

## Comments on some African species of the moss genus *Glossadelphus* M. Fleisch.

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**Abstract** – *Bryocrumia vivicolor* (Broth. & Dixon) W. R. Buck is new to Tanzania. *Glossadelphus baldwinii* Broth. is a new synonym of *Phyllodon lingulatus* (Cardot) W. R. Buck. *Phyllodon lingulatus* is new to Africa. *Sigmatella natans* Müll. Hal. and *Glossadelphus natans* (Müll. Hal.) M. Fleisch. are new synonyms of *Phyllodon truncatulus* (Müll. Hal.) W. R. Buck. *Taxithelium latitruncatum* Cardot, described from Madagascar, is a new synonym of *Phyllodon truncatulus* (Müll. Hal.) W. R. Buck, therefore the species is not new to the island, but confirms its early record from Madagascar and makes a further addition to the list of bicontinental Afro-American elements, which do not occur in mainland Africa. *Phyllodon truncatus* (Welw. & Duby) W.R. Buck is new to Madagascar. *Symphiodon pygmaeus* (Broth.) He & Snider is recorded from Madagascar the second time. *Glossadelphus congolensis* Broth. & P. de la Varde and *Glossadelphus congolensis* Broth. & P. de la Varde var. *falcatus* Demaret & P. de la Varde are new synonyms of *Ectropothecium zollingeri* (Müll. Hal.) Jaeg. *Phyllodon perplanicaulis* (Broth.) Kis is a new combination of *Taxithelium perplanicaule* Broth. and the species is new to Réunion. *Glossadelphus eckendorffii* P. de la Varde is a new synonym of *Phyllodon perplanicaulis* (Broth.) Kis.

**Hypnaceae / Bryocrumia / Glossadelphus / Phyllodon / Symphyodon / Ectropothecium / Africa / America**

### INTRODUCTION

*Glossadelphus* M. Fleisch. is a heterogeneous and not clearly defined genus, which badly needs revision. The members of this group are relatively small plants. In most cases they are collected only intermixed among other bryophytes, in our collection mostly with Hookeroid and Hypnoid mosses. Species belonging to this group of mosses are very likely more frequent, but undercollected, and therefore are not represented frequently in herbaria. For this reason I tried to restrict myself to give account of new records, synonyms, and to supply annotations in connection to our collection. My goal was not to make a full revision of the genus.

Buck (1987) summarized its history, outlining the nomenclatural and taxonomic problems when elucidating the position of some confusing Asian taxa. He criticised the usage of the generic name *Glossadelphus* giving priority for *Phyllodon*, and clarifying the taxonomic position of several related genera. He suggested the resolution of the generic placement of each species that had been

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classified in *Glossadelphus*, should be based on the examination of the types. Tixier (1988) reviewed the genus, but he did not know or did not consider Buck's notes.

Tixier follows basically the traditional concept of the genus as outlined by Fleischer (1923) and Brotherus (1925), accepting the sections *Glossadelphus* (formerly *Collophyllum* M. Fleisch. illegitimate section) and *Anastigma* (Cardot) M. Fleisch., treated them in the subgenus *Glossadelphus*. He ordered farther the species belong to the section *Anastigma* founding the new section *Similantes*, and founding two other subgenus, as the *Pseudo-ectropothecium* with section *Rotundati* and *Congolenses*, and subgenus *Ogatae*.

The African taxa of *Glossadelphus* are enumerated in the Table 1. It contains all taxa which were described or placed into this genus. It is shown here, how those taxa were treated by Tixier in his revision (1988). Finally the table shows the currently accepted names by other authors. There were left out a few problematic species, which need further careful consideration, as the following ones.

*Callicostella abrupta* Mitt. – later existed as *Hypnella abrupta* (Mitt.) Jaeg. – was transferred into the genus *Glossadelphus* by Robinson (1967), and this placement was accepted by Crosby *et al.* (1985), only with reference to Robinson, without serious explanation). Tixier (1988) treated it as the synonym of *G. truncatulus* (Müll. Hal.) M. Fleisch. Since O'Shea (1999a) established, that all African specimens which had been till that time named as *G. truncatulus* (Müll. Hal.) M. Fleisch., were *Phyllodon truncatus* (Welw. & Duby) W.R. Buck, he considered *Ph. truncatulus* (Müll. Hal.) W.R. Buck as an American species. He (1999b) persisted in the idea to treat all synonym names, which were classified under *Ph. truncatulus* by Tixier (1988), including *Callicostella abrupta*, as *Phyllodon truncatus*, but has not seen its type specimen. On the other hand accepting the suggestion of Buck (1998) and examining its type, B. C. Tan made the new combination of *Phyllodon abruptus* (Mitt.) B. C. Tan (*in* Thiers, 1992), but he did not made comparison with other *Glossadelphus* or *Phyllodon* species, so I think this taxon requires further examination.

*Glossadelphus serpyllifolius* P. de la Varde was recently reduced to synonymy of *Bryocrumia vivicolor* (Broth. & Dixon) W. R. Buck by O'Shea and Buck (2001), and they consider it as a different species from *Glossadelphus scutellifolius* (Besch.) M. Fleischer, which latter is now *Phyllodon scutellifolius* (Besch.) W. R. Buck (Buck, 1987).

Three of the recently published valid names, *Glossadelphus guineensis* (Broth. & Paris) Crosby, B.H. Allen & Magill, *G. semiscabrus* (Renauld & Cardot) Crosby, B.H. Allen & Magill and *G. viridis* (Renauld & Cardot) Crosby, B.H. Allen & Magill were moved from *Hypnella* into the genus *Glossadelphus* (Crosby *et al.*, 1985). These three taxa were not treated by Tixier (1988). According to Crosby's notes the assignment of the first species was based upon the truncate leaf shape and the presence of endostomial cilia. It should belong to the genus *Phyllodon* according to my opinion. The latter two combinations were made only on the basis of the sterile and extremely scanty type material from PC. Because I could not see the types of these three species, at the moment they should remain uncertain names.

The following Table 2 contains those *Glossadelphus* taxa which were not described from Africa, but were synonymized later under African species. The only problematic taxon among them is *Glossadelphus oophyllus* (Müll. Hal.) M. Fleisch. It was placed by Tixier (1988) into *G. truncatulus*. As he merged several species, which now belong to different genera, under this name, there would be advisable to reexamine its type. Neither Buck (1988), nor me have seen it, therefore it should be treated as an uncertain taxon.

Tab. 1. African taxa in the *Glossadelphus* genus

<i>Basionyms</i>	<i>African Glossadelphus taxa</i>	<i>Tixier's names (1988)</i>	<i>Currently accepted names</i>
<i>Callicostella abrupta</i> Mitt., <i>J. Linn. Soc. Bot.</i> 7: 161. 1863. Type: Fernando Po	<b><i>G. abruptus</i></b> (Mitt.) H. Robinson, <i>Bryologist</i> 70: 42. 1967.	<i>G. truncatulus</i> (C. Müll.) Fleisch.	<b><i>Phyllodon abruptus</i></b> (Mitt.) B.C. Tan, in Thiers, <i>Mem New York Bot. Garden</i> 68: 5. 1992.  <b><i>Phyllodon truncatus</i></b> (Welw. & Duby) M. Fleisch. O'Shea 1999, version 3,11/99, <a href="http://www.oshea.demon.uk/tbr.htm">http://www.oshea.demon. uk/tbr.htm</a>
	<b><i>G. congolensis</i></b> Broth. & P. de la Varde, <i>Bull. Soc. Bot. France</i> 73: 383. 36. 1926. Type: Oubangui	<i>G. congolensis</i> Broth. & P. de la Varde	<b><i>Ectropothecium zollingeri</i></b> (Müll. Hal.) Jaeg. <b>syn. nov.</b>
	<b><i>G. congolensis</i> var. falcatus</b> Demaret & P. de la Varde, <i>Bull. Jard. Bot. Bruxelles</i> 26: 275. 1956. Type: Ruwenzori Mts.	<i>G. congolensis</i> Broth. & P. de la Varde	<b><i>Ectropothecium zollingeri</i></b> (Müll. Hal.) Jaeg. <b>syn. nov.</b>
	<b><i>G. eckendorffii</i></b> P. de la Varde, <i>Rev. Bryol. Lichénol.</i> 5: 205. 1932. Type: Gabon	<i>G. perplanicaulis</i> (Broth.) M. Fleisch.	<b><i>Phyllodon perplanicaulis</i></b> (Broth.) Kis, <b>comb. nov.</b>
	<b><i>G. euryphyllus</i></b> P. de la Varde, <i>Rev. Bryol. Lichénol.</i> 17: 23. 1948. Type: Sierra Leone	<i>Sematophyllum caespitosum</i> (Hedw.) Mitt.	<b><i>Acroporium caespitosum</i></b> (Hedw.) W.R. Buck, <i>Brittonia</i> 35: 310. 1983.
<i>Hypnella guineensis</i> Broth. & Paris, <i>Rev. Bryol. Lichénol.</i> 35: 3. 1908. Type: Madagascar	<b><i>G. guineensis</i></b> (Broth. & Paris) Crosby, B.H. Allen & Magill, <i>Bryologist</i> 88: 128. 1985.	Not mentioned	
	<b><i>G. nossibeans</i></b> Broth. ex P. de la Varde, <i>Ark. Bot.</i> , ser. 2, 3: 194. 1955. nom. inval. err. pro <b><i>Taxithelium nossianum</i></b> Besch., <i>Ann. Sci. Nat.</i> , <i>Bot. Ser.</i> 6, 10: 310. 1880. Type: Madagascar	Not mentioned	
<i>Rhaphidostegium ovalifolium</i> Besch., <i>Ann. Sci. Nat., Bot.</i> , 10: 300. 1880. Type: Madagascar, Nossi- Bé	<b><i>G. ovalifolius</i></b> (Besch.) Broth., <i>Nat. Pfl. Ed.</i> 2. 11: 444. 1925.	Mentioned errorly as <i>G. ovaliformis</i> (Besch.) Broth., and not treated.	<b><i>Ectropothecium ovalifolium</i></b> (Besch.) W. R. Buck, <i>Mem. New York Bot. Garden</i> 45: 521. 1987.

Basionyms	African Glossadelphus taxa	Tixier's names (1988)	Currently accepted names
<i>Taxithelium perplanicaule</i> Broth., <i>Bot. Jahrb.</i> 24: 266. 1897. <b>Type:</b> Cameroun, N'Dian.	<i>G. perplanicaulis</i> (Broth.) M. Fleisch., <i>Musci Fl. Buitenzorg</i> 4: 1352. 1923.	<i>G. perplanicaulis</i> (Broth.) M. Fleisch.	<i>Phyllodon</i> <i>perplanicaulis</i> (Broth.) Kis, <b>comb. nov.</b>
<i>Taxithelium scutellifolius</i> Besch., <i>Ann. Sci. Nat.</i> <i>Bot.</i> , ser. 6, 10: 311. 1880. <b>Type:</b> Madagascar, Nossi Comba	<i>G. scutellifolius</i> (Besch.) M. Fleisch., <i>Musci Fl.</i> <i>Buitenzorg</i> 4: 1352. 1923.	<i>G. scutellifolius</i> (Besch.) M. Fleisch.	<i>Phyllodon scutellifolius</i> (Besch.) W. R. Buck, <i>Mem. New York Bot.</i> <i>Garden</i> 45: 521. 1987.
<i>Hypnella semiscabra</i> Renauld & Cardot, <i>Bull.</i> <i>Soc. Roy. Bot. Belgique</i> 35(1): 318. 1897. <b>Type:</b> Madagascar, circa Andevorante	<i>G. semiscabrus</i> (Renauld & Cardot) Crosby, B. H. Allen & Magill, <i>Bryologist</i> 88: 128. 1985.	Not mentioned	
	<i>G. serpyllifolius</i> P. de la Varde, <i>Ark. Bot. Ser.</i> 2, 3: 193. 1955. <b>Type:</b> Ruwenzori Mts.	<i>G. scutellifolius</i> (Besch.) M. Fleisch	<i>Bryocrumia vivicolor</i> (Broth. & Dixon) W. R. Buck & O'Shea, <i>Tropical</i> <i>Bryology</i> 20: 105. 2001
<i>Homalia truncata</i> Welw. & Duby in Duby, <i>Mém.</i> <i>Soc. Phys. Hist. Nat.</i> <i>Genève</i> 21: 430. 1871. <b>Type:</b> Angola, Pungo Andongo	<i>G. truncatus</i> (Welw. & Duby) M. Fleisch., <i>Musci</i> <i>Fl. Buitenzorg</i> 4: 1352. 1923.	<i>G. truncatulus</i> (Müll. Hal.) M. Fleisch.	<i>Phyllodon truncatus</i> (Welw. & Duby) W.R. Buck, <i>Mem. New York</i> <i>Bot. Garden</i> 45: 521. 1987.
<i>Hypnella viridis</i> Renauld & Cardot, <i>Bull. Soc. Roy.</i> <i>Bot. Belgique</i> 35 (1): 318. 1897. <b>Type:</b> Madagascar, Diego Suarez	<i>G. viridis</i> (Renauld & Cardot) Crosby, B. H. Allen & Magill, <i>Bryologist</i> 88: 128. 1985.	Not mentioned	

## RESULTS AND DISCUSSION

The following short list contains new records (marked by !), applying their correct name and adding new distributional data, annotations and, where adequate, my new taxonomic concepts, accompanied by illustrations.

### **BRYOCRUMIA** Anders. (Hypnaceae, Hypnales)

#### *B. vivicolor* (Broth. & Dixon) W.R. Buck (**Fig. 1a-g**).

! TANZANIA: Nguru Mts., at 1960-2050 m altitude. On irrigated rock. (*Kis & Pócs 9129/BZ*); West Usambara Mts., at 1780 m alt. (*Pócs 8405/M*, det. J. Enroth, 1990, EGR); Kilimanjaro Mts, between 1950-2090 m alt. (*Pócs 90067/S*, det. J. Enroth, 1991, EGR).

**Distribution:** USA, Zaire, Uganda, Kenya, new to Tanzania, India, Sri Lanka, China.

Tab. 2. Non African taxa synonymised under African *Glossadelphus* species

<i>Basionyms</i>	<i>Non African Glossadelphus taxa</i>	<i>Tixier's names (1988)</i>	<i>Currently accepted names</i>
	<i>G. abortivapicus</i> Hoe <i>Bryologist</i> 76: 310. 1973. <b>Type:</b> U. S. A. Hawaii	non examined	<i>Symphiodon pygmaeus</i> (Broth.) He & Snider, <i>Bryologist</i> , 103: 62. 2000.
	<i>G. andersonii</i> Bartram <i>Bryologist</i> 54: 81. 1951. <b>Type:</b> U.S.A.	<i>G. andersonii</i> Bartram	<i>Bryocrumia vivicolor</i> (Broth. & Dixon) W. R. Buck, L. E. Anderson <i>et</i> <i>al.</i> , <i>Bryologist</i> 93: 482. 1990.
<i>Sigmatella natans</i> Müll. Hal., <i>Hedwigia</i> 40: 70. 1901. <b>Type:</b> Brasilia	<i>G. natans</i> (Müll. Hal.) M. Fleisch., <i>Musci Fl.</i> <i>Buitenzorg</i> 4: 1352. 1923. ["nutans"]	<i>G. truncatulus</i> (Müll. Hal.) M. Fleisch.	<i>Phyllodon truncatulus</i> (Müll. Hal.) M. Fleisch. <b>syn. nov.</b>
<i>Sigmatella oophylla</i> Müll. Hal., <i>Hedwigia</i> 40: 70. 1901. <b>Type:</b> Brasilia	<i>G. oophyllus</i> (Müll. Hal.) M. Fleisch., <i>Musci</i> <i>Fl. Buitenzorg</i> 4: 1352. 1923.	<i>G. truncatulus</i> (Müll. Hal.) M. Fleisch.	
<i>Hypnum truncatulum</i> Müll. Hal., <i>Syn. musc.</i> <i>frond.</i> 2: 263. 1859. <b>Type:</b> Peru	<i>G. truncatulus</i> (Müll. Hal.) M. Fleisch., <i>Musci</i> <i>Fl. Buitenzorg</i> 4: 1352. 1923.	<i>G. truncatulus</i> (Müll. Hal.) M. Fleisch.	<i>Phyllodon truncatulus</i> (Müll. Hal.) W.R. Buck, <i>Mem. New York Bot.</i> <i>Garden</i> , 45: 521. 1987.
<i>Taxithelium vivicolor</i> Broth. & Dixon in Dixon, <i>Rec. Bot. Surv. India</i> 6(3): 86. 1914. <b>Type:</b> India	<i>G. vivicolor</i> (Broth. & Dixon) Broth. In Engler, <i>Nat. Pflanzenfam.</i> , Ed. 2, 11: 444. 1925.	<i>G. scutellifolius</i> (Besch.) M. Fleisch.	<i>Bryocrumia vivicolor</i> (Broth. & Dixon) W.R. Buck & O'Shea, <i>Tropical</i> <i>Bryology</i> 20: 105. 2001.

**PHYLLODON Bruch & W. P. Schimper** (Hypnaceae, Hypnales)

**Key to the African species accepted till now as *Phyllodon*:**

1. Lamina cells serially papillose over the cell lumen . . . . . 2
  2. Lamina cells prorate . . . . . 3
    3. The upper part of the leaf margin sharply serrate with prominent bifid teeth on the outstanding cells . . . . . **Ph. truncatulus**
    3. The upper part of the leaf margin only roughened with papillae . . . . . **Ph. truncatus**
  2. Lamina cells not prorate, without bifid teeth at the adaxial margin of the leaf . . . . . **Ph. scutellifolius**
1. No serial papillae over the lumen, only the cell ends project from the surface . . . . . 4
  4. The projecting cell ends stoutly outstanding from the leaf lamina. Leaf apex with bifid teeth on the outstanding marginal cells . . . **Ph. lingulatus**
  4. The projecting cell ends scarcely outstanding from the leaf lamina. Leaf apex only finely bi-serrulate at the margin due to the prorate cell ends . . . **Ph. perplanicaulis**

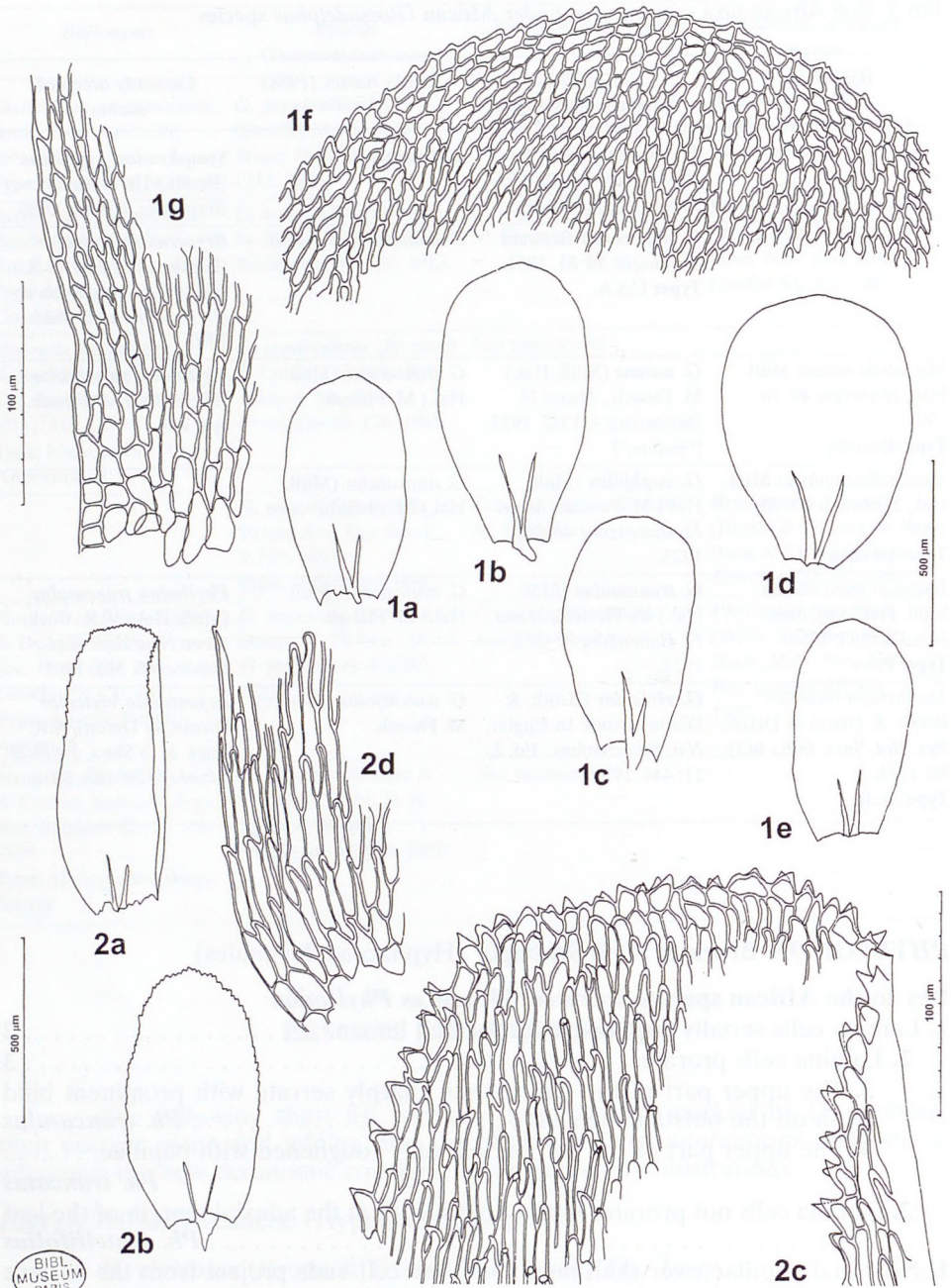


Fig 1. *Bryocrumia vivicolor* (Broth. & Dixon) W. R. Buck **1a-e**: Leaves. **1f**: Leaf cells at the upper part of the leaf. **1g**: Alar cells of the leaf. From Kis & Pócs 9129/BZ (*EGR*).

Fig. 2. *Phyllodon lingulatus* (Cardot) W. R. Buck. **2a-b**: Leaves. **2c**: Leaf cells at the upper part of the leaf. **2d**: Alar cells of the leaf. From Faurie 179 (Isotype, H-BR 1811003) as *Diplodontella lingulata* Cardot.

***Phyllocladon lingulatus* (Cardot) W.R. Buck (Fig. 2a-d).**

**Basionym:** *Taxithelium lingulatum* Cardot, *Beih. Bot. Centralbl.* 19(2): 136. 27. 1905. **TYPE:** Taiwan, Formosa: Kelung, *Faurie 179* (Isotype, H-BR). *Glossadelphus lingulatus* (Cardot) M. Fleisch., *Musci Fl. Buitenzorg* 4: 1352, 1923.

= *Glossadelphus baldwinii* Broth., *Bishop Mus. Bull.* 40: 31. 7 f. 26. 1927. **syn. nov. TYPE:** Hawaii, ad rupes crateris Olowalu, Insul. Maui occid., 800 p, 1875, *Baldwin, 49*. (**Lectotype\***, H-BR 1811049 as *Chaetomitrium taxithelioides* Broth. *nom. nud.*, *Bull. Soc. Bot. Ital.* 1904: 16, Isotype, H-BR 1811045).

\*In the Brotherus Herbarium there are two specimens of the same plant. One is bearing a partly printed label, which Brotherus' wrote on the result of his identification: *Chaetomitrium taxithelioides* Broth. = *Glossadelphus Baldwinii* Broth. *n. sp.*, No. 557. of "Bryotheca E. Levier", H-BR 1811049, and one other with Brotherus' handwriting: *Glossadelphus Baldwinii* Broth. *n. sp.*, H-BR 1811045, obviously taken out from the former specimen. I designated the former as Lectotype.

! ZAIRE: Prov. Kivu, Pinga, 1100 m alt. (*F. Müller, Z393*). Only a fragmentary specimen intermixed among other pleurocarp (hookeroid) mosses.

**Distribution:** Taiwan, Hawaii, and new to Africa.

To establish the identity and taxonomic place of other published synonyms needs further study, therefore I can't render the full distribution of this species. Tixier (1988) considered *Taxithelium lingulatus* Cardot, *Glossadelphus lingulatus* (Cardot) M. Fleisch., *G. baldwinii* Broth. and *Chaetomitrium taxithelioides* Broth. to be synonyms of *Glossadelphus laevifolius* (Mitt.) Bartr. To the contrary Buck (1987) classified *Ectropothecium laevifolium* Mitt. (basionym of *G. laevifolius*) in the genus *Taxiphyllum*, while putting *Taxithelium lingulatum* Cardot into *Phyllocladon*, that is dividing them into two genera.

***Phyllocladon perplanicaulis* (Broth.) Kis comb. nov. (Fig. 3a-f).**

**Basionym:** *Taxithelium perplanicaule* Broth., *Bot. Jahrb.* 24: 266, 1897. *Hypnum perplanicaule* Müll. Hal. *nom. nud.* in Par., *Ind. Bryol.* 667. 1897. **TYPE:** Camerun, N'Dian, 27 m altitude, 1892, *Dusén, no. 704*. (**Lectotype\*** of *Taxithelium perplanicaule* Broth., H-BR 1811021, Isotype: H-BR 1811024).

= *Glossadelphus eckendorffii* P. de la Varde, *Rev. Bryol. Lichénol.* 5: 205. 1932., **syn. nov. TYPE:** Gabon, Ofoué, Oct. 1931. *Eckendorff* (Holotype: PC).

\* In the Brotherus Herbarium there are two specimens of the same plant. One is bearing a printed label as *Hypnum (Ligulina) perplanicaule* C.M., No. 704 of the exsiccata "Musci Africani in Camerunia a P. Dusén collecti" H-BR 1811021, and one other with Brotherus' handwriting: *Ligulina perplanicaulis n.sp.* ex Hb. C. Müller, H-BR 1811024, obviously taken out from the same. The above two names were never published, but Brotherus described *Taxithelium perplanicaulis* Broth. based on these specimens. I designated the latter as Lectotype.

! RÉUNION: E edge of Cirque de Mafate, between 1350-1550 m altitude, on decaying wood (*Kis 9427/EB, EGR*).

**Distribution:** Cameroon and Central African Republic, new to Réunion.

The type of *Glossadelphus eckendorffii* P. de la Varde collected from Gabon in my opinion matches to the type specimens of *G. perplanicaulis*. Both taxa were considered by P. de la Varde himself (1932) as regional races ("je ne suis cependant pas convaincu que la plante de l'Ofooué ne doive, en jour, être considérée comme une race régionale de *G. perplanicaulis*").

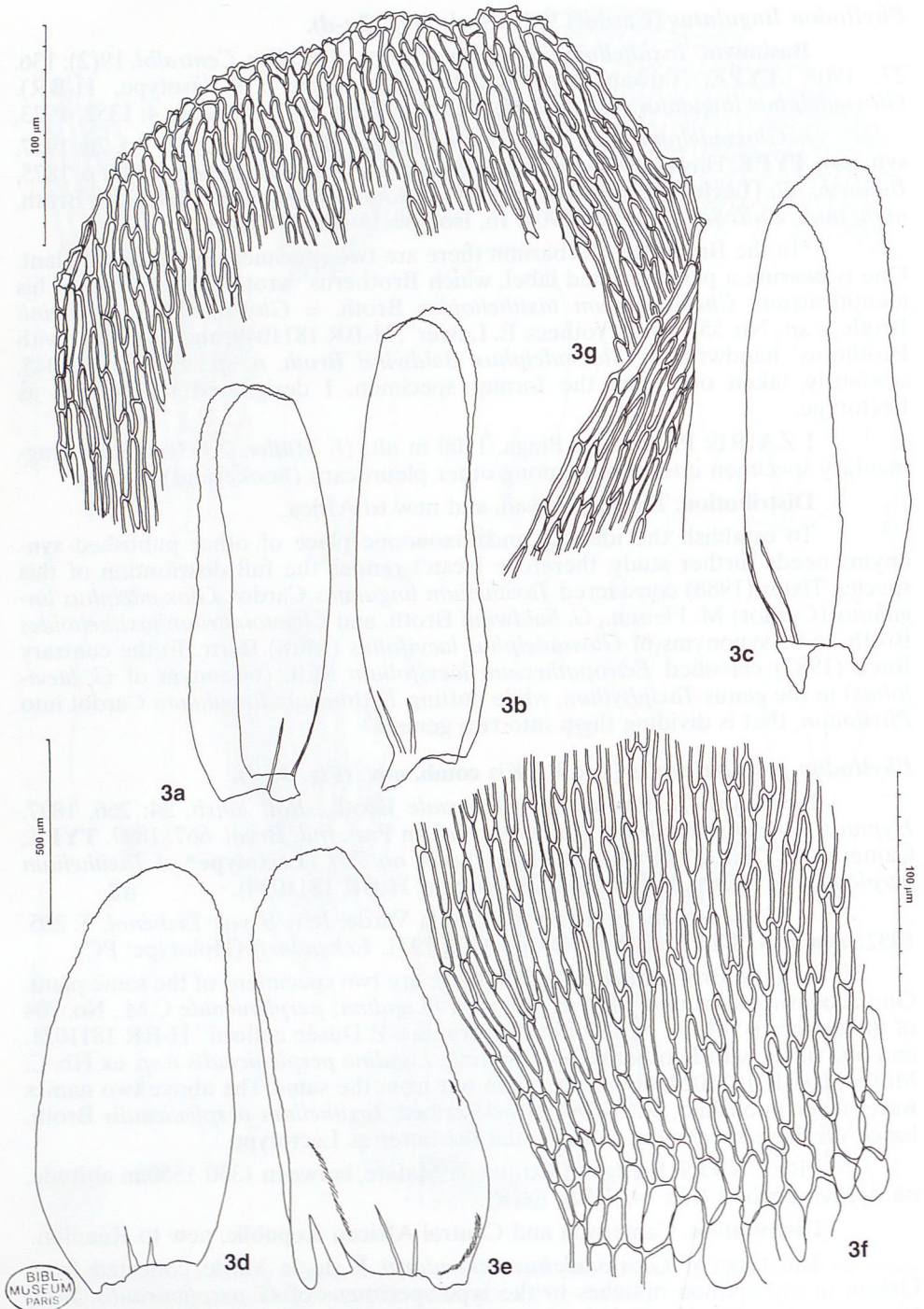


Fig. 3. *Phyllodon perplanicaulis* (Broth.) Kis. **3a-e**: Leaves. **3e**: leaf cells at the upper part of the leaf. **3g**: Alar cells of the leaf. From *Dusén 704*. (**3b-f**: Lectotype, H-BR 1811021. **3a** and **g**: Isotype: H-BR 1811024).



***Ph. truncatulus*** (Müll. Hal.) W.R. Buck (**Fig. 4a-g**).

= *Taxithelium latitruncatum* Cardot in Grandid., *Hist. Phys. Madagascar* 39: 478, 1915. **syn. nov.** **TYPE:** Madagascar, Zone du plateau central: pays Betsileo, R. P. Villaume: herb. Ch. Meylan. (Isotype: PC-Cardot).

= *Sigmatella natans* Müll. Hal., *Hedwigia* 40: 70, 1901. **syn. nov.** *Glossadelphus natans* (Müll. Hal.) M. Fleisch., *Musci Fl. Buitenzorg* 4: 1352, 1923, **syn. nov.** **TYPE:** Brasilia, Rio de Janeiro, Morro da Cintra, 1887, *E. Ule*, no. 161. (Isotype: H, no. R 6909).

! RÉUNION: Takamaka gorge, at 520-800 m altitude, on soil (*Kis 9436/EH, EGR*). ! MADAGASCAR: Ranomafana National Park, at 1015 m altitude, on rocks, on soil covered rocks and on bark (*Kis 9466/EC, 9466/EN, Orbán 9466/EI, 9466/EE, EGR*); Mantadi Forest Reserve NE of Andasibe (Perinet); at 1030 m altitude, on decaying thin branches and wood, on bark, and on thin branches (*Kis 9485/EA, 9485/EG, 9485/ED, EGR*); Andringitra Mts. Nature Reserve, at 1270-1450 m altitude, on rocks and on decaying wood (*Pócs 9474/FN, Kis 9474/EL*).

**Distribution:** Costa Rica, Panama, Colombia, Ecuador, Peru, Brazil, French Guiana, Jamaica, Hispaniola (Haiti and Dominican Republic), Puerto Rico, St. Vincent (Buck, 1998). New to Réunion and Madagascar.

On the basis of types and Ugandan specimens, O'Shea (1999b) clarified the discrepancies among African specimens of *Ph. truncatulus* and *Ph. truncatus*. He confirmed that the two taxa are really different, and his article suggests that all continental African specimens published under both names belong to the *P. truncatus*.

The recent *Ph. truncatulus* records represent the rediscovery of the species from Madagascar since it was previously cited only from the central plateau near Betsileo (Renauld & Cardot, 1915), as *Taxithelium latitruncatum*. Damanhuri & Longton (1996) are to be mentioned, who during a revision of the moss genus *Taxithelium* excluded *T. latitruncatum* from that genus and anticipated its transfer to *Glossadelphus*, furthermore they supplemented Cardot's protologue with drawings, which were made from isotype, so they called my attention to this species.

Together with the new record from Réunion – another Indian Ocean island – it contributes data to the special type of Afro-American disjunction, when taxa do not occur on the African mainland (Pócs, 1999).

***Ph. truncatus*** (Welw. et Duby) W.R. Buck (**Fig. 5a-f**).

! MADAGASCAR: Masoala Peninsula, east of Ambanizana village, between 250-450 m altitude, on wet rocks (*Kis 9447/EB, 9447/FG, 9447/N; 9447/FM, EGR*).

**Distribution:** continental Africa and Bioko (Fernando Po), new to Madagascar.

**SYMPHYODON** (Symphyodontaceae, Leucodontales)***S. pygmaeus*** (Broth.) He & Snider (**Fig. 6a-f**).

= *Homalia pygmaea* Broth., *Nat. Pflanzenfam.* 1(3): 849. 1906.

= *Homalia ankaratrensis* Kiaer, *J. Bot.* 26:266. 1888. *nom. nud.*

= *Glossadelphus abortivapicus* Hoe, *The Bryologist* 76: 310. 1973.

= *Neckera pygmaea* Renauld & Cardot, *Bull. Soc. Roy. Bot. Belgique* 32(2): 24. 1893. *hom. illeg.*

= *Symphiodon sutepensis* P. Tixier, *Rev. Bryol. Lichénol.* 38: 154. f. 5. 1972.

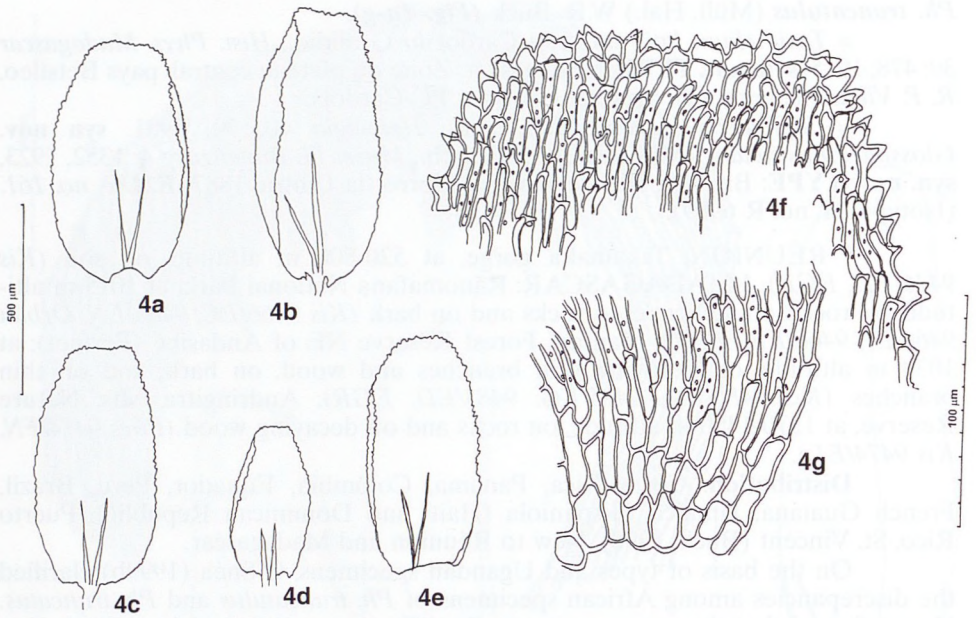


Fig. 4. *Phyllodon truncatulus* (Müll. Hal.) W. R. Buck. **4a-e**: Leaves. **4f**: Leaf cells at the upper part of leaf. **4g**: Alar cells of the leaf. From Kis 9474/EL (EGR).

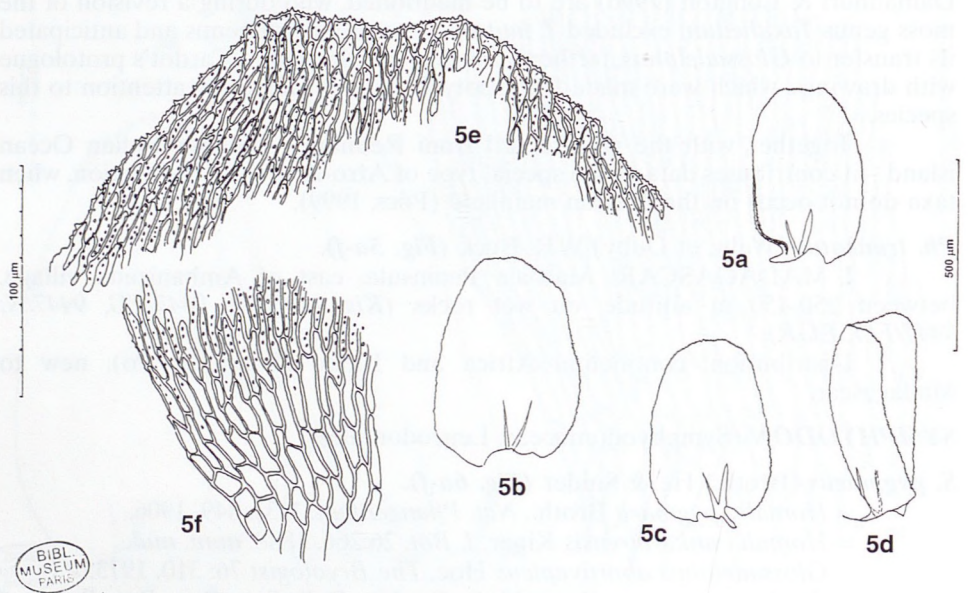


Fig. 5. *Phyllodon truncatus* (Welw. & Duby) W. R. Buck **5a-d**: Leaves. **5e**: Leaf cells at the upper part of leaf. **5f**: Alar cells of the leaf. From Kis 9447/EB (EGR).

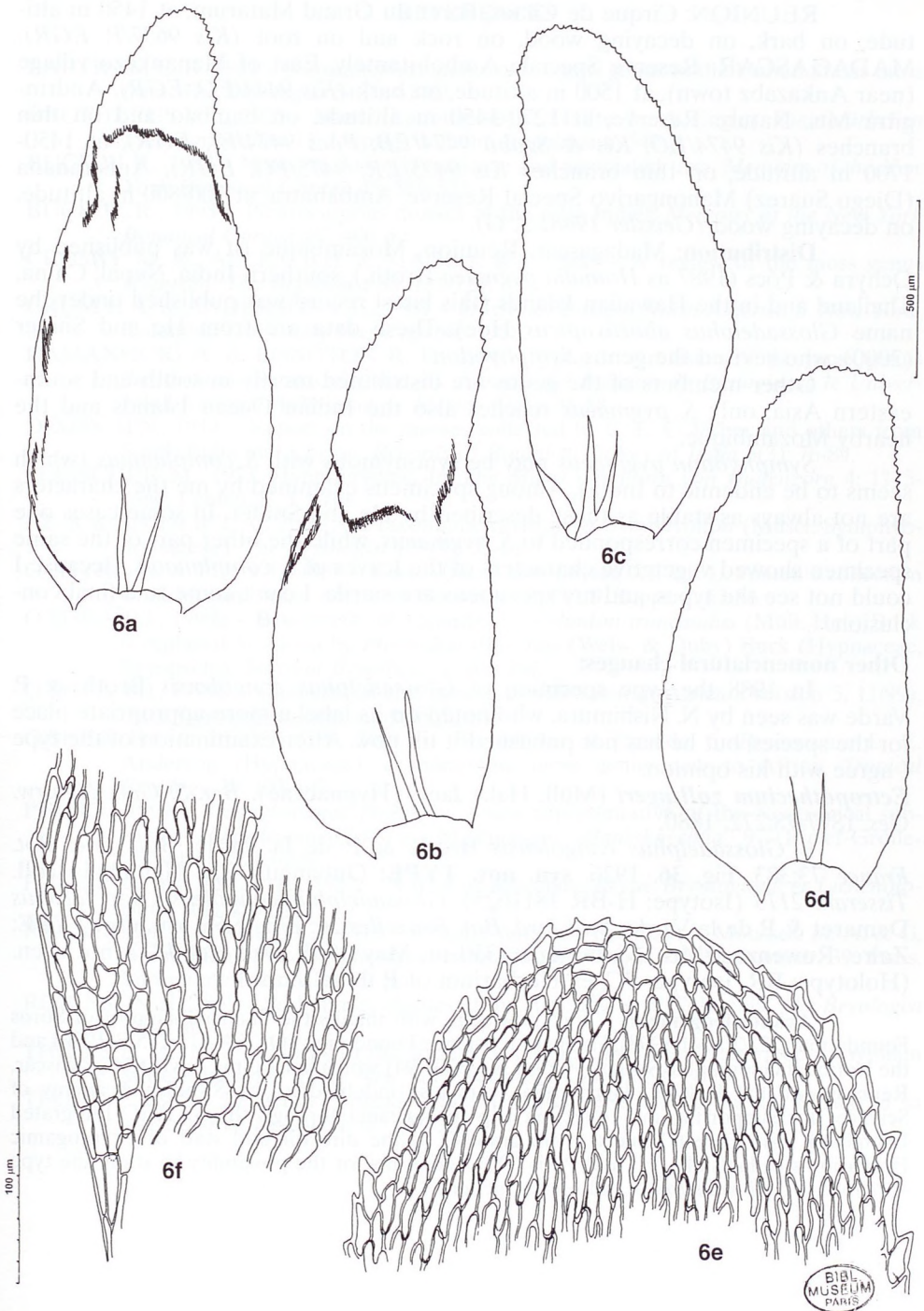


Fig. 6. *Symphyodon pygmaeus* (Broth.) He & Snider. **6a-d**: Leaves. **6e**: Leaf cells at the upper part of the leaf. **6f**: Alar cells of the leaf. From *Kis & Szabó 9474/EB (EGR)*.

RÉUNION: Cirque de Cilaos, Foret du Grand Matarum, at 1450 m altitude, on bark, on decaying wood, on rock and on root (*Kis 9637/P, EGR*). MADAGASCAR: Reserve Speciale Ambohitantely, East of Manankazo village (near Ankazabz town), at 1500 m altitude, on bark (*Kis 9444/EO, EGR*); Andringitra Mts. Nature Reserve, at 1270-1450 m altitude, on bambao and on thin branches (*Kis 9474/EO; Kis & Szabó 9474/EB; Pócs 9474/EI, EGR*); at 1450-1700 m altitude, on thin branches *Kis 9475/ER; 9475/FG, EGR*); Antsiranana (Diego Suarez) Manongarivo Special Reserve, Ambahatra, at 700-800 m altitude, on decaying wood (*Geissler 19481/3, G*).

**Distribution:** Madagascar, Réunion, Mozambique (it was published by Ochyra & Pócs (1987 as *Homalia pygmaea* Broth.), southern India, Nepal, China, Thailand and in the Hawaiian Islands (this latest record was published under the name *Glossadelphus abortivapicus* Hoe). These data are from He and Snider (2000), who revised the genus *Symphyodon*.

Other members of the genus are distributed mostly in south and south-eastern Asia, only *S. pygmaeus* reaches also the Indian Ocean Islands and the nearby Mozambique.

*Symphyodon pygmaeus* may be synonymous with *S. complanatus* (which seems to be endemic to India). Among specimens examined by me the characters are not always as stable as those described by He and Snider. In some cases one part of a specimen corresponded to *S. pygmaeus*, while the other part of the same specimen showed vegetative characters of the leaves of *S. complanatus*. Because I could not see the types, and my specimens are sterile, I can't come to a final conclusion.

#### Other nomenclatural changes:

In 1988 the type specimen of *Glossadelphus congolensis* Broth. & P. Varde was seen by N. Nishimura, who noted on its label a more appropriate place for the species, but he has not published it till now. After examination of the type I agree with his opinion.

***Ectropothecium zollingeri*** (Müll. Hal.) Jaeg. (Hypnaceae). *Ber. S. Gall. Naturw. Ges.* 1877-78:272, 1880.

= *Glossadelphus congolensis* Broth. & P. de la Varde, *Bull. Soc. Bot. France* 73:383. Fig. 36. 1926. **syn. nov. TYPE:** Oubangui, Riv. Ngumbala coll. Tisserant 2113 (Isotype: H-BR 1811025). *Glossadelphus congolensis* var. *falcatus* Demaret & P. de la Varde, *Bull. Jard. Bot. Bruxelles* 26: 275. 1956. **syn. nov. TYPE:** Zaire, Ruwenzori Mts., Mutwanga, 1350 m, May 1953, *Demaret 4827*, not seen. (Holotype: BR, Isotype: PC, ex Herbarium of P. de la Varde)

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