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

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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 nothogeneric 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. *×* *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 *×* *Cyathea* cf. *aspera* (L.) Sw.].

Truncus et frondes completae incogniti. *Rhachis* brunnea vel pallide brunnea, dissite aculeolata, aliquanto furfuracea, pilis pluricellularibus rigidis cylindraceutis obsita dein glabrescens; *pinnae* petiolulo 2.5 mm longo suffultae, alternae, ad 56 × 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 perbreviter petiolulatae, alternae vel suboppositae, contiguae, 18-24-jugae, ad 10.5 × 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 × 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, sinus acutis sejuncta, truncata, marginibus laeviter revolutis adaxiali 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, nonnusquam squamulis teneris filamentosis subappressis translucidis vel dilute brunneis cinctum; *sporangia* 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 × Cyathea parvula* (Jenman) Domin (i.e., *Cyathea × 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** ≡ *Hemitelia wilsonii* Hook. in Hooker & Baker, Syn. Fil.: 30. 1865 ≡ *Cyathea ×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 *×* *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 elliottii* (Baker) Caluff & Shelton, **comb. nova** ≡ *Alsophila elliottii* Baker in Ann. Bot. 6: 96. 1882 ≡ *Hemitelia elliottii* (Baker) Maxon in Contr. U. S. Natl. Herb. 17: 415. 1914 ≡ *Cyathea elliottii* (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. *obtusa* (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 ≡ *Cyathea 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.

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