PLANT SCIENCE TODAY
ISSN 2348-1900 (online)
Vol 9(sp1): 50–52
https://doi.org/10.14719/pst.1548

HORIZON
e-Publishing Group
HePG

RESEARCH ARTICLE

New record of *Opuntia microdasys* (Lehm.) Pfeiff. (Cactaceae) for the flora of Zimbabwe

Alfred Maroyi

Department of Botany, University of Fort Hare, Private Bag X1314, Alice 5700, South Africa

*Email: amaroyi@ufh.ac.za

OPEN ACCESS

ARTICLE HISTORY

Received: 17 October 2021
Accepted: 13 March 2022

Available online
Version 1.0 : 04 July 2022

Additional information

Peer review: Publisher thanks Sectional Editor and the other anonymous reviewers for their contribution to the peer review of this work.

Reprints & permissions information is available at https://horizonepublishing.com/journals/index.php/PST/open_access_policy

Publisher's Note: Horizon e-Publishing Group remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Indexing: Plant Science Today, published by Horizon e-Publishing Group, is covered by Scopus, Web of Science, BIOSIS Previews, Clarivate Analytics, NAAS etc.
See https://horizonepublishing.com/journals/index.php/PST/indexing_abstracting

CITE THIS ARTICLE

Maroyi A. New record of *Opuntia microdasys* (Lehm.) Pfeiff. (Cactaceae) for the flora of Zimbabwe. Plant Science Today. 2022; 9(sp1): 50–52. https://doi.org/10.14719/pst.1548

Abstract

Recent field work in Zimbabwe yielded new records of an alien species, *Opuntia microdasys* (Lehm.) Pfeiff. (Cactaceae) which is naturalized in central region of the country. This species is native to central, northern and southern America and is commonly used as an ornamental plant in Zimbabwe.

Keywords

Cactaceae, *Opuntia microdasys*, naturalized, southern Africa, weeds, Zimbabwe

Introduction

Opuntia microdasys (Lehm.) Pfeiff., a plant typically used as ornamental throughout the world, is recorded for the first time as naturalized species in Zimbabwe (Fig. 1, 2). Reference to literature reveals that this species has been introduced and naturalized in Australia, Botswana, Namibia and South Africa (1-8), Balearic Islands, Galapagos Islands, Malta and Venezuela (9), Canary Islands, France, Italy, Portugal, Spain (8, 10-13) and Kenya (14) and becoming increasingly problematic weed in almost all these areas (15).

In Zimbabwe, only 2 species of *Opuntia* Mill. have been recorded so far (16, 17), namely *Opuntia cochenillifera* (L.) Mill. and *O. ficus-indica* (L.) Mill. A detailed account of the species is presented here with photographs for easy identification. A detailed description of the species, coloured photographs and distribution map in Zimbabwe are also provided for its identification.

Materials and Methods

Field investigations were carried out in central Zimbabwe in December 2019 to January 2020 and September 2021. Comparative studies of herbarium material were undertaken at the National Herbarium of Zimbabwe (SRGH), Harare, Zimbabwe. Voucher specimens were deposited at SRGH and UFH.

Taxonomic treatment

Opuntia microdasys (Lehm.) Pfeiff. in Enum. Diagn. Cact.: 154 (1837) (Fig. 1a, b).

- *Cactus microdasys* Lehm. in Index Sem. (Hamburg): 16 (1827).

Type

Not designated.

=*Opuntia macrocalyx* Griffiths in Rep. (Annual) Missouri Bot. Gard. 19: 268, pl. 28 (1908).

Fig. 1. *Opuntia microdasys* photographed in Danga village, near Mabasa Growth Point, Zvishavane, south-central Zimbabwe. **A**: plant habit with a flower and **B**: plant habit showing the habitat of the species. Photograph: Alfred Maroyi.

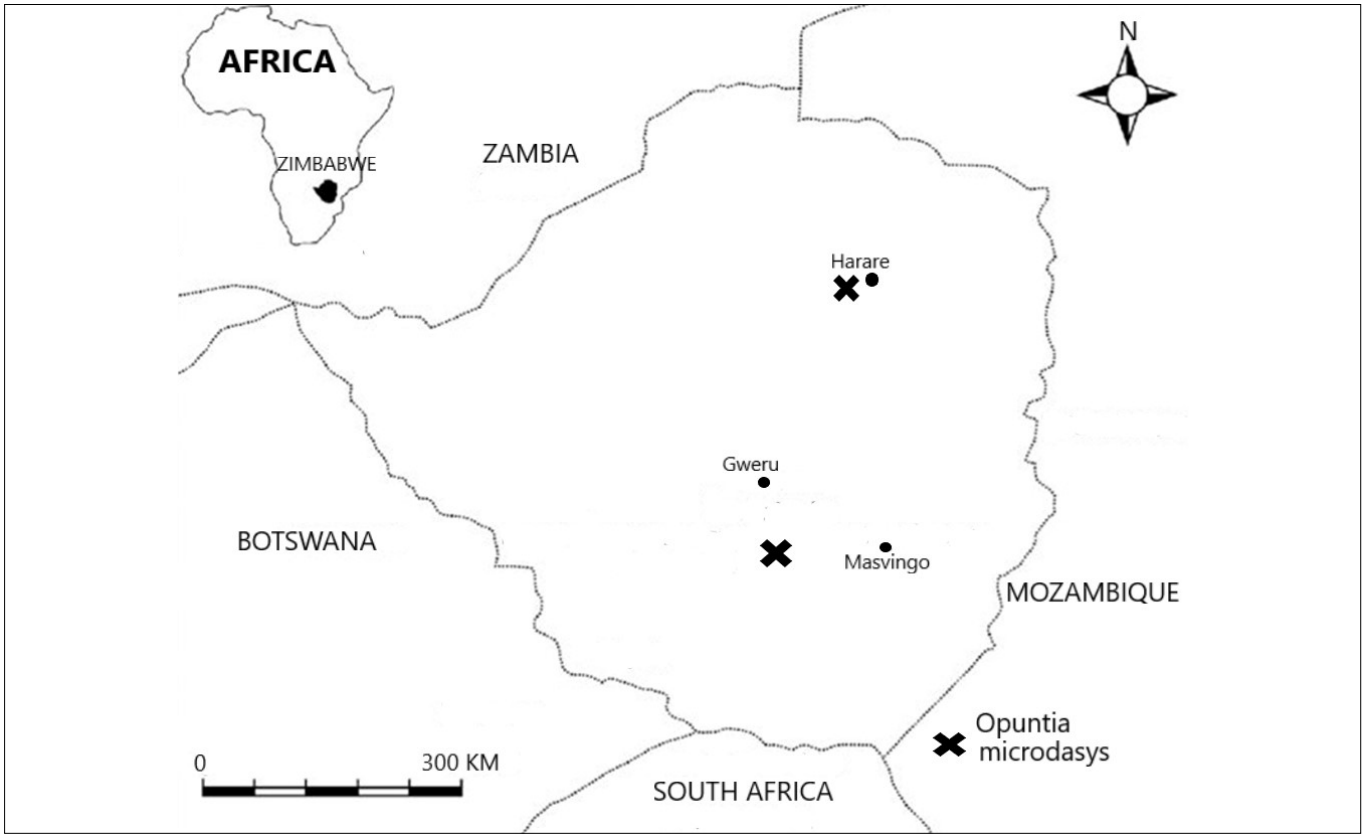

Fig. 2. Distribution of *Opuntia microdasys* in central Zimbabwe.

Much branched, shrubby succulent perennial, erect to spreading forming low clumps or thickets, in time becoming tree-like, up to 1.0 m high. Stem segments (pads) pale green, brighter green when young, circular to elliptic-obovate, pubescent, low tuberculate, nor disarticulating, bright or pale green, flattened, 5–15 cm long. Areoles prominent, round, close-set, 9–16 per diagonal row across mid-stem segment, rounded, closely arranged, 2-5 mm diameter. Needle-like spines usually absent, sometimes a single short one present on an areole. Glochids dense, numerous, fine, bristle-like, nearly filling the areole, yellow, white or brown. Flowers numerous on each stem segment, 25–40 mm in diameter, petals up to 40 mm long, yellow with a slight reddish tint towards the slightly frilly tips of the petals, filaments and style white and anthers yellowish. Stigmatic lobes dark green. Fruits 30–40 mm in diameter, fleshy, egg-shaped to globose, red to purplish-red, densely covered with areoles bearing dense clusters of glochids. Seeds tan, nearly spherical, slightly flattened, 1–1.2 mm in diameter.

Habitat

Opuntia microdasys forms large clumps, often escaping from gardens or growing near rubbish dumps where plant parts have been disposed of. *Opuntia microdasys* appears to have naturalized in localised areas.

Phenology

Flowering was observed in December.

Distribution

Opuntia microdasys is hereby registered as naturalized in disturbed habitats close to habitation and rocky areas in central Zimbabwe (Fig. 1B).

Specimens examined

Harare district, outside perimeter wall of Prospect Primary School in Prospect, Waterfalls, Harare, S17°53.4', E31°3.2', alt. 1413 m), 14 December 2019, *A. Maroyi 1673* (SRGH, UFH). Zvishavane district, in Danga village, near Mabasa Growth Point, Zvishavane, S20°24.8' E30°41.1', alt. 1018 m), 7 September 2021, *A. Maroyi 1922* (SRGH, UFH).

Acknowledgements

The author is grateful to the Head, National Herbarium and Botanic Gardens for providing the research facilities.

Authors contributions

The author carried out field studies, collected and identified the species, and wrote the manuscript.

Compliance with ethical standards

Conflict of interest: The author declares no competing interests.

Ethical issues: Ethical approval was obtained from the University of Fort Hare's Research Ethics Committee (UREC) (MAR011).

References

1. George AS. Flora of Australia. Volume 4. Phytolaccaceae to Chenopodiaceae. Australian Government Publishing Service, Canberra. 1984.
2. Tibe O, Modise DM, Mogotsi KK. Potential for domestication and commercialization of *Hoodia* and *Opuntia* species in Botswana. Afr J Biotech. 2008;7:1199-1203. https://doi.org/10.5897/AJB2008.000-5025
3. Smith GF, Figueiredo E, Boatwright JS, Crouch NR. South Africa's ongoing *Opuntia* Mill. (Cactaceae) problem: The case of *O. microdasys* (Lehm.) Pfeiff. Bradleya. 2011;29:73-78. https://doi.org/10.25223/brad.n29.2011.a9
4. Walters M, Figueiredo E, Crouch NR, Winter PJD, Smith GF, Zimmermann HG, Mashope BK. Naturalized and invasive succulents of southern Africa. ABC Taxa, Vol. 11. The Belgian Development Cooperation, Brussels. 2011.
5. Potter S, Rutherford H. Field identification guide: *Austrocylindropuntia, Cylindropuntia* and *Opuntia* species. Biosecurity South Australia; Canberra. 2013.
6. Verloove F, Guiggi A. Some new xenophytes from Fuerteventura (Canary Islands, Spain). Bouteloua. 2013;13:38-42. https://doi.org/10.1515/botcro-2017-0013
7. Novoa A, Le Roux JJ, Robertson MP, Wilson JRU, Richardson DM. 2015: Introduced and invasive cactus species: A global review. AoB Plants. 2015;7:plu078. https://doi.org/10.1093/aobpla/plu078.
8. Von Raab-Straube E, Raus Th. Euro+med-checklist notulae 11. Willdenowia. 2019;49:421-45. https://doi.org/10.3372/wi.49.49312
9. Lalov SV, Lanfranco E. New records for the Maltese Flora: *Opuntia microdasys* (Lehm.) Pfeiffer (Family: Cactaceae). Central Medit Naturalist. 2007;4:203-04.
10. Sanz-Elorza M, Dana Sánchez ED, Sobrino Vesperinas E. Further naturalised Cactaceae in northeastern Iberian Peninsula. Anales Jardín Bot Madrid. 2006;63:7-11. https://www.redalyc.org/pdf/556/55663101. https://doi.org/10.3989/ajbm.2006.v63.i1.14
11. Essl F, Kobler J. Spiny invaders: Patterns and determinants of cacti invasion in Europe. Flora Morphol Distr Funct Ecol Plants. 2008;204:485-94. https://doi.org/10.1016/j.flora.2008.06.002.
12. Verloove F, Marrero Rodriguez A, Salas-Pascual M, Guiggi A. New records of Cactaceae from Gran Canaria (Canary Islands, Spain). Haseltonia. 2017;23:79-91. https://doi.org/10.2985/026.023.0111
13. Verloove F, Ojeda-Land E, Smith GF, Guiggi A, Reyes-Betancort JA, Samarín C, Hernández AG, Barone R. New records of naturalised and invasive cacti (Cactaceae) from Gran Canaria and Tenerife, Canary Islands, Spain. Bradleya 2017;35:58-79. https://doi.org/10.25223/brad.n35.2017.a6.
14. Githae EW. Status of Opuntia invasions in the arid and semi-arid lands of Kenya. CAB Reviews 2018;13:3-7. https://doi.org/10.1079/PAVSNNR201813003
15. Randall RP. A global compendium of weeds. 3rd Edition. Western Australia, Perth; 2017.
16. Maroyi A. A preliminary checklist of naturalized and introduced plants in Zimbabwe. Kirkia 2006;18:177-247. https://www.jstor.org/stable/23502330.
17. Maroyi A. 2012. The casual, naturalised and invasive alien flora of Zimbabwe based on herbarium and literature records. Koedoe 2012. https://doi.org/10.4102/koedoe.v54i1.1054.

§§§