

= Nycticebus kayan =

The Kayan River slow loris (*Nycticebus kayan*) is a strepsirrhine primate and a species of slow loris that is native to the northern and central highland region of the island of Borneo . The species was originally thought to be a part of the Bornean slow loris (*N. menagensis*) population until 2013 , when a study of museum specimens and photographs identified distinct facial markings , which helped to differentiate it . It is distinguished by the high contrast of its black and white facial features , as well as the shape and width of the stripes of its facial markings .

The species is named after the Kayan River , which runs through its native habitat . As with other slow lorises , this arboreal and nocturnal species primarily eats insects , tree gum , nectar , and fruit and has a toxic bite , a unique feature among primates . Although not yet evaluated by the International Union for Conservation of Nature (IUCN) , it is likely to be listed as " Vulnerable " or placed in a higher @-@ risk category when its conservation status is assessed . It is primarily threatened by habitat loss and the illegal wildlife trade .

= = Taxonomy and phylogeny = =

N. kayan is a strepsirrhine primate , and species of slow loris (genus *Nycticebus*) within the family Lorisidae . Museum specimens of this animal had previously been identified as the Bornean slow loris (*Nycticebus menagensis*) , first described by the English naturalist Richard Lydekker in 1893 as *Lemur menagensis* . In 1953 , all of the slow lorises were lumped together into a single species , the Sunda slow loris (*Nycticebus coucang*) . In 1971 , that view was refined by distinguishing the pygmy slow loris (*N. pygmaeus*) as a species , and by further identifying four subspecies , including *N. coucang menagensis* , the Bornean slow loris . The Bornean slow loris was elevated to the species level (as *N. menagensis*) in 2006 , when molecular analysis showed it to be genetically distinct from *N. coucang* .

A 2013 review of museum specimens and photographs attributed to *N. menagensis* resulted in elevating two of its former subspecies to the species *N. bancanus* and *N. borneanus* . Additionally , *N. kayan* was recognized as a new species , distinct from the nominate subspecies , *N. menagensis* . All newly recognized or elevated species showed significant differences in their " facemask " ? the coloration patterns on their face . Analysis of the facemask patterns suggests that *N. kayan* diverged from *N. menagensis* and *N. borneanus* through sympatric speciation (divergent evolution of organisms living in the same geographic region) , while geographic barriers may account for its divergence with *N. bancanus* (allopatric speciation) .

N. kayan is named after the Kayan River , which runs through its native habitat and near Peleben , the type locality of the original specimen . The holotype , AMNH 106012 , was originally collected on 8 October 1935 by Baron V. von Plessen near Peleben in the province of East Kalimantan in Borneo and is housed in the American Museum of Natural History in New York . It consists of a male skin and skull , with a head @-@ body length of 257 @.@ 3 mm (10 @.@ 1 in) .

= = Physical description = =

Like other slow lorises , it has a vestigial tail , round head , and short ears . It has a rhinarium (the moist , naked surface around the nostrils of the nose) and a broad , flat face with large eyes . Like *N. menagensis* , this and all other Bornean species lack a second upper incisor , which distinguishes them from other slow lorises . On its front feet , the second digit is smaller than the rest ; the big toe on its hind foot opposes the other toes , which enhances its gripping power . Its second toe on the hind foot has a curved grooming claw that it uses for scratching and grooming , while the other nails are straight . It also possesses a specialized arrangement of lower front teeth , called a toothcomb , which is also used for grooming , as with other lemuriform primates . On the ventral side of its elbow , it has a small swelling called the brachial gland , which secretes a pungent , clear oily toxin that the animal uses defensively by wiping it on its toothcomb .

The face mask of *N. kayan* differs from those of other Bornean lorises in several ways . First , the

top of the dark ring around its eyes is either rounded or pointed (not diffuse at the edges) and the bottom stretches below the zygomatic arch , and sometimes extends as far down as the jaw . Second , the stripe between the eyes is occasionally bulb @-@ shaped , compared to the rectangular stripe seen in the neighboring species . Also , a light band of fur in front of the ears is usually intermediate in width compared to the narrow and wide bands seen in the other Bornean species . Compared to *N. menagensis* , the facemask of *N. kayan* has more contrast between its dark black and white features , and its ears are always covered in hair , whereas those of *N. menagensis* are generally naked . Overall , its fur is generally longer and fluffier compared to *N. menagensis* . Based on a limited number of specimens , the species is about 273 @.@ 4 mm (10 @.@ 8 in) long , and weighs about 410 @.@ 5 g (0 @.@ 9 lb) .

= = Distribution = =

N. kayan is found in central and northern Borneo . Its range extends south to the Mahakam and Rajang Rivers in the Indonesian province of East Kalimantan and the Malaysian province of Sarawak , respectively , and north to southern side of Mount Kinabalu in the Malaysian province of Sabah . Although it is not found along the coast , its range spans Borneo from east to west . Its range overlaps that of *N. menagensis* in East Kalimantan and Sabah , and *N. borneanus* is a neighboring species .

= = Habitat and ecology = =

Like other slow lorises , *N. kayan* is arboreal , nocturnal , and omnivorous , eating primarily insects , tree gum , nectar , and fruit . Likewise , this species has a toxic bite , a unique feature found only in slow lorises among primates . The toxin is produced by licking a brachial gland (a gland by its elbow) , and the secretion mixes with its saliva to activate . The toxic bite is a deterrent to predators , and the toxin is also applied to the fur during grooming as a form of protection for infants . When threatened , slow lorises may also lick their brachial glands and bite the aggressors , delivering the toxin into the wound . Slow lorises can be reluctant to release their bite , which is likely to maximize the transfer of toxins .

The face mask may help the species identify potential mates by distinguishing species , and may serve as an anti @-@ predator strategy by making its eyes appear larger than they really are .

= = Conservation = =

While *Nycticebus kayan* has yet to be assessed by the IUCN , *N. menagensis* was listed as " Vulnerable " as of 2012 . Because that species has been divided into four distinct species , each of the new species faces a higher risk of extinction . Accordingly , each of them are expected to be listed as " Vulnerable " at least , with some of them likely to be assigned to a higher @-@ risk category .

Between 1987 and 2012 , one @-@ third of Borneo 's forests were lost , making habitat loss one of the greatest threats to the survival of *N. kayan* . The illegal wildlife trade is also a major factor , with loris parts commonly sold for traditional medicine . Further , viral videos on YouTube promote the exotic pet trade . However , all slow loris species are protected from commercial trade under Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) .