

Advice to the Minister for the Environment and Heritage from the Threatened Species Scientific Committee (TSSC) on Amendments to the list of Threatened Species under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)

1. Scientific name (common name)

Semotrachia euzyga (a land snail)

2. Description

Semotrachia euzyga is a small yellow-brown camaenid land snail, with a shell diameter of about 8.0 mm and a slightly elevated spire. Camaenid snails typically become mature in their second wet season and may live for 10-15 years.

Semotrachia euzyga lives in rocky litter under native fig trees (*Ficus platypoda*). When adults aestivate (become dormant) they seal themselves to rocks.

3. National Context

Semotrachia euzyga is found only in three areas within 10 km of Alice Springs, Northern Territory. It is restricted to about 1 km² along the Todd River in Alice Springs, on nearby Choritza Hill, and Mt Gillen less than 8 km away.

The species is listed as critically endangered under the Northern Territory's *Territory Parks and Wildlife Conservation Act 2000*.

4. How judged by TSSC in relation to the EPBC Act criteria.

TSSC judges the species to be **eligible** for listing as **endangered** under the EPBC Act. The justification against the criteria is as follows:

Criterion 1 – It has undergone, is suspected to have undergone or is likely to undergo in the immediate future a very severe, severe or substantial reduction in numbers.

Population numbers of *Semotrachia euzyga* are considered to be small and believed to be declining. However, there is no quantitative information on population numbers or trends.

Therefore, the species is **not eligible** for listing under this criterion.

Criterion 2 – Its geographic distribution is precarious for the survival of the species and is very restricted, restricted or limited.

Semotrachia euzyga is found only in a small number of locations in and round (within 10 km) Alice Springs, Northern Territory. It is restricted to about 1 km² along the Todd River in Alice Springs, to about 1 ha on nearby Choritza Hill, and to a small area on Mt Gillen less than 8 km away. The extent of occurrence is estimated to be less than 20 km² and the area of occupancy to be less than 5 km². Within these three areas, the species has been recorded from five localities or sites. Each site is well isolated from others and small in size. This species is found under fig trees which have a naturally fragmented distribution in the more moist areas of Alice Springs.

Surveying for land snails such as *Semotrachia euzyga* in central Australia involves searching their main habitat - the litter under fig trees in gorges. There have been several collecting trips for land snails to central Australia that have searched gorges, near roads (e.g. Solem 1993), and some that have searched more inaccessible areas. While it is acknowledged that many inaccessible areas of Central Australia have not been searched for land snails, it is considered that sampling has been sufficient to establish that *Semotrachia euzyga* has a very restricted range. *Semotrachia euzyga* is one of a number of species belonging to the genus *Semotrachia*, a genus characterised by species that are very localised (e.g. found only under two fig trees), though they may be very abundant there. Further sampling of small patches of figs in central Australia is likely to reveal different species of land snails rather than new locations for this species.

There are threats operating in the areas where *Semotrachia euzyga* occurs. If the fig trees associated with the land snails are removed or die, the snails will disappear from the area. Exotic Buffel Grass (*Cenchrus ciliaris*) has invaded and is now abundant in the areas where this land snail occurs. Buffel Grass has much higher fuel loads than the native vegetation, which has been displaced, and consequently carries hotter fires. It is suspected that this changed fire regime will adversely affect *Semotrachia euzyga* and its habitat. It is also considered that urban development in and round Alice Springs is threatening this species, although one locality on the Todd River is on the boundary of the Alice Springs Telegraph Station Historical Reserve.

Semotrachia euzyga has an extent of occurrence of less than 20 km², an area of occupancy estimated to be less than 5 km² and is known from only a few locations. It is considered that threats operating in its habitat are leading to a decline in habitat quality and numbers. Therefore, its geographical distribution is restricted and precarious for the survival of the species. The species is **eligible** for listing as **endangered** under this criterion.

Criterion 3 – The estimated total number of mature individuals is limited to a particular degree and: (a) evidence suggests that the number will continue to decline at a particular rate; or (b) the number is likely to continue to decline and its geographic distribution is precarious for its survival.

There are no quantitative data available against this criterion.

Therefore, the species is **not eligible** for listing under this criterion.

Criterion 4 – The estimated total number of mature individuals is extremely low, very low or low.

There are no quantitative data available against this criterion.

Therefore, the species is **not eligible** for listing under this criterion.

Criterion 5 - Probability of extinction in the wild

There are no quantitative data available against this criterion.

Therefore, the species is **not eligible** for listing under this criterion.

5. CONCLUSION

Semotrachia euzyga has a restricted geographic distribution, with an extent of occurrence of less than 20 km² and an estimated area of occupancy of less than 5 km². There are a number of threats operating within this range. The species is being impacted upon by the changed fire regime that has resulted from exotic Buffel Grass invading its habitat, and by urban development occurring in and round Alice Springs.

The species is **eligible** for listing as **endangered** under Criterion 2.

6. Recommendation

TSSC recommends that the list referred to in section 178 of the EPBC Act be amended by **including** in the list in the **endangered** category:

Semotrachia euzyga (a land snail)

Associate Professor Robert J.S. Beeton

Chair

Threatened Species Scientific Committee

Publications used to assess the nomination

Solem, A. 1993. Camaenid land snails from Western and central Australia (Mollusca: Pulmonata: Camaenidae) VI Taxa from the Red Centre. *Records of the Western Australian Museum Supplement No. 43*, 983-1459.