

Flora & Fauna Guarantee Action Statement

#52

This Action Statement was first published in 1994 and remains current. This version has been prepared for web publication. It retains the original text of the action statement, although contact information, the distribution map and the illustration may have been updated.

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Paucident Planigale *Planigale gilesi*



Paucident Planigale (*Planigale gilesi*)
(Illustration by John Las Gourgues)



Distribution in Victoria (DSE 2002)

Description and Distribution

The Paucident Planigale (*Planigale gilesi* Aitken 1972) is a small carnivorous marsupial. It was first described in 1972, and named in honour of the explorer Ernest Giles who, like this planigale, was an 'accomplished survivor in deserts' (Aitken 1972).

It is distinguished by its flattened triangular head, beady eyes and two premolars on each upper and lower jaw (compared with three for other planigales). It is a brindled cinnamon-grey colour above and olive buff below. The ears are small and rounded and lie against the head. The legs are short in comparison to body length, and so the animal moves low to the ground. The head and body length of adults varies from 60 to 80 mm, tail length from 55 to 70 mm and weight from 5 to 16g. The Paucident Planigale occurs in arid and semi-arid regions of eastern Australia, and is currently known from some 20 widely-dispersed localities east of Lake Eyre (see Lumsden et al. 1988). However, within

these regions it is associated with habitats near permanent water or areas that are periodically flooded, such as bore drains, creek floodplains or beside lakes (Denny 1982).

In Victoria, it is found only in the north-west, adjacent to the Murray River downstream from the Darling River (Figures 1 and 2). It was first recorded here in 1985, extending its known range 200 km further south from the most southern records in NSW (Lumsden et al. 1988).

Within Victoria, it has been recorded only on alluvial floodplains with grey cracking soils, in or near Black Box (*Eucalyptus largiflorens*) woodlands with a patchy, but dense, understorey of Tangled Lignum (*Muehlenbeckia cunninghamii*), Nitre Goosefoot (*Chenopodium nitrariaceum*) or Old-man Saltbush (*Atriplex nummularia*). Cracks in the soil and a clumped dense understorey provide protection from temperature extremes and predators.

The Paucident Planigale has been recorded at three localities in Victoria: Lindsay Island, the area north of Cullulleraine (west of Kulnine East), and Walpolla Island. Lindsay Island is now incorporated in the new Murray-Sunset National Park. The other two areas are managed as State Forests, and are licensed for grazing by domestic stock. The floodplains of the Murray River downstream of its junction with the Darling River, may constitute the entire range of this species in Victoria; Paucident Planigales were not caught at two comparable sites further upstream in Liparoo State Forest during a survey of the Mallee area in 1985-87 (Lumsden et al. 1988).

The Paucident Planigale is a generalist predator that feeds on a range of invertebrates, including spiders, cockroaches, beetles and slaters (Read 1987a). It is predominantly nocturnal in activity, but may also be active during the day, especially in winter when animals have been observed basking in the sun. In western New South Wales, individuals were found to be highly mobile and occupied shifting home ranges (Read 1984a).

There is an extended breeding season from late winter to mid-summer, during which females may have one or two litters of three to ten young (Read 1984b).

Conservation Status

Current Status

Kennedy (1992)	(Australia) Stable
SAC (1991)	Threatened
CNR (1993)	Rare in Victoria

The Paucident Planigale has been listed as a threatened taxon on Schedule 2 of the Flora and Fauna Guarantee Act 1988.

Reasons for Conservation Status

The Paucident Planigale has a very restricted distribution in Victoria, limited to a narrow zone of alluvial floodplain adjacent to the Murray River in the far north-west. Within these habitats capture success for the species is low (mean of 1.2 captures per 100 pitfall trap-nights at known sites of occurrence), suggesting that population densities are relatively low.

Little is known of the ecology and population dynamics of the Paucident Planigale in Victoria, especially of the potential impact of activities that may adversely affect the species and its habitats, such as grazing by domestic stock, firewood collection and predation by foxes and cats.

The Paucident Planigale is not considered to be threatened nationally. The Action Plan for the Conservation of Australasian Marsupials and Monotremes (Kennedy 1992) lists its status as stable, and suggests that there has been less than 10% decline in the geographic range of the species since European settlement.

In its final recommendations, the Scientific Advisory Committee (1991) has determined that in Victoria the Paucident Planigale is:

- significantly prone to future threats which are likely to result in extinction,
- very rare in terms of abundance or distribution.

Major Conservation Objective

The major conservation objective is to ensure that viable populations of the species continue to exist throughout its known range in Victoria. This will be achieved by managing habitats used by the Paucident Planigale to ensure that important microhabitats (soil cracks, ground cover, dense clumped vegetation) are not degraded by land-use practices. Low intensity monitoring will be employed to verify the maintenance of populations throughout its range.

Management Issues

Ecological Issues Specific to the Taxon

Little information upon which to formulate conservation strategies is available on the biological requirements of this species within Victoria. Its habitat of Black Box woodlands and nearby chenopod shrublands occurs in a linear zone on the alluvial plains adjacent to the Murray River. Thus, the species' rare status in Victoria is largely a consequence of its natural geographic range, which only marginally includes this State. There has, however, been extensive research on its ecology in western NSW (Denny 1982, Read 1984a, 1984b, 1987a, 1987b). Cracking clay soils are an essential habitat requirement for the Paucident Planigale. In western NSW, Read (1987b) found that the depth and density of soil cracks were important factors in determining the abundance of the species. A dense but patchy ground cover is characteristic of its habitats, and provides protection from predators, particularly when the cracking soils are wet and the cracks close.

Deep cracks in the soil and dense understorey vegetation also provide foraging substrates. Larger invertebrate prey may be more abundant in areas of deep soil cracks than in those of shallow cracks (Read 1987b). Land-use practices that degrade these habitat components, such as over-grazing and excessive trampling by domestic stock, may detrimentally affect this species.

Disturbance processes, such as altered flooding regimes, woodland clearance and fragmentation, inhibition of natural regeneration, selective grazing, firewood removal, recreational activities and proliferation of vehicle tracks have the potential to impose long-term changes to vegetation communities of the alluvial floodplains, and thus to habitats of the Paucident Planigale. Catastrophic events such as wildfire or severe flood may also affect localised populations, especially if they are isolated from adjacent populations by unsuitable habitats.

Wider Conservation Issues

The Murray River and its associated woodlands of River Red Gum (*Eucalyptus camaldulensis*) and Black Box form a major biogeographic corridor of mesic vegetation through the semi-arid environment of north-western Victoria. These woodlands and forests support numerous species that would otherwise not occur in the semi-arid region, for example Tree Goanna (*Varanus varius*), Feathertail Glider (*Acrobates pygmaeus*), and Blue-faced Honeyeater (*Entomyzon cyanotis*).

Management of ground layer and shrub strata vegetation in the Murray River floodplains will also benefit other threatened species, including the rare Tessellated Gecko (*Diplodactylus*

tessellatus) and the endangered Red-naped Snake (*Furina diadema*).

Social and Economic Issues

Issues related to grazing, commercial firewood collection and recreational activities can be resolved with relatively minor social and economic impact.

Grazing licences on public land along the alluvial plains of the Murray River affect only a small number of people, but may be of considerable importance to those few individuals. Of the three areas where the Paucident Planigale is known, one is now within the Murray-Sunset National Park where grazing is to be phased out by July 1995.

Public land on Walpolla Island and north of Cullulleraine is licensed for grazing to three licensees. The Land Conservation Council (1989), in its final recommendations concerning the Mallee area, recommended that licensed grazing on floodplain areas of State forest may continue at the discretion of the land manager, subject to management plans being developed for each area ensuring that:

- regeneration of native plant species is fostered;
- the native vegetation does not sustain long-term damage; and
- particularly sensitive areas are protected.

Management plans for these grazing licenses have not yet been prepared. Stocking rates and seasonality of grazing will be addressed in their development.

The commercial removal of firewood and timber products along the riverine woodlands west of Mildura is of relatively minor value to the local community and these activities could be easily rezoned away from Paucident Planigale colonies.

Walpolla Island is the only site of known occurrence of the Paucident Planigale where commercial firewood collection is allowed, and this occurs mainly in River Red Gum forests rather than Black Box woodlands. Illegal firewood collection and localised collection of firewood by campers may occur, but this is not considered a major problem.

The riverine woodlands are used extensively for recreation. Actions to limit the proliferation of tracks and recreational disturbance (e.g. blocking some tracks) will have only limited social impact. Driving off-road is illegal on public land.

Management Action

Previous Management Action

There has been no previous management for this species in Victoria because of its relatively recent discovery during surveys of the Mallee region in 1985-87. One of the three areas where the Paucident Planigale has been recorded (Lindsay Island) is now included in the Murray-Sunset National Park. An overall management strategy for the Mallee Parks is in preparation.

Intended Management Action Research and Monitoring

Collate and analyse existing data from the 1985-87 survey to examine its adequacy for describing characteristic features of the habitats and microhabitats utilised by the Paucident Planigale. Ensure that these results and information derived from future studies in other states are also applied to conservation and management actions.

Establish pitfall traplines in each of the known areas of occurrence of the Paucident Planigale and implement a low-intensity sampling program (e.g. every two years) to monitor the relative abundance of the species throughout its range. Record microhabitat variables during the sampling sessions and relate these to the relative abundance of the species. Grazing exclusion areas, established as part of grazing management plans, and Lindsay Island (following exclusion of grazing in 1995) will serve as control areas to monitor the relative impacts of grazing on riverine habitats. (Two grazing exclusion areas (total of 12.5 ha) were established on Lindsay Island in 1991.)

Habitat Management

Incorporate habitat requirements of the Paucident Planigale in the preparation of land management plans, as recommended by Land Conservation Council (1989), for areas of public land along the Murray River alluvial plains that are subject to grazing by domestic stock. Ensure that planned stocking rates and land management practices will not result in degradation of the soil layer, ground and low shrub vegetation, and will allow natural regeneration of the vegetation. Implement a regular and thorough on-ground inspection of the condition of soil, ground and shrub vegetation on grazed public lands, especially during drought periods.

Maintain the continuity of alluvial woodland and chenopod shrubland habitats along the Murray River, between Mildura and the South Australian border, to ensure continuity of habitat for populations of the Paucident Planigale throughout its range in Victoria. CNR should oppose any applications for clearing large or strategic areas of riverine woodland, under the Native Vegetation Clearance Controls (Planning Scheme Amendment S17).

Other Desirable Management Action

Undertake surveys to further determine the distribution of the Paucident Planigale, both within its known range and the potential range along the Murray River upstream of the junction with the Darling River.

Conduct further ecological research on the Paucident Planigale with particular attention to population density and dynamics, and the identification of key microhabitat requirements. Review and manage the level of commercial and household firewood collection in floodplain woodlands. Logs and litter enhance the diversity of ground substrates and provide shelter and foraging sites for small terrestrial animals such as the Paucident Planigale and Tessellated Gecko.

Investigate the long-term effects on Black Box woodlands of the altered flooding regimes of the Murray River (or incorporate the potential impact on the Paucident Planigale into other broader studies on this issue).

Limit the impact of roading (i.e. recreational and access tracks) in the vicinity of known sites of occurrence of the Paucident Planigale.

Legislative Powers Operating

Legislation

Wildlife Act 1975 controls research, management and taking of protected wildlife.

National Parks Act 1975: provides for the reservation, protection and management of natural areas.

Flora and Fauna Guarantee Act 1988: provides for the protection of the State's native wildlife.

Planning and Environment Act 1987: enables appropriate planning controls over clearing of native vegetation on private land (Amendment S17).

Licence/Permit Conditions

A permit for live trapping will only be issued by the Manager, Flora and Fauna Branch, if the proposed work falls within the framework of the Action Statement for this species, or contributes to further understanding of the ecology of the species.

Consultation and Community Participation

There is limited opportunity for community participation. The Paucident Planigale is a small, inconspicuous, nocturnal marsupial. The discovery of the species in this state has been fully documented and published (Lumsden et al. 1988) and was made known to the local community through newspaper reports.

Consultation will be required with grazing licensees to review land management plans and to determine appropriate land-use practices that will maintain the quality of habitats for the Paucident Planigale and other fauna of the Murray River floodplain.

Implementation, Evaluation and Review

The on-ground implementation of this Action Statement is the responsibility of the North West Area, Department of Conservation and Natural Resources. The effectiveness of the implementation should be evaluated five years from the date of publication of this Action Statement. The success of these actions will be judged by the persistence and status of populations of the Paucident Planigale throughout its known range. The evaluation and review will be a cooperative effort between the Flora and Fauna Branch and the North West Area of the Department of Conservation and Natural Resources.

Contacts

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Further information

Further information can be obtained from Department of Sustainability and Environment Customer Service Centre on 136 186.

Flora and Fauna Guarantee Action Statements are available from the Department of Sustainability and Environment website: <http://www.dse.vic.gov.au>

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