The Mountain Pygmy-possum Burramys parvus is the only native mammal that lives in the alpine environment above the treeline. Many other animals visit this area, but the Mountain Pygmy-possum is the only Australian mammal restricted to sub-alpine and alpine environments. The lower limit to the Mountain Pygmy-possums range is about 1200m above sea level.



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Mountain Pygmy Possum Burramys parvus

burrannys parvas



Geographic Range

In the past when Australia's climate was cooler than today, the Mountain Pygmy-possums' range was considerably larger. Fossil records of Mountain Pygmy-possums found in Jenolan and Buchan Caves have been dated to the last glacial period that ended about 10,000 years ago. As the continent warmed up during the last 10,000 years Mountain Pygmy-possums' range has contracted, moving up to higher elevations.

Biology

Of the five species of Pygmy-possum, the Mountain Pygmypossum is the largest, weighing about 45 grams and measuring about 28cm, including a 16cm tail. It is also the longest-lived mammal of its size, often living to 12 years of age. Males and females are segregated, the females usually occupying high quality habitat at higher altitudes. Each spring, male Mountain Pygmy-possums move uphill into the breeding areas to mate with females. After the breeding period, males migrate back down to less productive environments, leaving the habitat with the most food and best shelter for the females and their young. Females give birth in November to a litter of four, which remain in the pouch until late December.

Dean Heinze, wildlife biologist, monitoring Mountain Pygmy-possums in typical habitat on Mt Buller



Diet

In summer the abundant Bogong moth is the staple of the Mountain Pygmy-possums' diet, supplemented by seeds and fruit of the Mountain Plum Pine and other plants. Bogong moths are very rich in protein and fat, enabling the possums to increase their body fat reserves before the onset of winter. Over winter the Mountain Pygmy-possum hibernates, living off its stored body fat and awakening occasionally to feed on seeds stockpiled nearby. Bogong Moths are therefore an extremely important component of the diet, allowing Mountain Pygmypossums to survive the cold, harsh winter.

Habitat

Typical habitat for Mountain Pygmy-possums is alpine rock screes and boulderfields characterised by Mountain Plum Pine *Podocarpus lawrencei* although they have also been found in other habitat types.

At Mt Buller, typical habitat is found mostly on the south side near Federation Valley and southern and northern slopes of the summit. The habitat provides excellent protection for Mountain Pygmy-possums, which nest deep down beneath the surface, in the cracks and gaps between boulders. Mountain Plum Pine forms dense thickets that also provide some shelter to animals foraging on the surface.

Mt Buller Population

Due to the fragmented nature of Mountain Pygmy-possum habitat across the Australian Alps, there is no exchange of genetic material between core populations. Subsequently, there are three genetically distinct populations recognized at Mt Kosciusko, Mt Bogong/Mt Hotham and Mt Buller. The total surviving population is estimated at 2300. The Mt Buller population is very small and isolated. Estimates are based on data collected during annual population surveys, which have occurred annually at Mt Buller since 1996. From this work a picture is emerged of a decline in the overall number of individuals. Mt Buller and Mt Stirling Resort Management has worked to reverse this decline by carrying out extensive, ongoing predator control, reconnecting fragmented habitat by installing artificial boulder corridors and enhancing existing habitat through weed control and revegetation.

These projects occur via implementation of the Mt Buller Mountain Pygmy-possum Recovery Plan which guides management action in 5 year terms. Mountain Pygmy-possum management has been very successful. There are now more Mountain Pygmy-possums on Mt Buller than in 1996 when they were first discovered.



Bogong Moth Agrotis infusa

The Bogong Moth migrates to the mountains in summer to escape the heat or aestivate. Aestivation occurs in summer, when the lowlands experience drought and extreme heat and food is scarce. The moths arrive in the mountains between August and November. They leave the mountains usually in March, making the long journey home, to as far away as the northern and western borders of NSW. Over summer Bogong Moths shelter in crevices and caves. Gripping the rock walls, they line up side by side, the heads of the lower moths beneath the tails of the upper moths. In some areas they are so dense they effectively form a living carpet, estimated to be as dense as 17,000 moths per square metre.

They are an integral component of alpine environments, providing food for Mountain Pygmy-possums, ravens and other animals and possibly pollinating flowers such as Swamp Heath *Epacris paludosa*. Prior to the arrival of Europeans, they provided a seasonal, plentiful food source for the indigenous Australian people that migrated to the mountains in summer.