[Template:Italic title](/wiki/Template:Italic_title" \o "Template:Italic title) [Template:Taxobox](/wiki/Template:Taxobox) ***Gigantopithecus*** (from the [Ancient Greek](/wiki/Ancient_Greek) [Template:Lang](/wiki/Template:Lang) [*Template:Lang*](/wiki/Template:Lang) "giant", and [Template:Lang](/wiki/Template:Lang) [*Template:Lang*](/wiki/Template:Lang) "ape") is an [extinct](/wiki/Extinction) [genus](/wiki/Genus) of [ape](/wiki/Ape) that existed from perhaps nine million years to as recently as one hundred thousand years ago,<ref name=Christmas>[Template:Cite web](/wiki/Template:Cite_web)</ref> in what is now [China](/wiki/China), [India](/wiki/India), and [Vietnam](/wiki/Vietnam), placing *Gigantopithecus* in the same time frame and geographical location as several [hominin](/wiki/Hominin) species.<ref name=Ciochon1996>[Template:Cite journal](/wiki/Template:Cite_journal)</ref> The [fossil record](/wiki/Fossil_record) suggests that individuals of the species *Gigantopithecus blacki* were the largest known apes that ever lived, standing up to [Template:Convert](/wiki/Template:Convert), and weighing up to [Template:Convert](/wiki/Template:Convert).[[1]](#cite_note-1)<ref name=Pettifor1995>[Template:Cite book](/wiki/Template:Cite_book)</ref>

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## Fossils[[edit](/index.php?title=(none)&action=edit&section=1)]

[thumb|left|](/wiki/Image:F._Schrenk_mit_Gigantopithecus-Molar_2005.jpg)[Template:Link-interwiki](/wiki/Template:Link-interwiki) holding the [holotype](/wiki/Holotype) *Gigantopithecus blacki* [molar](/wiki/Molar_(tooth)) The first *Gigantopithecus* remains described by an [anthropologist](/wiki/Anthropology) were found in 1935 by [Ralph von Koenigswald](/wiki/Gustav_Heinrich_Ralph_von_Koenigswald) in an apothecary shop. Fossilized teeth and bones are often ground into powder and used in some branches of [traditional Chinese medicine](/wiki/Traditional_Chinese_medicine).[[2]](#cite_note-2) Von Koenigswald named the theorized species *Gigantopithecus*.<ref name=Relethford>[Template:Cite book](/wiki/Template:Cite_book)</ref>

Since then, relatively few fossils of *Gigantopithecus* have been recovered. Aside from the molars recovered in Chinese traditional medicine shops, Liucheng Cave in [Liuzhou](/wiki/Liuzhou), [China](/wiki/China), has produced numerous *Gigantopithecus blacki* teeth, as well as several jawbones.[[1]](#cite_note-1) Other sites yielding significant finds were in Vietnam and India.<ref name=Ciochon1996/><ref name=Pettifor1995/> These finds suggest that the range of *Gigantopithecus* was in [southeast Asia](/wiki/Southeast_Asia).

In 1955, 47 *G. blacki* teeth were found among a shipment of "[dragon bones](/wiki/Dragon_bones)" (also called "oracle bones") in China. Tracing these teeth to their source resulted in the recovery of more teeth and a rather complete large [mandible](/wiki/Mandible). By 1958, three mandibles and more than 1,300 teeth had been recovered. *Gigantopithecus* remains have come from sites in [Hubei](/wiki/Hubei), [Guangxi](/wiki/Guangxi), and [Sichuan](/wiki/Sichuan), from warehouses for Chinese medicinal products, as well as from cave deposits. Not all Chinese remains have been dated to the same time period, and the fossils in Hubei appear to be of a later date than elsewhere in China. The Hubei teeth are also larger.[[3]](#cite_note-3) Some of the caves in which teeth have been found were not caves yet at the time the apes lived, but just fissures. It has been suggested that Gigantopithecus bones were brought there by porcupines, who chew on bones as a source of calcium. This may explain the lack of Gigantopithecus bones today.[[4]](#cite_note-4)

## Characteristics[[edit](/index.php?title=(none)&action=edit&section=2)]

*Gigantopithecus****s method of locomotion is uncertain, as no*** [***pelvic***](/wiki/Pelvic) ***or leg bones have been found. The dominant view is that it walked on all fours like modern*** [***gorillas***](/wiki/Gorilla) ***and*** [***chimpanzees***](/wiki/Chimpanzee)***; however, a minority opinion favors*** [***bipedal***](/wiki/Bipedal) ***locomotion. This was most notably championed by the late*** [***Grover Krantz***](/wiki/Grover_Krantz)***, but this assumption is based only on the very few jawbone remains found, all of which are U-shaped and widen towards the rear. This allows room for the*** [***windpipe***](/wiki/Windpipe) ***to be within the jaw, allowing the skull to sit squarely on a fully erect spine as in modern humans, rather than roughly in front of it, as in the other great apes.***

The majority view is that the weight of such a large, heavy animal would put enormous stress on the creature's legs, ankles, and feet if it walked bipedally; while if it walked on all four limbs, like [gorillas](/wiki/Gorilla), its weight would be better distributed over each limb.

### Diet[[edit](/index.php?title=(none)&action=edit&section=3)]

The jaws of *Gigantopithecus* are deep and very thick. The molars are low-crowned and flat, and exhibit heavy enamel suitable for tough grinding.[[5]](#cite_note-5) The [premolars](/wiki/Premolar) are broad and flat and configured similarly to the [molars](/wiki/Molar_(tooth)). The canine teeth are neither pointed nor sharp, while the [incisors](/wiki/Incisor) are small, peglike, and closely aligned. The features of teeth and jaws suggested that the animal was adapted to chewing tough, fibrous food by cutting, crushing, and grinding it. *Gigantopithecus* teeth also have a large number of cavities, similar to those found in [giant pandas](/wiki/Giant_panda), whose diet, which includes a large amount of [bamboo](/wiki/Bamboo), may be similar to that of *Gigantopithecus*.[[1]](#cite_note-1) In addition to bamboo, *Gigantopithecus* consumed other vegetable foods, as suggested by the analysis of the [phytoliths](/wiki/Phytolith) adhering to its teeth. An examination of the microscopic scratches and gritty plant remains embedded in *Gigantopithecus* teeth suggests that they fed on seeds and fruit, as well as bamboo.[[3]](#cite_note-3)

## Species[[edit](/index.php?title=(none)&action=edit&section=4)]

[300px|thumb|A comparison graph of a 1.8-meter-tall human male (almost 5' 11") in comparison to *Gigantopithecus blacki* (left) and *G. giganteus* (right): This graph is based on](/wiki/File:Gigantopithecus_v_human_v1.svg) [orangutan](/wiki/Orangutan) proportions while standing upright. There are presently three extinct named species of *Gigantopithecus*: *G. blacki*, *G. bilaspurensis*, and *G. giganteus*.

### ''Gigantopithecus blacki''[[edit](/index.php?title=(none)&action=edit&section=5)]

***Gigantopithecus blacki*** (named in honour of the friend and colleague of von Koenigswald, [Davidson Black](/wiki/Davidson_Black)[[6]](#cite_note-6)) is known only through [fossil](/wiki/Fossil) [teeth](/wiki/Tooth) and [mandibles](/wiki/Mandible) found in cave sites in South [China](/wiki/China) and [Vietnam](/wiki/Vietnam). As the name suggests, these are appreciably larger than those of living [gorillas](/wiki/Gorilla), but the exact size and structure of the rest of the body can only be estimated in the absence of additional findings. Dating methods have shown that *G. blacki* existed for at least a million years, going extinct about 100,000 years ago after having been contemporary with anatomically modern [humans](/wiki/Human) (*Homo sapiens*) for tens of thousands of years, and co-existing with *H. erectus*, who preceded the appearance of *H. sapiens*.<ref name=Ciochon1996/> In 2014, for the first time, fossil teeth and mandible of *Gigantopithecus blacki* were found in [Indonesia](/wiki/Indonesia).[[7]](#cite_note-7)[[8]](#cite_note-8)

#### Morphology[[edit](/index.php?title=(none)&action=edit&section=6)]

Based on the fossil evidence, adult male *Gigantopithecus blacki* are believed to have stood about [Template:Convert](/wiki/Template:Convert) tall and weighed as much as [Template:Convert](/wiki/Template:Convert),[[1]](#cite_note-1)<ref name=Pettifor1995/> making the species three to four times as heavy as modern [gorillas](/wiki/Gorilla) and seven times as heavy as the [orangutan](/wiki/Orangutan), its closest living relative. Large males may have had an armspan of over [Template:Convert](/wiki/Template:Convert). The species was highly [sexually dimorphic](/wiki/Sexual_dimorphism), with adult females roughly half the weight of males.<ref name=Pettifor1995/> Because of wide interspecies differences in the relationship between tooth and body size, some argue that it is more likely that *Gigantopithecus* was much smaller, at roughly [Template:Convert](/wiki/Template:Convert).<ref name=Relethford/>[[9]](#cite_note-9) The species lived in [Asia](/wiki/Asia) and probably inhabited [bamboo forests](/wiki/Bamboo_forest), since its fossils are often found alongside those of extinct ancestors of the [panda](/wiki/Panda). Most evidence points to *Gigantopithecus* being a plant-eater.

Its appearance is not known, because of the fragmentary nature of its fossil remains. It possibly resembled modern [gorillas](/wiki/Gorilla), because of its supposedly similar lifestyle. Some scientists, however, think it probably looked more like its closest modern relative, the [orangutan](/wiki/Orangutan). Being so large, *Gigantopithecus* possibly had few or no enemies when fully grown. However, younger, weak, or injured individuals may have been vulnerable to predation by [tigers](/wiki/Tiger), [pythons](/wiki/Pythonidae), [crocodiles](/wiki/Crocodile), [machairodonts](/wiki/Machairodont), [hyenas](/wiki/Hyena), [bears](/wiki/Bear), and [*Homo erectus*](/wiki/Homo_erectus).

#### Classification[[edit](/index.php?title=(none)&action=edit&section=7)]

In the past, *G. blacki* was thought to be closely related to early [hominins](/wiki/Hominini), particularly [*Australopithecus*](/wiki/Australopithecus), on the basis of molar evidence; this is now regarded a result of [convergent evolution](/wiki/Convergent_evolution).[[10]](#cite_note-10) *Gigantopithecus* is now placed in the subfamily Ponginae along with the [orangutan](/wiki/Orangutan).[[11]](#cite_note-11)

### ''Gigantopithecus bilaspurensis''[[edit](/index.php?title=(none)&action=edit&section=8)]

[thumb|*G. bilaspurensis* jaw](/wiki/File:Gigantopithecus_bilaspurensis_mandible.JPG) ***Gigantopithecus bilaspurensis*** is a very large fossil [ape](/wiki/Ape) identified from a few jaw bones and teeth from [India](/wiki/India). This species lived about 6 to 9 million years ago in the [Miocene](/wiki/Miocene). It is related to *G. blacki*.

### ''Gigantopithecus giganteus''[[edit](/index.php?title=(none)&action=edit&section=9)]

Dating to roughly five million years before *G. blacki*, a separate species, ***Gigantopithecus giganteus***, is known from extremely fragmentary remains from northern India and China. In the [Guangxi](/wiki/Guangxi) region of China, teeth of this species were discovered in limestone formations in Daxin and Wuming, north of [Nanning](/wiki/Nanning). Despite the name, *G. giganteus* is believed to have been about half the size of *G. blacki*.[[1]](#cite_note-1)<ref name=Pettifor1995/> Based on the slim [fossil](/wiki/Fossil) finds, it was a large, ground-dwelling [herbivore](/wiki/Herbivore) that ate primarily [bamboo](/wiki/Bamboo) and foliage.

## Extinction[[edit](/index.php?title=(none)&action=edit&section=10)]

*Gigantopithecus* may have become extinct approximately 100,000 years ago, because the climate change during the Pleistocene era changed the plants from forest to savanna, and the food supply, fruits, decreased. *Gigantopithecus* did not eat the grass, roots and leaves that were dominant food sources in the savanna.[[12]](#cite_note-12)[[13]](#cite_note-13)[[14]](#cite_note-14)

## See also[[edit](/index.php?title=(none)&action=edit&section=11)]

[Template:Portal](/wiki/Template:Portal)

* [Timeline of human evolution](/wiki/Timeline_of_human_evolution)

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## References[[edit](/index.php?title=(none)&action=edit&section=12)]

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## Further reading[[edit](/index.php?title=(none)&action=edit&section=13)]

* Park, Michael Alan. *Biological Anthropology*. Mayfield Publishing Co., 1996, ISBN 1-55934-424-5

[Category:Fossils of China](/wiki/Category:Fossils_of_China) [Category:Fossils of India](/wiki/Category:Fossils_of_India) [Category:Extinct animals of India](/wiki/Category:Extinct_animals_of_India) [Category:Fossils of Vietnam](/wiki/Category:Fossils_of_Vietnam) [Category:Extinct animals of Vietnam](/wiki/Category:Extinct_animals_of_Vietnam) [Category:Fossil taxa described in 1935](/wiki/Category:Fossil_taxa_described_in_1935) [Category:Fossil taxa described in 1970](/wiki/Category:Fossil_taxa_described_in_1970) [Category:Fossil taxa described in 1915](/wiki/Category:Fossil_taxa_described_in_1915) [Category:Pleistocene extinctions](/wiki/Category:Pleistocene_extinctions) [Category:Pleistocene primates](/wiki/Category:Pleistocene_primates) [Category:Pleistocene mammals of Asia](/wiki/Category:Pleistocene_mammals_of_Asia) [Category:Prehistoric apes](/wiki/Category:Prehistoric_apes) [Category:Prehistoric primate genera](/wiki/Category:Prehistoric_primate_genera) [Category:Taxa named by Gustav Heinrich Ralph von Koenigswald](/wiki/Category:Taxa_named_by_Gustav_Heinrich_Ralph_von_Koenigswald)