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CAMELS BORE THE FIRST CHRISTMAS GIFTS, TO THE CHILD BORN IN BETHLEHEM

The colored picture on this page is Field Museum's Christmas card to its several thousand Members, bearing to them the season's greetings from the administration of this institution, and grateful acknowledgment of the support they are giving to science and education by their memberships.

Camels traditionally are associated with Christmas, due to the New Testament story of the Three Wise Men who, in response to a message they read in the most beautiful star they had ever seen, mounted their camels and came across a desert to Bethlehem in search of the Son of God. Likewise on their camels, they bore gifts for the Christ-child, which may be the origin of the custom of Christmas giving. It may be noted too that, as the bearers of spices and silks and jewels, and other good things of the East during many centuries, camels may be considered Christmas animals as appropriately as the reindeer associated with the Santa Claus legend.

"Caravan North of the Persian Gulf" is the title of the picture reproduced here. The original is one of the seventeen large mural paintings by Mr. Julius Moessel, Chicago artist, recently installed on the walls of the Museum's Hall of Food Plants (Hall 25). Another of these, "Mexican Market Scene," was reproduced in the September issue of *FIELD MUSEUM NEWS*, and all are reproduced and described in Botany Leaflet No. 25, *The Story of Food Plants*, recently published by Field Museum Press. Dr. B. E. Dahlgren, Chief Curator of the Department of Botany, prepared the text.

Concerning the use and importance of camels in the distribution of food, Dr. Dahlgren writes the following brief summary:

"Because of early difficulties of communication and transportation, trade with distant countries developed very slowly. But with the gradual establishment of caravan routes between distant parts of the Far and Near

supplied the countries bordering the eastern Mediterranean from Egypt to the Euxine.

"After the tenth century, the commerce in products of the East was taken over by Italian cities: Naples, Amalfi, Pisa, and especially Venice with its Mediterranean fleet in contact with all Levantine ports. The commercial pre-eminence of Venice

came to an end at the close of the fifteenth century with the rapid development of water-borne commerce after the circum-navigation of Africa and of the world by the venturesome mariners of Portugal who initiated an era of geographical discoveries. Merchantmen of other European nations soon embarked on long journeys to strange lands and began to bring the products of far corners of the earth directly to the

cities of western Europe. The slow and costly overland caravan transportation, always exposed to bandit attacks, excessive ransoms, and toll-gate levies, declined; and the center of the world's commerce shifted from eastern Mediterranean to Atlantic ports. The historic visit of French merchants of St. Malo to Yemen, the chief coffee district of Arabia, described by La Roque in his *Voyage to Arabia Felix* (and depicted in another of the Moessel paintings in Hall 25 of the Museum), was an event typical of the beginnings of the modern trade by which the special products of distant parts of the world became readily available everywhere."

CAMEL MEAT CANNED IN NEAR EAST

Mr. Richard A. Martin, Curator of Near Eastern Archaeology at Field Museum, who has traveled by camel on expeditions for



Camel Caravan North of the Persian Gulf

During several thousand years before the discovery of the sea-route to India, the products of the East found their way to the western world by overland routes. Trains of pack camels played an important part in this trade. The illustration reproduces one of the mural paintings, by Julius Moessel, recently installed in the Hall of Food Plants. The color photograph is by Clarence B. Mitchell, Research Associate in Photography, to whom the Museum is indebted also for the gift of this and other color printing plates.

East these became highways of commerce for the exchange of the most valued products of each. Aromatics and spices of the Orient began to arrive in the western world where exotic condiments, such as pepper, nutmegs, ginger and cinnamon, were prized as much as silks and jewels. More than 3,000 years ago this trade extended from China and India to Arabia, Palestine and Syria. Much of it passed through Babylon, some of it by a more northerly route to the Black Sea. At the time of Phoenician power, Damascus, Tyre, and Sidon were important centers in a trade that extended also to Egypt and to Carthage and even beyond the pillars of Hercules. After the fall of the Roman Empire, the trade of the Near East remained for some time largely in the hands of the Persians; later it passed to the Arabs, who

this and other institutions, states that the "four-legged ships of the desert" are still of considerable importance in the trade and transportation of the East, although in recent years their importance has given way to the motor trucks. Mr. Martin makes the amusing comment that, from being an important carrier of food, the camel has in late years become an important article of food, since its meat is popular with Near Eastern peoples, and today is even being canned for the market. Also, herds of camels are important sources of milk and butter to the inhabitants of regions where the natural conditions for raising cows, sheep, and goats are not favorable. Further, their hair is locally utilized and is an important export product for use in the manufacture of clothing and brushes.

Camels were not important as pack animals in the truly ancient world, as they were not "domesticated" until 1000 B.C., Mr. Martin says. In fact, they are still not truly domesticated, he adds. The ass and the ox had been the important bearers of burdens for centuries before camels were thus used. The average load borne by a pack camel is around 400 pounds. For transport of goods, and also as draft animals for agricultural purposes, the Arabian single-humped or Bactrian two-humped camels are used. For riding, however, the lighter, fast moving Dromedary is preferred, and it is pertinent to note that camels are still vital as cavalry animals in desert military operations.

AMERICA WAS CAMEL'S FIRST HOME

The evolution of the camel presents an interesting study in natural history. Mr. Paul O. McGrew, of the Museum's Division of Paleontology, who has conducted extensive research on this subject writes:

"The living members of the camel family are now limited to Asia, Africa, and South America. For some 30,000,000 years, however—from late Eocene to late Pliocene time—camels were restricted to North America. This means that America was the stage upon which most of the evolution of the camels took place. . . .

"Abundant fossils show us that in the last 35,000 years or so the camels have undergone profound structural changes. They have evolved from little creatures hardly larger than rabbits to the large domesticated animals used in Asia as beasts of burden. . . .

"Some may wonder why, if the camel developed in, and was restricted to, North America in the past, it is now absent from this continent and present in two others: Asia and South America. To account for this it may be pointed out that in Pliocene times a land connection is known to have extended across what is now Bering Strait, permitting the camel, along with other mammals, to migrate to Asia. . . . Likewise, migration to South America was made possible by the elevation of the Central American isthmus late in the Pliocene, reuniting North and South America which had been separated

almost from the beginning of the Age of Mammals (55 to 65 million years ago).

"The camels which invaded the Old World were of a different group from those that migrated to South America. The large humped camels that went to Eurasia belong to the genus *Camelus*, comprising both the bactrian camel and the dromedary. . . . The guanacos and llamas that went to South America, however, were smaller and without humps.

EXHIBIT SHOWS EVOLUTION OF CAMEL

"All of this does not mean that camels simply evacuated North America. . . . Those which did remain in North America, however, were destined to complete extinction, for at some time before the arrival of the white man the last North American camel had died."

In Ernest R. Graham Hall (Hall 38) there is an exhibit illustrating each important step in the evolution of the camel. In Hall 16 there is a habitat group of guanacos, the modern South American species most closely resembling certain extinct species.

BOTANISTS OF FIELD MUSEUM DISCOVER UNUSUAL PLANT

BY JULIAN A. STEYERMARK
ASSISTANT CURATOR OF THE HERBARIUM

Easily the most spectacular and showiest member of the aster family (Compositae) in Guatemala, and one of the most beautiful plants anywhere in Central America, is a plant discovered by Curator Paul C. Standley and the writer on recent Field Museum expeditions to Guatemala.

This plant proved, after much critical study, to be not only a species but also a genus new to science. It has been called *Rojasianthe superba*, which means "superb flowers of Rojas," and commemorates the name of Professor Ulises Rojas, Director of the Botanical Garden at Guatemala City, professor of botany in the schools of Guatemala, and author of several botanical textbooks. He provided the Museum collectors with every possible courtesy, and extended many facilities to them. Mr. Standley and the writer have brought the new plant to the attention of botanists all over the world by a description and illustration in a publication issued by Field Museum.

The plant stands ten to fifteen feet tall, has stout hollow stems, and large angled leaves. Its most striking feature is its showy black-and-white-flower-heads, which are about the size of a sunflower. The long, pointed, paper-white rays, which look like petals, surround a black central part made up of many little flowers. This black-and-white color combination is a rather unusual one, especially since the flower-heads are so large. The gorgeous color effect made by a mass of blossoms can be well imagined.

The plant grows in southwesternmost Guatemala, where the Field Museum botanists collected it from the higher moist slopes of deep forested gorges of the vol-

canoes of Zunil, Tajumulco, and Tacaná, and it has been observed also on the Mexican side of Volcán Tacaná by the writer. It appears to be fairly common along the smaller streams flowing down through the deep gorges on the mountain slopes.

The most remarkable feature of this story, however, is that this beautiful plant has evidently never before been recorded by any botanist or explorer traveling through the country in which it grows. In the hundreds of years which have elapsed since exploration began in Central America, one would have expected at least some traveler to have collected it, but this evidently is not the case. Therefore, it appears indeed a noteworthy discovery to make in the twentieth century.

The genus is related to *Dahlia* and *Helianthus* (sunflowers) on the one hand, and to *Perymenium* on the other, but it shows many characteristics which set it apart generically from any other known genus of the aster family. One of the most unusual marks of distinction is the jagged-edged fan-shaped chaff surrounding each of the flowers in a head. These enlarge and give a slightly bristly appearance to the heads after they have flowered.

Because the plant is so striking in appearance, it seemed that it ought to be introduced into horticulture in the United States so that many people might be able to enjoy its exceptional beauty. For this purpose, mature fruit was collected and brought back to Chicago. Seeds have been germinated at Garfield Park and Marquette Park Conservatories, but thus far only one plant has lived (at Marquette Conservatory).

LARGE FISH SPECIMENS RECEIVED FROM MR. MICHAEL LERNER

Field Museum has recently received from Mr. Michael Lerner, of New York, two very interesting specimens for exhibition in the new hall of fishes (Hall O), which is now in preparation. One of these is a large Pacific black marlin, the other, a thresher shark.

The thresher is a large shark with a very long tail fin. Sailors have noticed the great length of this tail and have made up many fanciful stories to account for its presence and use. The most probable theory seems to be that the shark uses its tail in some way in rounding up groups of the small fishes on which it feeds.

Anglers have found many species of sailfishes and spearfishes or marlins in the waters of the island groups of the south Pacific. Very large specimens have been caught, the heaviest probably being of the species called black marlin on account of its uniform dark color. The range of this fish seems to extend from Panama to Australia and Japan. A few have been caught in the Gulf of California. The largest reliably recorded seems to be one weighing about a thousand pounds, caught a few years ago in the waters of northern New Zealand. —A.C.W.



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