

= Lagriva =

Lagriva is a fossil genus of squirrel from the Middle Miocene of France . The single species , *L. vireti* , is known from three mandibles (lower jaws) and two isolated teeth . All come from the fissure filling (a fossil deposit formed when a rock fissure filled with sediment) of La Grive L5 , part of the La Grive @-@ Saint @-@ Alban complex in Saint @-@ Alban @-@ de @-@ Roche , southeastern France . Lagriva was a large tree squirrel with flat lower incisors and a large , triangular fourth lower premolar (p4) . Each of the four cheekteeth (p4 and three molars , m1 through m3) bears a deep basin in the middle of the crown . The m3 is about rectangular in shape , but rounded at the back . Although m1 and m2 have two roots , m3 has three .

= = Taxonomy = =

Pierre Mein and Léonard Ginsburg described *Lagriva vireti* in 2002 in a review of the ages and faunas of the Miocene fossil sites of La Grive @-@ Saint @-@ Alban in southeastern France . They suggested that it was probably a tree squirrel and related to the Sciurini . Lagriva belongs to the squirrel family (Sciuridae) , which first appears in the Late Eocene of North America and Early Oligocene of Europe . The specific name , *vireti* , honors Jean Viret for his work on the mammals of La Grive @-@ Saint @-@ Alban .

= = Description = =

Lagriva is known from three mandibles (lower jaws) ? one , the holotype , with the fourth premolar (p4) and all three molars (m1 ? 3) preserved ; one with the incisor and m2 ; and one with the incisor , p4 , m1 , and m2 ? an isolated lower incisor , and an isolated m2 . It was large for a squirrel , and can be distinguished from the fossil squirrels *Palaeosciurus* , *Aliveria* , and *Ratufa obtusidens* by its larger size .

In the mandible , the diastema (gap) between the incisors and the cheekteeth (premolars and molars) is relatively deep . The mental foramen (an opening in the bone) is located relatively high and before the p4 . The upper and lower masseteric ridges , which are located on the outer side of the jaw and anchor some of the chewing muscles , meet at the m1 . The surfaces of the incisor are very flat , but there are small , irregular striations in the enamel along the length of the tooth .

The cheekteeth increase regularly in size from front to back . They all consist of a large central basin surrounded by cusps and crests . The basins are deeper than in *Palaeosciurus* and *Ratufa obtusidens* and lack crenulations in the enamel , which distinguishes them from another fossil squirrel , *Albanensia* . The first cheekteeth , p4 , is large and about triangular in form , short and quite broad at the back . The two cusps at the front , the protoconid and metaconid , are isolated from each other . In front of the metaconid , there is a small cuspule , an anteroconid , at the lingual side of the tooth (the side of the tongue) . The central basin of the tooth is relatively deep . At the back of the tooth , the entoconid cusp is connected to the posterolophid , a crest that forms the back margin . Of the two roots , the one at the front is round and the one at the back is broad .

Although m1 is nearly rectangular , the width at the front is still smaller than the width at the back . There is a strong anteroconid . A crest , the metalophid , reaches from the protoconid nearly to the metaconid . A small cusp , the mesostylid , is connected to the metaconid in front of it , unlike in *Miopetaurista* and *Aliveria* . There are two broad roots . The next tooth , m2 , is similar to m1 in most respects , but the width at the front is virtually equal to the width at the back , so that the tooth is about rectangular . The back of m3 is rounded , but the tooth is still nearly rectangular . There is a long anteroconid , with is mainly connected to the metaconid . There is no metalophid . This tooth has three roots : two at the front and a larger one at the back .

= = Range and context = =

The remains of Lagriva were probably collected by Viret at the site La Grive L5 in the village of

Saint @-@ Alban @-@ de @-@ Roche , department of Isère , southeastern France . La Grive L5 is one of several fissure filling sites in the area , collectively known as La Grive @-@ Saint @-@ Alban , which have yielded rich fossil faunas . Another site , La Grive M , is the reference locality for the MN zone MN 7 / 8 , about 13 to 11 million years ago . La Grive L5 is one of the younger sites of La Grive , and Mein and Ginsburg proposed placing it in a separate zone MN 8 . Other squirrels at La Grive @-@ Saint @-@ Alban include species of *Heteroxerus* , *Spermophilinus* , *Palaeosciurus* , and chipmunks , and flying squirrels in the genera *Albanensia* , *Miopetaurista* , *Forsythia* , *Hylopetes* , and *Blackia* . *Miopetaurista neogrivensis* , *Spermophilinus bredai* , and *Heteroxerus huerzeleri* are also known from La Grive L5 . In 2012 , Ginsburg and Mein described an indeterminate squirrel from the older (MN 6) site of Sansan , France , on the basis of a single p4 . This tooth is similar in size to *Lagrivea* , but differs in a narrower talonid .