Through the Sanctuary
with
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Tree Hollows

Tree hollows come in any shape or size, and may occur in both dead and live trees. Significant hollows are found in hardwood trees. Softwoods deteriorate very quickly when attacked by insects or disease and contain useful small hollows for only a comparatively short period. However, they are quite a valuable resource in other ways as they decompose on the ground.

This large hollow is located high in a paperbark and is home to a Short-eared Brushtail Possum.

Short-eared Brush-tail Possum – sometimes called a Bobuck or Mountain Brushtail Possum. Photo – Queensland Museum Brushtail Possum.

The typical age of hollow-bearing trees ranges from around 100 years up to 400 years, and they therefore cannot be considered a renewable resource. Large forest areas must have trees of all ages retained so that over time there will be replacements for those trees which reach the end of their standing time. A standing dead tree is still a habitat tree, and even when fallen, it serves as habitat and resources for different species. Nest boxes are of assistance to some species, but could never be considered a replacement for natural hollows. It is impossible to build nest boxes with all the contours, profiles, sizes, angles, depths, wall thicknesses and positions which form naturally in trees, so most creatures are not served by man-made nesting provisions. This is not to say that nest boxes should not be utilised as they can assist some potential occupants and increase possible sites, but they should never be considered a replacement for tree hollows.

Creatures need hollows for roosting, security, breeding, shelter, protection, warmth, and socialization. Some species live in family groups.

This small hole high in a paperbark was the nesting hollow for White-throated Treecreepers which I was fortunate enough to be able to watch fly back and forth entering the hole with food for their young nestled at the base of the hollow.

Tree hollows are formed over a long period. Initially, some damage occurs. In the case of certain eucalypts, limbs may "self-prune". For many species including eucalypts, limbs may be lost through wind or storm trauma (wind, lightning and torrential rain), through another nearby tree falling and crashing against other trees, through chewing by birds or animals (e.g. Black-cockatoos accessing beetle larvae), or fire. Large hollows at the base of tree-trunks have almost certainly been commenced by fire. Once any portion of the tree is opened to attack, insects and fungi begin the process of hollow creation. Borers and termites are the obvious attackers and will create large holes over a long period, but beetles, beetle larvae and moth larvae contribute to their establishment. Fungi perform an important role in breaking down vegetable matter on the ground and in damaged standing trees. We will rarely see these fungi in trees. Many are micro-organisms beyond the capability of human sight, whilst others, for most of their lives, are networks of root-like filaments decomposing the dead timbers and only becoming visible when their fruiting bodies appear.

The hollow for this Bar-sided Skink was created by Termites over a period of years. This little fellow moved in and indulged greedily on them until the termite colony is no longer there.

It is estimated that over three hundred Australian species utilize tree hollows. These include mammals, birds, reptiles, insects and amphibians. Many are dependent on these hollows and cannot survive without them, whilst others use them by preference. Many of these creatures use six or more sites, moving between food sources or relocating nightly so that they do not become an obvious target for their predators. Ensuring sites are not permanently occupied reduces the build-up of parasites such as lice and ticks. Different sites may be required between winter and summer because of protection from cold or heat. Some hollows may become waterlogged in rainy times but be ideal in the dry.

This slit hollow is an ideal spot for insectivorous microbats. Goulds Long-eared Bat is a common species in our area. [Bat photo – Queensland Museum]

This Yellow-footed Antechinus is arboreal and depends on small hollows, often entering at the end of branches. Photo – Queensland Museum

Cavities are not chosen randomly. For many creatures, an ideal entry is only just large enough to allow them access, and will thus deter larger predators. Most holes need to contain a larger area where there is room for movement or several animals may fit in together, or nesting material may be added to provide comfort. Some potential occupants prefer a horizontal or angled hollow, whilst others prefer vertical chambers. Each species has very definite requirements, and a large range of available hollows will encourage a diversity of wildlife.

The paucity of hollows is exacerbated by non-natives which commandeer available resources. Some of the worst include non-native honeybees, starlings and Common Mynas. Common Mynas are aggressive and will even plug surrounding hollows with foreign matter to exclude our native species. These introduced BROWN Common Mynas should not be confused with our native Noisy Miner which is grey and constructs its nest amongst the foliage of live tree branches.

The Owlet-nightjar is nocturnal and depends on a place like this. It is unusual to see the Owlet-nightjar during the day, but this one had popped up to the top of its hollow in an old paperbark at the sanctuary. It depends on hollows for roosting and nesting.

Some of our native residents in this area which need tree hollows include Gliders, Possums, Antechinus, Phascogales, Geckoes, Lizards, Skinks, Monitors, several duck species, many of our Parrots and Lorikeets, Galahs and Cockatoos, all Owls excepting the

Grass Owl, Kookaburras, Owlet-nightjars, Treecreepers, Kestrels and Brown Falcons, stingless bees and small insectivorous bats. Most use the hollows as they are found, but Cockatoos, Galahs, Parrots, Rosellas, Lorikeets and some mammals are capable of modifying their surrounds by using claws, beaks or teeth to reshape and enlarge, or create lining for the base of the hollow. This is by no means a complete list of hollow-dependent groups. Many of the smaller residents (e.g geckoes, skinks, bats, and frogs) may use less developed hollows such as raised bark, split timbers and so forth.

Even fallen trees are important and utilised by many animals, reptiles, and invertebrates. A hollow tree which falls into water will be quickly inhabited by fish, crabs, molluscs, marine worms, etc.

At the Maroochy Wetlands Sanctuary, our most important hollow-bearing trees include Grey Mangroves, Melaleucas (Paperbarks), and Eucalypts. The photographs show just a few of the hollows at the sanctuary.

This hollow in an old Grey Mangrove is a great home for a Common Brushtail Possum, but one has made itself at home in our cleaning/storage room. It is a regular occupant in either the sink or a large cleaning bucket on its side, so the room is now known as the "Possum Room". The photo below was taken while she was in the bucket. She is not disturbed when we enter and often has a baby with her.