

Research Trends of *Propithecus coquereli*: A Bibliometric Analysis

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Short Communication

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ABOUT THE STUDY

Propithecus coquereli, commonly known as Coquerel's sifaka, is a medium-sized lemur species found in the dry deciduous forests of North-Western Madagascar. The species is known for its unique pelage coloration, which is white with maroon patches. Coquerel's sifaka is an endangered species, and its population is declining due to habitat loss, hunting, and climate change [1-3]. In this study, we conducted a bibliometric analysis of research trends in Coquerel's sifaka to identify research gaps and future research directions.

We conducted a literature search using the Web of Science database to identify research articles published on Coquerel's sifaka between 2000 and 2022. We used the following search terms: "*Propithecus coquereli*," "Coquerel's sifaka" and "Madagascar lemur." We analysed the data using bibliometric techniques, including co-authorship analysis, citation analysis, and keyword analysis. Our analysis identified 98 research articles published on Coquerel's sifaka between 2000 and 2022. The number of publications on Coquerel's sifaka has increased steadily over the years, with a peak in 2021. Most of the publications were research articles (n=78), followed by reviews (n=10), and conference proceedings (n=10). The most common research topics were ecology and behaviour (n=32), genetics and genomics (n=22), and conservation (n=20).

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The following is a summary of the key findings from peer-reviewed research on *Propithecus coquereli*.

Distribution and habitat

Studies have identified *P. coquereli* in the dry deciduous forests of North-Western Madagascar, specifically in Ankarafantsika National Park and nearby fragmented habitats [3-5]. They primarily inhabit forested areas and are highly sensitive to habitat fragmentation and deforestation [6-8].

Conservation status

P. coquereli is listed as Critically Endangered on the IUCN Red List due to ongoing habitat loss and degradation caused by human activities, such as agriculture and logging [9,10]. Their restricted range and low population densities make them particularly vulnerable to extinction [11-13].

Population dynamics

Research on *P. coquereli* populations has shown variations in population size and density across different habitats [3,13-15]. Factors such as food availability, habitat quality, and anthropogenic disturbances significantly influence their population dynamics.

Feeding ecology

Studies have examined the feeding behavior and diet of *P. coquereli*, revealing their preference for leaves, flowers, and fruits [4,16,17]. They are folivorous, frugivores and play an important role in seed dispersal within their habitats [18,19].

Social structure and behavior

P. coquereli exhibits a "neighborhood"-like intermediate level of hierarchical social structure characterized by closely related lineages of philopatric related females and offspring [20-22]. They communicate through vocalizations and scent marking, and their behavior includes alarm calls, grooming, and mating rituals [23-25].

Reproduction and life history

Research has explored the reproductive patterns and life history traits of *P. coquereli*. They have a seasonal breeding period, with females giving birth to a single offspring after a gestation period of around 120 days. The young are dependent on their mothers for an extended period before becoming independent [26].

Conservation strategies

Several conservation initiatives have been implemented to protect *P. coquereli* and their habitat. These include the establishment and management of protected areas, community-based conservation programs, and efforts to raise awareness among local communities and stakeholders about the species' ecological importance [27].

Our analysis identified a literature gap that requires more exploration in the context of *P. coquereli* research: the effects of climate change on habitat disturbance, genetic diversity, and mortality. Climate change is a significant threat to the survival of Coquerel's sifaka, and more research is needed to understand its impact on the species. Additionally, our analysis identified the need for more research on the feeding ecology of Coquerel's sifaka, particularly during the lean season [18]. The species is known to feed on a variety of plant species, including red mangrove [4]. However, more research is needed to understand the nutritional requirements of the species and how it adapts to seasonal changes in food availability [28-30].

CONCLUSION

Overall, the research on *Propithecus coquereli* highlights the urgent need for conservation actions to mitigate the threats they face. Understanding their ecology, behavior, and habitat requirements is crucial for developing effective conservation strategies and ensuring the long-term survival of this endangered lemur species. Our bibliometric analysis of research trends in Coquerel's sifaka identified several research gaps and future research directions. The analysis highlights the need for more research on the impact of climate change on the species and its feeding ecology. The findings of this study can inform future research on Coquerel's sifaka and contribute to the conservation of this endangered species.

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