

Conservation of Graceful Sun-Moth Habitat

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The graceful sun-moth (GSM) is a small day-flying moth endemic to south-western Australia, and is restricted, predominantly, to the Swan Coastal Plain between Jurien Bay in the north and Preston Beach in the south. There are two apparently disjunct, outlying populations at the north and south extremities of the range: a population near Leeman, on the Geraldton Sandplains, 50 km north of the Jurien Bay townsite; and at Binningup, 30km south of Preston Beach.

Records for the GSM show that its distribution has declined significantly as a result of habitat loss for housing, industry and agriculture. The largest loss of habitat has been due to urbanization in the greater Perth area (Yanchep – Fremantle – Mandurah), resulting in severe fragmentation of the remaining populations. Future land clearing will further reduce the species' area of occupancy and increase fragmentation of remaining populations.

The reliance of most GSM populations on the main host plant *Lomandra maritima*, means that much of the potential and occupied habitat includes areas zoned for future urban and other development. This is particularly the case in the coastal and sub-coastal parts of the greater Perth region, especially in the north-west corridor. This creates an urgent need to better clarify the habitat and distribution of the species to ensure that conflict between the conservation of this species and development is minimised.

This project aims to identify key graceful sun-moth (GSM) habitat for conservation, refine knowledge of the species' distribution, genetic structure, biology and habitat requirements, primarily to resolve potential conflict between GSM conservation and urban development, and ultimately to conserve the species. March 2010 surveys identified new populations of the species and significantly extended the known range of the species. This necessitates further work to be undertaken to clarify the distribution and ecology of the GSM. The project will resolve gaps in knowledge of the biology and habitat requirements of the GSM by determining the full extent of its distribution, the causes of past local extinctions, the long-term viability of extant populations, and the abundance and density of host plants required to sustain populations.

Threatened Species Research Forum



Western Australian Ecology Centre

9th July 2010

A Review of WA Government Research into Threatened Species