



# *Irenepharsus trypherus*

Hewson

## Common Name: Illawarra Irene

The following information is provided to assist authors of Species Impact Statements, development and activity proponents, and determining and consent authorities, who are required to prepare or review assessments of likely impacts on threatened species pursuant to the provisions of the *Environmental Planning and Assessment Act 1979*. These guidelines should be read in conjunction with the NPWS *Information Circular No. 2: Threatened Species Assessment under the EP&A Act: The '8 Part Test' of Significance* (November 1996).

### Survey

*I. trypherus* is a cryptic species that occupies sites in low numbers. Survey for the species should be undertaken during its flowering period (December to June) when plants are easier to locate. Surveys should be avoided during or immediately following prolonged dry periods when mature plants are likely to have died-off.

Where new sites are located, site details including plant numbers, location and habitat should be recorded and forwarded to the DEC.

### Life cycle of the species

The ecology of *I. trypherus* is described in the recovery plan and summarised in the species profile. Proposals that are likely to impact upon the lifecycle of the species include those that contribute to the following:

- Loss of individuals

The significance of a particular activity that physically destroys individual plants will require an examination of the number of plants to be destroyed in relation to the size of the population and a discussion of how recruitment, gene

flow and the overall health of the population will be affected.

- Fragmentation of habitat

As the breeding system of *I. trypherus* is not understood, the effects of loss and fragmentation of its habitat are not known. Total destruction of habitat will place a population at risk of extinction.

- Modification of habitat

The modification of *I. trypherus* habitat will affect recruitment of the species. Such modification may result from weed invasion, erosion, or grazing and trampling by livestock and feral animals.

- Damage to the soil seedbank

Disturbances that will destroy or prevent germination of *I. trypherus* seed include the dumping of fill material, removal of topsoil, and spraying with residual herbicides that are capable of killing seeds in the soil. Regular grazing and slashing of the species may prevent the soil seed bank of the species from being recharged.

- Altered fire regimes

Proposals that result in an increase in fire frequency at *I. trypherus* sites are considered likely to impact upon recruitment of the species.

### Threatening processes

“*Clearing of native vegetation*” is the only key threatening processes (KTP) listed on Schedule 3 of the NSW *Threatened Species Conservation Act 1995* (TSC Act) that has been observed to affect *I. trypherus*.

Other KTPs that may affect the species are:

- *High frequency fire resulting in the disruption of life cycle processes in plants and animals and loss of*

vegetation structure and composition; and

- Anthropogenic climate change.

The NSW Scientific Committee made a preliminary determination to list 'Herbivory and environmental degradation caused by feral deer' as a KTP in October 2003. If a final determination is made to proceed with the listing of this KTP, it will be of relevance to *I. trypherus*.

Other threatening processes relevant to the species include weed invasion, erosion and grazing and trampling by livestock and feral/native animals (DEC 2005).

### **Viable local population of the species**

The viable population size for *I. trypherus* is unknown. The species has been recorded growing in very low numbers at some sites (for example, even as one individual) and extreme fluctuations in plant numbers have been observed over time at some sites (DEC 2005). Consequently, low population numbers should not be used as an indicator of non-viability of the population.

### **A significant area of habitat**

As *I. trypherus* is currently known from only a small number of sites, all of its currently occupied habitat should be considered to be significant.

### **For further information contact:**

Threatened Species Unit, Metropolitan Region, Environment Protection and Regulation Division, Department of Environment and Conservation (NSW), PO Box 1967, Hurstville NSW 2220 Phone 02 9585 6678. [www.npws.nsw.gov.au](http://www.npws.nsw.gov.au)

### **References**

DEC (2005) *Irenepharsus trypherus* (Illawarra Irene) Recovery Plan. Department of Environment and Conservation, Hurstville.

Thackway, R. & Cresswell, I.D. (1995). *An Interim Biogeographic Regionalisation for Australia: A Framework for Setting Priorities in the National Reserves System Cooperative Program*. Version 4.0. Australian Nature Conservation Agency, Canberra.

### **Isolation/fragmentation**

The distance between populations of *I. trypherus* that will create genetic isolation is unknown, as its pollen vectors and seed dispersal mechanisms are unknown. The clearing of interconnected or proximate areas of habitat for the species (or its pollen/seed vectors) is clearly undesirable as this may expose populations to an increased risk of genetic isolation and subsequent decline.

### **Regional distribution**

The distribution of *I. trypherus* is confined to the Sydney Basin Bioregion, as defined in the Interim Biogeographic Regionalisation of Australia (Thackway & Cresswell 1995).

### **Limit of known distribution**

The known historical distribution of *I. trypherus* extends from Marshall Mount in southern Wollongong local government area to Ettrema Gorge (Morton National Park) in Shoalhaven local government area.

### **Adequacy of representation in conservation reserves**

*I. trypherus* is not considered to be adequately represented in conservation reserves.

### **Critical habitat**

Critical habitat has not been declared for *I. trypherus*.

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