, 15 June 1959; *Hoogland & Schodde 7090* (L 3534622), Mt Sugarloaf, 15 July 1960; *Pullen 5370* (L 3534664), Kubor Range, 5 Sept. 1963; *Hoogland 9515* (L 3534658), Cromwell Mountains, 6 Aug. 1964; *Hoogland 9704* (L 3534659), Salawaket Range, 31 Aug. 1964; *Hoogland 9919* (L 3534660), Salawaket Range, 24 Sept. 1964; *Schodde 2055* (L 3534648), Mt Giluwe, 30 Aug. 1961) shows clearly that the species belongs in *Sticherus*. Herbarium abbreviations follow Thiers (updated continuously; accessed 7 June 2018).

Using the terminology of Shaw & Ranker (2011; see also Perrie & Brownsey 2015), the ultimate leaflets branch pseudodichotomously from the beta costae (rather than being pinnately arranged as in *Gleichenia* s.str. and *Diplopterygium*), while the beta costae bear costal segments (absent in *Dicranopteris*). Indeed, so obvious is the placement in *Sticherus* that herbarium specimens are frequently identified as '*Sticherus hooglandii*' (e.g., online catalogues of K, CANB p.p., L p.p.; <http://apps.kew.org/herbcat/navigator.do>, <http://avh.chah.org.au>, and <http://bioportal.naturalis.nl>, respectively; accessed 7 June 2018). However, the combination in *Sticherus* has not been published, and so it is provided here.

## *Sticherus hooglandii* (Holttum) Perrie, *comb. nov.*

Basionym. *Gleichenia hooglandii* Holttum, *Blumea* 14 (1967) 327.

Holotype. *Hoogland & Schodde 7692* (CANB 87069–87071, cross-labelled as the same specimen), Papua New Guinea, Yobobos grassland area, 6 Sept. 1960; isotypes BM 001038258, L 0051617–0051618.

## REFERENCES

- Chen CW, Perrie LR, Glenn D, et al. 2017. Sol amazing. Lycophytes & ferns of the Solomon Islands. National Museum of Natural Science, Taichung.
- Chinnock RJ, Bell GH. 1998. *Gleicheniaceae*. *Flora of Australia* 48: 148–162.
- Copeland EB. 1941. *Gleicheniaceae* of New Guinea. *Philippine Journal of Science* 75: 347–362.
- Gonzales JR, Kessler M. 2011. A synopsis of the neotropical species of *Sticherus* (*Gleicheniaceae*), with descriptions of nine new species. *Phytotaxa* 31: 1–54.
- Holttum RE. 1959. *Gleicheniaceae*. *Flora Malesiana*, Ser. II, 1: 1–36.
- Holttum RE. 1967. Four new species of ferns from New Guinea. *Blumea* 14: 327–329.
- Mickel JT, Smith AR. 2004. The pteridophytes of Mexico. *Memoirs of the New York Botanical Garden* 88: 1–1054.
- Perrie LR, Brownsey PJ. 2015. *Gleicheniaceae*. In: Breitwieser I, Heenan PB, Wilton AD (eds), *Flora of New Zealand – ferns and lycophytes: fascicle 12*. Manaaki Whenua Press, Lincoln.
- PPG I. 2016. A community-derived classification for extant lycophytes and ferns. *Journal of Systematics and Evolution* 54: 563–603.
- Shaw SW, Ranker TA. 2011. New and improved leaf terminology for *Gleicheniaceae*. *American Fern Journal* 101: 117–124.
- Thiers B. [continuously updated]. *Index Herbariorum: a global directory of public herbaria and associated staff*. New York Botanical Garden's Virtual Herbarium. <http://sweetgum.nybg.org/science/ih/>.
- Xiaofeng J, Ding B, Iwatsuki K. 2013. *Gleicheniaceae*. *Flora of China* 2-3: 110–115.

<sup>1</sup> Museum of New Zealand Te Papa Tongarewa, P.O. Box 467, Wellington 6011, New Zealand; e-mail: leon.perrie@tepapa.govt.nz.