

SANBI Team Member: Joyce Ntuli

Main University Supervisor: TBD

Location: TBD

Level of project: Hons/MSc

Working title: Assessing the invasiveness of *Tithonia tubiformis*: a precursor to cooperation across political boundaries

Background

The spread of invasive species knows no political boundaries.

Tithonia tubiformis, also known as light yellow sunflower, has become invasive in humid and sub-humid tropics of Central, South America, and South East Asia, tropical and subtropical Africa. Recently *Tithonia tubiformis* was spotted in the Lebombo mountain area along the South Africa-Swaziland border, near a village called Sisatsaweni in 2011. The species is very aggressive and thrives in disturbed grounds, though has not yet been seen to spread much into undisturbed grasslands. The ability of the species to spread will therefore be assisted when homesteads prepare grounds for ploughing. It is also a further indication that if the population is left unchecked, the problem could exacerbate. This means that the species could potentially take over agricultural land, advance, be difficult to manage and be a threat to food security in the Province. Subsistence farming is a source of food security in the areas where the species is established and could be affected by the proliferation and expansion of the species.

Notably, the species was first recorded in Swaziland. Therefore, *Tithonia tubiformis* could be a useful model to establish regional cooperation to tackle the threats posed by IAS.

The proposed project would seek to estimate current distribution in South Africa, assess the management feasibility and to foster effort in facilitating cooperation between academia and biodiversity managers using *T. tubiformis* as a model species. The project will further complete a risk analysis of the species in order to allow appropriate regulation of the species. This project is suitable for candidates interested in invasion biology and policy formulation studies.

Key contacts

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Further Reading

- Hulme PE (2009) Trade, transport and trouble: Managing invasive species pathways in an era of globalization. *J Appl Ecol* 46:10–18
- Keller RP, Perrings C (2011) International Policy Options for Reducing the Environmental Impacts of Invasive Species. *Bioscience* 61:1005–1012
- Paini DR, Worner SP, Cook DC, Barro PJ De, Thomas MB (2010) Threat of invasive pests from within national borders. *Nat Commun* 1:115–116
- Perrings C, Dehnen-Schmutz K, Touza J, Williamson M (2005) How to manage biological invasions under globalization. *Trends Ecol Evol* 20:212–215
- Faulkner, K. T., Hurley, B. P., Robertson, M. P., Rouget, M. & Wilson, J. R. U. (2017) The balance of trade in alien species between South Africa and the rest of Africa. *Bothalia: African Biodiversity and Conservation*, 47, a2157.