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First record and distribution of *Heliotropium curassavicum* L. (Boraginaceae) in the Mascarene Islands

KERSLEY PYNEE* AND DAVID H. LORENCE**

*The Mauritius Herbarium, Agricultural Services, Ministry of Agro-Industry and Food Security, Réduit, Mauritius. [kpynee@mail.gov.mu]

**National Tropical Botanical Garden, 3530 Papalina Road, Kalaheo, HI 96741, USA. [lorence@ntbg.org]

Abstract: *Heliotropium curassavicum* L. is documented for the first time as a naturalized species on Mauritius, Mascarene Islands.

Heliotropium L. (Boraginaceae) consists of 280 to 350 species of herbs, shrub, lianas and small trees from the temperate and warm regions of the world, mostly in arid zones (Feuillet & Bosser 2005; Mabberley 2008). Only three species, namely *H. arborescens* L., *H. indicum* L., and *H. amplexicaule* Vahl were previously recorded in the Mascarene Islands of Mauritius, Réunion, and Rodrigues (Feuillet & Bosser 2005).

In Réunion, *H. arborescens*, an introduced species originally from Peru, is cultivated in gardens as ornamental and was at times used to prepare perfume. *Heliotropium indicum,* a Brazilian species, is present in all three islands where it is considered as invasive alien and is mostly found in the lowlands, in crop vegetation, or abandoned lands. *Heliotropium amplexicaule*, another South American species, is absent in Rodrigues but is considered as an alien weed in sugarcane plantations in both Mauritius and Réunion. We here document the first occurrence of *Heliotropium curassavicum* L. as a naturalized species on Mauritius. In the Mascarenes this introduced coastal exotic species has been documented only from Mauritius and appears to be absent from both Réunion and Rodrigues.

Heliotropium curassavicum is a perennial herb with a native range from the southern United States through the Caribbean islands to South America, various Pacific islands including Hawaii, and westward to Australia where it is considered to be indigenous (Craven 1996; Wagner *et al.* 1999). It is also introduced and naturalized in S. Europe and in some tropical and subtropical regions of the Old World including parts of Africa (Martins 1990; Satyavani *et al*. 2013). It is a halophyte mostly found growing in coastal saline or alkaline soils (McAuley 2007). *Heliotropium curassavicum* has been traditionally used to treat wounds and diseases like rheumatism (Kirtikar & Basu 1998), and it has been also tested against cancer and diabetes (Sharma *et al*. 2009).

Heliotropium curassavicum was collected by the first author in 2005 near the Port-Louis harbor (K. Pynee s.n. in MAU 0012274). On 18th of January 2005, at Mer Rouge, next to the Free Port of Mauritius (Baie du Tombeau side, 20º08'14''S,

57º29’54’’E; 1 m altitude) his attention was drawn to an unusual species of Boraginaceae, growing in association with native species including *Sesuvium ayresii* Marais (Aizoaceae), *Sporobolus virginicus* (L.) Kunth (Poaceae), and *Zoysia matrella* (L.) Merr. (Poaceae), and also, exotics such as *Commelina benghalensis* L.(Commelinaceae) and *Tribulus cistoides* L. (Zygophyllaceae).

At first sight, the small prostrate plant with glaucous fleshy leaves and tiny white flowers had the general appearance and physionomy of *S. ayresii* (Aizoacaeae) which was recorded there before (K. Pynee s.n. in MAU 0012461). On closer inspection, the plant’s terminal spicate inflorescence with flowers grouped in small cymes confirmed that it belonged to the Boraginaceae family. Identification was undertaken at the Mauritius Herbarium (MAU), using the Flore des Mascareignes (Bosser and Feuillet 2005) and other literature available, and also comparing with all Boraginaceae herbarium samples. However, the specimen could not be assigned to any Boraginaceae known from the Mascarenes. During the visit of the second author to the herbarium in November 2008, however, the species was identified and determined as *Heliotropium curassavicum* L.

On 29 March 2012 a second population of *H. curassavicum* was discovered and a herbarium specimen collected (K. Pynee s.n. in MAU 0009289). The population consisted of 15 small clumps, growing on exposed sand dunes at Baie du Cap, at the entrance of Macondé Mining Company (20º29’13’’S, 57º21’47’’E, 9 m altitude). The

Fig. 1. *Heliotropium curassavicum* at Baie du Camp

low, prostrating and spreading plants with succulent leaves ranged from 10 to 15 cm in height. Green immature fruits together with small white bell-shaped flowers were present in double rows on curled inflorescences. Other species growing in association were *Dactyloctenium ctenoides* (Steud.) Bosser (Poaceae), *Phyla nodiflora* (L.) Greene (Verbenaceae), and *Cynodon dactylon* (L.) Pers. (Poaceae).

This species was likely introduced into Mauritius unintentionally via equipment or freight. Based on its halophytic characteristics and habitat preferences, this naturalized species may occur on other islets or outer islands, mainly on seaside or on sand dunes should be sought when surveying these areas.

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