



RESEARCH ARTICLE

Opuntia elata Link & Otto ex Salm-Dyck (Cactaceae): A new record for the flora of Zimbabwe

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Abstract

Opuntia elata Link & Otto ex Salm-Dyck is recorded as having become naturalised in Zimbabwe. Illustration, distribution map and description of the species are provided. A dichotomous key based on vegetative characters to distinguish among *O. elata*, *O. microdasys* (Lehm.) Pfeiff. and *O. ficus-indica* (L.) Mill., the 3 naturalised *Opuntia* species in Zimbabwe, is included to assist with the identification of the species.

Keywords

Cactaceae, *Opuntia elata*, *Opuntia ficus-indica*, *Opuntia microdasys*, naturalised, southern Africa, weeds, Zimbabwe

Introduction

In this study, occurrence of *Opuntia elata* Link & Otto ex Salm-Dyck, a plant species native to Argentina, Bolivia, Brazil, Paraguay and Uruguay (1) is recorded for the first time as naturalised in central and southern regions of Zimbabwe (Fig. 1; Fig. 2). *Opuntia elata* is widely grown as an ornamental and has escaped from cultivation in Australia, Italy, Portugal, South Africa and Spain (2–7). Zimbabwe contains various habitats that provide suitable growing conditions for succulent plants, such as *Opuntia* species. Research by Font (8) showed that the spread of *Opuntia* species through temperate and warm environments worldwide is due to their multiple reproductive strategies and high tolerance of dry environmental conditions. Hence, a detailed description of the species, coloured photograph, distribution map in Zimbabwe and a key based on vegetative characters to distinguish among *O. elata*, *O. microdasys* (Lehm.) Pfeiff. and *O. ficus-indica* (L.) Mill., the three naturalised *Opuntia* species in Zimbabwe to assist with the identification of the species are provided.

Materials and Methods

Field investigations were carried out in central and southern regions of Zimbabwe in January 2020 and September 2021. Comparative studies of herbarium material were undertaken at SRGH. In addition, digital images of specimens at K and US were also studied. During field work, voucher specimens were collected which were later deposited in the National Herbarium, Harare in Zimbabwe (SRGH) and University of Fort Hare, Alice in South Africa (UFH).

Results and Discussion

Key based on vegetative characters to distinguish *O. elata*, *O. microdasys* and *O. ficus-indica*

- 1a. Cladode surface smooth.....2
 1b. Cladode surface minutely velvety with clearly visible hairs.....*O. microdasys*
 2a. Shrubs, up to 1.0 m high, cladodes not glaucous*O. elata*
 2b. Shrubs or trees 1.8-3(-5) m high, cladodes glaucous*O. ficus-indica*

Opuntia elata

Link & Otto ex Salm-Dyck in Hort. Dyck. 361 (1834). (Fig. 1)

orange tepals, 6-7 cm in diameter when open. Stamens whitish. Stigma whitish. Style obclaviform, whitish. Fruits obovoid to oblong, ca 6 cm long, ca 4 cm in diameter, spineless, umbilicate, red or purple violet. Seed ca 6 mm long with glabrous arils or with short appressed hairs.

Habitat

Opuntia elata forms large clumps, often escaping from gardens or growing along roadsides and near rubbish dumps where plant parts have been disposed of. The species appears to have naturalised in localised areas.

Phenology

Fruits were observed in September.



Fig. 1. *Opuntia elata* photographed in Chachacha growth point, Shurugwi district, south-central Zimbabwe. Photograph: Alfred Maroyi.

Neotype

Uruguay, Salto, 7 March 1917, *Shafer 120* (US00197586, isoneotype K000100943, digital images!; designated by Leuenberger 2002: 423 [9]).

Erect shrubs 1-1.5 m high, branched; cladodes oblong-elliptic or narrowly obovate, sometimes subspathulate, up to 25 cm long and usually more than 2 cm thick, green, often with purple blotches, along the cladode margin and around areoles, particularly below them; areoles sparse, wool-white; glochidia virtually absent, not prominent. Spines very variable, 0-3, unequal, 2-3.5(-6) cm long, acicular to subulate, initially brown, becoming grey to whitish. Leaves, scales and sepaloid tepals crimson-red, caducous. Flowers ca 5 cm across with orange to yellow-

Distribution

Opuntia elata is hereby registered as naturalised along roadsides and in disturbed habitats close to habitation in central and southern Zimbabwe (Fig. 2).

Specimens examined

Zimbabwe: Shurugwi district, about 6 km from Chachacha Growth Point, towards Mhandamabwe Growth Point along Beitbridge main road, S19°40.4', E29°58.2', alt. 1374.3 m), 7 Sept. 2021, *A. Maroyi 1931* (SRGH, UFH); Chibi district, 5 km from Ngomahuru tollgate, in Chibi towards Ngundu Growth Point, along the Beitbridge road, S20°25.3' E30°43.1', alt. 997.8 m, 6 Jan. 2020, *A. Maroyi 1721* (SRGH, UFH).

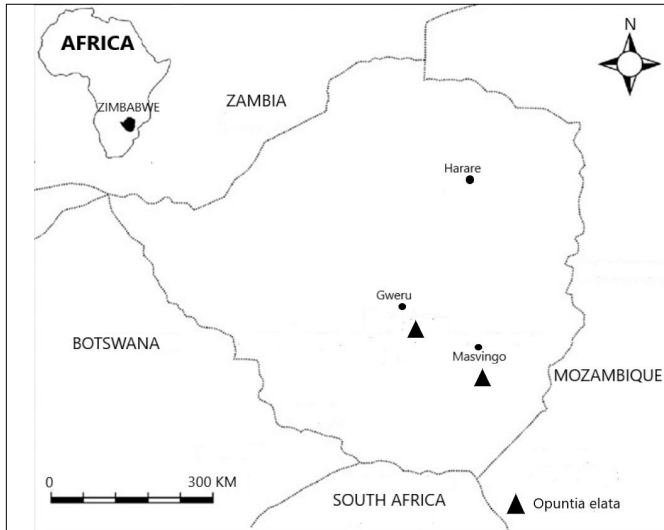


Fig. 2. Distribution of *Opuntia elata* in Zimbabwe.

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