

***Bunolagus monticularis*: the only species of the genus**

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Abstract. This short note is a description of the genus *Bunolagus*. The genus *Bunolagus* is represented by a single species, *Bunolagus monticularis*, commonly known as the riverine rabbit. Endemic to South Africa, this species is characterized by its preference for riverine habitats with dense vegetation. Classified as endangered, the riverine rabbit faces threats primarily due to habitat loss and fragmentation. *B. monticularis* exhibits a low reproductive rate, typically giving birth to small litters containing one or two kits. The species is herbivorous, relying on a diet consisting of grasses, leaves, and other plant materials found in its specific habitat. Despite its distinct ecological niche and unique characteristics, the limited distribution of the riverine rabbit makes it susceptible to anthropogenic activities, emphasizing the need for conservation efforts to protect its remaining populations. While the available literature provides valuable insights into the taxonomy, ecology, and conservation status of *B. monticularis*, continuous research is essential to deepen our understanding of this species and implement effective measures for its preservation.

Key Words: endangered, Karoo Desert, limited information, monotypic, riverine rabbit.

Introduction. The genus *Bunolagus* consists of a single species known as the riverine rabbit (*Bunolagus monticularis*) (Collins & Du Toit 2016) (Figure 1). This species is endemic to South Africa, primarily inhabiting the dense vegetation along seasonal rivers in the central and southern regions of the Karoo Desert (Woodgate et al 2021). The riverine rabbit is considered one of the rarest and most endangered rabbit species in the world (Collins & Du Toit 2016; Woodgate et al 2021). This short note is a description of the genus *Bunolagus*.



Figure 1. *Bunolagus monticularis* (source: Jacques van der Merwe - <https://www.inaturalist.org/photos/15111908>, CC BY-SA 4.0, <https://commons.wikimedia.org/w/index.php?curid=122053439>).

Physical Characteristics

Size. The riverine rabbit is a medium-sized rabbit, with a body length of about 40 to 50 cm and a tail length of around 4 to 6 cm.

Coloration. It has a distinctive fur coloration, with a grizzled appearance that includes a mix of grey, brown, and buff tones. The fur on its belly is lighter in color.

Ears. The ears are relatively short compared to other rabbit species and have a rounded shape.

Habitat. *Bunolagus monticularis* is primarily found in the dense vegetation along the banks of seasonal rivers in the Karoo Desert (Collins & Du Toit 2016; Woodgate et al 2021). It prefers areas with thick shrubs and grasses, providing cover and forage (Duthie 1989).

The Karoo Desert. The Karoo Desert region in South Africa is a unique and diverse ecosystem with various species facing conservation challenges. Conservation in the Karoo Desert involves not only protecting individual species, but also preserving the unique ecosystems and addressing the various threats, including habitat degradation, climate change, and human-wildlife conflict (Duthie 1989). Collaborative efforts by conservation organizations, researchers, and local communities are essential for the sustainable management of this diverse and important region.

While *B. monticularis*, the riverine rabbit, is a key focus for conservation in this area due to its endangered status and restricted range, there are other species that are also important for conservation efforts in the Karoo Desert, some mentioned below.

Cape mountain zebra (*Equus zebra zebra*). This zebra subspecies is native to the mountainous regions of the Karoo. Conservation efforts aim to protect and preserve their populations, as they have faced historical threats such as hunting and habitat loss.

Black rhinoceros (*Diceros bicornis*). While not exclusive to the Karoo Desert, black rhinos may inhabit arid and semi-arid regions, including parts of the Karoo. They are critically endangered, primarily due to poaching for their horns.

South African ostrich (*Struthio camelus australis*). This large flightless bird is found in various regions of South Africa, including parts of the Karoo. Conservation efforts focus on preserving its habitat and addressing potential threats.

Aardvark (*Orycteropus afer*). The aardvark, while not exclusive to the Karoo, inhabits arid and semi-arid regions. Its conservation is important for maintaining the ecological balance, as it plays a role in termite control.

Cape parrot (*Poicephalus robustus*). Though not strictly a Karoo species, the Cape parrot is found in the nearby forests. It faces threats such as habitat loss and disease, making conservation efforts crucial.

Behavior. The riverine rabbit is known for its secretive and elusive behavior. It tends to stay hidden in the vegetation and relies on its cryptic coloration for camouflage. This species is primarily nocturnal, being more active during the night when it forages for vegetation (Duthie 1989).

Diet. The diet of *B. monticularis* primarily consists of a variety of plant materials. These rabbits are herbivores and feed on a range of vegetation found in their habitat. Some of the key components of their diet include grasses, leaves, and other plant matter. Riverine rabbits are adapted to a specific habitat, typically occurring in dense, riverbank vegetation. They feed on the plants available in these areas, and their diet may vary

based on seasonal and local plant availability. Due to their limited distribution and habitat specificity, the riverine rabbit is vulnerable to habitat loss and fragmentation. Changes in land use and agricultural practices can impact the availability of suitable vegetation for their diet, contributing to the conservation concerns surrounding this species (Matthee et al 2022). Detailed studies on the dietary preferences and habits of riverine rabbits are limited, and further research could provide more insights into their ecology and feeding behavior.

Reproduction. Limited information is available about the reproductive biology of the riverine rabbit. Like other rabbits (Petrescu-Mag 2023a,b), they are likely to have a relatively short gestation period, and females may give birth to a litter of offspring. It is known that this species generally has a low reproductive rate compared to the reproductive rates of other species of the family Leporidae (Smith et al 2018). Riverine rabbits are believed to have relatively small litters, often consisting of only one or two kits per birth. This low reproductive rate is one factor contributing to their vulnerable conservation status.

Conservation Status. The riverine rabbit is classified as critically endangered by the International Union for Conservation of Nature (IUCN) (Matthee et al 2022). Threats to its survival include habitat loss due to agriculture, overgrazing by livestock, and the degradation of riparian habitats (Hughes et al 2008). Conservation efforts focus on habitat preservation, monitoring populations, and raising awareness about the importance of protecting this rare and unique species (Dippenaar & Ferguson 1994; Matthee et al 2022).

No Fossil Records. There is no evidence of fossil species within the genus *Bunolagus*, other than the extant species *B. monticularis*. The genus appears to be monotypic, meaning it has only one recognized species.

Taxonomy. The riverine rabbit (*Bunolagus monticularis*) is part of the Animalia kingdom, Chordata phylum, Mammalia class, Lagomorpha order, Leporidae family and it is the only species of the genus *Bunolagus*.

Conclusions. The genus *Bunolagus* is represented by a single species, *B. monticularis*, commonly known as the riverine rabbit. Endemic to South Africa, this species is characterized by its preference for riverine habitats with dense vegetation. Classified as endangered, the riverine rabbit faces threats primarily due to habitat loss and fragmentation. *B. monticularis* exhibits a low reproductive rate, typically giving birth to small litters containing one or two kits. The species is herbivorous, relying on a diet consisting of grasses, leaves, and other plant materials found in its specific habitat. Despite its distinct ecological niche and unique characteristics, the limited distribution of the riverine rabbit makes it susceptible to anthropogenic activities, emphasizing the need for conservation efforts to protect its remaining populations. While the available literature provides valuable insights into the taxonomy, ecology, and conservation status of *B. monticularis*, continuous research is essential to deepen our understanding of this species and implement effective measures for its preservation.

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Conflict of Interest. The authors declare that there is no conflict of interest.

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