

## ***Fissidens brevinervis* (Fissidentaceae, Bryopsida): a pantropical species**

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**Abstract** – *Fissidens brevinervis* is considered a pantropical species. The species, is reported new for Ascension Island, Ethiopia, India and El Salvador. *Fissidens cryptoneuron* is reduced to the synonymy of *F. brevinervis*.

**Africa / Ascension Island / Ethiopia / *Fissidens brevinervis* / *Fissidens cryptoneuron* / India / South America / El Salvador**

**Résumé** – *Fissidens brevinervis* est considéré comme une espèce pantropicale et est rapporté pour la première fois pour Île de l'Ascension, l'Éthiopie, l'Inde et le Salvador. *Fissidens cryptoneuron* est inclus comme synonyme en *F. brevinervis*.

**Afrique / Île de l'Ascension / Éthiopie / *Fissidens brevinervis* / *Fissidens cryptoneuron* / Inde / Amérique du Sud / Salvador**

***Fissidens brevinervis*** Broth., *Sitzungber. Kaiserl. Akad. Wiss., Math.-Naturwiss. Kl., Abt. I*, 133: 559. 1924. **Type citation.** [China.] Prov. Setschwan austro-occid.: in regione subtropical convallis fluminis Yalung in trunco vivo *Fici superbae*, ad vicum Dattiaoko, 27° 10'; ca. 1,180 m [Handel-Mazzetti] (Nr. 5306). (**Holotype:** H-Broth!).

*Fissidens cryptoneuron* P.de la Varde, *Rev. Bryol. Lichénol. n. sér.* 5: 208. 1933. **Type citation.** Madagascar, Kiangara, printemps 1932; leg. P. Grainville (**Holotype:** PC-Pvarde!; **isotype:** PC!), **syn. nov.**

Both *F. brevinervis* and *F. cryptoneuron* were described as characterized by costae that are completely covered by small, pluripapillose cells, pluripapillose laminal cells and wide leaves with broadly acute to obtuse apices. Comparison of the type specimens showed that the two are conspecific.

*Fissidens brevinervis* (subgenus *Aloma* Kindb.; Pursell & Bruggeman-Nannenga, 2004) a small species with stems reaching about 2 mm in length, is characterized by oblong-lanceolate to oblong-lingulate leaves with broadly acute to obtuse apices; costae covered their entire length by overlying tumid, pluripapillose, isodiametric cells; pluripapillose laminal cells; and, weak limbidia restricted to the perichaetial leaves. This is the sole *Fissidens* species in which the entire length of the costae is covered with such cells. In comparison, a few *Fissidens* species have costae that in their upper parts are covered e.g.

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*F. curticosatus* Brugg.-Nann. known from Ethiopia, Zambia, Tanzania, Kenya and Madagascar, *F. costivelatus* Brugg.-Nann. known from Kenya, Tanzania and Aldabra, the South American *Fissidens brevipes* Besch. and *F. subbasilaris* Hedw. of the eastern United States and eastern Mexico. In another few e.g. the pantropical *F. gardneri* Mitt. and the West African *F. macroglossus* (Broth.) Brugg.-Nann. the costae can be partly covered or not.

So far, eleven species of *Fissidens* Hedw. were known to be common to tropical Africa, Asia, and the Neotropics (Pursell *et al.*, 1992). By the reduction of the African-Neotropical *F. cryptoneuron* P.de la Varde into a synonym of the Asian *F. brevinervis* Broth. the latter becomes the twelfth Pantropical species.

*Fissidens brevinervis* has a Pantropical distribution with an extension into the subtropical zone in Asia (China). It is known from China (Guangdong, Shandong, and Sichuan provinces; Redfearn *et al.*, 1996) and Indonesia (South Sulawesi; Suzuki & Iwatsuki, 2010). Herein, the species is reported new to Ascension Island, Ethiopia, India and El Salvador. The species, as *F. cryptoneuron*, is widespread in sub-Saharan Africa (Central African Republic, Democratic Republic of the Congo, Ethiopia, Guinea, Kenya, Madagascar, Tanzania, Uganda, and Zambia (Bruggeman-Nannenga, 2006; O'Shea, 2006)) and in South America (Bolivia and Brazil; Allen & Pursell, 2010). It grows on bark, less often rock.

**Specimens examined.** ASCENSION ISLAND. Green Mountain National Park, below upper catchment, S. side, UTM Grid ref.: 28M/ES/217208, on main trunk and branches of guava tree in gully, 24 IX 2005, *Wigginton 05/91* (E, herb. Bruggeman-Nannenga). ETHIOPIA. Ca. 5 km W of Ambo, humid, very shaded places, on stones and tree bark along river Güder, 2000 m, 30 IV 1967, *De Wilde-Duyfjes 11543E* (L); Kaffa, Gimbo/Bonga, 1.5 km SE of Central Bonga, *Eucalyptus* plantation, on *Maytenus*, alt. 25 m, 15 XII 2006, *Hylander 4520* (herb. Hylander and Bruggeman-Nannenga). INDIA. Karnataka State: Bangalore, urban district, Cubbon Park, north to Queen Victoria statue, 12° 58' 39.55" N, 77° 35' 50.05" W, on bark, alt. 900 m, 25 August 2013, *Schwarz 11190* (herb. Uwe Schwarz and Bruggeman-Nannenga). EL SALVADOR, Colonia Arizona, Santa Ana, sobre tronco seco, 2 May 2010, *Búcaro 963* (herb. *Búcaro*).

**Illustrations.** Bruggeman-Nannenga (2006, fig. 8 a-e, as *Fissidens cryptoneuron*); Li (1985, fig. 12 v-x & aa-ab, as *Fissidens brevinervis*); Potier de la Varde (1932, fig. 5, as *Fissidens cryptoneuron*); Pursell (2007, fig 81, as *Fissidens cryptoneuron*); Suzuki & Iwatsuki (2010, fig. 1, as *Fissidens brevinervis*).

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