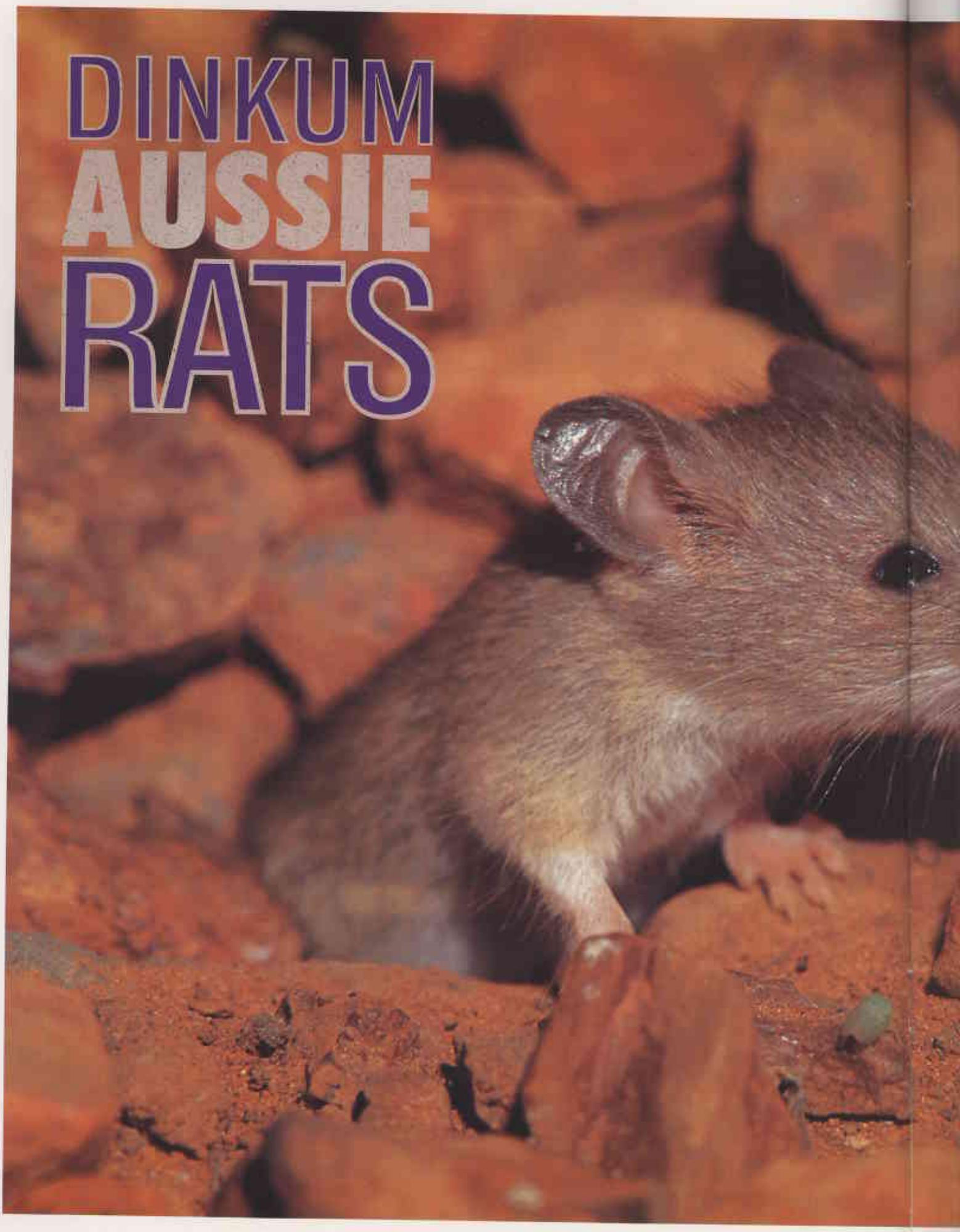
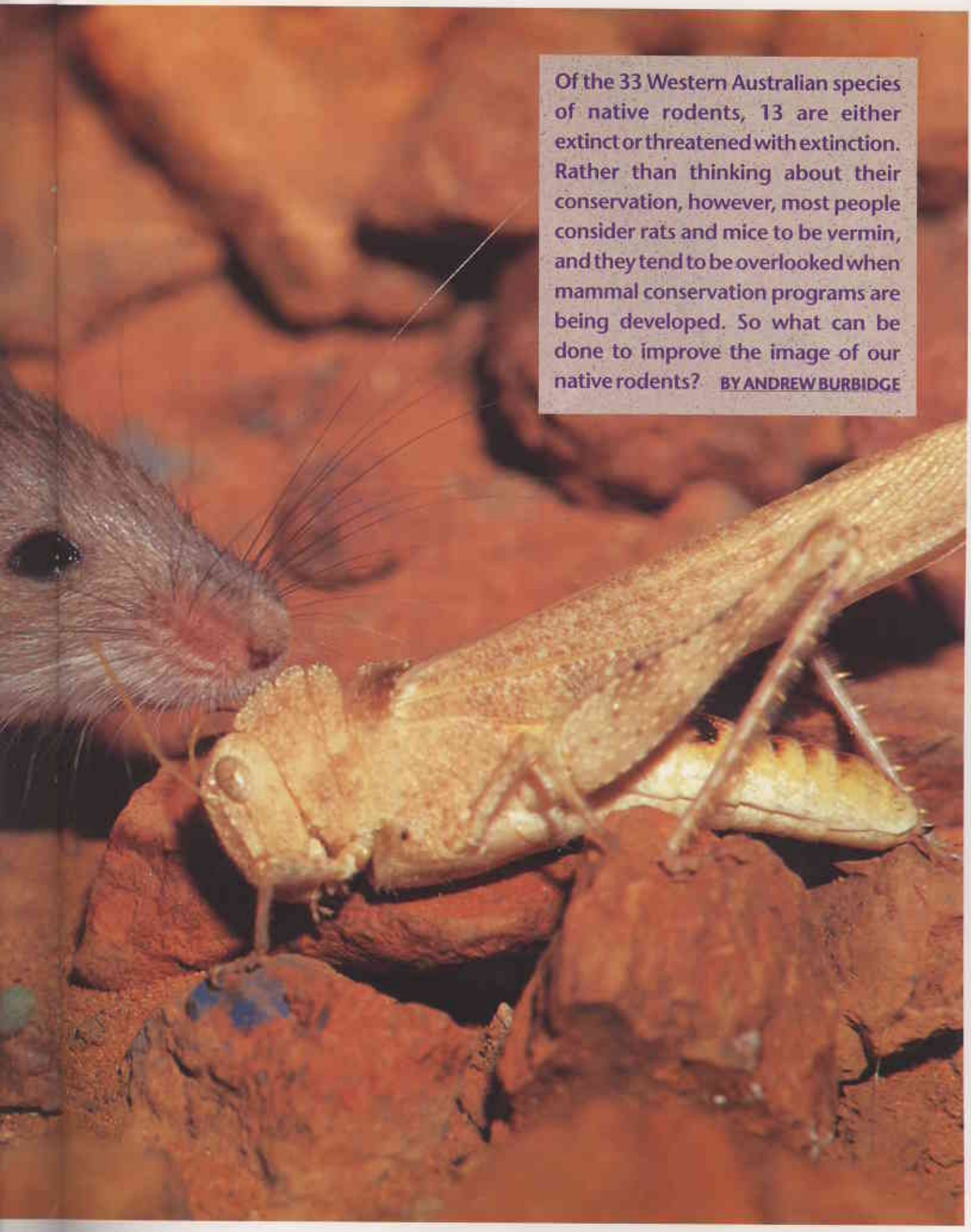
DINKUM AUSSIE RATS





Of the 33 Western Australian species of native rodents, 13 are either extinct or threatened with extinction. Rather than thinking about their conservation, however, most people consider rats and mice to be vermin, and they tend to be overlooked when mammal conservation programs are being developed. So what can be done to improve the image of our native rodents? BY ANDREW BURBIDGE

Native rodents tend to have a poor image. Rats are synonymous with filthy habits, unscrupulous cunning and disease-spreading capabilities. The two species of rat that Europeans brought in their ships to Australia are correctly identified as vermin, competing with humans for food and damaging crops. The ubiquitous house mouse, which also hitched a ride to Australia, has become a major agricultural pest as well as being a nuisance in and around dwellings.

Unfortunately, the bad image of the introduced rats and mice has often been transferred to the many species of native rodents that live in harmony with the Australian bush. Thirty-three species of native rodent once inhabited parts of Western Australia and another 24 or so lived in other parts of Australia. Native rodents have disappeared from the wild at a similar rate and for the same general reasons as marsupials, but their conservation often does not get the same support.

Previous page
The ngadji, which builds mounds of pebbles over its burrows, was only discovered in 1980.

Below: One of the larger and more colourful rodents, the koorawal is an arboreal inhabitant of the far northern Kimberley and Northern Territory.

Bottom: Rakalis live in mangroves or forage along beaches of off-shore islands in the north-west.
Photos – Jiri Lochman

A RAT BY ANY OTHER NAME?

One reason for the poor image of native rodents is their inappropriate names—names such as plains rat, heath rat, western mouse and brush-tailed rabbit-rat. 'Rat' and 'mouse' should be applied only to the introduced vermin that arrived with Europeans—to apply these names to our beautiful, harmless Australian native rodents is not only inaccurate, but also seemingly designed to arouse contempt. The name 'plains rat', for example, could be a handicap for the future of this beautiful but threatened native mammal—how much easier would it be to promote its conservation if it was better named?

Common names for Australian mammals have evolved over the years. More and more, we are using names that are Australian in origin, rather than the often inaccurate English names of the past. Today, Western Australians readily use numbat instead of banded anteater, chuditch instead of western native cat, and quenda instead of southern brown bandicoot.

To promote more suitable names, four Australian mammalogists recently completed a list of recommended Australian names, derived from Aboriginal languages, for our native rodents. Richard Braithwaite, Steve Morton and John Calaby, from the Division of Wildlife and Ecology at the Commonwealth Scientific and Industrial Research Organisation (CSIRO), teamed up with Andrew Burbidge of the Department of Conservation and Land Management (CALM) to develop the list, which has since been published by the Australian Nature Conservation Agency and CSIRO in the book entitled *Australian Names for Australian Rodents*.

Box 1
RECOMMENDED AUSTRALIAN NAMES FOR WESTERN AUSTRALIAN NATIVE RODENTS

Scientific name	Recommended Australian name	Current English name(s)
Conilurus penicillatus	pakooma	brush-tailed rabbit-rat, brush-tailed tree-rat
Hydromys chrysogaster	rakali	water-rat
Leggadina forresti	anoola	Forrest's mouse
Leggadina lakedownensis	kerakenga	Lakeland Downs mouse
Leporillus apicalis	djooyalpi	lesser stick-nest rat
Leporillus conditor	wopilkara	greater stick-nest rat
Melomys burtoni	loolong	grassland melomys
Mesembriomys gouldii	djintamoonga	black-footed tree-rat
Mesembriomys macrurus	koorawal	golden-backed tree-rat
Notomys alexis	tarrkawarra	spinifex hopping-mouse
Notomys amplus	yoontoo	short-tailed hopping-mouse
Notomys longicaudatus	koolawa	long-tailed hopping-mouse
Notomys macrotis	noompa	large-eared hopping-mouse
Notomys mitchellii	pankot	Mitchell's hopping-mouse
Pseudomys albocinereus	noodji	ash-grey mouse
Pseudomys australis	palyoora	plains rat
Pseudomys bolami	poonta	Troughton's mouse, Bolam's mouse
Pseudomys chapmani	ngadji	pebble-mound mouse
Pseudomys delicatulus	molinipi	delicate mouse
Pseudomys desertor	wildjin	desert mouse
Pseudomys fieldi	djoongari	Shark Bay mouse, Alice Springs mouse
Pseudomys gouldii	koontin	Gould's mouse
Pseudomys hermannsburgensis	mingkiri	sandy inland mouse
Pseudomys laborifex	tataroo	Kimberley mouse
Pseudomys nanus	moolpoo	western chestnut mouse
Pseudomys occidentalis	walyadji	western mouse
Pseudomys shortridgei	dayang	heath rat
Rattus fuscipes	mootit	bush rat
Rattus tunneyi	djini	pale field-rat
Rattus villosissimus	mayaroo	long-haired rat, plague rat
Zyzomys argurus	djoorri	common rock-rat
Zyzomys pedunculatus	antina	central rock-rat
Zyzomys woodwardi	djookooropa	Kimberley rock-rat

The authors compiled all the Aboriginal names they could find for native rodents. They then chose a name that was both euphonious and, where possible, came from a language that is spoken in an area towards the centre of distribution of the species. It was not always possible to recommend a name that was used solely for the species concerned—Aborigines (like other Australians) did not always distinguish between all the species that occurred in their land, and linguists have rarely recorded all the names that Aborigines have for different mammal species.

LANDSCOPE has begun using the recommended names (Box 1) when referring to native rodents and, until the new names become generally accepted, will also provide the currently used English name. As the pronunciation of Aboriginal words may be difficult for most Australians, the authors of the book have provided guidelines to help those unfamiliar with Aboriginal languages (Box 2).

RODENT CONSERVATION

Seven species of Australian native rodents, including five that occurred in Western Australia, are thought to have become extinct since Europeans arrived in Australia (Box 3). Another, the antina (central rock-rat) is currently listed in WA as 'critically endangered', having been recorded last in the Northern Territory in 1960. A further seven WA species are threatened (four endangered, three vulnerable). Thus, a massive 13 out of 33 species (40 per cent) of Western Australian native rodents are either extinct or threatened with extinction. In addition, two rodents, the rakali (water-rat) and koorrawal (golden-backed tree-rat) are on CALM's Priority Fauna List and require monitoring to ensure that they do not decline further.

Scientists have recently found significant populations of the rare walyadji in Lake Magenta Nature Reserve.
Photo – Jiri Lochman

It is notable that all the extinct species and most of the threatened rodents are larger than those that are secure. They lie within the 'critical weight range' (CWR), a term coined by CALM mammalogists Andrew Burbidge and Norman McKenzie some years ago to help explain the disappearance of so many Australian mammals (see 'The Disappearing Mammals', *LANDSCOPE*, Spring 1990). Mammals that lie within the CWR have adult body weights between 35 and 5 500 grams. The largest Australian rodent, the djintamoonga (black-footed tree-rat) weighs in at around 700–730 g, so all native rodents with body weights above 35 g should have conservation programs or be monitored to ensure that they are not declining. Only two Western Australian threatened native rodents do not lie within the CWR. One is the ngadji (western pebble-mound mouse). This small mammal builds mounds of stones (the stones usually weigh less than 3 g, but occasionally weigh up to 10 g) with volcano-like craters, through which they enter a burrow system under the mound. The ngadji has declined in distribution, but the reasons for this are unclear. Current research, funded by Pilbara mining companies, may clarify its status and provide recommendations for

Box 2
PRONUNCIATION

There is no accepted standard orthography for Australian Aboriginal languages. Pronunciation of the recommended Australian rodent names uses the following orthography:

a	as in media
ay	as in aye-aye
dj	as in **d**ew (some orthographies use 'tj' or 'j' for this sound)
e	as in t**e**n
i	as in h**i**t (when at the end of a word, this sound approached that in Patt**ie**)
ii	as in seen
k	as in **sk**ill (some orthographies use 'g' for this consonant)
l	as in **l**amp or ni**l**
ly	as in bi**lli**on
m	as in **m**an
n	as in **n**il
ng	as in si**ng**er
ny	as in nu**l**sance or o**ni**on
o	as in **aw** or c**our**t
oo	as in b**oo**k (some orthographies use 'u' for this vowel)
p	as in **sp**it (some orthographies use 'b' for this consonant)
r	as in **r**ake
rr	as in Scottish **r**an (a rolled 'r') (some orthographies use 'r' for this consonant)
t	as in **st**all
w	as in **w**et
y	as in **y**et

Other sounds exist in Aboriginal languages. The authors tried to avoid recommending Aboriginal words that contain dental or retroflex consonants that do not exist in Australian English, such as sounds represented in orthographies by 'rd' or 'rt', 'rl' or 'l', 'rn' and 'th'.

The djoongari once lived in central Australia and on the Nullabor, and would now be extinct, had it not survived on Bernier Island near Shark Bay.
Photo – Jiri Lochman

Below: The mootit is still very abundant in many areas of the SouthWest. But near Perth, it has been replaced by feral European rats.
Photo – Michael Morcombe

conservation. The other non-CWR threatened species is the walyadji (western mouse), which at 34 g is close to the CWR, and is largely confined to the Wheatbelt, where it survives only in remnant vegetation.

The larger species of rodent are disappearing for the same general reasons as the critical weight range marsupials. The introduction of feral and domestic animals such as rabbits, sheep, cattle, foxes and particularly cats, is the single most important reason for their decline. Land clearing is also contributing and is a major reason for the decline of species restricted or largely restricted to agricultural areas. Changed fire regimes may also be a factor.

Even though rodents do not attract the same public sympathy as marsupials, CALM has long been involved in rodent conservation programs. At present, the conservation of two species of native rodent, the wopilkara (greater stick-nest rat) and djoongari (Shark Bay mouse), is being coordinated through the implementation of recovery plans. An Interim Recovery Plan is being prepared for the Thevenard Island Mouse, which is probably a subspecies of the kerakenga or Lakeland Downs mouse (see 'Endangered', *LANDSCOPE*, Spring 1995). As well, a major research project has been completed into the status and conservation of the walyadji (western mouse). And a search for the antina is planned in Cape Range National Park, where its bones are often found in caves.

RECOVERY PLANS

Djoongari once occurred across much of South Australia, the southern parts of the Northern Territory and southern Western Australia. When the djoongari recovery plan was prepared in 1991, djoongari were extinct on the mainland and occurred only on Bernier Island, Shark Bay. The recovery plan prescribes five recovery actions: research and monitoring on Bernier Island, translocation to Doole Island in Exmouth Gulf, experimental translocation to Heirisson Prong in Shark Bay, control of introduced predators and competitors

Box 3
EXTINCT AND THREATENED WESTERN AUSTRALIAN NATIVE RODENTS

Species	Mean adult body weight	Conservation status
djintamoonga (black-footed tree-rat)	715 g	vulnerable
wopilkara (greater stick-nest rat)	350 g	endangered
djooyalpi (lesser stick-nest rat)	125 g	extinct
yoontoo (short-tailed hopping-mouse)	100 g	extinct
koolawa (long-tailed hopping-mouse)	100 g	extinct
dayang (heath rat)	70 g	endangered
antina (central rock-rat)	65 g	critically endangered
palyoora (plains rat)	65 g	endangered
noompa (large-eared hopping-mouse)	60 g	extinct
koontin (Gould's mouse)	50 g	extinct
djoongari (Shark Bay mouse)	45 g	endangered
walyadji (western mouse)	34 g	vulnerable
ngadji (western pebble-mound mouse)	12 g	vulnerable

With long legs adapted for hopping, large ears for detecting predators and a flag on the tip of its tail, the tarrkawarra is one of Australia's most specialised and attractive rodents.
Photo – Michael Morcombe

Below: The djini is still common in parts of the Kimberley and some islands off the Pilbara coast, but has vanished from the southern part of its original mainland range.
Photo – Michael Morcombe

on Peron Peninsula (under *Project Eden*, see 'Return to Eden', *LANDSCOPE*, Autumn 1995) and translocation to Herald Bight on Peron Peninsula.

In 1993, 43 djoongari were released on Doole Island. Monitoring has since shown that some have survived and bred; however, numbers have not increased as rapidly as hoped, and a further 36 animals were released on Doole in 1995, to increase the founder number. Monitoring will continue, to see whether the translocations have led to a viable population.

In 1994, 32 djoongari were released into a temporary enclosure on Heirisson Prong, within a predator-fenced area managed by CSIRO Division of Wildlife and Ecology and the Useless Loop Community Biosphere Project. After a period of acclimatisation, the fence was opened and the djoongari dispersed naturally. A few moved up to 1.6 kilometres. Monitoring of this population will continue.

The conservation of the wopilkara is being coordinated through a recovery plan prepared by the South Australian Department of Environment and Natural Resources (SADENR). Like the djoongari, the wopilkara was extinct on the Australian mainland, but still occurred on a single island—Franklin Island in the Nuyts Archipelago, off the South Australian coast. In 1990, 41 wopilkara, from a breeding colony set up by SADENR, were released on Salutation Island, Shark Bay. Monitoring has since shown that the animals established well and bred within the first months. The amazing stick nests that are occupied by family groups (usually constructed from both sticks and stones) have appeared throughout the island.

Both the djoongari and wopilkara recovery plans are supported by funding from the Australia Nature Conservation Agency (ANCA) through the Endangered Species Program. The wopilkara plan has also been assisted by a grant from the BankWest *LANDSCOPE* Conservation Visa Card trust fund.

A FUTURE FOR AUSTRALIA'S RODENTS

Australian rodents deserve conservation just as much as other native species, and need conservation programs more than most. But one of the biggest stumbling blocks to the conservation of native rodents is their public image. Perhaps when people begin to understand and appreciate them better, more resources will be found to fund conservation programs for our 'dinkum Aussie' rodents. One of the steps on the road to the appreciation of native rodents will be the use of recommended Australian names. This step alone will go a long way to help change the public's perception of them. Because all rats are vermin ... aren't they?

Andrew Burbidge is Director of CALM's Western Australian Threatened Species and Communities Unit, which is based at CALM's WA Wildlife Research Centre at Woodvale. He can be contacted on (09) 405 5128 or on E-mail at andrewb@wood.calm.wa.gov.au

LANDSCOPE

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Rainbow lorikeets. Are they pests? Will they displace our native birds? Do we need to control their numbers, and if so, how? Find out more on page 17.

*A subspecies of granny bonnets (*Isotropis cuneifolia *subsp.* glabra*) found in a threatened community on the Swan Coastal Plain. See story on page 35.*

'The Magic of Magenta' co-author Mal Graham clearing an Aboriginal soak in Lake Magenta Nature Reserve. See our story on page 41.

A rat by any other name...? In 'Dinkum Aussie Rats' Andrew Burbidge discusses the use of common and Aboriginal names for native rodents.

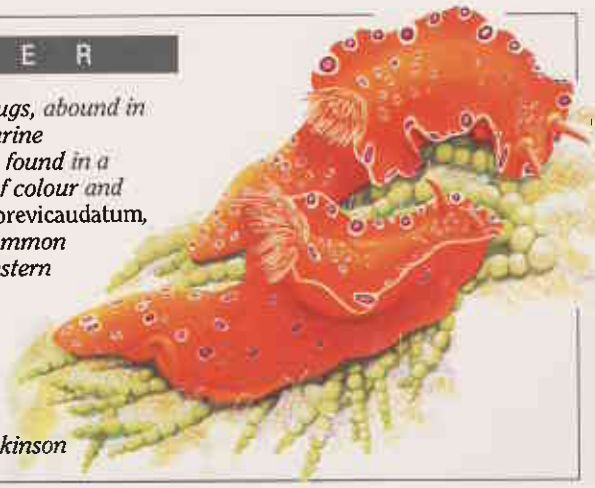
In 'Saving the Giants', read how a new Tree Top Walk in WA's south-west is set to become one of Australia's nature-based tourism icons.

FEATURES

REGULARS

COVER

Nudibranchs, or sea-slugs, abound in Western Australia's marine environment. They are found in a tremendous diversity of colour and form, the Ceratosoma brevicaudatum, *illustrated here, is a common inhabitant of south-western waters. See page 28 to learn more about the 'Slugs of the Sea'.*



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