The bare-rumped sheathtailed bat *Saccolaimus saccolaimus* is a poorly understood species that has a wide distribution covering parts of India, Sri Lanka, Thailand, Myanmar, Malaya, Indonesia, New Guinea, the Solomon Islands and Northern Australia (Bonaccorso 1998). First collected in Australia by De Vis near Cardwell, the current known distribution in Queensland (Qld) extends from Bowen to Cooktown with one isolated specimen collected near Coen on Cape York Peninsula (Hall 1995; Duncan et al. 1999). It has also been recorded in the Alligator River area in the Northern Territory (McKean et al. 1981). The conservation status of *S. saccolaimus* in Qld has recently been defined as ‘Critically Endangered’, and the species has not been recorded anywhere in Australia for at least 18 years (Duncan et al. 1999; Menkhorst and Knight 2001). The likely reasons for the apparent decline are unclear, but may involve land-clearing and changed fire regimes in the coastal zone where it is thought to occur (Duncan et al. 1999). In contrast, Bonaccorso (1998) considers *S. saccolaimus* to be secure, albeit also poorly known in Papua New Guinea.

In other parts of their range *S. saccolaimus* is known to roost in houses, caves, hollow trees and tombs (Hall 1995). In Australia, *S. saccolaimus* is known only to roost in tree hollows in poplar gums *Eucalyptus platyphylla* and Darwin woollybutt *E. miniata* (McKean et al. 1981; Compton and Johnson 1983). Compton and Johnson (1983) suggest that *E. platyphylla* woodlands may be an important in determining the distribution of *S. saccolaimus* in Qld. Extralimitally, *S. saccolaimus* has been recorded in gardens, sclerophyll woodland and rainforest (Bonaccorso 1998).

In mid August 2001, a small colony of *S. saccolaimus* was discovered while carrying out field surveys for nest sites of the palm cockatoo *Probosciger aterrimus* on the Lockhart River Aboriginal Reserve in the Iron Range area of Cape York (12° 45’ S, 143° 17’ E). Although the bats were not handled, when first discovered several individuals clambered upwards from within the cavity and huddled in a relatively exposed position just below the cavity entrance. I was therefore able to view the bats using binoculars from an adjacent tree. The bats had the typical head structure of other emballonurids and the white flecks on the dorsal surface confirmed that they were *S. saccolaimus*. This represents a relatively small but important range extension of *S. saccolaimus* within Qld. Duncan et al. (1999) suggested that *S. saccolaimus* was most likely to be distributed throughout Cape York Peninsula and my observations confirm this prediction. Together with the suggestion by Duncan et al. (1999) that *S. saccolaimus* may exist on some Torres Strait Islands, it is entirely possible that the Qld population is contiguous with the population in New Guinea.

In early December 2001, three individuals flushed from the same roost tree. High pitched calls were just audible. Two weeks later, I conducted a watch at dusk at the roost tree but no bats emerged. In early January 2002, I flushed between 10 and 15 individuals from the same tree simply by walking about 5 m past the tree. This suggests that the bats remain very vigilant while roosting and may be prone to disturbance. Again high pitched calls could be heard, but on this occasion at least one individual appeared to be carrying a juvenile on the underside of the body. This concurs with Compton and Johnson (1983) who also detected breeding activity in the early part of the wet season. Later in January, 10 bats were seen emerging in twos and threes between 1917
hrs and 1922 hrs. It is interesting to note that the bats kept returning to the roost site despite disturbance on three occasions, two of which resulted in them flushing.

The roost tree was situated approximately 40 m above sea level about eight kilometres from the coast in undulating terrain, about half-way up a slope. Only the trunk of the tree remained as a standing ‘pipe’ in which the colony roosted (Fig. 1). The tree was a dead Darwin stringy-bark E. tetradonta, eight metres tall, with a diameter at breast height (DBH) of 39 cm. The entrance to the cavity has been created by the crown breaking off, probably due to wind-shear. The entrance was approximately 7 m above the ground and faced directly upward, although on all three occasions when the bats were observed emerging, they flew downslope in an easterly direction, presumably to assist in gaining height. The tree had a slit-shaped fissure about 4 m on its northern face which was above the floor of the cavity, but this was not used as access to the cavity. Thus, the cavity was estimated to be at least 3 m deep. The wall of the cavity was approximately 30 - 40 mm thick. The overall morphology of the roost site would give very little protection from rain storms, and it was therefore surprising that the bats remained at the roost site well into the 2001-2002 wet season. These measures are similar to those reported by Compton and Johnson (1983) for a roosting hollow in E. platyphylla, although the trees on that occasion were living and not ‘pipe-like’ in form.

The vegetation community surrounding the roost site was studied as part of an ecological study on palm cockatoos (unpubl. data). Relevant details from those surveys are reported here. The vegetation community can be described as a E. tetradonta dominated savanna woodland (E. tetradonta accounted for 76 % of canopy trees). Other sub-dominant canopy species were Corymbia clarksoniana and E. tesselaris (11.8 % and 5.9 % respectively). The average height of the vegetation was 15 - 20 m, and the mean DBH of canopy trees was 29.9 cm. The density of trees greater than 20 cm DBH was approximately 0.0068/m$^2$. The nearest living tree was a E. tetradonta c. 15 m away. A narrow strip of gallery forest along a seasonally dry watercourse traversed the area about 80 m south-east of the roost tree. Rainforest species such as Gmelina dalrympleana and Dillinia alata were found within the strip. Larger patches of rainforest associated with the Claudie River flood plain were less than one kilometre away.

Between early 1999 and early 2002, I inspected approximately 150 similar tree cavities in the region, and no others contained evidence of other S. saccolaimus colonies. Of these, about 60 have been inspected at least every two months over the same period, and similarly, no evidence of S. saccolaimus has ever been found. This suggests that S. saccolaimus occurs at low densities in the region. The savanna environment in this region is characterised by annual fires usually lit by humans (pers. obs.), and tree stumps like the one described here are prone to destruction by such fires (unpubl. data). Fire scars were apparent over the entire surface of the roost tree (Fig. 1). This vulnerability to damage by fire, together with their overall low density in the region means that S. saccolaimus should be given careful consideration in burning regimes and management plans. It is likely that a balance exists between the role of fire in roost site creation (via hollow formation) and fire’s role in roost site destruction. The precise nature of such burning regimes is unclear, but warrants investigation given that a number of threatened taxa within the region are dependent of tree hollows for roosting and nesting.

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