

The Pachyderms, as well as the three other orders of animals represented on this map, are found chiefly in the countries of the torrid zone; but they extend farther towards the poles than the others, especially in the northern hemisphere of the Old World, where they attain to latitude $57^{\circ} 30'$ north. In the southern hemisphere they do not attain the same latitude, since the common American tapir forms the southernmost member of the order, in about latitude 40° south. In North America, no thick-skinned animal is found, unless the wild horse (of which large herds are found in Western Mexico, California, and the river districts of the Columbia) be considered as indigenous to the New World. The continent of Australia contains no animal whatever belonging to this order. Of the four orders represented on this map, the Pachyderms alone are found, in Europe and Central Asia, to the north of the Himalayan Mountains.

These animals generally frequent retired forests and thick jungles, preferring such as are watered by some noble stream, in which they can bathe and wallow during the hotter parts of the day.

DIVISION AND INTENSITY OF THE SPECIES.

A comparison of the typical animals of this order will show at a glance how few in number and how small in size those of the New World are, in comparison with those of the Old World. The abundance of Pachyderms in the Old World seems to compensate for the paucity of the pouched and toothless animals; thus tending to restore the balance of the fauna of the different continents of the globe. The greatest number of species of Pachyderms, as shown by the shading on the map, occur in Africa, to which country the hippopotamus, zebra, wart-hog, and a species of elephant, and the double-horned rhinoceros, are peculiar.

TABLE SHOWING THE DIVISION OF THE *PACHYDERMATA* (THICK-SKINNED ANIMALS) OVER THE GLOBE, ACCORDING TO THE NUMBER OF THEIR SPECIES.

REGIONS.	NUMBER OF SPECIES.								AMOUNT OF ALL SPECIES.
	<i>Elephas</i> , (<i>Elephantis</i> .)	<i>Hippopotamus</i> .	<i>Rhinoceros</i> .	<i>Hyrax</i> , (<i>Damans</i> .)	<i>Rat</i> , (<i>Swine</i> .)	<i>Phacochoerus</i> , (<i>Wart Hogs</i> .)	<i>Dicotyle</i> , (<i>Pecari</i> .)	<i>Tapir</i> .	<i>Equus</i> , (<i>Horses</i> .)
OLD WORLD.									
EUROPE.									
Central and Southern Europe, from about 57° north lat.,	.	.	.	.	1	.	.	.	1
ASIA.									
Central Asia, from about 54° to 30° north lat., or from the Lake of Baikal and the Siberian plains at Omsk, to the southern confines of Thibet, including the whole of Arabia and Iran,	.	.	.	.	1	.	.	.	6
Southern Asia, from 30° north lat., excluding the Malay Peninsula, and including Ceylon,	1	.	1	.	1	.	.	.	4
Asiatic Archipelago and the Malay Peninsula, with the island of Papua,	1	.	2	.	6	.	.	.	9
AFRICA.									
Northern Africa, from the southern limits of the Sahara, and the northern declivity of the Abyssinian table-land, to 15° north lat.,	.	1	.	1	1	.	.	.	3
Central and Southern Africa, from the southern limits of the Sahara, with the island of Madagascar,	1	1	4	3	1	3	.	1	17
NEW WORLD.									
Central America, from the southern confines of Mexico to the equator,	.	.	.	.	.	2	1	.	4
South America, from the equator to the pampas of La Plata,	.	.	.	.	.	2	1	.	3

DISTRIBUTION OF THE SINGLE GENERA.

1. *Elephas*, (elephants.)—These gigantic animals inhabit the tropical forests of Asia and Africa, living in herds, in a state of inoffensive quiet, unless when attacked by some of the larger and stronger animal assail-

ants, or by their powerful and more relentless enemy—man. *Elephas Indicus*, (Indian or Asiatic elephant.) As its name implies, this animal is a native of the Indian world. Its habitat extends from the southern point of Sumatra, latitude 6° south, through that island, across the peninsula of Malacca, over the southern provinces of China, Yun-nan, and Kwang-se, and in all India on both sides of the Ganges, including Ceylon, to the marshy woodlands of Tarai, which are situated between the River Ganges at Hurdwar, and Ram Ganga, along the foot of the Himalaya, to nearly 30° north latitude. It ascends the Himalayan Mountains, in the forest wildernesses of Nepaul, to a height of from five to six thousand feet.—In reference to the occurrence of the Indian elephant in the Asiatic Archipelago, Salomon Müller, who has so thoroughly studied the fauna of these islands, says that Sumatra alone has been known, from the earliest times, as the habitation of this animal; and that, after the most minute research, he could find no trace of it in Borneo. Pigafetta, indeed, states, in his account of the voyage of Magellan, that on arriving in the town of Borneo, he found two elephants belonging to the king; but these were probably imported from the continent or from Sumatra, whence young elephants are frequently conveyed to Java, and whence also the royal stables of Pekin have, from time immemorial, been supplied. It is still possible, however, that elephants may be found in the unexplored countries of the northern part of Borneo. Buffon's statement, that the elephant is an inhabitant of Java, is clearly founded on erroneous information.—The native country of *Elephas Africana* (the African elephant) extends from the northern borders of the Cape Colony to the River Senegal on the west, and to Abyssinia on the east, but in Central Africa it does not appear to extend so far to the north; at least it has not been found in the vicinity of Lake Tchad. In Abyssinia it extends to about latitude 13° north, in the mountains north of Abou Huaze, (south of Senaar;) and its highest southern latitude is about 31° south, on the southern borders of the table-land, whence, however, it is receding before increasing cultivation.

2. *Hippopotamus*.—This genus, containing only one species, *Hippopotamus amphibius*, (common hippopotamus,) is peculiar to Africa, where, in former times, it was more widely distributed than at present; since it is ascertained that, at the beginning of the seventeenth century, it was captured even in the Delta of the Nile, where it was first known by the name of the "river horse." Its present habitation extends from the River Gariep and its tributaries to the Upper Nile in Dongola, where it is very common, and where neither the elephant nor rhinoceros are met with. Burckhardt says, that the hippopotamus is occasionally, though rarely, seen as far north as the Cataracts of the Nile at Assouan; but in the district of Abyssinia watered by the Tacazze, a tributary of the Nile, it is very abundant, as well as in the River Niger. It occurs in the River Senegal, and was observed by Clapperton in the Lake Muggabey, Bornou, and in Lake Tchad and its tributary streams. According to Mr Bidwell, (Proceed. Zool. Soc. London, 1839,) it is not found in the Sierra Leone River, but is very abundant in the Scarcies, about fifty miles farther north.

3. *Rhinoceros*.—This genus, which, like the elephant, is common to Asia and Africa, contains three Asiatic and four African species. It is confined to nearly the same limits as the elephant. In Africa, indeed, the limits of the two entirely coincide; and in Asia, the only difference is, that the habitat of the rhinoceros extends a little farther to the north in China, and includes the island of Java. *Rhinoceros Indicus s. unicornis* (Indian rhinoceros) is a native of the whole Indian continent. It is most abundant in Bengal, and extends to the Chinese province of Sze-chuan. Of the two other species, one, *Rhinoceros Sumatrana*, inhabits Sumatra; and the other, *Rhinoceros Javanus*, (Javanese one-horned rhinoceros, or warak,) the island of Java. Salomon Müller has not been able to ascertain whether or not the rhinoceros occurs in Borneo; he could only learn that one of the natives had, in his youth, seen a specimen about the size of a buffalo; but he made many interesting observations on their distribution in the islands of Java and Sumatra. In consequence of their great strength, and their indifference to the changes of climate, these animals wander from the sea-shore to the summit of the bell-shaped volcanoes of Java, where their foot-prints, furrowed to a depth of several feet, are often observed to a height of nearly eight thousand feet, in the rough and naked vicinity of the craters.—Of the African rhinoceros, (which consists of three species with two horns, and one species with one horn,) the common, or two-horned African rhinoceros, has the largest district of distribution, occupying the same extent of country as the African elephant, whilst the three other species are more confined to the interior. *Rhinoceros simus* (white or blunt-nosed rhinoceros) occurs in great abundance near Litakou, latitude 26° south. *Rhinoceros keitloa*, (keitloa,) the African one-horned rhinoceros, is found, according to Burckhardt, in the territory above Senaar; and Bruce says that it occurs near Cape Guardafui; and it may be added, on the authority of Mr Freeman, that it is not uncommon in Makooa, north of the Mozambique Channel.

4. *Hyrax*, (damans.)—Receding, in its pygmy-size, from the great bulk of the proboscidean animals, this, the smallest of the thick-skinned Mammalia, approaches nearest in form to the Glires or Rodentia, looking like a diminutive hare. Its district is not extensive, having hitherto only been observed in Southern Africa, in the Nile countries, and in Syria. The most common species in Southern Africa is *Hyrax Capensis*, (Cape hyrax, or dassie of the colonists.) It is abundant on the sides of Table

PARASITIC MALARIA IN THE SOUTHERN AND EASTERN AFRICAN

ANSWER QUESTIONS ON GROUP 1 (LITERATURE)

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THE WISDOM OF GOD

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2. *Staphylococcus aureus* *Staphylococcus epidermidis*
3. *Escherichia coli* *Enterococcus faecalis*
4. *Enterococcus faecalis* *Enterococcus faecium*

1. the Department of Health
2. the Department of Education
3. the Department of Justice