

Herpetofauna Diversity In One Of The Last Remaining Lowland Forest In Java And Its Conservation Implications

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Introduction

Nusakambangan is a small island in southern Java. It is one of the last remaining places in Java that has little disturbed limestone and lowland forests left. The threats to nusakambangan ecosystems from human activities such as illegal logging, mining, and agriculture had become more severe and intense. Several biodiversity surveys have been conducted in Nusakambangan, but the herpetofauna diversity in this area is little known.

Methods

Herpetofauna data were obtained using Visual Encounter Survey (VES) in seven transects. VES is a method in which observers walked through a designated area for a prescribed time period to search the target animals systematically (Heyer et al., 1994)

In addition, interviews with local people were conducted to complete the data.

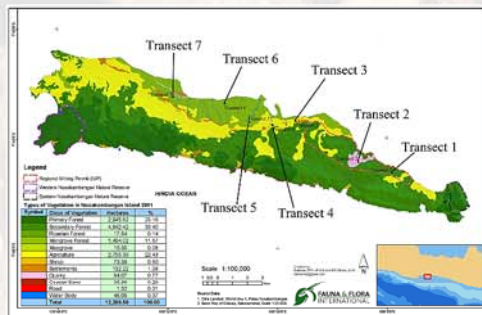


Fig. 1 Transect Locations and Vegetation Types in Nusakambangan

Results

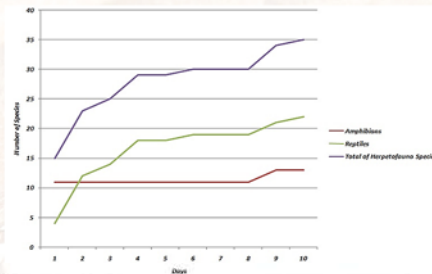


Fig. 2 The Cumulative Species Acquisition

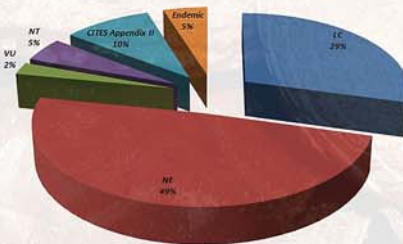


Fig. 3 Conservation Status of Herpetofauna Recorded in the Survey

IUCN Category
 NE : Not Evaluated NT: Near Threatened
 VU: Vulnerable LC: Least Concern

- A total of 35 herpetofauna species comprising 13 amphibians and 22 reptiles were recorded from this survey
- This number is much higher than the total species that was recorded from previous survey (3 species) (Partomihardjo et al., 2004)
- Five species, *Naja sputatrix*, *Ophiophagus hannah*, *Microhyla achatina*, *Broghammerus reticulatus*, and *Cyrtodactylus* sp were identified as High Conservation Value species
- One gecko species (*Cyrtodactylus* sp) is possibly a new species and might be endemic to Nusakambangan
- Based on interview with the locals, the threats to herpetofauna species also come from hunting, especially *Limnonectes macrodon* which is hunted for food while *Broghammerus reticulatus* for their skin and meat



Plate 1. *Calloselasma rhodostoma*



Plate 2. *Microhyla achatina*



Plate 3. *Trimeresurus puniceus*



Plate 4. *Rhacophorus reinwardtii*



Plate 5. *Cyrtodactylus* sp

Conclusions

- The herpetofauna diversity in Nusakambangan is high. 32.5 % Javan amphibians were recorded from this Island.
- The number of herpetofauna species inhabiting in Nusakambangan is considerably higher than 35 species and there is a possibility for the discovery of new undescribed herpetofauna species
- The existence of herpetofauna species in this Island is threatened not only by habitat loss but also by hunting.

Conservation Implications

- A certain way could be developed to minimize the pressure from hunting, so the locals would not need to capture the frogs directly from nature. One way is known as frog farming.
- Nusakambangan Island is an important place which provides a refuge for endemic and endangered herpetofauna species that extinct in the rest of Java. Thus, the ecosystems in this Island need to be managed and conserved properly in sustainable ways.

Literature Cited

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2. Partomihardjo, T and U. Rosichon. 2004. *Daftar jenis flora dan fauna Pulau Nusakambangan, Cilacap, Jawa Tengah*. Puslitbang Biologi – LIPI, Indonesia.