

CELEBES, one of the four Great Sunda Islands in the Dutch East Indies. Its general outline is extremely irregular, and has been compared to that of a starfish with the rays torn off from one side, corresponding to the west side of the island. It consists of four great peninsulas, extending from a comparatively small nucleus towards the north-east, east, south-east and south, and separated by the three large gulfs of Tomini or Gorontalo, Tolo or Tomaiki, and Boni. Of these gulfs the first is by far the largest, the other two having much wider entrances and not extending so far inwards. Most important among the smaller inlets are the bays of Amurang, Kwandang and Tontoli on the north coast, Palos and Pare-Pare on the west, and Kendari or Vosmaer on the east. Of the numerous considerable islands which lie north-east, east and south of Celebes (those off the west coast are few and small), the chief are prolongations of the four great peninsulas—the Sangir and Talaut islands off the north-east, the Banggai and Sula off the east, Wuna and Buton off the south-east, and Saleyer off the south. Including the adjacent islands, the area of Celebes is estimated at 77,855 sq. m., and the population at 2,000,000; without them the area is 69,255 sq. m. and the population 1,250,000.

The scenery in Celebes is most varied and picturesque. “Nowhere in the archipelago,” wrote A. R. Wallace, “have I seen such gorges, chasms and precipices as abound in the district of Maros” (in the southern peninsula); “in many parts there are vertical or even overhanging precipices five or six hundred feet high, yet completely clothed with a tapestry of vegetation.” Much of the country, especially round the Gulf of Tolo, is covered with primeval forests and thickets, traversed by scarcely perceptible paths, or broken with a few clearings and villages. A considerable part of the island has been little explored, but the general character seems to be mountainous. Well-defined ranges prolong themselves through each of the peninsulas, rising in many places to a considerable elevation. Naturally there are no great river-basins or extensive plains, but one of the features of the island is the frequent occurrence, not only along the coasts, but at various heights inland, of beautiful stretches of level ground often covered with the richest pastures. Minahassa, the north-eastern extremity, consists of a plateau divided into sections by volcanoes (Klabat, 6620 ft., being the highest). Sulphur springs occur here. In the west of the northern peninsula the interior consists in part of plateaus of considerable extent enclosed by the coast ranges. Near Lake Posso, in the centre of the island, the mountains are higher; the Tampiko massif has a height of nearly 5000 ft., the chains south and west of the lake have a general altitude of about 5450 ft., with peaks still loftier. In the southern peninsula two chains stretch parallel with the west and east coasts; the former is the higher, with a general altitude of 3200 ft. In the south it joins the Peak of Bonthain, or Lompo-batang, a great volcanic mass 10,088 ft. high. In the east central part of the island the mountain Koruve exceeds 10,000 ft., and is supposed to be the highest in the island. An alluvial coast plain, 7 to 9 m. wide, stretches along the foot of the western chain, and between the two chains is the basin of the Walannaë river, draining northward into Lake Tempe. Little is known of the orography of the eastern peninsula. At the base of the south-eastern there is another large lake, Tovieti. In this peninsula there are parallel ranges on the east and west flanks. The trench between them is partly occupied by the vast swamp of Lake Opa.

The rivers of the narrow mountainous peninsulas form many rapids and cataracts; as the Tondano, draining the lake of the same name to the north-west coast of Minahassa at Menado; the Rano-i-Apo, flowing over the plateau of Mongondo to the Gulf of Amurang; the Poigar, issuing from a little-known lake of that plateau; the Lombagin, traversing narrow cañons; and the river of Boni, which has its outfall in the plain of Gorontalo, near the mouth of the Bolango or Tapa, the latter connected by a canal with the Lake of Limbotto. All these rivers are navigable by praus or rafts for only a few miles above the mouth. In central Celebes, the Kodina flows into Lake Posso, and the Kalaëna discharges to the Gulf of Boni; the Posso, navigable

by *blottos* (canoes formed of hollowed tree-trunks), is the only river flowing from the lake to the Gulf of Tomini. The rivers of the southern peninsula, owing to the relief of the surface, are navigable to a somewhat greater extent. The Walannaë flows into Lake Tempe, and, continued by the Jenrana (Tienrana), which discharges into the Gulf of Boni, is navigable for small boats; the Sadang, with many affluents, flows to the west coast, and is navigable by *sanpans*. The Jenemaja is a broad river, navigable far from the mouth. The coasts of Celebes are often fertile and well populated; but, as shown by the marine charts, many sand, mud and stone banks lie near the shore, and consequently there are few accessible or natural ports or good roadsteads.

Geology.—The geological observations on Celebes are too scattered to reveal its structure. The greater part of the island seems to be formed of gneiss and other crystalline rocks. These are overlaid by conglomerates, limestones and clay slates of very doubtful age, the most interesting being a radiolarian clay which occurs on the south side of the Matinang Mountains, at the north end of Lake Posso, &c.; it may correspond with the radiolarian cherts of Borneo. Tertiary beds are found, especially near the coast. The Eocene includes a series of sandstones and marls with lignite, and these are overlaid by nummulite limestones. The Miocene contains an *Orbitoides* limestone. Intrusive and volcanic rocks of great variety and of various ages occur. Peridotite and gabbro form much of the eastern peninsula (Banggai). Leucite and nepheline rocks have been found in various parts of the island, especially in the south-west. In Minahassa, at the northern extremity, there is a large area of tuffs and agglomerates consisting chiefly of augite andesite, and in this area there are many recent volcanic cones. Eruptions still take place at intervals, but the volcanoes for the most part seem to have reached the solfataric stage.

Climate.—The climate of the island, everywhere accessible to the influence of the sea, is maritime-tropical, the temperature ranging generally between 77° and 80° F., the extremes being about 90° and 70° F., only on the higher mountains falling during the night to 54° or 55° F. The rainfall in the northern peninsula (north of the equator) differs from that of the southern; the former has rains (not caused by the monsoon), and of smaller amount, 102 in. annually; the latter has a greater rainfall, 157 in., brought by the north-western monsoon, and of which the west coast receives a much larger share than the east.

Fauna and Flora.—In spite of its situation in the centre of the archipelago, Celebes possesses a fauna of a very distinctive kind. The number of species is small, but in many cases they are peculiar to the island. Of land birds, for example, about 160 species are known, and of these not less than about 90 are peculiar, the majority of the remainder being Asiatic in distinction from Australian. Mammals are few in species, but remarkable, especially *Macacus niger*, an ape found nowhere else but in Bachian; *Anoa depressicornis*, a small ox-like quadruped which inhabits the mountainous districts; and the babirusa or pig-deer of the Malays. Some of the animals are probably descendants of specimens introduced by man; others are allied in species, but not identical, with mammals of Java and Borneo; others again, including the three just mentioned, are wholly or practically confined to Celebes. There are no large beasts of prey, and neither the elephant, the rhinoceros nor the tapir is represented. Wild-buffaloes, swine and goats are pretty common; and most of the usual domestic animals are kept. The horses are in high repute in the archipelago; formerly about 700 were yearly exported to Java, but the supply has considerably diminished.

The same peculiarity of species holds in regard to the insects of the Celebes (so far as they are known) as to the mammals and birds. Out of 118 species of butterflies, belonging to four important classes, no fewer than 86 are peculiar; while among the rose-chafers or *Cetoniinae* the same is the case in 19 out of 30. Equally remarkable with this presence of peculiar species

is the absence of many kinds that are common in the rest of the archipelago; and these facts have been considered to indicate connexion with a larger land-mass at a very distant geological epoch, and the subsequent continuous isolation of Celebes. This view, however, has been controverted. It is held that in the Miocene and Pliocene periods there were land connexions with the Philippines, Java and the Moluccas, and through the last with Australasian lands to the east and south-east. Migration of species took place along these lines in both directions. Those immigrants which remained in what is now Celebes may have developed new species. Moreover, while Celebes has species which are peculiar to itself and one other of the islands just mentioned, it has none which it shares exclusively with Borneo, and thus the importance of the Macassar Strait as a biological division is indicated.

Vegetation is extremely rich; but there are fewer large trees than in the other islands of the archipelago. Of plants that furnish food for man the most important are rice, maize and millet, coffee, the coco-nut tree, sago-palm, the obi or native potato, the bread-fruit and the tamarind; with lemons, oranges, mangosteens, wild-plums, Spanish pepper, beans, melons and sugar-cane. The shaddock is to be found only in the lower plains. Indigo, cotton and tobacco are grown; the bamboo and the ratan-palm are common in the woods; and among the larger trees are sandal-wood, ebony, sapan and teak. The palm, *Arenga saccharifera*, furnishes *gemuti* fibres for ropes; its juice is manufactured into sugar and a beverage called sagueir; and intoxicating drinks are prepared from several other palms.

Products.—As in natural vegetation and fauna, so in cultivated products, Celebes, apart from its peculiarities, presents the transitional link between the Asiatic and the Australian regions of the Malayan province. For example, rice is produced here in smaller quantity and of inferior quality to that in the western part of the archipelago, but superior to that in the eastern section, where sago and sorghum form the staple articles of food. The products of the forests supply about half the total exports. The fisheries include trepang, turtle and pearl oysters. Gold is worked under European direction in the district of Gorontalo, but with only partial success; the search for coal in the southern peninsula has yielded no satisfactory results; tin, iron and copper, found in the eastern peninsula and elsewhere, are utilized only for native industries.

Natives.—The native population of the island is all of Malayan stock. The three most important peoples are the Bugis (*q.v.*) the Macassars and the Mandars. The medley of other Malayan tribes, of a more or less savage type, living in the island, are known under the collective name of Alfuros (*q.v.*). The Macassars are well-built and muscular, and have in general a dark-brown complexion, a broad and expressive face, black and sparkling eyes, a high forehead, a flattish nose, a large mouth and long black soft hair. The women are sprightly, clever and amiable. The men are brave and not treacherous, but ambitious, jealous and extremely revengeful. Drunkenness is rare, but they are passionate, and running amuck is frequent among them. In all sorts of bodily exercises, as swinging, wrestling, dancing, riding and hunting, they take great pleasure. Though they call themselves Mahommedans, their religion is largely mingled with pagan superstitions; they worship animals, and a certain divinity called Karaeng Lové, who has power over their fortune and health. Except where Dutch influence has made itself felt, little attention has been paid by the native races to agriculture; and their manufacturing industries are few and limited. The weaving of cotton cloth is principally carried on by women; and the process, at least for the finer description, is tedious in the extreme. The houses are built of wood and bamboo; and as the use of diagonal struts is not practised, the walls soon lean over from the force of the winds. The Macassar language, which belongs to the Malayo-Javanese group, is spoken in many parts of the southern peninsula; but it has a much smaller area than the Buginese, which is the language of Boni. It is deficient in generalizations; thus, for example, it

has words for the idea of carrying in the hand, carrying on the head, carrying on the shoulder, and so on, but has no word for carrying simply. It has adopted a certain number of vocables from Sanskrit, Malay, Javanese and Portuguese, but on the whole is remarkably pure, and has undergone comparatively few recent changes. It is written in a peculiar character, which has displaced, and probably been corrupted from, an old form employed as late as the 17th century. Neither bears any trace of derivation from the Sanskrit alphabet. The priests affect the use of the Arabic letters. The literature is poor, and consists largely of romantic stories from the Malay, and religious treatises from the Arabic. Of the few original pieces the most important are the early histories of Goa, Tello and some other states of Celebes, and the *Rapang*, or collection of the decrees and maxims of the old princes and sages. The more modern productions are letters, laws and poems, many of the last of considerable beauty.

Divisions, Towns, Population.—Celebes is divided by the Dutch, for administrative purposes, into the government of Celebes with dependencies (south-eastern and southern peninsulas and all west coast), and the residency of Menado (north-eastern peninsula and coast of Gulf of Tomini). The eastern peninsula and coast of the Gulf of Tolo belong politically to the residency of Ternate (*q.v.*). The following table shows approximately the distribution and composition of the population:—

	Europeans.	Chinese.	Arabs.	Other Oriental Foreigners.	Natives.	Total.
Government of Celebes and Dependencies	1414	3738	554	54	409,739	415,499
Residency of Menado—						
Minahassa	836	3574	286	16	} 430,941	436,406
Gorontalo	115	505	133	..		

The *Government of Celebes and Dependencies* is subdivided into the government territory, the vassal states (Boni, *q.v.*, and Ternate), and the federal countries. The density of population for the whole government is estimated as 3.7 or 4 per sq. m., varying from 2.2 in the vassal and federated states to 14.7 to 18.4 for Macassar and the districts directly governed by the Dutch. The density of population in districts outside the influence of European government sinks to 1 and less per sq. m. As in the case of Minahassa, the difference must be explained by physical and moral conditions. Two-thirds of the natives live by agriculture, and one-third by trade, navigation, shipbuilding and other industries. In agreement with these principal occupations, the centres of population are found in southern Celebes, on the coast (not in the interior plains or on the lake, as in Menado). Palos (3000), with good port; Pare-Pare, connected by road with Lake Tempe; and Macassar (17,925), the seat of the governor and the centre of trade for the eastern part of the archipelago. On the south coast must also be named Bonthain (4000); on the east coast, Balong-Nipa; and Buton and Saleyer, seats of administration and ports of call on the island groups of the same names.

The *Residency of Menado* comprises three districts: Minahassa, the little states along the north coast west of Minahassa, and Gorontalo, including the other states of the northern peninsula lying along the Gulf of Tomini. The density of population being calculated at about 2.7 to 3 per sq. m. for Celebes, is 16.2 for Minahassa, but only 1.5 to 2 for the Residency of Menado. Centres of population in Menado are Amurang (3000), the seat of a Dutch controller, and a calling place for the steamers of the Indian Packet Company; Menado (10,000), the chief town

of the residency, the principal station of the Dutch missionaries, with a fair amount of trade, but an unsafe roadstead; Tondano (12,000), near the lake and river of the same name, at an altitude of nearly 2000 ft., and one of the chief centres; Gorontalo, one of the most important towns of Celebes, carrying on direct trade with Singapore and Europe. All the other coast places have some importance as chief villages of the little states and as ports of call for the vessels of the steam packet company, but have only from 500 to 1000 inhabitants.

History.—Celebes was first discovered by the Portuguese in the early part of the 16th century, the exact date assigned by some authorities being 1512. The name is not used by the natives, and is apparently of foreign origin, but has been variously derived, e.g. from the mountain of Klabat or Kalabat, or from *Seli Besi*, an iron kris carried by the natives, of whom those who were first asked for the name of the island were conceived, according to this theory, to have misunderstood their questioners. At the time of the Portuguese discovery, the Macassars were the most powerful people in the island, having successfully defended themselves against the king of the Moluccas and the sultan of Ternate. In 1609 the British attempted to gain a footing. At what time the Dutch first arrived is not certainly known, but it was probably in the end of the 16th or beginning of the 17th century, since in 1607 they formed a connexion with Macassar. In 1611 the Dutch East Indian Company obtained the monopoly of trade on the island of Buton; and in 1618 an insurrection in Macassar gave them an opportunity of obtaining a definite establishment there. In 1660 the kingdom was subjugated, but in 1666 the war broke out anew. It was brought to an end in the following year, and the treaty of Bonga or Banga was signed, by which the Dutch were recognized as protectors. 599 In 1683 the north-eastern part of the island was conquered by Robert Paddenburg and placed under the command of the governor of the Moluccas. In 1703 a fort was erected at Menado. The kingdom of Boni was successfully attacked in 1824, and in August of that year the Bonga treaty was renewed in a greatly modified form. Since then the principal military event is the Boni insurrection which was quelled in 1859, but this was far from pacifying the country permanently. A series of revolts of various chiefs in 1905-6 was not arrested without considerable fighting, but after this the whole island was brought under Dutch authority, even where native rule survived.

Bibliography.—In P.J. Veth's *Woordenboek van Nederlandsch Indie* there will be found an extensive bibliography of Celebes drawn up by H.C. Millies. For additional bibliography and data for the island and its population, see C.M. Kan, "Celebes," in the *Encyclopaedie van Nederlandsch Indie*, ed. by P.A. van der Lith and A.H. Spaan (The Hague, 1895), &c., vol. i. p. 314. See P. and F. Sarasin (who have carried out extensive explorations in the island), "Berichte aus Celebes," *Zeitschr. der Ges. f. Erdk.* xxix. 351; *Entwurf einer geographisch-geologischen Beschreibung der Insel Celebes* (Wiesbaden, 1901); *Reisen in Celebes, 1893-1896, 1902-1903* (Wiesbaden, 1905); *Versuch einer Anthropologie der Insel Celebes* (Wiesbaden, 1906); C. van der Hart, *Reize rondom het Eiland Celebes* (The Hague, 1853); Capt. R. Mundy, *Narrative of Events in Borneo and Celebes* (London, 1848); P.J. Veth, *Een Nederlandsch reiziger op Zuid Celebes* (Amsterdam, 1875); J.G.F. Riedel, *Het landschap Boeool, Noord Selebes* (1872); and "Die Landschaften Holontalo, Limoeto," &c., in *Zeitschr. für Ethnologie* (1871); H. Bücking, "Beiträge zur Geologie von Celebes," *Samml. geol. Reichsmus. Leiden*, vol. vii. pp. 29-205 (1902), pp. 221-224 (1904); and various articles in *Tijdschrift v.h. Aardrijkskundig Genootschap* and *Tijdsch. v.h. Batavian. Gen.*