

= *Tupaia miocenica* =

*Tupaia miocenica* is a fossil treeshrew from the Miocene of Thailand . Known only from a single tooth , an upper first or second molar , it is among the few known fossil treeshrews . With a length of 3 @. @ 57 mm , the tooth is large for a treeshrew . At the back lingual corner ( the side of the tongue ) , the tooth shows a small cusp , the hypocone , that is separated from the protocone in front of it by a narrow valley . The condition of the hypocone distinguishes this species from various other treeshrews . In addition , the presence of a well @-@ developed but simple mesostyle ( a small cuspule ) is distinctive .

= = Taxonomy = =

*Tupaia miocenica* was described in 1997 by French paleontologists Pierre Mein and Léonard Ginsburg in a report on the fossil mammals of Li Mae Long , a Miocene site in Thailand . The animal is known from a single tooth , which according to Mein and Ginsburg 's comparisons most closely resembles the living treeshrews of the genus *Tupaia* . The specific name , *miocenica* , refers to the animal 's occurrence during the Miocene . Only a few other fossil treeshrews are known , and *T. miocenica* is the only fossil species from Thailand . When it was described , it was the only Miocene representative of *Tupaia* , but a second species , *Tupaia storchi* , was named from the Late Miocene of Lufeng , China , in 2012 .

= = Description = =

The single known tooth , a worn left upper molar known as T Li 175 , is large for a treeshrew , with a length of 3 @. @ 57 mm and width of 4 @. @ 79 mm . Although Mein and Ginsburg described it a second upper molar ( M2 ) , Ni and Qiu argued in 2012 that it is more likely a first upper molar ( M1 ) . It is dilambdodont ( with a W @-@ shaped chewing surface ) and the labial surface ( the side of the cheeks ) is concave and bears a cingular crest . A well @-@ developed small cusp , a mesostyle , is present on the labial side . The presence of the mesostyle distinguishes the animal from *Ptilocercus* , the only member of the treeshrew family *Ptilocercidae* . The lingual ( tongue ) side is narrow . A large cusp , the protocone , is on the front lingual corner . Two crests descend from it ; one reaches the paracone on the front labial side and another approaches the metacone to the back of the tooth . A smaller cusp , a hypocone , is on the back lingual corner . This feature distinguishes *T. miocenica* both from the treeshrew genera *Dendrogale* , *Prodendrogale* , and *Palaeotupaia* , which lack the cusp entirely , and from *Anathana* and *Urogale* , which have a large hypocone . In *T. miocenica* the back and lingual sides of the hypocone are straight and form a right angle with each other . The tooth most closely resembles *Tupaia* species with a simple mesostyle , such as the common treeshrew ( *Tupaia glis* ) . However , this species is smaller and unlike in *T. miocenica* , the hypocone is not isolated from the protocone by a narrow valley .

= = Range and ecology = =

Li Mae Long , the collection site of *T. miocenica* , is dated to the latest Early Miocene , corresponding to the European zone MN 4 , around 18 mya . It is in the Thai province of Lamphun . The fossil fauna encompasses 34 species of mammals , including the tarsier *Hesperotarsius thailandicus* , the slow loris ? *Nycticebus linglom* , and the metatherian *Siamoperadectes* . Mein and Ginsburg conclude that the fauna represents a tropical forest environment close to a shallow lake .