

Genus *Pentalagus* Lyon 1904

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Genus *Pentalagus*, commonly known as the Amami rabbit, includes a unique and rare lagomorph species native to the subtropical forests of the Amami Islands in Japan (Suzuki & Oumi 2020). This distinctive genus consists of a single recognized species, *Pentalagus furnessi*, making it one of the most geographically and genetically isolated rabbit species in the world (Yamada & Cervantes 2005).

The Amami rabbit (Figure 1) is a medium-sized lagomorph characterized by a compact build, short limbs, and a distinctive appearance that sets it apart from other rabbit species. Its dense, dark fur serves as effective camouflage in the underbrush of its forest habitat (Suetsugu & Hashiwaki 2023). One of the most remarkable features of the Amami rabbit is its primitive, rodent-like dentition, a trait that sets it apart from other more derived lagomorphs.



Figure 1. *Pentalagus furnessi* (Source: Hamada Futoshi, <https://www.nippon.com/en/images/i00064/>)

First described in 1921, the Amami rabbit has since fascinated researchers due to its unique evolutionary history and restricted distribution. The species is believed to have ancient origins, representing a living relic that has persisted for millions of years (Royle 2016). The Amami Islands, where the rabbit exclusively resides, offer a complex and diverse ecosystem, creating a specialized niche for this endemic lagomorph (Royle 2016). The ecology and behavior of the Amami rabbit are subjects of ongoing research, but certain aspects of their lifestyle have been documented (Yamada & Cervantes 2005). The rabbits are primarily herbivorous, feeding on a variety of plant materials such as leaves, bark, and twigs (Yamada & Cervantes 2005). Like other species related to the Amami rabbit (Proorocu & Păpuc 2023; Proorocu & Petrescu-Mag 2023), they are known for their nocturnal habits, which, along with their elusive nature, has made studying their behavior challenging. Although some aspects of breeding behavior are similar to those of other lagomorphs (Hamada & Mizuta 2020), the Amami rabbit has a very small litter size with only a few breeding seasons in a year, resulting in the lowest fecundity rate among lagomorphs (Hamada & Mizuta 2020). This unique reproductive trait is considered to have evolved in the small subtropical island environment, with a relatively stable climate and no native carnivorous mammals (Hamada & Mizuta 2020).

Amami rabbits can cause damage to local people's crops (Suzuki & Oumi 2020). Therefore, possible means of preventing these events are being studied (Nakamura et al 2023).

Despite its unique evolutionary and ecological characteristics, the Amami rabbit faces significant conservation challenges. The species is listed as Endangered on the International Union for Conservation of Nature (IUCN) Red List due to habitat loss caused by logging, agricultural development, and invasive species (Hamada & Mizuta 2020). The fragmented nature of its island habitat further exacerbates the threats to its survival.

Conservation efforts for the Amami rabbit involve a combination of habitat protection, restoration initiatives, and captive breeding programs. Given the species' limited distribution and susceptibility to external pressures, these conservation measures are crucial for preventing further population declines and preserving the unique genetic heritage of the Amami rabbit.

Conclusions. Genus *Pentalagus* and its sole species, the Amami rabbit, offer a fascinating glimpse into the intricate web of evolutionary history and ecological adaptation. As conservation efforts continue, researchers and environmentalists strive to unlock the secrets of this ancient lagomorph, ensuring that the Amami rabbit remains a symbol of resilience and biodiversity in the ever-changing landscape of the Amami Islands.

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

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