



The Genus *Brackenridgea* A. Gray (Ochnaceae) in Madagascar

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5. CALLMANDER, Martin W., Sven BUECKI & Peter B. PHILLIPSON: The genus *Brackenridgea* A. Gray (Ochnaceae) in Madagascar

Introduction

The genus *Pleuroridgea* Tiegh. is the result of revision of generic concepts in the *Ochnaceae*, in which he split the family into 53 genera, of which 46 were described as new (VAN TIEGHEM, 1902). Among these, *Pleuroridgea* was defined by the orientation of the cotyledons that are laterally-disposed and by the non-laciniate stipules (VAN TIEGHEM, 1902). Delimited in this way, the genus originally comprised 5 species from Central and East Africa, while *Brackenridgea* A. Gray was restricted to nine species from south-east Asia and the south Pacific islands.

Despite the fact that PERRIER DE LA BÂTHIE (1941) stated *Pleuroridgea* to be morphologically very similar to the genus *Brackenridgea* A. Gray, he maintained the genus adding two new Malagasy species: *Pleuroridgea madecassa* H. Perrier and *P. tetramera* H. Perrier.

However, the differences between the African and the Asian species have not been considered sufficient to merit separation at the generic level, and the genus *Pleuroridgea* has not generally been accepted (for example, GILG, 1925). The five species placed there by van Tieghem are now consistently referred to *Brackenridgea* by authors working on African floras (four are treated as synonyms of a broadly circumscribed *B. zanguebarica* Oliv.). ROBSON (1962) summarized the distinguishing characters of the three genera of *Ochnaceae* present in the “Flora Zambesiaca” region (*Brackenridgea*, *Ochna* L. and *Ouratea* Aubl.) noting that *Brackenridgea* was distinguished by: “a lobed ovary with gynobasic style and a fruit with several separate 1-seeded drupelets borne on the more or less enlarged receptacle”. Robson’s point of view has been followed in other floras for Africa (DUTOIT & OBERMEYER, 1976; VERDCOURT, 2005). Furthermore DUTOIT &

OBERMEYER (1976) specifically included the Malagasy species in their count of four species present in “tropical and subtropical Africa and Madagascar”, without mentioning any details or providing the needed new combinations. We confirm that the Malagasy species are comfortably encompassed by the current circumscription of *Brackenridgea*, concurring with SCHATZ (2001) who included *Brackenridgea* in his generic key to *Ochnaceae* in Madagascar.

This note serves to (1) formally transfer the two Malagasy endemic *Pleuroridgea* species to *Brackenridgea*; (2) lectotypify the two species that were validly described by PERRIER DE LA BÂTHIE (1941) with multiple syntypes. It has been prepared within the context of Missouri Botanical Garden’s “Catalogue of Vascular Plants of Madagascar project”, which aims to disseminate up-to-date information on-line (www.efloras.org/madagascar) and in printed media.

Taxonomy and nomenclature of the Malagasy species of *Brackenridgea*

The genus *Brackenridgea* comprises ca. 12 species distributed from Africa to the Fiji Island (SCHATZ, 2001). Two species are endemic to Africa: *B. arenaria* (De Wild. & T. Durand) N. Robson (Central Africa) and *B. zanzibarica* (East Africa). A third species from Tanzania (Mafia Island) probably merits description (VERDCOURT, 2005). The remaining species occur in South-East Asia (Andaman Island, Malaysia, Philippines to New Guinea) to Southern Pacific (Fiji) and Australia (Queensland) (KANIS, 1968). We have reviewed the available material referred to *Pleuroridgea* by PERRIER DE LA BÂTHIE (1941) and specimens which have been collected subsequently to evaluate species level taxonomy. This review confirms the presence in Madagascar of two endemic species:

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***Brackenridgea madecassa* (H. Perrier) Callm., comb. nova**

≡ *Pleuroridgea madecassa* H. Perrier in Notul. Syst. (Paris) 10: 37. 1941.

Lectotypus (designated here): **MADAGASCAR. Prov. Antsiranana:** Mt Ambohipiraka, [13°10'30"S 46°06'00"E], 10.1932, fl. *Perrier de la Bâthie 18759* (lecto-: P [P00048463]!; iso-: P [P00048464, P00048465]!).

Conservation status. – With an EOO of 162 244 km², an AOO of 36 km² and 11 subpopulations, even though none are situated within the protected area network, *B. madecassa* is assigned a preliminary status of “Least Concern” (LC) following the IUCN Red List Categories and Criteria (IUCN, 2010) (calculation following CALLMANDER & al., 2007).

Observations. – *Brackenridgea madecassa* can be recognised by its pentamerous flowers; short (2 mm) style; 5-10 carpels and 13-20 stamens (PERRIER DE LA BÂTHIE, 1941). *Brackenridgea madecassa* is widespread in Madagascar growing in dry to humid forests.

***Brackenridgea tetramera* (H. Perrier) Callm., comb. nova**

≡ *Pleuroridgea tetramera* H. Perrier in Notul. Syst. (Paris) 10: 38. 1941.

Lectotypus (designated here): **MADAGASCAR. Prov. Toliara:** Vallée moyenne du Mandrare, près d’Anadabolava, Mt Vohitrotsy, 700-800 m., [24°12'40"S 49°19'00"E], 12.1933, fl., *Humbert 12687* (lecto-: P [P000484668]!; isolecto-: G [G00006139]!, P [P000484666, P000484667]!).

Conservation status. – With only two collections known, both collected by Henri Humbert near Anadabolava in the Mandrare valley dating back to December 1933, an EOO of 9 km², one subpopulation not in the protected area network, *B. tetramera* is assigned a preliminary status of “Critically Endangered” (CR A3c; B2ab[iii]) following the IUCN Red List Categories and Criteria (IUCN, 2001) (calculation following CALLMANDER & al., 2007).

Observations. – *Brackenridgea tetramera* can be recognised by its tetramerous flowers; long (8 mm) style; 3-4 carpels and 8-10 stamens (PERRIER DE LA BÂTHIE, 1941). The species grows in southwestern Madagascar in the sub-arid bush.

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References

- CALLMANDER, M. W., G. E. SCHATZ, P. P. LOWRY II, M. O. LAIVAO, J. RAHARIMAMPIONONA, S. ANDRIAMBOLOLONERA, T. RAMINOSOA & T. CONSIGLIO (2007). Application of IUCN Red List criteria and assessment of Priority Areas for Plant Conservation in Madagascar: rare and threatened Pandanaceae indicate new sites in need of protection. *Oryx* 41: 168-176.
- DU TOIT, P. C. V. & A. A. OBERMEYER (1976). Ochnaceae. In: ROSS, J. H. (ed.), *Fl. S. Africa* 22. Botanical Research Institute, Department of Agricultural Technical Services, Pretoria.
- GILG, E. (1925). Ochnaceae. In: Engler, A (ed.), *Nat. Pflanzenfam.*, éd. 2, 21: 53-87.
- IUCN (2001). *IUCN Red List Categories and Criteria: version 3.1*. IUCN Species Survival Commission. IUCN, Gland and Cambridge.
- KANIS, A. (1968). A revision of the Ochnaceae of Indo-Pacific area. *Blumea* 16: 1-82.
- PERRIER DE LA BÂTHIE, H. (1941). Révision des Ochnacées de la région malgache. *Notul. Syst. (Paris)* 10: 333-369.
- ROBSON, N. (1962). New and little known species from the Flora Zambesiaca area. *Bol. Soc. Brot.* ser. 2, 36: 1-39.
- SCHATZ, G. E. (2001). *Generic Tree Flora of Madagascar*. Royal Botanic Gardens, Kew & Missouri Botanical Garden, Saint-Louis.
- VAN TIEGHEM, P. (1902). Sur les Ochnaceae. *Ann. Sci. Nat. Bot.* ser. 8, 16: 161-416.
- VERDCOURT, B. (2005). Ochnaceae. In: BEENTJE, H. J & S. A. GHAZANFAR (ed.), *Fl. Trop. E. Africa*. Royal Botanic Gardens, Kew.