

SANBI Team Member: Thulisile Jaca
Main University Supervisor: T. Sebitloane
Location: North-West University (Mafikeng Campus)
Level of project: Masters or Doctoral
Working title: Systematics of genus *Rumex* and assessment of the invasion risk of alien *Rumex* species in South Africa

Background

The genus *Rumex* has about 200 species of annual, biennial, and perennial herbs; and it belongs to the family Polygonaceae, buckwheat family. *Rumex* species are considered to be problematic weeds in many parts of the world and also utilised for their medicinal properties and edible leaves. Some species of *Rumex* are invasive with negative impacts on agriculture (e.g., cultivation of wheat and sugarcane) as well as acting as transformers of natural ecosystems. Their impacts on natural habitats generally occur in the wake of disturbance by biomass removal or fire, whereby species are capable of rapid colonization as an early successional species. Habitats with high levels of plant diversity and relatively frequent disturbance are most vulnerable to invasion by *Rumex* species.

In South Africa, about 20 species are known to be present and five of these are either invasive or naturalised, such as *R. usambarensis* (listed as category 1b under South African regulations) and *R. acetosella* (listed as 1a for the Prince Edward Islands). Since the last taxonomic studies of the genus in Africa by Rechinger (1954), no taxonomic studies of the genus have been conducted in South Africa. Furthermore, the extent of invasion by the alien species have not been assessed. The aims of this study are to conduct a systematic study of the genus *Rumex* in South Africa (taxonomy and molecular studies) and assess the invasion risk of alien species in South Africa. Additionally, information on some of the environmental and geographical factors contributing to the success of invasion by alien species, their impacts on native biodiversity and most susceptible regions in South Africa will need to be investigated. Risk analyses will be used to develop regulatory recommendations for some of the alien species in the genus.

Key contacts

Thulisile Jaca t.jaca@sanbi.org.za

Further Reading

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- Holm L, Doll J, Holm E, Pancho J, Herberger J, 1997. World weeds: natural histories and distribution. Wiley-Blackwell, 1129 pp.
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- Rechinger, K. H. 1954. Monograph of the genus *Rumex* in Africa. *Bot. Notis., Suppl.* 3: 1-114.