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THE WESTERN RINGTAIL POSSUM (PART 2)

(Continued from Western Wildlife, July 2005)

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WHERE TO FROM HERE?

The need for translocation has not diminished. In excess of 100 western ringtail possums are nurtured through the wildlife carer network annually. When suitable for release, these animals need secure release sites where survivorship potential can be maximised. In addition, ringtails are being displaced by developments which result in destruction of habitat. Since January 2004, 119 ringtails have been displaced from development sites in the Busselton and Bunbury area. These possums have been translocated to Leschenault and Yalgorup under a detailed monitoring program. 1080 baiting for fox control was reinstated at Leschenault and has been routinely carried out, commencing prior to the January 2004 releases. An additional, new site has been established at Yalgorup National Park. This site is managed as an unbaited control site.

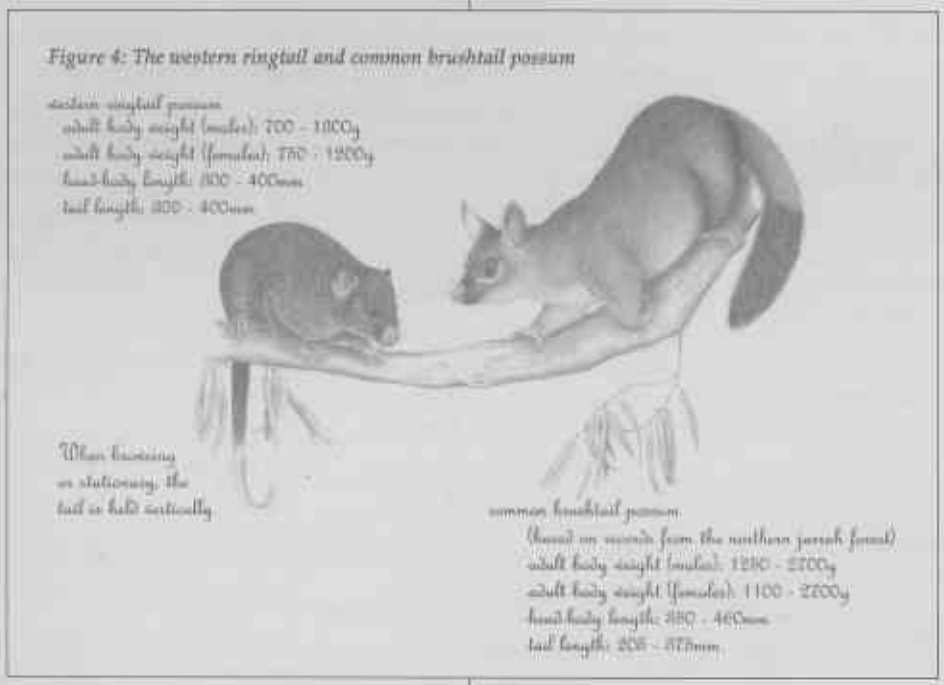

Figure 4: The western ringtail and common brushtail possum

The current translocation release program has been driven largely by the need to release ringtails displaced from development sites. The developers responsible have provided significant funding support for the translocation program. Long-term monitoring at the release sites will include examination of the importance of predator control (1080 baiting) and the extent of predation by foxes. Predation by other potential predators will also be examined. In particular, the extent of predation by cats in the presence and absence of fox control will be examined, hence the importance of establishing the unbaited control site at Yalgorup National Park. A second unbaited control site is also proposed. Monitoring at all sites will also focus on habitat use and survivorship of the released ringtails, the role of other predators (pythons, chuditch, raptors, owls), competition with the common brushtail possum, the suitability of the habitat at each

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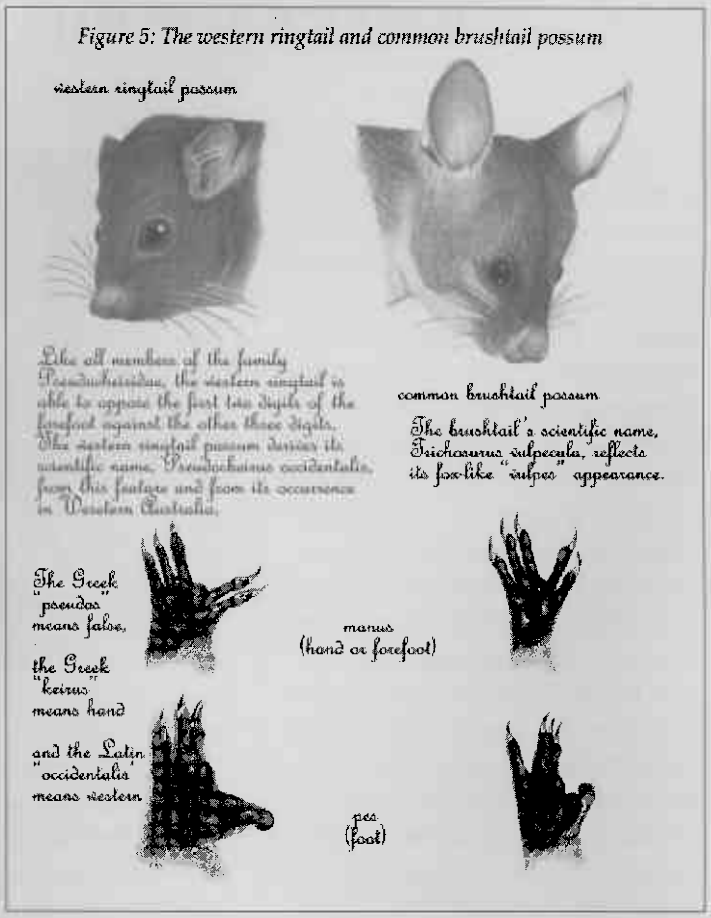
release site and the role of disease.

Assessing the role of disease is often overlooked in translocation programs. Our interests are two fold. As conservation managers it is important to ensure the wildlife species being translocated, especially those individuals which have been held in care, do not introduce new pathogens to populations of wildlife at the release site. Conversely, we need to determine whether the species inhabiting the release sites are carrying pathogens to which the released animals may have had no previous exposure. Infection with such pathogens could adversely affect the survival of the released animals. A collaborative program is now being developed involving specialist expertise from the School of Veterinary and Biomedical Sciences at Murdoch University. This program will also enable us to examine the wildlife health issues of naturally occurring populations of ringtails. Concurrent with this work, monitoring of the naturally occurring populations will address the suite of issues being examined at the translocation release sites.

Interim results from monitoring the fate of ringtails released since January 2004 at the baited site at Leschenault and the unbaited site at Yalgorup National Park have confounded the issue further. There has been a high rate of mortality at Leschenault. From the 26 radio-collared and monitored ringtails, there have been nine predation events attributed to pythons, seven attributed to cats and one attributed to a fox. From the 21 radio-collared ringtails at Yalgorup National Park, there have been only two predation events, one attributed to a raptor and one attributed to a fox. From these results it seems fox baiting alone is unlikely to be sufficient to ensure the translocated populations become established. The interim results further suggest translocation does not hold all the answers for effective conservation management of this threatened species and the importance of fox and cat interactions needs to be urgently assessed. Similarly, the interactions between foxes and cats with native predators needs to be addressed.

Figure 5: The western ringtail and common brushtail possum



TRANSLOCATION OR IN SITU PROTECTION?

Ameliorating the effects from predation is not the only concern for managers of threatened fauna. In the case of the western ringtail possum, the Busselton, Bunbury and to a lesser extent, the Albany populations are at risk from increasing habitat destruction and population fragmentation. Populations in forest areas are also at risk. Recent research by Adrian Wayne, from CALM, Manjimup, found forest populations of ringtails were threatened by increasing fire intensity at the local scale and habitat and fox predation at the landscape scale.

A major component in effective conservation management is identifying the populations and habitat of high conservation value and ensuring these key populations and areas are adequately protected. Assessing the local, regional and global conservation value of populations, sub-populations and habitat is

Figure 8: Scats (droppings) from the western ringtail possum and the common brushtail possum

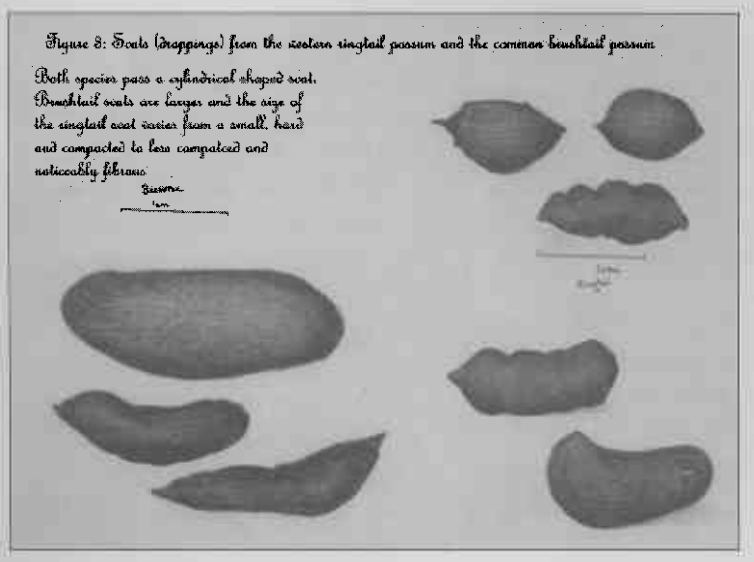


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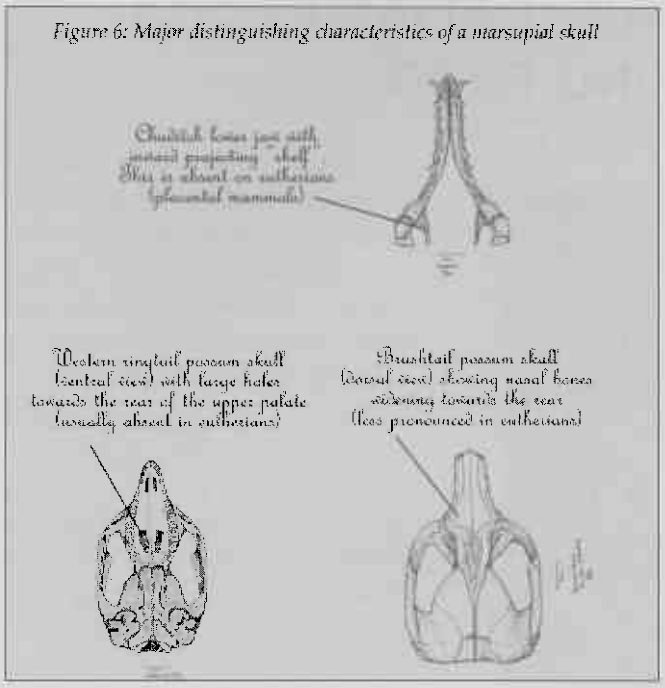
Figure 6: Major distinguishing characteristics of a marsupial skull



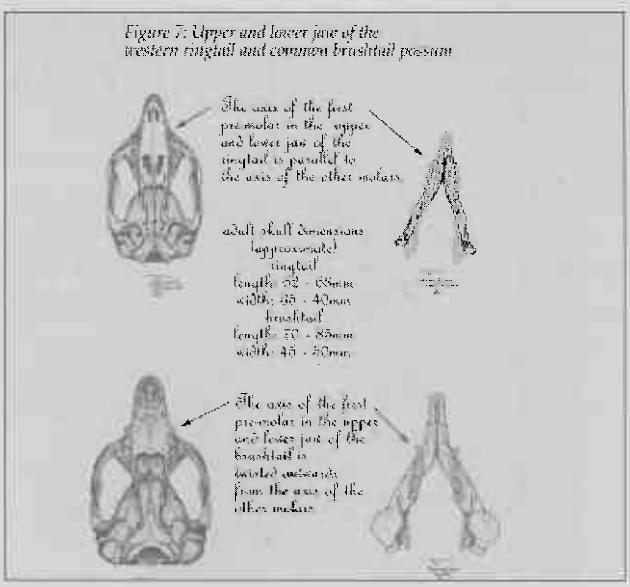
based on the population size and composition, the genetic structure of the population(s) and habitat values.

Identifying presence is the first step in protection. Although distinctive, the western ringtail possum is nocturnal and cryptic and identifying presence is not always straight-forward. In residential and semi rural areas the ringtail and the brushtail are often observed, or heard, in roof spaces, garden sheds and garages. Confirmation of presence of ringtails in these situations may be as simple as confirming whether fresh scats (droppings) are present at the site. Figure 3 shows a comparison of scats from the two possums. The ringtail also has the ability to pass semi-digested faecal material that is eaten and re-digested. This phenomenon is known as caecotrophy.

The presence of dreys can also be determined in daylight hours. However, absolute confirmation of presence is best achieved through nocturnal spotlighting. Figures 4 and 5 show the features used to differentiate between the two possum species. Identification of species presence can also be through indirect means such as identifying the call of a species, as ornithologists do for birds. The ringtail has a distinct, but not particularly loud, call which is best described as being similar to the sound of a bath toy when squeezed, or a zipper when quickly zipped and unzipped.

A less ambiguous method of determining the species is identification from bone material, and in particular, identification from skulls or skull fragments. Many rural landholders, naturalists and bushwalkers who encounter bone fragments and skulls seek confirmation of the

Figure 7: Upper and lower jaw of the western ringtail and common brushtail possum



identity of the species found. Critical to identifying the species is first determining whether the skull is from a marsupial or placental mammal, see Figure 6. Figure 7 shows the differences between the skull of a western ringtail possum and the common brushtail possum.

REPORTING PRESENCE OF THE WESTERN RINGTAIL POSSUM

We would be very keen for readers to give us detailed location records for the western ringtail possum, forwarded to Paul de Tores (details below). Verified and validated records will be added to the ringtail distribution database, which we hope to eventually make available on the internet. These data form the baseline information required to determine the populations of high conservation value, and ultimately to ensure better conservation management of this threatened species.

Hoping to hear from you!

Paul de Tores is a Research Scientist with CALM's Wildlife Research Centre at Woodvale. He can be contacted by telephone on 9405 5150, or by email at: pauld@calm.wa.gov.au
Nadine Guthrie is also a Research Scientist based at Woodvale and Jennifer Jackson is a Project Officer, with CALM's species and Communities Branch, Kensington.
Ian Bertram is a Masters student from The University of Glasgow, Scotland and has spent the past 10 months involved in the ringtail program.
Suzanne Rosier has been involved as a volunteer in the western ringtail possum research since its commencement in 1991. In 1995 Suzanne was awarded "Volunteer Of The Year – Wildlife Research and Management", largely as a result of her involvement in this project.