

Melampsora hypericorum, a rust fungus with potential in the biological control of tutsan, Hypericum androsaemum

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Summary

The rust fungus Melampsora hypericorum (DC. Wint.) was first recorded infecting tutsan (Hypericum androsaemum L.) near the coastal town of Apollo Bay in Victoria in October 1991. Observations indicate that the rust is very damaging to tutsan and is spreading rapidly in the weed infestation. The rust seems a valuable biological control agent for tutsan.

Tutsan, (Hypericum androsaemum L.) is a European shrub 1-1.5 m high which is a declared noxious weed in Victoria (5). It is both an agricultural and an environmental weed, being invasive in pastures as well as growing in shaded situations in forests. It is estimated that there are 200,000 ha currently infested with tutsan in Victoria, 67,000 ha of which have a medium to dense infestation (4). The weed occurs predominantly in the higher rainfall areas.

In October 1991, residents of Apollo Bay, a coastal town in the Otway Ranges submitted specimens of tutsan which were heavily attacked by a rust fungus to local Department of Conservation and Environment officers. The material was compared with European exsiccata lodged in Herb. VPRI and the rust identified as Melampsora hypericorum (DC. Wint.), a monoecious rust fungus commonly found on tutsan and other Hypericum species in Europe (2). This is the first record of M. hypericorum on tutsan in Australia.

Inspection of the Apollo Bay area in early November 1991 showed that the rust infected large infestations of tutsan with pustules covering most green parts of the plants, including leaves, immature stems, flower buds and unripe fruit. At lower altitudes, some tutsan infestations were completely defoliated by the rust epidemic while at higher altitudes the epidemic was less advanced.

M. hypericorum has been considered as a prospective candidate for the biological control of tutsan (3), but a program on this weed was never commenced in Australia. The current level of damage to tutsan in the Apollo Bay area indicates that the rust has great potential as a biological control agent. The rust has spread over approximately 400 km² in the Otway ranges and small foci of infection have since been found in the Strzelecki ranges, about 300 km directly west of Apollo Bay across Bass Strait. Observations will commence on the continued spread of the rust, its host range and the level of control of tutsan over time.

Current control recommendations for tutsan are cultivation prior to flowering followed by pasture improvement or the use of herbicides such as picloram + 2, 4-D amine and 2,4,5-T (1). The terrain where tutsan grows is often very steep, making control methods difficult. Because of this, the tutsan rust is a welcome additional control method against this weed.

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References

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