



## **×Cyathidaria, a new nothogenus in the Cyatheaceae (Pteridophyta)**

Author: Caluff, Manuel G.

Source: Willdenowia, 32(2) : 281-283

Published By: Botanic Garden and Botanical Museum Berlin (BGBM)

URL: <https://doi.org/10.3372/wi.32.32209>

---

BioOne Complete ([complete.BioOne.org](https://complete.BioOne.org)) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Complete website, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at [www.bioone.org/terms-of-use](https://www.bioone.org/terms-of-use).

Usage of BioOne Complete content is strictly limited to personal, educational, and non - commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

---

BioOne sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.

MANUEL G. CALUFF

## ×*Cyathidaria*, a new nothogenus in the *Cyatheaceae* (*Pteridophyta*)

### Abstract

Caluff, M. G.: ×*Cyathidaria*, a new nothogenus in the *Cyatheaceae* (*Pteridophyta*). – Willdenowia 32: 281-283. 2002. – ISSN 0511-9618.

The nothogenus ×*Cyathidaria* is established to accommodate various natural hybrids between species of *Cyathea* and *Cnemidaria*, all characterised by abortive spores and morphologically intermediate between their respective parent species. ×*Cyathidaria acunae*, the natural hybrid between *Cnemidaria horrida* and *Cyathea aspera* is a newly described nothospecies from Cuba. Four new combinations in ×*Cyathidaria* are made.

### Introduction

Hybridisation is a well known phenomenon in New World *Cyatheaceae*, where numerous hybrids have been reported in recent years by, e.g., Barrington (1978), Conant (1975, 1983), Conant & Cooper-Dryver (1980), Gastony (1973), Knobloch (1975, 1976, 1986, 1995), Knobloch & al. (1984), Proctor (1985, 1989), Stolze (1974) and Tryon (1976). In several cases, the known or assumed parent species were assigned to different genera, yet to the best of my knowledge no nothogenetic names have so far been proposed. Rather, when formal nomenclature was used to designate these hybrids, they were arbitrarily (and incorrectly) assigned to one of the parent genera.

In several instances, hybrids originally thought to be intergeneric are no longer so considered, owing to generic transfer of the respective parent species and in particular, to the merging of *Nephelea* R. M. Tryon with *Alsophila* R. Br. and of *Trichipteris* C. Presl with *Cyathea* Sm. This is not so, however, in the case of the hybrids involving species of *Cnemidaria* C. Presl and *Cyathea*. They cannot be kept in *Cyathea*, as has sometimes been done, as long as one considers the parent genera to be distinct, as I feel is justified.

As a part of preparatory work for the *Cyatheaceae* treatments in the “Flora de la República de Cuba” and the “Flora of the Greater Antilles”, the new nothogenus ×*Cyathidaria* is therefore established with five constituent nothospecies, one of them newly described. All are characterised by abortive spores and are morphologically intermediate between their respective parent species.

*×Cyathidaria* Caluff & Shelton, **nothogen. nov.** [*Cyathea* Sm.  $\times$  *Cnemidaria* C. Presl].

*×Cyathidaria acunae* Caluff & Shelton, **nothosp. nova** – Holotype: Cuba, prov. Pinar del Río, “camino de Rancho Mundito, Santa Cruz de los Pinos”, 18.1.1953, *Acuña 18394* (HAC!; isotype: US [n.v.]).

[*Cnemidaria horrida* (L.) C. Presl  $\times$  *Cyathea* cf. *aspera* (L.) Sw.].

*Truncus* et frondes completae incogniti. *Rhachis* brunnea vel pallide brunnea, dissite aculeolata, aliquanto furfuracea, pilis pluricellularibus rigidis cylindraceis obsita dein glabrescens; *pinnae* petiolulo 2.5 mm longo suffultae, alternae, ad 56  $\times$  20 cm metientes sed apicem versus sensim diminutae, oblongo-lanceolatae; *costa* colore et indumento rhachidi similis, sparse muriculata, ima basi processo abaxiali atro notata; *pinnulae* sessiles vel perbrevis petiolulatae, alternae vel suboppositae, contiguae, 18-24-jugae, ad 10.5  $\times$  2 cm metientes, oblongae, subfalcatae, e basi dilatata angustatae breviter acuminatae, ad medium fere fissae vel minus profunde lobatae, margine insuper crenulatae; costulae basin versus pilis filiformibus subhyalinis deciduis parce obsitae, insuper squamulis dissitis ad 2  $\times$  1.5 mm metientibus, aureo-brunnescentibus, planis vel concavis, e basi ovata angustatis acutis nec autem filiformibus, margine parum pallidioribus subintegris vel filamentosis ornatae; segmenta ad 17-juga, parte libera 5 mm longa longitudine aequilata, sinubus acutis sejuncta, truncata, marginibus laeviter revolutis adaxali arcuato distali recto integra; segmentum infimum reliquis major, parte libera ad 7 mm longum; nervi subtus aliquando pilos, trichomidia et squamulas gerentes, laterales ad 7-jugi, simplices vel supra basin semel furcati, apice cuncti liberi vel nonnulli anastomosantes areolas ellipticas efformantes. *Sori* in quoque segmento ad 5-jugi, mediani, dissiti; indusium hemitelioide, dimidiatum, basi receptaculum haud cingens, parvum, concavum, brunneum, margine integrum vel irregulariter lobulatum vel lacerum; receptaculum capitatum, paraphysibus sporangiis minoribus obsitum, nonnquam squamulis teneris filamentosis subapressis translucidis vel dilute brunneis cinctum; *spora*e non visae, verisimiliter abortivae.

*Eponymy.* – This new nothospecies is dedicated to the memory of Julian Acuña Galé, eminent Cuban botanist.

*Other specimen seen.* – CUBA: PINAR DEL RÍO PROVINCE: “Sierra del Rosario, El Rangel, márgenes del río Taco Taco”, 350-400 m, 29.10.1998, *Caluff & Shelton 4463 A-B* (BSC).

*Distribution and habitat.* – W Cuba, Pinar del Río province, Sierra del Rosario (Rancho Mundito, El Rangel). Evergreen forest, on sunny, humid slopes near water courses, at altitude of 400-500 m. Very rare.

*Note.* – Tryon (1976) interpreted the specimen *Acuña 18394* as representing the hybrid *Cnemidaria horrida*  $\times$  *Cyathea parvula* (Jenman) Domin (i.e., *Cyathea*  $\times$  *sessilifolia* (Jenman) Domin, according to Proctor 1985, 1989). A morphological study of Cuban specimens rather suggests that the material represents hybrids between *Cnemidaria horrida* and *Cyathea aspera*. This interpretation is supported by the brown, flattened and relatively great costal and costular scales, the rigid whitish hairs on the basal part of the costae, the dark colour of the upper face of the leaf blades that contrasts with the olivaceous to light brown colour of the abaxial face, and the presence, in some sori, of the typical basal squamules of *Cyathea aspera* (Barrington 1978). Furthermore, *Cyathea parvula* is confined to the eastern part of Cuba, at a distance of more than 800 km, whereas *Cyathea aspera* is common in the mountains of both eastern and central Cuba, even though it has not yet been collected in the island’s western provinces.

*×Cyathidaria wilsonii* (Hook.) Caluff & Shelton, **comb. nova**  $\equiv$  *Hemitelia wilsonii* Hook. in Hooker & Baker, Syn. Fil.: 30. 1865  $\equiv$  *Cyathea*  $\times$  *wilsonii* (Hook.) Domin, Pteridophyta: 264. 1929. – Holotype: Jamaica, “Mansfield near of Bath, parish of St. Thomas”, 300 m, *Wilson 731* (K [n.v.]; isotype: BM 605230!).

[*Cnemidaria horrida* (L.) C. Presl  $\times$  *Cyathea arborea* (L.) Sm.]. – Greater Antilles.

×*Cyathidaria sessilifolia* (Jenman) Caluff & Shelton, **comb. nova** ≡ *Alsophila sessilifolia* Jenman in J. Bot. 20: 325. 1882 ≡ *Hemitelia sessilifolia* (Jenman) Jenman, Ferns Brit. W. Ind.: 44. 1898 ≡ *Cyathea sessilifolia* (Jenman) Domin, Pteridophyta: 263. 1929. – Lectotype (Tryon 1976: 86): Jamaica, Mansfield, near Bath, *Wilson 520* (K [n.v.]; isolectotype: BM 605233!). [*Cnemidaria horrida* × *Cyathea parvula*]. – Jamaica and Puerto Rico.

×*Cyathidaria elliotii* (Baker) Caluff & Shelton, **comb. nova** ≡ *Alsophila elliotii* Baker in Ann. Bot. 6: 96. 1882 ≡ *Hemitelia elliotii* (Baker) Maxon in Contr. U. S. Natl. Herb. 17: 415. 1914 ≡ *Cyathea elliotii* (Baker) Domin in Acta Bot. Bohem. 9: 113. 1930. – Lectotype (Tryon 1976: 88): Grenada, Pyrenees, St Catherine's Peak, *Sherring* (K [n.v.]). [*Cnemidaria grandifolia* (Willd.) Proctor [var. *obtusata* (Kaulf.) Stolze] × *Cyathea aspera* (L.) Sw.]. – Grenada.

×*Cyathidaria hombersleyi* (Maxon) Caluff & Shelton, **comb. nova** ≡ *Hemitelia hombersleyi* Maxon in J. Wash. Acad. Sci. 25: 528, f. 1. 1935 ≡ *Cyathe hombersleyi* (Maxon) Stolze in Fieldiana, Bot. 37: 81. 1974. – Holotype: Trinidad, Arepo Road, via Arima, 12.6.1925, *Broadway & Hombersley* (US [n.v.]). [*Cnemidaria spectabilis* (Kunze) R. M. Tryon × *Cyathea tenera* (Hook.) Moore]. – Trinidad.

## Acknowledgement

Thanks are due to Dr W. Greuter for his revision of the manuscript and the Latin diagnosis.

## References

- Barrington, D. S. 1978: A revision of the genus *Trichipteris*. – Contr. Gray Herb. **208**: 3-93.
- Conant, D. S. 1975: Hybrids in American *Cyatheaceae*. – *Rhodora* **77**: 441-455.
- 1983: A revision of the genus *Alsophila* (*Cyatheaceae*) in the Americas. – J. Arnold Arbor. **64**: 333-382.
- & Cooper-Dryver, G. 1980: Autogamous allohomoploidy in *Alsophila* and *Nephelea* (*Cyatheaceae*); a new hypothesis for speciation in homosporous ferns. – Amer. J. Bot. **67**: 1269-1288.
- Gastony, G. J. 1973: A revision of the fern genus *Nephelea*. – Contr. Gray Herb. **203**: 81-155.
- Knobloch, I. W. 1975: A review of pteridophyte hybrids with special reference to their morphology. – *Phytomorphology* **25**: 249-252.
- 1976: Pteridophyte hybrids. – Publ. Mus. Michigan State Univ., Biol. Ser. **5**: 277-352.
- 1986: On hybrid pteridophytes: second supplement. – I.A.P. News **1**: 3.
- 1995: Pteridophyte hybrids and their derivatives. – East Lansing.
- , Gibby, M. & Fraser-Jenkins, C. 1984: Recent advances in our knowledge of pteridophyte hybrids. – *Taxon* **33**: 256-270.
- Proctor, G. R. 1985: Ferns of Jamaica. – London.
- 1989: Ferns of Puerto Rico and the Virgin Islands. – Mem. New York Bot. Gard. **53**.
- Stolze, R. G. 1974: A taxonomic revision of the genus *Cnemidaria* (*Cyatheaceae*). – *Fieldiana, Bot.* **37**.
- Tryon, R. M. 1976: A revision of the genus *Cyathea*. – Contr. Gray Herb. **206**: 19-98.

Address of the author:

Manuel G. Caluff, Jardín de los Helechos de Santiago de Cuba, Carretera del Caney No. 129, "La Caridad", Caney, C.P. 90400, Santiago de Cuba; e-mail: manolito@bioeco.ciges.inf.cu