

= Pygmy hippopotamus =

The pygmy hippopotamus (*Choeropsis liberiensis* or *Hexaprotodon liberiensis*) is a small hippopotamid which is native to the forests and swamps of West Africa , primarily in Liberia with small populations in Sierra Leone , Guinea , and Ivory Coast .

The pygmy hippo is reclusive and nocturnal . It is one of only two extant species in the family Hippopotamidae , the other being its much larger cousin the common hippopotamus (*Hippopotamus amphibius*) . The pygmy hippopotamus displays many terrestrial adaptations , but like its larger cousin , it is semi @-@ aquatic and relies on water to keep its skin moist and its body temperature cool . Behaviors such as mating and giving birth may occur in water or on land . The pygmy hippo is herbivorous , feeding on ferns , broad @-@ leaved plants , grasses , and fruits it finds in the forests .

A rare nocturnal forest creature , the pygmy hippopotamus is a difficult animal to study in the wild . Pygmy hippos were unknown outside West Africa until the 19th century . Introduced to zoos in the early 20th century , they breed well in captivity and the vast majority of research is derived from zoo specimens . The survival of the species in captivity is more assured than in the wild ; the World Conservation Union estimates that there are fewer than 3 @, @ 000 pygmy hippos remaining in the wild .

Pygmy hippos are primarily threatened by loss of habitat , as forests are logged and converted to farm land , and are also vulnerable to poaching , hunting for bushmeat , natural predators and war . Pygmy hippos are among the species illegally hunted for food in Liberia .

= = Taxonomy and origins = =

Nomenclature of the pygmy hippopotamus reflects that of the hippopotamus . The plural form is pygmy hippopotami (hippopotamuses is also accepted as a plural form by the OED , or pygmy hippos for short) . A male pygmy hippopotamus is known as a bull , a female as a cow , and a baby as a calf . A group of hippopotami is known as a herd or a bloat .

The pygmy hippopotamus is a member of the family Hippopotamidae where it is classified as a member of either the genus *Choeropsis* (" resembling a hog ") or , the genus *Hexaprotodon* (" six front teeth ") . Members of Hippopotamidae are sometimes known as hippopotamids . Sometimes the sub @-@ family Hippopotaminae is used . Further , some taxonomists group hippopotami and anthracotheres in the superfamily Anthracotheroidea or Hippopotamoidea .

A sister species of the pygmy hippopotamus may have been the little @-@ studied Malagasy pygmy hippopotamus (*Hexaprotodon madagascariensis* or *Hippopotamus madagascariensis*) , one of three recently extinct species from Madagascar . *C. madagascariensis* was the same size as *C. liberiensis* and shared its terrestrial behavior , inhabiting the forested highlands of Madagascar , rather than open rivers . It is believed to have gone extinct within the last 500 years .

The taxonomy of the genus of the pygmy hippopotamus has changed as understanding of the animal has developed . Samuel G. Morton initially classified the animal as *Hippopotamus minor* , but later determined it was distinct enough to warrant its own genus , and labeled it *Choeropsis* . In 1977 , Shirley C. Coryndon proposed that the pygmy hippopotamus was closely related to *Hexaprotodon* , a genus that consisted of prehistoric hippos mostly native to Asia .

This assertion was widely accepted , until Boissérie asserted in 2005 that the pygmy hippopotamus was not a member of *Hexaprotodon* , after a thorough examination of the phylogeny of Hippopotamidae . He suggested instead that the pygmy hippopotamus was a distinct genus , and returned the animal to *Choeropsis* . All agree that the modern pygmy hippopotamus , be it *H. liberiensis* or *C. liberiensis* , is the only extant member of its genus .

= = = Nigerian subspecies = = =

A distinct subspecies of pygmy hippopotamus lived in Nigeria until at least the 20th century , though the validity of this has been questioned . The existence of the subspecies , makes *Choeropsis*

liberiensis liberiensis (or Hexaprotodon liberiensis liberiensis under the old classification) the full trinomial nomenclature for the Liberian pygmy hippopotamus . The Nigerian pygmy hippopotamus was never studied in the wild and never captured . All research and all zoo specimens are the Liberian subspecies . The Nigerian subspecies is classified as *C. liberiensis heslopi* .

The Nigerian pygmy hippopotamus ranged in the Niger River Delta , especially near Port Harcourt , but no reliable reports exist after the collection of the museum specimens secured by I. R. P. Heslop , a British colonial officer , in the early 1940s . It is probably extinct . The subspecies is separated by over 1 @, @ 800 km (1 @, @ 100 mi) and the Dahomey Gap , a region of savanna that divides the forest regions of West Africa . The subspecies is named after I. R. P. Heslop , who claimed in 1945 to have shot a pygmy hippo in the Niger Delta region and collected several skulls . He estimated that perhaps no more than 30 pygmy hippos remained in the region .

Heslop reportedly sent four pygmy hippopotamus skulls he collected to the British Museum of Natural History in London . These specimens were not subjected to taxonomic evaluation , however , until 1969 when G. B. Corbet classified the skulls as belonging to a separate subspecies based on consistent variations in the proportions of the skulls . The Nigerian pygmy hippos were seen or shot in Rivers State , Imo State and Bayelsa State , Nigeria . While some local populations are aware that the species once existed , its history in the region is poorly documented .

= = = Evolution = = =

The evolution of the pygmy hippopotamus is most often studied in the context of its larger cousin . Both species were long believed to be most closely related to the family Suidae (pigs and hogs) or Tayassuidae (peccaries) , but research within the last 10 years has determined that pygmy hippos and hippos are most closely related to cetaceans (whales and dolphins) . Hippos and whales shared a common semi @-@ aquatic ancestor that branched off from other artiodactyls around 60 mya .

This hypothesized ancestor likely split into two branches about six million years later . One branch would evolve into cetaceans , the other branch became the anthracotheres , a large family of four @-@ legged beasts , whose earliest member , from the Late Eocene , would have resembled narrow hippopotami with comparatively small and thin heads .

Hippopotamids are deeply nested within the family Anthracotheriidae . The oldest known hippopotamid is the genus Kenyapotamus , which lived in Africa from 16 to 8 mya . Kenyapotamus is known only through fragmentary fossils , but was similar in size to *C. liberiensis* . The Hippopotamidae are believed to have evolved in Africa , and while at one point the species spread across Asia and Europe , no hippopotami have ever been discovered in the Americas . Starting 7 @. @ 5 to 1 @. @ 8 mya the Archaeopotamus , likely ancestors to the genus Hippopotamus and Hexaprotodon , lived in Africa and the Middle East .

While the fossil record of hippos is still poorly understood , the lineages of the two modern genera , Hippopotamus and Choeropsis , may have diverged as far back as 8 mya . The ancestral form of the pygmy hippopotamus may be the genus Saotherium . Saotherium and Choeropsis are significantly more basal than Hippopotamus and Hexaprotodon , and thus more closely resemble the ancestral species of hippos .

= = = Extinct pygmy and dwarf hippos = = =

Several species of small hippopotamids have also become extinct in the Mediterranean in the late Pleistocene or early Holocene . Though these species are sometimes known as " pygmy hippopotami " they are not believed to be closely related to *C. liberiensis* . These include the Cretan dwarf hippopotamus (*Hippopotamus creutzburgi*) , the Sicilian hippopotamus (*Hippopotamus pentlandi*) , the Maltese hippopotamus (*Hippopotamus melitensis*) and the Cyprus dwarf hippopotamus (*Hippopotamus minor*) .

These species , though comparable in size to the pygmy hippopotamus , are considered dwarf hippopotamuses , rather than pygmies . They are likely descended from a full @-@ sized species of

European hippopotamus , and reached their small size through the evolutionary process of insular dwarfism which is common on islands ; the ancestors of pygmy hippopotami were also small and thus there was never a dwarfing process . There were also several species of pygmy hippo on the island of Madagascar (see Malagasy hippopotamus) .

= = Description = =

Pygmy hippos share the same general form as a hippopotamus . They have a graviportal skeleton , with four stubby legs and four toes on each foot , supporting a portly frame . The pygmy hippo , however , is only half as tall as the hippopotamus and weighs less than 1 / 4 as much as its larger cousin . Adult pygmy hippos stand about 75 ? 100 cm (2 @. @ 46 ? 3 @. @ 28 ft) high at the shoulder , are 150 ? 175 cm (4 @. @ 92 ? 5 @. @ 74 ft) in length and weigh 180 ? 275 kg (397 ? 606 lb) . Their lifespan in captivity ranges from 30 to 55 years , though it is unlikely that they live this long in the wild .

The skin is greenish @-@ black or brown , shading to a creamy gray on the lower body . Their skin is very similar to the common hippo 's , with a thin epidermis over a dermis that is several centimeters thick . Pygmy hippos have the same unusual secretion as common hippos , that gives a pinkish tinge to their bodies , and is sometimes described as " blood sweat " though the secretion is neither sweat nor blood . The highly alkaline substance is believed to have antiseptic and sunscreening properties . The skin of hippos dries out quickly and cracks , which is why both species spend so much time in water .

The skeleton of *C. liberiensis* is more gracile than that of the common hippopotamus , meaning their bones are proportionally thinner . The common hippo 's spine is parallel with the ground ; the pygmy hippo 's back slopes forward , a likely adaptation to pass more easily through dense forest vegetation . Proportionally , the pygmy hippo 's legs and neck are longer and its head smaller .

The orbits and nostrils of a pygmy hippo are much less pronounced , an adaptation from spending less time in deep water (where pronounced orbits and nostrils help the common hippo breathe and see) . The feet of pygmy hippos are narrower , but the toes are more spread out and have less webbing , to assist in walking on the forest floor .

Despite adaptations to a more terrestrial life than the common hippopotamus , pygmy hippos are still more aquatic than all other even @-@ toed ungulates . The ears and nostrils of pygmy hippos have strong muscular valves to aid submerging underwater , and the skin physiology is dependent on the availability of water .

= = Behavior = =

The behavior of the pygmy hippo differs from the common hippo in many ways . Much of its behavior is more similar to that of a tapir , though this is an effect of convergent evolution . While the common hippopotamus is gregarious , pygmy hippos live either alone or in small groups , typically a mated pair or a mother and calf . Pygmy hippos tend to ignore each other rather than fight when they meet . Field studies have estimated that male pygmy hippos range over 1 @. @ 85 km² (460 acres) , while the range of a female is 0 @. @ 4 to 0 @. @ 6 km² (99 ? 148 acres) .

Pygmy hippos spend most of the day hidden in rivers . They will rest in the same spot for several days in a row , before moving to a new spot . At least some pygmy hippos make use of dens or burrows that form in river banks . It is unknown if the pygmy hippos help create these dens , or how common it is to use them . Though a pygmy hippo has never been observed burrowing , other artiodactyls , such as warthogs , are burrowers .

= = = Diet = = =

Like the common hippopotamus , the pygmy hippo emerges from the water at dusk to feed . It relies on game trails to travel through dense forest vegetation . It marks trails by vigorously waving its tail while defecating to further spread its feces . The pygmy hippo spends about six hours a day

foraging for food .

Pygmy hippos are herbivorous . They do not eat aquatic vegetation to a significant extent and rarely eat grass because it is uncommon in the thick forests they inhabit . The bulk of a pygmy hippo 's diet consists of ferns , broad @-@ leaved plants and fruits that have fallen to the forest floor . The wide variety of plants pygmy hippos have been observed eating suggests that they will eat any plants available . This diet is of higher quality than that of the common hippopotamus .

= = = Reproduction = = =

A study of breeding behavior in the wild has never been conducted ; the artificial conditions of captivity may cause the observed behavior of pygmy hippos in zoos to differ from natural conditions . Sexual maturity for the pygmy hippopotamus occurs between three and five years of age . The youngest reported age for giving birth is a pygmy hippo in the Zoo Basel , Switzerland which bore a calf at three years and three months . The oestrus cycle of a female pygmy hippo lasts an average of 35 @. @ 5 days , with the oestrus itself lasting between 24 ? 48 hours .

Pygmy hippos consort for mating , but the duration of the relationship is unknown . In zoos they breed as monogamous pairs . Copulation can take place on land or in the water , and a pair will mate one to four times during an oestrus period . In captivity , pygmy hippos have been conceived and born in all months of the year . The gestation period ranges from 190 ? 210 days , and usually a single young is born , though twins are known to occur .

The common hippopotamus gives birth and mates only in the water , but pygmy hippos mate and give birth on both land and water . Young pygmy hippos can swim almost immediately . At birth , pygmy hippos weigh 4 @. @ 5 ? 6 @. @ 2 kg (9 @. @ 9 ? 13 @. @ 7 lb) with males weighing about 0 @. @ 25 kg (0 @. @ 55 lb) more than females . Pygmy hippos are fully weaned between six and eight months of age ; before weaning they do not accompany their mother when she leaves the water to forage , but instead hide in the water by themselves . The mother returns to the hiding spot about three times a day and calls out for the calf to suckle . Suckling occurs with the mother lying on her side .

= = Conservation = =

The greatest threat to the remaining pygmy hippopotamus population in the wild is loss of habitat . The forests in which pygmy hippos live have been subject to logging , settling and conversion to agriculture , with little efforts made to make logging sustainable . As forests shrink , the populations become more fragmented , leading to less genetic diversity in the potential mating pool .

Pygmy hippos are among the species illegally hunted for food in Liberia . Their meat is said to be of excellent quality , like that of a wild boar ; unlike those of the common hippo , the pygmy hippo 's teeth have no value . The effects of West Africa 's civil strife on the pygmy hippopotamus are unknown , but unlikely to be positive . The pygmy hippopotamus can be killed by leopards , pythons and crocodiles . How often this occurs is unknown .

C. liberiensis was identified as one of the top @-@ 10 " focal species " in 2007 by the Evolutionarily Distinct and Globally Endangered (EDGE) project . Some populations inhabit protected areas , such as the Gola Forest Reserve in Sierra Leone .

The Zoo Basel in Switzerland holds the international studbook and coordinates the entire captive pygmy hippo population that freely breeds in zoos around the world . Between 1970 and 1991 the population of pygmy hippos born in captivity more than doubled . The survival of the species in zoos is more certain than the survival of the species in the wild . In captivity , the pygmy hippo lives from 42 to 55 years , longer than in the wild . Since 1919 , only 41 percent of pygmy hippos born in zoos have been male .

= = History and folklore = =

While the common hippopotamus was known to Europeans since classical antiquity , the pygmy

hippopotamus was unknown outside its range in West Africa until the 19th century . Due to their nocturnal , forested existence , they were poorly known within their range as well . In Liberia the animal was traditionally known as a water cow .

Early field reports of the animal misidentified it as a wild hog . Several skulls of the species were sent to the American natural scientist Samuel G. Morton , during his residency in Monrovia , Liberia . Morton first described the species in 1843 . The first complete specimens were collected as part of a comprehensive investigation of Liberian fauna in the 1870s and 1880s by Dr. Johann Büttikofer . The specimens were taken to the Natural History Museum in Leiden , The Netherlands .

The first pygmy hippo was brought to Europe in 1873 after being captured in Sierra Leone by a member of the British Colonial Service but died shortly after arrival . Pygmy hippos were successfully introduced to Europe in 1911 . They were first shipped to Germany and then to the Bronx Zoo in New York City where they also thrived .

In 1927 , Harvey Firestone of Firestone Tires presented Billy the pygmy hippo to U.S. President Calvin Coolidge . Coolidge donated Billy to the National Zoo in Washington , D.C. According to the zoo , Billy is a common ancestor to most pygmy hippos in U.S. zoos today .

Several folktales have been collected about the pygmy hippopotamus . One tale says that pygmy hippos carry a shining diamond in their mouths to help travel through thick forests at night ; by day the pygmy hippo has a secret hiding place for the diamond , but if a hunter catches a pygmy hippo at night the diamond can be taken . Villagers sometimes believed that baby pygmy hippos do not nurse but rather lick secretions off the skin of the mother .