

New reports of the presence and ecology  
of the Sumatran Striped Rabbit  
(*Nesolagus netscheri*) in South Sumatra  
*By Arum Setiawan*

## Short Note

Arum Setiawan, Muhammad Iqbal\*, Komarudin, Rio Firman Saputra\*, Doni Setiawan and Indra Yustian

## New reports of the presence and ecology of the Sumatran striped rabbit (*Nesolagus netscheri*) in South Sumatra

<https://doi.org/10.1515/mammalia-2017-0064>  
Received June 13, 2017; accepted January 18, 2018

**Abstract:** The Sumatran striped rabbit (*Nesolagus netscheri* Schlegel 1880), endemic to the Indonesian island of Sumatra, is one of the rarest and least known lagomorph in the World. On 2 February 2017, *N. netscheri* was sighted in the forested Gunung Raya Wildlife Reserve, South Sumatra Province, Indonesia. An immediate follow up survey of local coffee farmers and hunters provided new data on the occurrence and ecology of *N. netscheri*.

**Keywords:** ecology; Gunung Raya Wildlife Reserve; hunting; Indonesia; local informants; *Nesolagus netscheri*; Sumatra; Sumatran striped rabbit.

The Sumatran striped rabbit (*Nesolagus netscheri* Schlegel 1880) is one of the least-known mammals in the World. The species has been sighted only rarely, and just a small number of museum specimens were collected between 1880 and 1916 (Averianov et al. 2000). Camera trap records indicate that *N. netscheri* is very scarce and it has been categorized as Vulnerable on the IUCN Red List (Surridge et al. 1999, Wilson and Reeder 2005, Meijaard and Sugardjito 2008). Currently available information is that *N. netscheri* is restricted to the Bukit Barisan

mountain range in Sumatra (Flux 1990, McCarthy et al. 2012) occupying dense forest at moderate elevations from 600 to 1600 m, a habitat that is under increasing development pressure (Blouch 1984, Flux 1990, Smith 2008, Dinets 2010, McCarthy et al. 2012).

From 30 January to 3 February 2017, a rapid mammal survey was carried out by us in Gunung Raya Wildlife Reserve, South Sumatra Province, Indonesia. On 2 February 2017, at about 09:00 h, an adult *Nesolagus netscheri* was sighted by a few of us for about 20 s. The animal was identified as a rabbit due to its size, very distinct pelage and its movement. Efforts to determine the range and status of *N. netscheri* have been hindered in the past by confusion with European rabbit *Oryctolagus cuniculus* which is sometimes kept in captivity in Sumatra (Corbet and Hill 1992). *Nesolagus netscheri* is about the size of a *O. cuniculus* (1.5 kg), head and body length 368–417 mm, tail 17 mm, hind foot 67–87 mm, ear 34–45 mm, skull length 67–74 mm (Flux 1990). However, *N. netscheri* is distinguished by its distinctive fur pattern, wide black or dark brown stripes on a yellowish gray background that becomes rusty brown towards the rear; the fur on the underparts, below the chin and on the inside of the legs is whitish; the ears are black, very short and when folded forward, reach only to the eye. The rumped tail is reddish and the limbs gray-brown (Flux 1990, Francis 2001). Those features differ from the *O. cuniculus* which has plain fur in a gray-brown pattern without black or dark brown stripes in the body, and slightly longer ears (Macdonald and Barrett 1993).

The location was the Talang Lebong forest (1216 m above sea level), Bumi Agung village, Warkuk Ranau Selatan subdistrict, Ogan Komering Ulu Selatan district, South Sumatra Province. After 30 min, we returned to the same site and our guides claimed to have seen an adult Sumatran rabbit with a juvenile. Unfortunately, no photos are available. We followed up on this observation, with local interviews, from 22 to 27 March 2017. We interviewed local people from Pasir Bintang forest

**\*Corresponding authors: Muhammad Iqbal and Rio Firman Saputra,** Conservation Biology Program, Faculty of Science, Sriwijaya University, Jalan Padang Selasa 524, Palembang, Sumatera Selatan 30129, Indonesia, e-mail: kpbsos26@yahoo.com (M. Iqbal); riofirman4@gmail.com (R. F. Saputra)

**Arum Setiawan, Doni Setiawan and Indra Yustian:** Department of Biology, Faculty of Science, Sriwijaya University, Jalan Raya Palembang-Prabumulih Km 32, Indralaya, Sumatera Selatan 30862, Indonesia

**Komarudin:** Gunung Raya Wildlife Reserve, Gunung Raya Village, Warkuk Ranau Selatan, Ogan Komering Ulu Selatan, Sumatera Selatan 30129, Indonesia



(Mekarsari village subdistrict), Mesagih forest (Remanam Jaya village), Talang Lebong forest (Bumi Agung village) and Talang Kukusan (Gunung Raya village). All of these localities are part of Warkuk Ranau Selatan subdistrict, Gunung Raya Wildlife Reserve, South Sumatra Province. The interviewees were mainly coffee farmers (living at the forest edge), but also hunters, wildlife traders and staff of Gunung Raya Wildlife Reserve who conducted regular field patrols. The questions we asked were standardized in relation to the apparent local knowledge of each individual interviewee. A standard questionnaire was designed. Questions covered included: morphology (features, structures, color forms), behavior, distribution (current, historical), nesting biology, local custom and beliefs, hunting and trading (past and present), and abundance (changes in number and size structure overtime).

A previous report said *Nesolagus netscheri* was fairly common in the Gumai Pasemah Wildlife Reserve in 1989 and found that local people had confused *N. netscheri* with a feral colony of *Oryctolagus cuniculus* living in a coffee plantation (Flux 1990). However, our interviews with local people showed that most of them are able to distinguish *N. netscheri* from *O. cuniculus*, which is rarely kept as a pet or reared as food by locals. To test their knowledge, we did not show the picture until the discussion was nearly finished, and documented how secure their assertions made us in their identification. Interviewees described specific features of *N. netscheri*, including a buffy-gray body with dark brown stripes, and gray brown limbs. Local people named *N. netscheri* as “sepuh”, “apuh” or “epuh”. Local informants told us that *N. netscheri* was encountered in both forest and coffee plantations at night and hid in forest burrows during the day. All the interviewees reported sightings were at night. Our single sighting at around 9.00 am in Gunung Raya Wildlife Reserve is therefore exceptional, possibly *N. netscheri* was attempting to move away from us to protect a juvenile.

The *Nesolagus netscheri* is nocturnal, and many reported sightings have been at night (e.g. Dinets 2010, McCarthy et al. 2012), although there are a range of daytime sightings as well (Jacobson and Kloss 1919).

Nearly all local sightings were of single individuals. There was one exception from Talang Lebong forest where a group of three had been seen on one occasion. Locals reported that the preferred diet of *Nesolagus netscheri* was the young leaves of understory fleshy ground herbs, especially a plant with a reddish violet stem. Our



Figure 1: Gunung Raya Wildlife Reserve.

provisional identification is that this description refers to a *Cyrtandra* species, possibly *Cyrtandra peltata* and/or *Cyrtandra pendula* which are relatively widespread in the understorey of wet forest in Sumatra. *Cyrtandra* (Gesneriaceae), with over 600 species, is an important understory fleshy herb in primary rain forest, in Sundaland with growth habits ranging from epiphytes, herbs and shrubs, to small trees (Bramley et al. 2004). Flux (1990) reported that *Cyrtandra* was the preferred diet of *N. netscheri*, where 35 species of *Cyrtandra* occur on Sumatra and 10 on Mount Kerinci where this species live.

Gunung Raya Wildlife Reserve is a remnant of lower montane forest in South Sumatra province (between 1000 and 1643 m above sea level), with a very varied vegetation including Dipterocarpaceae, Fagaceae, Lauraceae and Orchidaceae (Figure 1). The tree vegetation is dominated by Chinquapin *Castanopsis* spp. and Oaks *Quercus* spp. The annual rainfall is about 1500 mm, the humidity around 50–80% and the temperature varied from 18°C to 28°C. In 1986, the forested area was 78,250 ha, but subsequent forest destruction for coffee farming has reduced the forested area to 50,950 ha (BKSDASS 1998, Siska 2016).

Regular hunting of *Nesolagus netscheri* has not been reported previously. Meijaard and Sugardjito (2008) stated the main threat to *N. netscheri* is the clearing of mountain forest for agriculture, primarily coffee, tea and cocoa plantations; and it is not apparently hunted routinely, probably due to its natural rarity. Unfortunately, our interviews with local people show that hunting of *N. netscheri* was a relatively regular seasonal activity in the Gunung Raya Wildlife Reserve. Hunting is carried



out by night either with the use of dogs or by shooting in areas where the Sumatran rabbit is known to occur. We tried to collect specimens from hunters, but no sign of hunting activities were found during our visit to Gunung Raya Wildlife Reserve (February to March 2017), and as a result, no specimens were found. Most hunting takes place to obtain meat for a special occasion, in particular Idul Fithri which celebrates the end of the Ramadan fast. To celebrate Idul Fithri, the local people need special meats to serve their family or visitors to their home. Most hunted meat is for home consumption but it is also sometimes sold to their neighbors or in traditional markets. We were told that the current price of *N. netscheri* meat is about Rp 150,000/kg (or \$11/kg). In addition, we were told that *N. netscheri* was hunted in the remaining forests at Lengkiti subdistrict (another subdistrict in Ogan Komering Ulu Selatan district, away from Gunung Raya Wildlife Reserve).

Although no specimens from local people have been found yet, preliminary findings suggest that *Nesolagus netscheri* in Gunung Raya Wildlife Reserve might not be very rare as previously suspected and may have been overlooked due to the primarily nocturnal and elusive behavior of the species, its use of burrows and its cryptic coloration.

McCarthy et al. (2012) suggest an ecological study of the Sumatran rabbit would facilitate the refinement of research techniques for surveys in protected areas. The major threat to *Nesolagus netscheri* is primarily habitat destruction (Flux 1990, Meijaard and Sugardjito 2008). However, information from local people suggest that hunting may also be a significant threat to the Sumatran rabbit and should be taken into account when assessing the conservation status and designing an action plan for this species.

**Acknowledgements:** We thank our GIZ Bioclimate (FA no.: 83216945)-Department Biology of Sriwijaya team for their field assistance. We express our gratitude to Herman (former head of Gunung Raya Wildlife Reserve) for facilitating us during fieldwork. We acknowledge the financial support provided by GIZ Bioclimate South Sumatra to our survey in Gunung Raya Wildlife Reserve. We are very grateful to Quentin Phillipps for checking our English and improving this draft. Finally, we wish to thank the anonymous reviewers who provided much essential suggestions for this paper.

## References

- Averianov, A.O., A.V. Abramov and A.N. Tikhonov. 2000. A new species of *Nesolagus* (Lagomorpha, Leporidae) from Vietnam with osteological description. Zoological Institute, St. Petersburg, Russia. pp. 22.
- BKSDASS. 1998. Informasi kawasan konservasi Propinsi Sumatera Selatan. Balai Konservasi Sumberdaya Alam Sumatera Selatan, Palembang.
- Blouch, R.A. 1984. Current status of the Sumatran rhino and other large mammals in southern Sumatra. IUCN/WWF Report Number 4, Project 3033 Field Report. Bogor, Indonesia.
- Bramley, G.L.C., R.T. Pennington and R. Zakaria. 2004. Assembly of tropical plant diversity on a local scale: *Cyrtandra* (Gesneriaceae) on Mount Kerinci, Sumatra. B. J. Linnean Soc. 81: 49–62.
- Corbet, G.B. and J.E. Hill. 1992. *Mammals of the Indomalayan region: a systematic review*. Oxford University Press, Oxford. pp. 488.
- Dinets, V. 2010. Observation of Sumatran striped rabbit (*Nesolagus netscheri*) in the wild. *Mammalia* 74: 1.
- Flux, J.E.C. 1990. The Sumatran rabbit *Nesolagus netscheri*. In: (J.A. Chapman and J.E.C. Flux, eds.) Rabbits, hares and pikas: status survey and conservation action plan. IUCN/SSC Lagomorph Specialist Group. IUCN, Gland, Switzerland. pp. 137–139.
- Francis, C.M. 2001. A photographic guide to the mammals of South-East Asia (including Thailand, Malaysia, Singapore, Myanmar, Laos, Cambodia, Vietnam, Java, Sumatra, Bali and Borneo). New Holland Publisher, London. pp. 128.
- Hoffmann, R.S. and T.A. Smith. 2005. Lagomorpha: Leporidae. In: (D.E. Wilson and D.M. Reeder, eds.) *Mammal species of the World – a taxonomic and geographic reference* (3rd ed.). Johns Hopkins University, Baltimore. pp. 185–211.
- Jacobson, E. and C.B. Kloss. 1919. Notes on the Sumatran hare. J. Fed. Malay States Mus. 7: 293–297.
- Macdonald, D.W. and P. Barrett. 1993. *Mammals of Europe*. Princeton University Press, New Jersey. pp. 312.
- McCarthy, J.L., T.K. Fuller, K.P. McCarthy, H.T. Wibisono and M.C. Livolsi. 2012. Using camera trap photos and direct sightings to identify possible refugia for the Vulnerable Sumatran striped rabbit *Nesolagus netscheri*. *Oryx* 46: 438–441.
- Meijaard, E. and J. Sugardjito. 2008. *Nesolagus netscheri*. The IUCN Red List of Threatened Species 2008. Available at: [www.iucnredlist.org](http://www.iucnredlist.org) (Downloaded on 02 May 2017).
- Nowak, R.M. 1999. *Walker's mammals of the World* (6th ed.). Johns Hopkins University Press, Baltimore. pp. 1723.
- Ridley, H.N. 1917. Results of an expedition to Korinchi Peak, Sumatra. Part IV. Botany. J. Fed. Malay States Mus. 8: 9–136.
- Siska, W. 2016. Kritis, Suaka Margasatwa Gunung Raya Terancam Hilang. Sumatera Ekspres online, <http://www.sumeks.co.id> (Downloaded on 16 April 2017).
- Smith, A.T. 2008. Lagomorph biology: evolution, ecology, and conservation. In: (P.A. Alves, N. Ferrand and K. Hackländer, eds.) 304. In conservation of endangered lagomorphs. Springer, Berlin. pp. 297–316.
- Surridge, A.K., R.J. Timmins, G.M. Hewitt and D.J. Bell. 1999. Striped rabbits in Southeast Asia. *Nature* 400: 726.

# New reports of the presence and ecology of the Sumatran Striped Rabbit (*Nesolagus netscheri*) in South Sumatra

---

ORIGINALITY REPORT

---

5%

SIMILARITY INDEX

---

MATCH ALL SOURCES (ONLY SELECTED SOURCE PRINTED)

---

★J. W. DUCKWORTH. "English names for a world list of mammals, exemplified by species of Indochina", *Mammal Review*, 6/2003 3%

Crossref

---

EXCLUDE QUOTES OFF

EXCLUDE MATCHES OFF

EXCLUDE BIBLIOGRAPHY OFF