

Locomotion

Quokkas have plantigrade foot posture and have adapted to use saltatorial locomotion. They are unique in that they use both jumping and ricocheting to get around. They use jumping motions at low speeds and ricocheting motions at higher speeds. In order to do this, they have a center of mass shifted to the rear for balance, a shift in pelvic girdle and bone arrangement, longer segments in the hind limbs, larger hip muscles, longer tendons, large hind feet, and an extended tail.



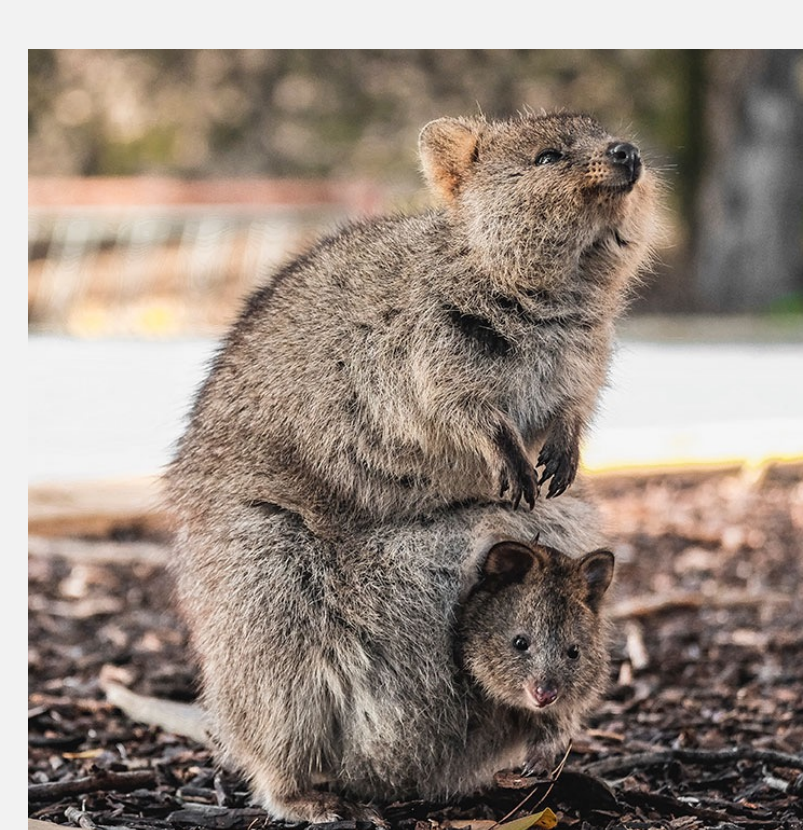
Thermal and Water Balance

Living in a very hot and arid environment, quokkas have to find ways to stay cool and conserve water to maintain their body's thermal and water balance. To do this, they change their behavior to avoid heat, maximize water gain through their food directly, and minimize water loss through their urine. Quokkas can go very long periods of time without water and have the ability to drink salt water. They obtain much of their water through the succulents that they eat and can drink salt water by concentrating their urine to have an excess of salt. They also choose specific shelter sites to help them stay cool and will even move to better cooler shelters if their metabolic rates become too high.



Reproduction

Quokkas are viviparous, giving live birth, and having a choriovitelline placenta. They have a gestation period of 25 to 27 days, with their young weighing an average of 0.3 to 0.4 grams and being altricial when they are born. The young stay in the pouch between 185 and 195 days and continue to return to the pouch for around 100 days after that, suckling on the mother for about 300 days total.



The Happiest Animal on Earth

Quokka *Setonix brachyurus*

----- Marlee Brooks -----

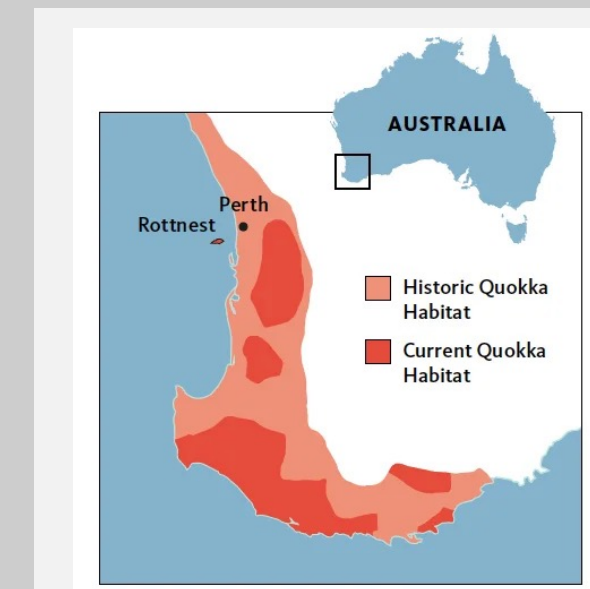
Description

Quokkas are small wallabies with short, round ears, a black nose, a relatively short tail, and thick grey and brown fur, weighing between 1.6 to 4.5 kilograms. They belong to the Macropodidae family and the Diprotodontia order and are the only members of the *Setonix* genus.



Geographic Distribution

Quokkas originally evolved in North America then spread to South America and eventually Australia, roughly 150 million years ago. They then began to thrive in Australia but were outcompeted by placental mammals in North and South America around 50 million years ago. Today they can be found on parts of Bald Island as well as mainland Australia, but they are most abundant on Rottnest Island.



Habitat

Quokkas thrive in wet, moist environments and persist in regions with high rainfall. They can be found in areas of forest, woodland, and wetland, with thick understory, near swamps and riparian areas. They make shelters in areas that are thicketed, shady, cool, and protected. They are nocturnal animals who feed and forage at night and return to the same shelter at the end of each nightly foraging to sleep during the day.



Diet

Quokkas are herbivores that feed on plant materials found around their habitats. They eat grasses, fruits, leaves, and even stems of plants. They mostly eat succulents and grasses, supplemented by some shrubs and sedges. They eat succulents such as angled pigface, grey glasswort, and berry saltbush, shrubs such as skunk tree and cushion fan flower, and sedges such as coast saw-sedge. Their diet is also very season based, as their consumption of succulents is the greatest during the summer, while their consumption of grasses and shrubs is greatest during the winter.



Sociality

Quokkas have developed a highly grouped sociality. They live in families of 25 to 150 individuals, with each family having their own territory. Quokkas are lucky in that most of their existing populations are in areas that are free of any predators, so they don't have to worry about being highly visible. Each individual family sleeps together and is set up by a dominance hierarchy controlled by the males. Quokkas also use female-defense polygyny, where females mate with one male and the males mate with more than one female while the males control the access to reproductive females and defend harems.



Communication

Quokkas are normally very passive and mellow towards each other and do not often show signs of communication between or even within the species. There is little known information on the communication systems of the quokka, as they do not make much noise. Quokkas do not have calls or songs to communicate with other quokkas, and they do not even growl when threatened.



Conservation

Quokkas originally had a very widespread population over the west coast of Australia but had a sharp decline in population during the 19th and 20th centuries. The introduction of new predator species to the mainland, like the red fox, was the prominent reason for their decline. They have also seen a decline in population numbers due to habitat loss from widespread structural expansion, logging, and clearing of swamplands and grasslands. Most of the quokkas today occur in a number of protected areas and are listed as a threatened species in Australia. Luckily under Australian protection, quokka populations have been quite stable.

