

## *Eriosorus areniticola* (Pteridaceae), a New Species from Brazil

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**ABSTRACT.**—We describe and illustrate a new species, *Eriosorus areniticola*, and compare it with *E. myriophyllus*, the species to which it is most similar. This new species is endemic to southeastern and southern Brazil. It resembles a small form of *E. myriophyllus*, but differs by the absence of glandular hairs on rachises and laminar tissue, smaller leaf size, and distinct habitat.

**KEY WORDS.**—*Eriosorus myriophyllus*, ferns, southeastern Brazil, southern Brazil

*Eriosorus* Fée is a neotropical genus of about 30 species, most of them occurring in cool, moist highlands of the Andes, Central America, and Brazil (Tryon, 1970). As currently defined, the genus appears to be paraphyletic and intimately related to *Jamesonia* Hook. & Grev., with a polyphyletic *Jamesonia* nested within *Eriosorus*. As a result, *Eriosorus* is in need of recircumscription and revision (Sánchez-Baracaldo, 2004).

A comprehensive taxonomic revision of *Eriosorus* was presented by Alice Tryon (1970), the most important paper published on the taxonomy of the genus. Three additional Bolivian species were recently described by Kessler and Smith (2007). Tryon (1970) reported six species from Brazil: four are endemic and relatively wide-ranging in the mountains of southeastern Brazil, and one is *Eriosorus myriophyllus* (Sw.) Copel., a very common and widely distributed species for which Tryon adopted a broad circumscription, possibly due to the relatively few collections available at that time.

Among specimens of *E. myriophyllus* cited by Tryon, some from southern Brazil are distinct by the absence of glandular hairs and smaller size. Such specimens were considered “depauperate forms” of *E. myriophyllus* by Tryon. However, further studies and recent collections have provided new and valuable information on the *E. myriophyllus* complex, corroborating the recognition of a new species, which we describe herein.

***Eriosorus areniticola*** P.B. Schwartzburd et P.H. Labiak, *sp. nov.* TYPE.—BRAZIL. **Paraná:** Jaguariaíva, Parque Estadual do Cerrado, 12 April 1994, P.H. Labiak 182 (holotype: UPCB; isotypes: SP, UC). **Fig. 1, A–D.**

*Plantae rupiculae; stipites et rhachides flexuosae, nudae vel subnudae; laminae eglandulosae vere, membranaceae, subtiles, pilosae, pilis albis,*

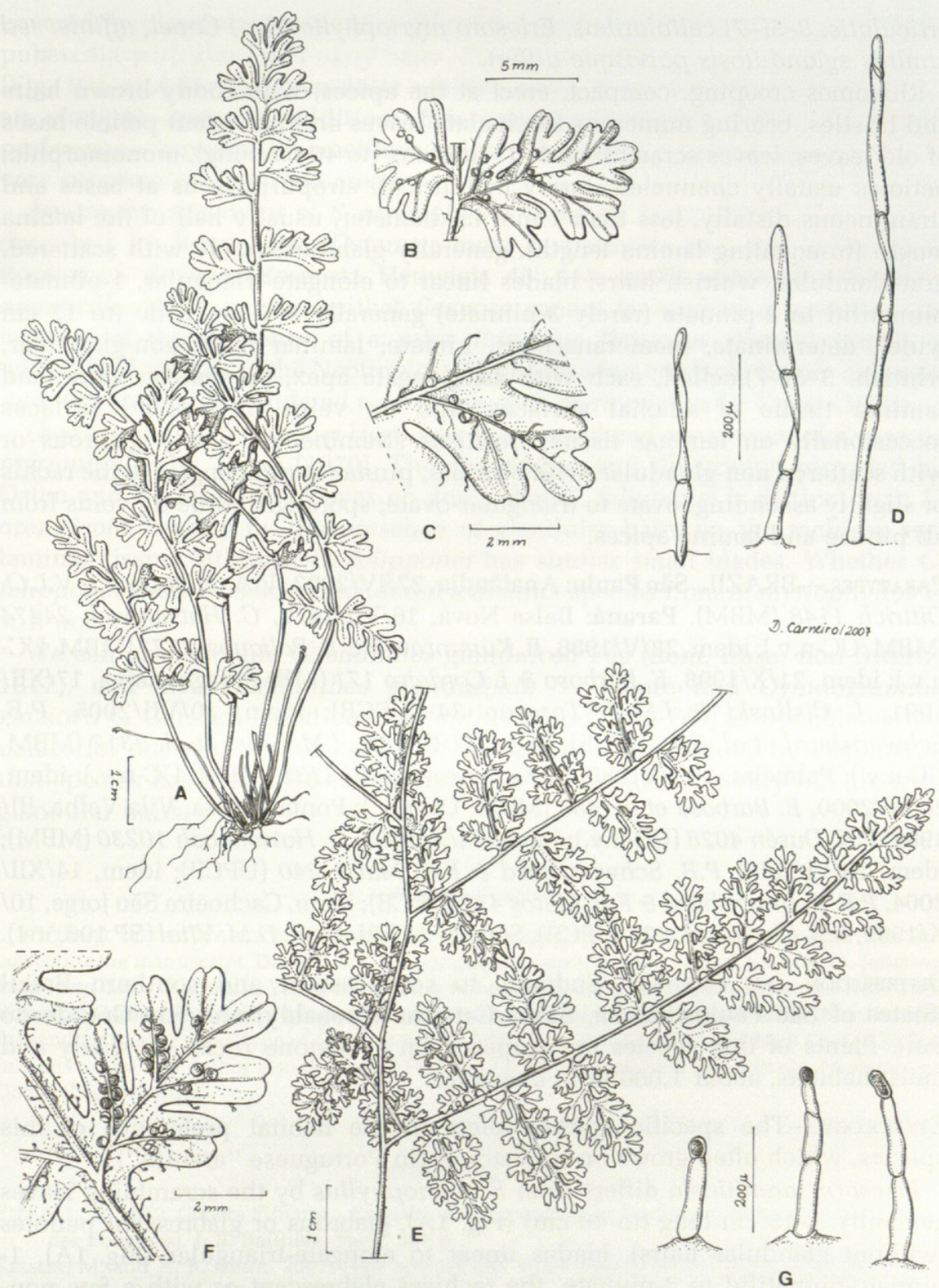


FIG. 1. A–D. *Eriosorus areniticola* (Labiak 182, UPCB): A. Habit. B. Rachis and pinnae. C. Abaxial surface of segment. D. Hairs on adaxial surface of blade. E–G. *Eriosorus myriophyllus* (Labiak et al. 2939, UPCB): E. portion of blade base. F. abaxial surface of costa and segment. G. Hairs of the adaxial surface of lamina.

*articulatis*, 3–5(–7) *cellularibus*. *Eriosoro myriophyllo* (Sw.) Copel. *affinis*, *sed laminis eglandulosis parvisque differt*.

Rhizomes creeping, compact, erect at the apices, with ruddy brown hairs and bristles, bearing numerous fasciculate leaves and persistent petiole bases of old leaves; leaves scrambling, 5–15 cm long (to 40 cm long), monomorphic; petioles usually channeled, rarely cylindrical, atropurpureous at bases and stramineous distally, less than 1 mm in diameter, usually half of the lamina length (to equaling lamina length), generally glabrous, rarely with scattered, non-glandular, whitish hairs; blades linear to elongate-triangular, 1-pinnate-pinnatifid to 2-pinnate (rarely 3-pinnate) generally 2–5 cm wide (to 12 cm wide), determinate, membranaceous, hirsute; laminar hairs non-glandular, whitish, 3–5(–7)-celled, each with an elongate apex, present on veins and laminar tissue of adaxial surfaces, and on veins on abaxial surfaces (occasionally on laminar tissue); rachises stramineous, nearly glabrous or with scattered non-glandular, whitish hairs; pinnae at right angles to the rachis or slightly ascending, ovate to triangular-ovate; sporangia borne on veins from all pinnae and lamina apices.

PARATYPES.—BRAZIL. **São Paulo:** Analândia, 27/IV/2002, V.A.O. Dittrich & V.L.O. Dittrich 1148 (MBM). **Paraná:** Balsa Nova, 16/VII/1970, G. Hatschbach 24474 (MBM, UC-n.v.); idem, 28/V/1986, R. Kummrow & C.B. Poliquesi 2773 (MBM, UC-n.v.); idem, 21/X/1998, E. Barbosa & J. Cordeiro 171 (MBM); Jaguaraiá, 17/XII/1991, J. Cislinski & J.M.D. Torezan 34 (UPCB); idem, 10/VII/2005, P.B. Schwartsburd et al. 880 (UPCB); Lapa, 22/II/2001, J.M. Silva et al. 3317 (MBM, UC-n.v.); Palmeira, 10/III/1989, R. Kummrow et al. 3131 (MBM, UC-n.v.); idem, 20/IV/2000, E. Barbosa et al. 480 (MBM, UC-n.v.); Ponta Grossa, Vila Velha, III/1904, P.K. Dusén 4028 (UC-n.v.); idem, 04/X/1963, G. Hatschbach 10230 (MBM); idem, 10/VI/2004, P.B. Schwartsburd & F.B. Matos 240 (UPCB); idem, 14/XII/2004, P.B. Schwartsburd & F.B. Matos 439 (UPCB); idem, Cachoeira São Jorge, 10/X/1992, R.S. Moro et al. 475 (UPCB); Sengés, 14/VII/1982, D.M. Vital (SP 196,564).

DISTRIBUTION AND HABITAT.—Endemic to southeastern and southern Brazil (States of São Paulo, Paraná, Santa Catarina (probably) and Rio Grande do Sul). Plants of this species are epipetric on sandstone rocks, in shady and moist habitats, about 1,000 m in elevation.

ETYMOLOGY.—The specific epithet refers to the habitat preference of this species, which often grows on sandstones (in Portuguese “arenito”).

*Eriosorus arenicola* differs from *E. myriophyllus* by the scrambling leaves generally 5–15 cm long (to 40 cm) (Fig. 1A), glabrous or glabrescent petioles (without glandular hairs), blades linear to elongate-triangular (Fig. 1A), 1-pinnate-pinnatifid to 3-pinnate, the rachises glabrescent or with a few non-glandular whitish hairs on both sides (Fig. 1B), and laminae adaxially densely pubescent with non-glandular whitish hairs, these 3–5(–7)-celled with an elongate apex (Fig. 1D). In contrast, *E. myriophyllus* has erect leaves, which are generally 30–40(–95) cm long (Fig. 1E), has petioles pubescent with glandular hairs, blades elongate-triangular to trullate and 2–3-pinnate, rachises densely

covered by glandular rusty hairs (Fig. 1F), adaxial surfaces of blades sparsely pubescent with glandular rusty hairs, these 1–3-celled and with a globose apex (Fig. 1G), and few non-glandular whitish hairs, these 2-celled and each with an elongate apex. In addition, *Eriosorus myriophyllus* differs in habitat preference – terrestrial (sometimes epipetric) in sunny environments – and is very common in disturbed areas.

Among the synonyms of *E. myriophyllus* listed by Tryon (1970), the “forma” described by Rosenstock (*Gymnogramma myriophylla* Sw. var. *eglandulosa* Rosenst. f. *flexuosa* Rosenst., Hedwigia 46: 148. 1906) represents *Eriosorus areniticola*. However, the epithet *flexuosa* cannot be applied at specific rank because of the existence of a prior *Eriosorus flexuosus* (Kunth) Copel., a widespread species in the Neotropics. *Gymnogramma myriophylla* var. *eglandulosa* was correctly considered a synonym of *E. myriophyllus* by Tryon (1970).

*Gymnogramma felipponei* Hert. was also considered a synonym of *Eriosorus myriophyllus* by Tryon (1970). The description and illustration provided by Osten and Herter (1925) leaves no doubt that *G. felipponei* is distinct from *E. areniticola*, mainly by the presence of glandular hairs on the rachises and laminar tissue, although *G. felipponei* has similar small blades. Whether *G. felipponei* should be best considered a distinct species from *E. myriophyllus* is still uncertain.

We can also exclude *Cheilanthes glandulosa* Fée (nom. Illeg., non Swartz, 1817), and also *Cheilanthes glandulifera* T. Moore and *Gymnogramma glaziovii* C. Chr. (all based on *Cheilanthes glandulosa* Fée) as possible earlier names for our species. According to the description provided by Fée (1852), that species has leaves 54–60 cm long and the rachises are very hirsute with glandular hairs.

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#### LITERATURE CITED

- FÉE, A. L. A. 1852. Genera Filicum – Exposition des genres de la famille des Polypodiacees (Classe des Fougères). J. B. Baillière, Paris, 387 p.
- KESSLER, M. and A. R. SMITH. 2007. New species and other nomenclatural changes for ferns from Bolivia. *Brittonia* 59:186–197.
- OSTEN, C. and G. HERTER. 1925. Plantae Uruguayenses. I. Pteridophyta. An. Mus. Nac. Montevideo 2:328–404.
- SÁNCHEZ-BARACALDO, P. 2004. Phylogenetics and biogeography of the Neotropical fern genera *Jamesonia* and *Eriosorus* (Pteridaceae). *Amer. J. Bot.* 91:274–284.
- TRYON, A. F. 1970. A monograph of the fern genus *Eriosorus*. *Contr. Gray Herb.* 200:54–174.



Schwartsburd, Pedro Bond and Labiak, Paulo Henrique. 2008. "Eriosorus areniticola (Pteridaceae), a New Species from Brazil." *American fern journal* 98, 160–163. [https://doi.org/10.1640/0002-8444\(2008\)98\[160:eapans\]2.0.co;2](https://doi.org/10.1640/0002-8444(2008)98[160:eapans]2.0.co;2).

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