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nomenclatural study and travel report

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## **Nomenclature**

# **Bryophytes**

#### Dicranaceae

The only known collection by Wendland of *Dicranaceae* in Guatemala was described as a new species.

Dicranum friabile Hampe ex Müll. Hal. in Bot. Zeitung (Berlin) 17: 220. 1859.

Original citation: "Patria. Costa-Rica, Las Nubes: Hampe misit".

**Lectotypus** (designated here): Guatemala: [as Costa Rica in error], Las Nubes, 10.I.1857, *Wendland 179* (GOET [GOET011775]; isolecto-: BM [BM000879609, BM000879610], NY [NY01093734 fragm.]).

= *Campylopus nivalis* (Brid.) Brid. in Bryol. Univ. 1: 477. 1826.

Notes. – Müller did not name the collector in the protologue but it is assumed to be Wendland as Müller received material from Hampe who was based at Göttingen. We located two specimens originating from the Hampe herbarium in BM and one at GOET. The most complete material is at GOET [GOET011775] and therefore it is designated here as the lectotype.

The collection location cited by Hampe as Costa Rica is not correct because Las Nubes is in Guatemala. This is supported by the collection date of 10 January 1857, which is when it is known that Wendland was in Guatemala (see Part II).

### Ditrichaceae

The only known collection by Wendland of *Ditrichaceae* in Costa Rica was described as a new species.

Leptotrichum costaricense Müll. Hal. in Bot. Zeitung (Berlin) 16: 161. 1858.

Original citation: "Patria. Costa Rica, Las Nubes. Hampe misit".

**Lectotypus** (designated here): **GUATEMALA:** [as Costa Rica in error], Las Nubes, 10.I.1857, *Wendland s.n.* (BM [BM000879882]; isolecto-: BM [BM000879881, BM000879883], PC [PC0657681], NY [NY01118868 fragm.]).

*Campylopodiella stenocarpa* (Wilson) P. Müll. & J.-P. Frahm in Nova Hedwigia 45: 290. 1987.

Notes. – In the protologue, Müller stated that he received the original material from Hampe identified as "Leptotrichum dicranoides Hmp.". We located two specimens originating from the Hampe herbarium that matches such information. BM000879882 is designated as the lectotype of the name L. costaricense Müll. Hal. because it is the most complete material. Although Müller did not indicate Wendland as the collector, this is the name annotated on the labels. It is interesting to note that Hampe was based at Göttingen at the time that Wendland returned from Central America.

# Lycophytes

### Selaginellaceae

Three collections of *Selaginellaceae* were made by Wendland in Costa Rica, one of which was described as a new species.

Selaginella wendlandii Hieron. in Engl. & Prantl, Nat. Pflanzenfam. 1(4): 683. 1901.

Original citation: "in Guatemala und Costarica".

**Lectotypus** (designated by Alston, 1955: 237): **Costa Rica:** near San Miguel, 11. V.1857, *Wendland 771* (W [W0148846]).

 Selaginella oaxacana Spring in Mem. Acad. Roy. Sci. Belgique 24: 177. 1849.

Notes. – Hieronymus (1901: 683) did not provide any collections in the protologue, only species distribution. Alston (1955: 237) indicated: "San Miguel, Wendland 771 (V, type-collection of S. wendlandii)". Alston clearly meant W instead of V and this is accepted here as a typographical error and an implicit lectotypification.

## Pteridophytes

# Aspleniaceae

The only known collection of *Aspleniaceae* made by Wendland in Central America was described as a new variety.

Asplenium sessilifolium var. guatemalense Hieron. in Bot. Jahrb. Syst. 34: 461. 1904.

Original citation: "Guatemala; crescit frequenter ad terram in silvis densis humidis in monte Vulcan de Agua, alt. s.m. 2500 m (L. n. 1480: 31.m. Majo 1882): prope Mataquescuintla in regione urbis Santa Rosa, alt. s.m. 1700–1800 m (Heyde et Lux, m. Febr. 1893; ex plantis quas editit John Donnell Smith n. 4671, nomine »A. lunulatum var. pinnatifidum« specimina edita); prope Zamorora in regione urbis Santa Rosa, alt. s.m.

1800–1900 m (Heyde et Lux, m. Apr. 1893; ex plantis quas editit J.D. Smith n. 4670; nomine » *A. lunulatum* var. *pinnatifidum* specimina edita sunt). Costarica: in monte Irazú (H.Wendland n. 710: 15. m. Apr. 1857)".

Lectotypus (designated by Stolze, 1981: 90): Guatemala: Agua Volcano, Sacatepéquez, 2500 m, 31.V.1882, Lehmann 1480 (B [B 20 0022904]). Syntypi: Guatemala: near Mataquescuintla, Santa Rosa, II.1893, Heyde & Lux 4671 (B [B 20 00022906]; near Zamora, Santa Rosa, IV.1893, Heyde & Lux 4670 (B [B 20 0022905]). Costa Rica: Irazú Volcano, 15.IV.1857, Wendland 710 (B [B 20 0022908]).

 Asplenium sessilifolium Desv. in Mag. Neuesten Entdeck. Gesammten Naturk. Ges. Naturf. Freunde Berlin 5: 322. 1811.

### Cyatheaceae

Wendland made only a single collection of *Cyatheaceae* in Central America and it was described as a new species.

Alsophila wendlandii Mett. ex Kuhn in Linnaea 36: 158. 1869.

Original citation: "Costa Rica, San Miguel (Wendland 761)".

**Lectotypus** (designated here): **Costa Rica:** San Miguel, s.d., *Wendland 761* (B [B 20 0000417 fragm.]; isolecto: US [US1230525 fragm.]).

= *Cyathea wendlandii* (Mett. ex Kuhn) Domin in Pteridophyta: 263. 1929.

Notes. – In his treatment, Barrington (1978) clearly indicated the holotypes and differentiated them from the isotypes. For this species, the indication "Holotype: [...] fragment ex B, US!" suggests that he did not accept the specimen at B as the holotype. This latter specimen is annotated in an unknown hand (not Wendland) as: "Als. wendlandi Mett. 761. S. Miguel Costaric. Wendland. Rchb. fil.", and designated here as the lectotype.

### Dicksoniaceae

Two collections of *Dicksoniaceae* were made by Wendland in Guatemala, both of which were described as new species though now both attributable to a single other taxon.

Cibotium guatemalense Kuhn in Linnaea 36: 152. 1869.

Original citation: "Guatemala (Wendland)".

**Lectotypus** (designated here): **GUATEMALA:** valley near Guatemala City, 16.I.1857, *Wendland 245* (GOET [2-part specimen: GOET045080]). Holotypus: B†.

= Cibotium regale Verschaff. & Lem. in Ill. Hort. 15: tab. 548. 1868.

*Notes.* – As Kuhn was based in B, it is most likely that the material studied by him was destroyed (here referred to as the holotype). We found a duplicate at GOET [GOET045080] that is designated here as the lectotype of this name.

Cibotium wendlandii Mett. ex Kuhn in Linnaea 36: 151. 1869.

Original citation: "Guatemala (Wendland. Skinner 22.)".

**Lectotypus** (designated here): **GUATEMALA:** sine loco, s.d., *Wendland s.n.* [274] (B [B 20 0094308]; isolecto: between St. Pedro and St. Lucia, 20.I.1857, *Wendland 274* GOET [3-part specimen: GOET045079, GOET045081], NY [NY04007711 fragm.]). **Syntypus: GUATEMALA:** sine loco, s.d., *Skinner 22* (US [US00066380 fragm.]).

= *Cibotium regale* Verschaff. & Lem. in Ill. Hort. 15: tab. 548. 1868.

*Notes.* – The original material at B is labeled in Wendland's hand. Additionally, duplicates have been located at GOET and NY. The specimen at GOET consists of three sheets that were separated during mounting. GOET045079 is only a single sheet, annotated as "Abschrift!", whilst GOET045081 consists of two sheets, one of which has the original field label and the other annotated as "2.Bogen".

Wendland (1857g: 363) wrote in his excursion report that he had collected "pretty little trunks of two of the most magnificent tree ferns here, and I hope I will succeed in keeping them alive so that I can enjoy them later on". It is assumed that he was referring to the *Cibotium* collection.

### Marattiaceae

The only known collection of *Marattiaceae* collected by Wendland in Costa Rica was described as a new species.

*Danaea wendlandii* Rchb. f. in Bot. Zeitung (Berlin) 30: 490. 1872.

Original citation: "Costa Rica Wendland!".

**Holotypus:** Costa Rica: Pedregal, 25. V.1857, *Wendland 744* (W [W0154116]) (Fig.  $7 \rightarrow p$ . 36).

Notes. – Lellinger (1989: 90) cited the type as "Piedragas [Pedregal], Costa Rica, Wendland 744 (B not seen Alston photo)". However, the specimen at W is considered the holotype because it would have been the one seen by Reichenbach. If there is a surviving specimen at B it would be an isotype, but it has not been located.

# Plagiogyriaceae

The only recorded collection of *Plagiogyriaceae* made by Wendland in Costa Rica was described as a new species.

Plagiogyria costaricensis Mett. ex Kuhn in Linnaea 36: 149. 1869.

Original citation: "Costa Rica, Vulcán de Barva (Wendland 1066)".

Plagiogyria pectinata (Liebm.) Lellinger in Amer. Fern J. 61: 115. 1971.

Notes. – Lellinger (1971: 116) reported that a drawing of the holotype was at B, and that the holotype was possibly at C, "C? not seen". However, no such specimen has been located there. There are no known specimens at GOET associated with this name. In the absence of any extant specimens, a neotype may be designated. Typification will be best undertaken as part of a comprehensive revision of *Plagiogyria* (Kunze) Mett.

## Polypodiaceae

Six collections of *Polypodiaceae* were made by Wendland in Central America, two of which were described as new species.

Polypodium falcoideum Kuhn ex Hieron. in Bot. Jahrb. Syst. 34: 533. 1904.

 Campyloneurum falcoideum (Kuhn ex Hieron.)
M. Mey. ex Lellinger in Proc. Biol. Soc. Washington 89: 708. 1977.

Original citation: "Costarica: ad arborum truncus silvarum densarum humidarum supra fluvium Río Sucio, alt. s .m. 800 m (L. n. 1741; 17. m. Mart. 1882): prope Desengaño (H. Wendland n. 876: 9. Majo 1857)".

Lectotypus (designated by Moran & Labiak, 2018: 387): Costa Rica: San José, Río Sucio, 800 m, 17.III.1882, Lehmann 1741 (US [US00048645]; isolecto-: B [B 20 0087566], BM n.v., K [K000590831], P [P00624630]). Syntypus: Costa Rica: Paso de El Desengaño, 9.V.1857, Wendland 876 (B [B 20 0087571, B 20 0087572]).

Polypodium costaricanum Hieron. in Bot. Jahrb. Syst. 34: 530. 1904.

Original citation: "Costarica; habitat ad arborum truncos in silvis densis humidis montium Tablázos dictorum ab oppido San José meridiem spectantium, alt. s.m. 2000 m (L. n. 1235; 24. m. Dec. 1881); in monte Irazú (H. Wendland n. 644; 16. m. April. 1857)".

**Lectotypus** (designated by Sota, 1966: 169): **Costa Rica:** Irazú Volcano, 16.IV.1857, *Wendland 644* (B [B 20 0075608]). **Syntypus: Costa Rica:** San José, 2000 m, XII.1881, *Lehmann 1235* (B [B 20 0075605]).

= *Polypodium myriolepis* Christ in Bull. Herb. Boissier 4: 661.1896.

### Pteridaceae

Four collections of *Pteridaceae* were made by Wendland in Central America, one of which was described as a new species.

Hemionitis pinnatifida Baker, Syn. Fil.: 399. 1868.

Original citation: "Hab. Central America, Wendland, 438."

**Holotypus:** EL SALVADOR: sine loco [San Miguel–Tabanco?], s.d. [19.II.1857?], *Wendland 438* (BM [BM000936637]).

*Notes.* – Lellinger (1989: 133) indicated: "Type: Central America [presumably Costa Rica], *Wendland 438* (presumably K not seen)". The specimen is desposited at BM, not K, and was collected in El Salvador according to Wendland's collection number.

## Angiosperms

### Acanthaceae

Of the nine collections of *Acanthaceae* made by Wendland in Central America, one was described as a new species.

Aphelandra bullata H. Wendl. in Hamburger Garten-Blumenzeitung 19: 30. 1863.

Original citation: "Anfangs August 1857 wurde diese ebenfalls schöne Pflanze in mittlerm Sarapiquíthale zwischen San Miguel und La Muelle in einer Höhe von etwa 3000 Fuss von mir in Blüthe gefunden".

= *Aphelandra aurantiaca* Lindl. in Edwards's Bot. Reg. 31: tab. 10 [12]. 1845.

Notes. – This species was described from a cultivated plant at Herrenhausen Gardens. It was collected as a living plant in Costa Rica at Río Sarapiquí, between San Miguel and Muelle. This name has been neglected in recent treatments of *Aphelandra* R. Br. for Central America (see Daniel, 1990, 2005, 2010), however, it is a validly published name.

The original material has not been located; the typification of this name should be best undertaken as part of a taxonomic revision of *Aphelandra*.