

OBSERVATIONS OF ECHIDNAS USING TREE HOLLOW IN TASMANIAN FORESTS

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INTRODUCTION

Tasmania has many species of vertebrates that use tree hollows for some aspect of their life history (e.g. nesting, denning, roosting). Hollow-dependent forest fauna are often cited as one of the groups most vulnerable to forestry and clearing as such activities can result in a substantial loss of suitable hollow-bearing trees required by these species (Gibbons and Lindenmayer 1997). In Tasmania eight species of microchiropteran bats, five species of possums and about 35 species of birds utilise tree hollows. Based on the observations of V. Thompson and P. Hudler, it now seems that the echidna *Tachygllossus aculeatus* can be added to this list!

This note reports on two separate cases of echidnas using tree hollows and hollow trees in Tasmanian forests.

OBSERVATIONS

In December 1999 an echidna was found in northeast Tasmania in dry sclerophyll forest (dominated by *E. amygdalina* and *E. viminalis*) in a 26 m tall (60 cm diameter) *E. amygdalina* tree. The tree was fire-scarred with a burnt-out base which extended internally to about 7 m, and externally about 1 m. The individual was found within the hollow trunk of the tree at about the 6 m height mark (when the tree was split open at a log landing). The trees in the area, including the tree occupied by the echidna, were heavily infested with insects, including ants.

The second individual was found in October 1999 in high altitude *Eucalyptus delegatensis* forest in the Central Highlands. It occurred in a tree hollow, with an entrance of about 50 x 50 cm, about 1.2 m above the ground. The tree was a 35 m tall (>60 cm diameter) *E. delegatensis* tree with good form (i.e. no low branches). The tree was fire-scarred with a partly burnt-out base and the trunk was relatively vertical. The individual was found half covered in dry, rotted wood fragments.

DISCUSSION

There are few published accounts of echidnas using tree hollows. Morison (1999) cites an example of an echidna using a low (about 80 cm above ground) hollow in a box-ironbark tree in Victoria. In such forests, where the understorey is sparse, refuge sites may be few. In the two instances described in this note, however, abundant alternative

refuge sites were available. More usual refuge sites would be under or within logs, rock overhangs and dense scrub (Augee 1995) but in areas where such sites are limiting, low tree hollows may provide a suitable alternative. Echidnas have been observed in Tasmanian forests in hollow stumps and hollows in fallen trees (Anderson and Nicol pers. comm.) and thus it is possible that such features are used routinely, albeit infrequently, as refuge sites. Wilkinson *et al.* (1998) report on sites used for shelter by echidnas in the highlands of Queensland but do not cite examples of use of tree hollows.

In both instances described, it is suspected that the individuals occupied the tree hollow or hollow tree as a result of foraging activities. Echidnas are adept climbers but they have not been reported climbing trees in search of food. Augee (1995) draws attention to the ability of an echidna to extend its spines and limbs, allowing it to become securely wedged in a rock crevice or hollow log, predominantly as a defence mechanism. It seems likely that such an ability could also be used to "climb" trees, particularly up inside hollow tree trunks.

In the first case described, it may be that the animal simply "climbed" higher into the internally hollow tree trunk following a food source. Of course, it is also likely that this individual was found so high up the hollow tree trunk because of disturbance from the tree felling. In the second case described, the echidna may have "detected" a potential food source within the tree hollow. It was found in the hollow covered in decayed wood fragments suggesting it may have been digging within the floor of the hollow, possibly in search of food. It is highly likely that echidnas could be drawn to the odour of decaying wood and termites/ants in such hollows (C. Spencer pers. comm.), particularly if wood particles are deposited on the ground below the hollow. In this instance, the individual would have needed to climb up the outside of a near vertical tree trunk. Echidnas have been observed climbing over a metre vertically up cage wire in captivity (H & A Wapstra pers. comm.) so it is likely that they possess the ability to climb rough-barked tree trunks.

From observations such as these, it would appear that echidnas may occasionally use tree hollows and/or hollow trees in Tasmanian forests. This further highlights the importance of maintaining these habitat features for a range of forest fauna, not only for those species that routinely use hollows for nesting such as the parrots and cockatoos, but also for the occasional users such as echidnas.

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