

= Gerp 's mouse lemur =

Gerp 's mouse lemur (*Microcebus gerpi*) is a species of mouse lemur known only from the Sahafina Forest in eastern Madagascar , near Mantadia National Park . Its discovery was announced in 2012 by a German and Malagasy research team . The Sahafina Forest had not been studied until 2008 and 2009 , when Groupe d 'Étude et de Recherche sur les Primates de Madagascar (GERP) ? a Malagasy @-@ based research and conservation group for which the lemur is named ? inventoried the forest 's lemurs .

Based on genetic studies , measurements , and photos , the research team confirmed the Gerp 's mouse lemur was an undescribed species , distinct from Goodman 's mouse lemur , which is found 58 @-@ kilometre (36 mi) away . Gerp 's mouse lemur is significantly larger , weighing on average 68 @-@ gram (2 @.@ 4 oz) , compared to Goodman 's mouse lemur , which weighs about 44 g (1 @.@ 6 oz) . Jolly 's mouse lemur , which is its closest relative and a neighbor to the south , is comparably larger , but differs in tail length and genetics .

Because it is a recently discovered species , little is known about its behavior , communication , ecology , or reproduction . The species appears to be restricted to a small region of lowland evergreen rain forest , and is seriously threatened by forest loss .

= = Evolutionary and taxonomic history = =

Gerp 's mouse lemur was discovered by German and Malagasy members of the Malagasy organization Groupe d 'Étude et de Recherche sur les Primates de Madagascar (GERP) in a previously unstudied lowland forest known as the Sahafina Forest in eastern Madagascar , near Mantadia National Park . The first recorded specimen (holotype) of the species was captured on 25 June 2009 , and was released after genetic samples , measurements , and photographs were taken . At the time , it was not recognized as a distinct species of mouse lemur . Two other paratypes were also measured and recorded , but no physical specimen was obtained by the publication of the initial study .

The discovery was published in the journal *Primates* in 2012 . The species was named after the research and conservation team that described it . Gerp 's mouse lemur differed genetically and physically from all of its nearest neighboring mouse lemur species . Its tail is longer than its closest relative , Jolly 's mouse lemur (*M. jollyae*) , which lives further south and whose tail is 18 % shorter . It also has a higher body mass (68 g (2 @.@ 4 oz)) and is generally larger than Goodman 's mouse lemur (*M. lehilahytsara*) , which weighs about 44 g (1 @.@ 6 oz) . Gerp 's mouse lemur exhibits significant genetic differences from its northern neighbor , Simmons ' mouse lemur (*M. simmonsi*) .

The genetics tests initially conducted focused on three different loci of mitochondrial DNA : a partial D @-@ loop region , MT @-@ CYB , and COII . D @-@ loop analysis suggested Jolly 's mouse lemur was Gerp 's mouse lemur 's closest relative (forming a sister group) . All three tests showed the mouse lemurs sampled from Sahafina formed a monophyletic clade (an exclusive family group) and the species was sufficiently distinct from other mouse lemurs . The authors concluded both the molecular and morphological differences supported the declaration of a new species based on the phylogenetic species concept and a more conservative " integrative taxonomic approach " .

= = Anatomy and physiology = =

Among mouse lemurs , Gerp 's mouse lemur is larger @-@ bodied and has a long tail , which can be used to store fat . The fur is darker on its back , which is brownish @-@ gray with a broad reddish line down the middle , compared to the front , which varies from a light gray to creamy white and extends from the throat to the genitals . The outer arms and legs contrast the rest of the body with their darker color , and the fingers have sparse , whitish @-@ gray fur . The head is reddish in color , with darker brown surrounding the eyes and a noticeable white stripe across the nose and between the eyes . Its ears are prominent , yet small , with dark brown edges . The tail is covered in

dense , long , brownish @-@ gray fur . The undercoat is short and dense , while the guard hairs are sparser . The skin visible on the hands and feet is colored pinkish @-@ brown .

Gerp 's mouse lemur weighs around 68 g (2 @. @ 4 oz) and has a tail length of approximately 146 @. @ 5 mm (5 @. @ 77 in) . It is a large @-@ bodied mouse lemur , and belongs to a group of large mouse lemurs (weighing more than 50 grams (1 @. @ 8 oz)) , including four eastern species ? Simmons ' mouse lemur , Jolly 's mouse lemur , the northern rufous mouse lemur (*M. tavaratra*) , and MacArthur 's mouse lemur (*M. macarthurii*) ? as well as six species of western mouse lemur : Claire 's mouse lemur (*M. mairatra*) , Danfoss ' mouse lemur (*M. danfossi*) , the Bongolava mouse lemur (*M. bongolavensis*) , the golden @-@ brown mouse lemur (*M. ravelobensis*) , the gray mouse lemur (*M. murinus*) , and the reddish @-@ gray mouse lemur (*M. griseorufus*) . Most of these larger mouse lemur species have a long tail , as does Gerp 's mouse lemur , with the exception of Jolly 's mouse lemur and the gray mouse lemur . Its ears are small (measuring 19 to 20 mm (0 @. @ 75 to 0 @. @ 79 in)) , which conforms with that of other rainforest mouse lemur species , in contrast to larger @-@ eared mouse lemurs of the dry , western forests (averaging 21 to 24 mm (0 @. @ 83 to 0 @. @ 94 in)) . As with all mouse lemurs , no body mass differences could be discerned between the sexes . However , larger samples are needed to confirm this .

= = Behavior = =

No data are available concerning the behavior , communication , ecology , or reproduction of the Gerp 's mouse lemur , although such data may help support its species status .

= = Distribution and habitat = =

Gerp 's mouse lemur has only been identified in the Sahafina Forest in eastern Madagascar , about 58 km (36 mi) east of Mantadia National Park , 87 km (54 mi) south of the city of Toamasina , and 18 km (11 mi) from the Indian Ocean . The forest fragment is about 15 @. @ 6 km² (6 @. @ 0 sq mi) and is surrounded by secondary forest growing in areas previously cut for rice cultivation (known locally as savoka) .

The Sahafina Forest ranges from 29 to 230 m (95 to 755 ft) above sea level , whereas nearby Mantadia National Park , home of its closest neighboring mouse lemur population (Goodman 's mouse lemur) , ranges from 900 to 1 @, @ 200 m (3 @, @ 000 to 3 @, @ 900 ft) above sea level . No major rivers separate these highland and lowland forests and their respective mouse lemur populations . The initial study did not conclude whether the large Rianila River or one of the smaller rivers ? the Ivonoro and Onibe ? further north acts as a species boundary between Gerp 's mouse lemur and Simmons ' mouse lemur (*M. simmonsii*) to the north . Approximately 160 km (99 mi) the south lies the Mangoro River , a very large river that acts as a biogeographic barrier for many species . In 2010 , a genetically distinct form of mouse lemur was sequenced from Marolambo , 25 km (16 mi) south of the river . The geographic range of Gerp 's mouse lemur is unlikely to extend south of this river , but more studies are needed to confirm this . In total , the area between the rivers to the north and south , the highlands to the west , and the ocean to the east is no larger than 7 @, @ 600 km² (2 @, @ 900 sq mi) (smaller than the island of Puerto Rico) and this is the likely extent of its geographic range .

= = Conservation status = =

There are no protected areas within the known geographic range of Gerp 's mouse lemur . Because it lives in lowland forests , which are more likely to be converted into agricultural land relative to highland rainforests , it faces an elevated conservation risk . Of the 7 @, @ 600 km² (2 @, @ 900 sq mi) of its potential geographic range , only very small parts remain forested .