Three New Grass Records for Madagascar

Authors: Vorontsova, Maria S., Nanjarisoa, Olinirina Prisca, and Besnard, Guillaume

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Three new grass records for Madagascar

Maria S. Vorontsova, Olinirina Prisca Nanjarisoa & Guillaume Besnard

Abstract

VORONTSOVA, M. S., O. P. NANJARISOA & G. BESNARD (2014). Three new grass records for Madagascar. *Candollea* 69: 85-87. In English, English and French abstracts.

Madagascar's fragile ecosystems are vulnerable to invasive plants but accounting for these in a poorly known and under-collected group is challenging due to an insufficient knowledge base. We record three species of grasses *(Poaceae)* new to Madagascar. *Ehrharta stipoides* Labill. is a potentially dangerous introduction due to its invasiveness in frequently burned ecosystems. *Enteropogon prieurii* (Kunth) Clayton is not recorded as invasive but is frequently misidentified due to its similarity to *Chloris virgata* Sw. The new record of *Vulpia myuros* (L.) C. C. Gmel. is from a collection made 50 years ago.

Key-words

POACEAE – Ehrharta – Enteropogon – Microlaena – Vulpia – invasive plants – new records

Résumé

VORONTSOVA, M. S., O. P. NANJARISOA & G. BESNARD (2014). Trois espèces de graminées nouvelles pour Madagascar. *Candollea* 69: 85-87. En Anglais, résumés anglais et français.

Les écosystèmes fragiles de Madagascar sont vulnérables aux plantes envahissantes. Dans un groupe mal connu et peu récolté, les connaissances de base sont souvent insuffisantes pour rassembler des informations sur ces envahissantes. Dans ce travail, nous signalons trois espèces de graminées *(Poaceae)* nouvelles pour Madagascar. La présence de *Ehrharta stipoides* Labill. témoigne d'une introduction potentiellement dangereuse en raison de son caractère envahissant dans les écosystèmes souvent brûlés. *Enteropogon prieurii* (Kunth) Clayton n'est pas signalée comme aussi envahissante mais est souvent confondue en raison de sa ressemblance avec *Chloris virgata* Sw. La découverte de la présence de *Vulpia myuros* (L.) C. C. Gmel. est basée sur une récolte faite il y a 50 ans.

Addresses of the authors: MSV: Royal Botanic Gardens, Kew, Richmond, Surrey, TW9 3AB, United Kingdom. E-mail: **m.vorontsova@kew.org**

OPN: Kew Madagascar Conservation Centre, II J 131 B, Ambodivoanjo Ivandry, Antananarivo 101, Madagascar.

GB: Université de Toulouse, ENFA, UMR5174 EDB (Laboratoire Evolution & Diversité Biologique), route de Narbonne 118, 31062 Toulouse, France and CNRS, Université Paul Sabatier, UMR5174 EDB, 31062 Toulouse, France.

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The arrival of alien species is challenging to monitor even in countries with a well-known biota and with well-established recording programs (e.g. Luque & al., 2013; NNSS, 2014). In highly diverse tropical areas such as Madagascar, the native species are not fully catalogued and the only records of plant occurrence are herbarium collections, which are frequently incorrectly identified and held in disparate collections across the world. The grasses *(Poaceae)* are often not collected systematically even during "full" botanical inventories in Madagascar. A reliable checklist for the grasses of Madagascar does not exist, and taxonomic research is ongoing. Nevertheless, Bosser's (1969) study of the Central Highland pasture grasses documented 291 species, an unpublished list of Madagascar's grasses compiled by Emmet J. Judziewicz in 2006 listed 577 species, and the Madagascar Catalogue (2014) currently records 591 species. The lack of a globally accepted synonymy across the *Poaceae* (Vorontsova & Simon, 2012) adds to the difficulties in specimen identification and name usage.

The work presented in this note is a small part of an ongoing project to document all Poaceae in Madagascar and to understand their evolutionary history and relationship to the Malagasy landscape (Besnard & al., 2013; Vorontsova & al., 2013). Collecting expeditions and herbarium work are building up our knowledge of Malagasy grass species. Here we record three species of Poaceae from Madagascar, with no previous known records in herbaria or literature, which have apparently been introduced and become naturalized. The herbarium collections of K, P, and TAN have been consulted as well as the available literature, the Madagascar Catalogue (2014) and the WCSP (2014).

The Comoros, the Seychelles, and the Mascarene archipelago have distinct grass floras with lower species diversity but a higher collection density than Madagascar. Current work towards the "Flore des Mascareignes" (Renvoize & Bosser, in prep.) has contributed considerably to this project. Many of the new arrivals in Madagascar are likely to have been introduced via these islands.

We hope this work will encourage further collections and records of Madagascar's grasses.

Ehrharta stipoides Labill., Nov. Holl. Pl. 1: 91. 1805.

≡ *Microlaena stipoides* (Labill.) R. Br., Prodr.: 210. 1810.

Typus: Australia. Tasmania: Capite van-Dieman, *Labillardière s.n.* (holo-: FI).

Observations. – An Australian and South East Asian species, *Ehrharta stipoides* Labill. (also referred to as *Microlaena stipoides* (Labill.) R. Br. or meadow rice grass, now included in the genus *Ehrharta* Thunb. following Verboom & al. 2003) is recorded as naturalised in Kwa-Zulu Natal, Sri Lanka, and Easter Island (WCSP, 2014), and in both Hawaii and Réunion, where it has become invasive (Pacific Island Ecosystems at Risk, 2014). It invades disturbed sites rapidly as the awned florets are dispersed on clothing or animal fur and is reported to increase with fire (Hawaiian Alien Plant Studies, 2014). With its distinctive long awns this species is rarely misidentified and is more likely to attract the attention of collectors than other *Poaceae*. The lack of other collections and other sightings suggests this could be a recent arrival brought in by visitors to the Andringitra National Park. No other species of *Ehrharta* have been recorded in Madagascar in spite of the common occurrence of *E. erecta* Lam. in South Africa and Réunion.

Specimen examined. – **Madagascar. Prov. Fianarantsoa:** Parc National Andringitra, Riampotsy, at camp 3, single plant sheltered under the picnic table, 22°10'49"S 46°54'12"E, 2064 m, 28.X.2013, *Nanjarisoa, Vorontsova, Rakotonasolo & Joseph 90* (K!, P!, TAN!).

Enteropogon prieurii (Kunth) Clayton in Kew Bull. 37: 419. 1982.

≡ *Chloris prieurii* Kunth, Révis. Gramin. 2: 441. 1831.

Typus: Senegal: Fort St Louis, *Leprieur s.n.* (holo-: P; iso-: K [K000365082]!).

Observations. – An African and Asian species, *Enteropogon prieurii* (Kunth) Clayton is naturalised in the U.S.A, with records from the states of Alabama and North Carolina (WCSP, 2014). No invasive characteristics are reported from this area, but herbarium records suggest that its distribution range is increasing in coastal areas around the Indian Ocean. *Enteropogon prieurii* is likely to be under-recorded due to its striking similarity to the common *Chloris virgata* Sw. - both species possessing a pale fluffy inflorescence developing black dispersal units consisting of a floret with a caryopsis together with the reduced awned florets. *Enteropogon prieurii* can however be distinguished from *Chloris virgata* by its dorsally compressed (rather than laterally compressed) lower lemma and caryopsis. Recent data suggests that *Enteropogon prieurii* may in fact be better placed in the genus *Chloris* Sw. (Grass Phylogeny Working Group II, 2012).

Specimen examined. – **Madagascar. Prov. Majunga:** road from NE of Majunga town to the seafront, open sandy secondary vegetation and shade below shrubs, 15°43'S 46°19'E, 5 m, 17.II.2013, *Vorontsova, Besnard, Ralimanana & Razanatsoa 964* (K!, MO!, P!, TAN!).

Vulpia myuros (L.) C. C. Gmel., Fl. Bad. 1: 8. 1805.

≡ *Festuca myuros* L., Sp. Pl.: 74 1753.

Lectotypus (designated by STACE & JARVIS, 1985): **COUNTRY UNKNOWN:** Habitat in Anglia, Italia. *Herb. A. van Royen No. 912.356-218* (L).

Observations. – *Vulpia myuros* (L.) C. C. Gmel., the rat's tail fescue, is almost certainly a European native now naturalised worldwide and invasive particularly in Mediterranean ecosystems, especially in the U. S. A. (California and Oregon) and in Australia (HOWARD, 2006). The Paris herbarium (P) holds a single collection of *V. myuros* and numerous accessions of *V. bromoides* (L.) Gray from Réunion. No collections of *Vulpia* C. C. Gmel. have previously been recorded from Madagascar. The lack of collections for the last 50 years may indicate lack of spread although the low collection rates for Poaceae in general make this doubtful. The specimen was originally recorded as *Aristida* sp.

Specimen examined. – **MADAGASCAR. Prov. Antananarivo:** route d'Antsirabe, VII.1964, *Morat 1119* (P [P02616909]!).

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