soups. That intended for exportation is mixed into a paste with water and rubbed through sieves into small grains, from the size of a coriander seed and larger, whence it is known according to size as pearl sago, bullet sago, &c. A large proportion of the sago imported into Europe comes from Borneo, and the increasing demand has led to a large extension of sago-palm planting along the marshy river banks of Sarawak.

Various palms, in addition to the two above named, yield sago, but of an inferior quality. Among them may be mentioned the Gomuti palm *(Arenga saccharifera),* the Kittul palm *(Paryota wrens),* the cabbage palm *(Corypha umbraculifera), besides Corypha Gebanga, Eaphiaflabelliformis, Pbwenix farinifera, and dfetroxylon fllare—*all East Indian palms—and *Mauritia flexuosa* and *Guilielma speciosa,* two South-American species. The imports of sago into the United Kingdom for 1884 amounted to 346,188 cwt., valued at £195,680, the whole of which, excepting less than 300 tons, is entered as coming from the Straits Settlements.

SAGUNTUM, an ancient city of Hispania Tarraco- nensis, was situated near the mouth of the river Pallantias (Palancia). It was the centre of a fertile district and -was a rich trading place in early times, but owes its celebrity to the desperate resistance it made to Hannibal (see vol. xi. p. 441). The Romans restored the city and made it a colony; later writers speak of its figs, which were esteemed at Rome, and of its earthenware, which enjoyed a certain reputation. The most important remains are those of the theatre.

The modern Sagunto or Murviedro *(mwri veteres),* 18 miles by rail from Valencia on the line to Tarragona, is now about 3 miles from the sea; the population within the municipal boundaries was 6287 in 1877.

SAHARA is the great desert region which stretches across the continent of Africa eastwards from the Atlantic for a considerable distance on both sides of the Tropic of Cancer, and is generally distinguished by aridity of soil, absence of running water, dryness of atmosphere, and comparative scarcity of vegetable and animal life. The physical limits of this region are in some directions marked with great precision, as in part of Morocco and Algeria, where the southern edge of the Atlas range looks out on what has almost the appearance of a boundless sea, and forms, as it were, a bold coast-line, whose sheltered bays and commanding promontories are occupied by a series of towns and villages—Tizgi, Figig, Lagliouat, &c. In other directions the boundaries are vague, conventional, and dis­puted. This is especially the case towards the south, where the desert sometimes comes to a close as suddenly as if it had been cut off with a knife, but at other times merges gradually and irregularly into the well-watered and fertile lands of the Sudan (Soudan). While towards the east the valley of the Nile at first sight seems to afford a natural frontier, the characteristics of what is usually called the Nubian or Arabian desert are so identical in most respects with those of the Sahara proper that some authorities extend this designation over the whole country to the shores of the Red Sea. The desert, indeed, does not end -with Africa, but is prolonged eastwards through Arabia towards the desert of Sind. As the Nubian region has been described under the heading Nubia (vol. xvii. p. 610), attention will in the present article be confined to the desert country west of the Nile valley. Even as thus defined the Sahara is estimated to have an area of 3,565,565 square miles, or nearly as much as all Europe minus the Scandinavian peninsula and Iceland; but, while Europe supports a population of 327,000,000, the Sahara probably does not contain more than 2,500,000,—a figure, however, which is sufficiently startling to those who think of it as an uninhabitable expanse of sand. The sea-like aspect of certain portions of the Sahara has given rise to much popular misconception, and has even affected the ideas and phraseology of scientific writers. Instead of

being a boundless plain broken only by wave-like mounds of sand hardly more stable and little less dangerous than the waves of ocean, the Sahara is a region of the most varied surface and irregular relief, ranging in altitude from 100 feet below to some 5000 or 6000 or even it may be 8000 feet above the sea-level, and, besides sand-dunes and oases, containing rocky plateaus, vast tracts of loose stones and pebbles, ranges of hills of the most dissimilar types, and valleys through which abundant watercourses must once have flowed.

The culminating points of the Sahara are probably the summits of the Ahaggar (Hoggar), a great mountain plateau, not inferior to the Alps in the area which it covers, crossing the Tropic of Cancer about 5° and 6° E. long., almost midway between the Atlantic and the valley of the Nile. In its central mass rise with red steep cliffs two peaks, Watellen and Hikena, which Duveyrier believes to be volcanic like those of Auvergne. The height of this country has not been ascertained by direct European observation, but may be gathered from the fact that according to the Tuareg the snow lies for three months of the year, from December to March. To the north­west, and separated from the Atakor-’n-Ahaggar by a wide plain, rises the Muydir plateau, lying nearly east and west for a distance of about 200 miles. Its north­eastern extremity is extended towards Timassinin by the Irawen Mountains, which in their turn are separated by a narrow valley from the Tasili plateau (strictly Tasili of the Asjer or Asgar). This great plateau stretches south­east for 300 miles parallel with the Atakor-’n-Ahaggar (from which it is separated by the Amadghor and Adamar plains), and then the line of elevation is continued by low ridges to the Tummo or War Mountains, and so onwards to the highland country of Tibesti or Tu, whose highest point, Tusidde, is 7880 feet above the sea-level, while its south-eastern eminences gradually die away in the direction of Wadai and Darfor (Darfur). About midway between Tibesti and the Niger rises the isolated mountain mass of Air or Asben, in which Dr Erwin von Bary @@1 discovered the distinct volcanic crater of Teginjir with a vast lava-bed down its eastern side. By some this country is assigned to the Sudan, as it lies within the limit of the tropical rains; but the districts farther south have all the character­istics of the desert. The low but extensive plateau of Adghagh lies between Air and the Niger. Away to the north-east, in the country of Fezzan (*q.v.*), are the dark mountains of Jebel es-Soda, which are continued south-east towards Kufra by the similar range of the Haruj ; and in the extreme south-west at no great distance from the Atlantic is the hilly country of Adrar (Aderer).

Nearly all the rest of the Sahara consists in the main of undulating surfaces of rock (distinguished as *hammada),* vast tracts of water-worn pebbles (serir), and regions of sandy dunes (variously called *maghter, erg* or *areg, igidi* and in the east *rhart),* which, according to M. Pomel, occupy about one-ninth or one-tenth of the total area. The following is the general distribution of the dunes. From the Atlantic coast to the south of Cape Blanco a broad belt extends north-east for a distance of about 1300 miles, with a breadth varying from 50 to 300 miles. This is usually called the Igidi or Gidi, from the Berber word for dunes. Eastward it is continued to the south of Algeria and Tunis by the Western Erg and the Eastern Erg, separated by a narrow belt at Golea. To the south of the Eastern Erg (which extends as far north as the neighbourhood of the Lesser Syrtis) the continuity of the sandy tract is completely broken by the Hammada al- Homra (or Red Rock Plateau), but to the south of this region lie the dunes of Edeyen, which, with slight inter-

*@@@*1 *Zeitschrift far Erdkuiule,* 1880.