

New Combinations in Neotropical Grammitidaceae (Pteridophyta)

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ABSTRACT. Continuing study on neotropical Grammitidaceae for various floras in press or in progress necessitates the following new combinations: *Ceradenia oidiophora*, *C. phalacron*, *Lellingeria ciliolepis*, *L. dissimulans*, *L. homersleyi*, *Melpomene gracilis*, *M. zempoaltepetlensis*, *Terpsichore bipinnata*, *T. elastica*, and *T. flexuosa*.

Examination of additional types of several rare and geographically restricted species of Grammitidaceae, as well as further study of problematic groups, has resulted in the need for several new combinations. This work is a continuation of observations previously published on the genera *Ceradenia*, *Lellingeria*, *Melpomene*, and *Terpsichore* (Bishop, 1988; Smith et al., 1991; Smith & Moran, 1992; Smith, 1993).

Ceradenia oidiophora (Mickel & Beitel) A. R. Smith, comb. nov. Basionym: *Grammitis oidiophora* Mickel & Beitel, Mem. New York Bot. Gard. 46: 202. 1988. TYPE: Mexico. Oaxaca: Dto. Ixtlán, trail from San Pedro Nolasco N to the Llano Verde, *Mickel 3822* (holotype, NY; isotype, UC).

Known only from four collections from Oaxaca (Mickel & Beitel, 1988).

Ceradenia phalacron (Stolze) A. R. Smith, comb. nov. Basionym: *Grammitis phalacron* Stolze, Fieldiana, Bot. 32: 84. 1993. TYPE: Peru. Cuzco: Valley of Río Urubamba, *Bües A29* (holotype, US).

Ceradenia phalacron is known only from the type. It is somewhat aberrant in *Ceradenia* because of its relatively simple or only shallowly lobed blades, lack of laminar setae, and prominulous veins, but it fits more comfortably there than in any other described genus. With other ceradenias, it agrees in the absence of hydathodes, castaneous rhizome scales with setulose margins, lack of spongy parenchyma, the prominulous venation, the lack of laminar or circumsoral setae, and the glandular paraphyses within the sorus.

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Lellingeria ciliolepis (C. Christensen) A. R. Smith, comb. nov. Basionym: *Polypodium ciliolepis* C. Christensen in Asplund, Ark. Bot. 20A: 21. 1926. *Ctenopteris ciliolepis* (C. Christensen) Copeland, Philipp. J. Sci. 84: 395. 1956 [1955]. *Grammitis ciliolepis* (C. Christensen) Lellinger, Amer. Fern J. 74: 58. 1984. TYPE: Bolivia. Sur Yungas, El Chaco valley, *Asplund 1501* (isotype, US).

Lellingeria dissimulans (Maxon) A. R. Smith, comb. nov. Basionym: *Polypodium dissimulans* Maxon, Contr. U.S. Natl. Herb. 10: 502. 1908. *Ctenopteris dissimulans* (Maxon) Copeland, Philipp. J. Sci. 84: 415. 1956 [1955]. *Grammitis dissimulans* (Maxon) F. Seymour, Phytologia 31: 179. 1975. *Melpomene dissimulans* (Maxon) A. R. Smith & R. C. Moran, Novon 2: 429. 1992. TYPE: Guatemala. Alta Verapaz: near Cobán, *von Türckheim* (ed. Donnell Smith 884) (holotype, US).

On the basis of descriptions, this rare and poorly known species was mistakenly transferred to *Melpomene* (Smith & Moran, 1992), but examination of the type and several additional specimens from Guatemala (*Johnson 678*, NY, US; *Steyermark 48781*, US; *Standley 71160*, US) indicates that it belongs in *Lellingeria* (Smith et al., 1991). *Lellingeria dissimulans* is similar to *L. randallii* (Maxon) A. R. Smith & R. C. Moran, from Panama and Jamaica, except that the rhizome scales are larger and lack marginal setae, and the blades completely lack hairs and setae on the lamina and rachis abaxially; the sori are somewhat impressed. The species is so far known only from Guatemala.

Lellingeria homersleyi (Maxon) A. R. Smith, comb. nov. Basionym: *Polypodium homersleyi* Maxon, Amer. Fern J. 20: 1. 1930. *Ctenopteris homersleyi* (Maxon) Copeland, Philipp. J. Sci. 84: 430. 1956 [1955]. *Grammitis homersleyi* (Maxon) Lellinger, Proc. Biol. Soc. Wash. 89: 714. 1977. TYPE: Trinidad. *Homersley 331* (holotype, US).

This is known only from Trinidad and, like *L. dissimulans*, is also related to *L. randallii*.

Melpomene gracilis (Hooker) A. R. Smith, comb. nov. Basionym: *Polypodium gracile* Hooker, Bot. Misc. 2: 239. 1831. *Grammitis gracilis* (Hooker) Stolze, Fieldiana, Bot. 32: 96. 1993. TYPE: Peru. Pasco: Huayllay, *Cruckshanks s.n.* (holotype, K not seen; isotype, GH not seen).

Melpomene zempoaltepetlensis (Mickel & Beitel) A. R. Smith, comb. nov. Basionym: *Grammitis zempoaltepetlensis* Mickel & Beitel, Mem. New York Bot. Gard. 46: 205. 1988. TYPE: Mexico. Oaxaca: Dto. Mixe, NW slope of Cerro Zempoaltépetl, trail from Yacoche to Totontepec, *Mickel 4638* (holotype, NY).

I now believe this is sufficiently distinct from *M. pilosissima* to warrant species status. *Melpomene zempoaltepetlensis* differs in lacking setae at the margins of segments and appears to be confined to southern Mexico.

Terpsichore bipinnata (Stolze) A. R. Smith, comb. nov. Basionym: *Grammitis bipinnata* Stolze, Fieldiana, Bot. 32: 92. 1993. TYPE: Peru. Cuzco: Prov. La Convención, Loma Grande, *Bües 2167* (holotype, US not seen; isotype, F not seen).

Terpsichore elastica (Bory ex Willdenow) A. R. Smith, comb. nov. Basionym: *Polypodium elasticum* Bory ex Willdenow, Sp. Pl., ed. 4. 5: 183. 1810. *Ctenopteris elastica* (Bory ex Willdenow) Copeland, Philipp. J. Sci. 84: 426. 1956 [1955]. TYPE: Bourbon [Réunion]. *Bory s.n.* (holotype, B-Herb. Willd. 19675 not seen; microfiche, UC).

I have now seen sufficient material from Madagascar and the Seychelles to be convinced that this species is not synonymous with *T. cultrata* (Bory ex Willdenow) A. R. Smith, as previously thought (Smith, 1993). It differs by the narrower blades and

by the absence of rhizome scales, thus agreeing with *T. mollissima* (Fée) A. R. Smith. *Terpsichore elastica* is the only known species in the genus from Africa and islands of the Indian Ocean. Like many of its neotropical congeners allied to *T. cultrata* (Group 3 of Smith, 1993), the spores are ellipsoid, monolete, and binucleate when shed (*van der Werff 12890*, UC, from Madagascar).

Terpsichore flexuosa (Maxon) A. R. Smith, comb. nov. Basionym: *Polypodium flexuosum* Maxon, Contr. U.S. Natl. Herb. 17: 597, t. 42. 1916. *Grammitis maxoniana* Lellinger, Amer. Fern J. 74: 58. 1984 (nom. nov., not *G. flexuosa* Kunth = *Eriosorus flexuosus*). *Lellingeria flexuosa* (Maxon) A. R. Smith & R. C. Moran, Amer. Fern J. 81: 84. 1991. TYPE: Cuba. Oriente: Camp La Gloria, S of Sierra Moa, *Shafer 8037* (holotype, US).

On the basis of descriptions, this species was mistakenly transferred to *Lellingeria* by Smith and Moran (in Smith et al., 1991). Examination of the type and other specimens from Cuba shows that *Terpsichore flexuosa* is closely related to *T. staheliana* (Posthumus) A. R. Smith, also with setose sporangia, and not *Lellingeria pendula* (Swartz) A. R. Smith & R. C. Moran, as Maxon thought.

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