River, the country rises into a high, dissected table-land of Archean rocks; but round the coast there is a coastal plain including Permo- Carboniferous, Cretaceous and Cainozoic deposits. The Cretaceous deposits include ammonites of the *varions* type and a species of *Aucella.*

The chief mineral product of South Australia is copper, the mines of which occur in Cambrian limestones along the western edge of the South Australian highlands at Moonta, Wallaroo and Burra Burra. Gold occurs in numerous small mines in the South Australian highlands; and also in the Western Plateau, as in the Tarcoola goldfield ; and in the Northern Territory, in the Arltunga goldfield, at the eastern end of the Macdonnell chain. Gold and tin are scattered in the Arnheim Peninsula of the Northern Territory; but hitherto the gold-mines of South Australia have been less important than those of any other of the Australian states. The only coal deposits are those formed in lacustrine deposits of Jurassic age, as at Leigh’s Creek, east of Lake Torrens, where they have been mined.

Most of the geological information regarding South Australia is scattered in a series of reports, mainly by H. Y. L. Brown, published in the parliamentary papers of South Australia. There are also numerous reports by R. Tate, W. Howchin, &c. in the *Trans.* R. *Soc. S. Austral.* The geology of the Macdonnell range is described in the reports of the Horn Expedition, and the fauna of Lake Calla- bonna in *Memoirs* issued by Stirling and Zeitz, published by the Royal Society of South Australia. The literature is catalogued in Gill’s *Bibliography of South Australia* (Adelaide, 1885), and that of the Lake Eyre basin and its adjacent islands in J. W. Gregory, *The Dead Heart of Australia* (1906). The Miocene marine fauna has been catalogued last by Dennant and Kitson, *Records Geol. Survey, Victoria* (1905), No. IL (J. W. G.)

*Fauna.—*South Australia is not separated from the neighbouring colonies by any natural boundaries; hence the fauna includes many animals which are also to be found in the land lying to the east and west. The northern half of the colony lies within the tropics, and possesses a tropical fauna, which is, however, practically identical with that of Northern Queensland. In spite of its immense extent north and south, and a corresponding diversity in climate, the colony is poorer in animal life than its neighbours. It possesses thirty-five genera of mammals. These include both genera of the order *Μonotremata—*the *Echidna,* or spiny ant-eater, and the *Ornithorhynchus,* or duck-billed platypus, both of which are found also in Eastern Australia and Tasmania. The other order of *Mam­malia* associated with Australia, the *Marsupialia,* is well represented in South Australia. It contains seven genera of *Macropodidoe* or kangaroos, including the wallaby and kangaroo rat, four genera of *Phalangistidae,* or opossums, and five species of *Dasyuridae,* or “ native cats.” Two genera of this family are peculiar to the region—the *Chaetocercus* and the *Antichinomys;* the latter is found in the interior. It is a mouse-like animal with large ears, and is remarkable for the elongation of its fore-arm and hind-foot and for the complete absence of the hallux. The *Phascolomys,* or wombat, one of the largest of the marsupials, is also found in South Australia, and the curious *Myrmecobius,* or ant-eater of Western Australia. This remarkable animal is about the size of a squirrel ; it possesses fifty-two teeth (a greater number than any known quadruped), and, unlike the other members of its order, the female has no pouch, the young hanging from nipples concealed amongst the hair of her abdomen. The *Choeropus,* with peculiarly slender limbs and a pouch opening backwards, is found in the interior. The remaining *Mammalia* consist of the dingo, or native dog, and a few species of *Muridae,* the mouse family, and *Cheiroptera,* or bats. There are about 700 species of birds, including 60 species of parrots. Of the 9 families peculiar to the Australian region, 5 are well represented, including the *Meliphagidae* (honey-suckers), *Cacatuidae* (cockatoos), *Platycercidae* (broad-tailed and grass parakeets), *Megapodidae* (mound-makers) and *Casuaridae* (cassowaries). The last-named family is represented by the *Dromoeus,* or emu, which is hunted in some parts of the colony. Reptiles are fairly represented : there are fifteen species of poisonous snakes. The lizards are very peculiar; South and Western Australia contain twelve peculiar genera. No tailed *Amphibia* exist in the continent, but frogs and toads are plentiful.

*Flora.—*The plant species resemble those of the eastern colonies and Western Australia, but are more limited in variety. The colony, from its dryness, lacks a number known elsewhere. Enormous areas are almost destitute of forests or of timber trees. The *Eucalyptus* family, so valuable for timber and gum as well as for sanitary reasons, are fairly represented. Acacias are abundant, the bark of some being an article of commerce. Flinders range has much of the valuable sugar-gum, *Eucalyptus Cοrynocalyx,* which is being now preserved in forest reserves. Its timber is very hard and strong, not warping, resisting damp and ants. The head-flowered stringybark, *Euc. capitellata,* has a persistent bark. A sort of strìngybark, *Euc. tetrodonta,* is found in Northern Territory. The gouty-stem tree *(Adansonia)* or monkey-bread of the north is a sort of baobab. About 500 northern plants are Indian. The *Tamar indus indica* occurs in Arnhem land, with native rice, rattans and wild nutmeg. The cedar is of the Indian variety. Pines are numerous in the south, palms in the north ; among the most beautiful is the *Kentia acuminata.* Banksias are very common in sandy districts. Flowering shrubs are common in the south. There are 130 known grasses in Northern Territory.

*Fisheries.—*Whaling was formerly an important industry about Encounter Bay, as sealing was in Kangaroo Island. The whales have migrated and the seals are exterminated. On the northern side trepang or bêche-de-mer fishery is carried on, and pearl fisheries have been established. Of fish within colonial waters there are forty-two peculiar genera. The tropical north has similar fish to those of north Queensland, while those of southern bays resemble many of the species of Victoria, Tasmania and New South Wales. There are the barracouta, bonito, bream, carp, catfish, rock cod and Murray cod, conger, crayfish, cuttle, dogfish, eel, flatfish, flat- head, flounder, flying-fish, gadfish, grayling, gurnard, hake, John Dory, ray, salmon (so-called), schnapper, seahorse, shark, sole, squid, swordfish, whiting, &c. Though called by English names, the fish do not always correspond to those in Europe. The Murray cod is a noble fresh-water fish.

*Climate.—*The climate of South Australia proper is, on the whole, extremely healthy, and in many respects resembles that of southern Europe. In the south-eastern corner of the state the spring and winter seasons are most pleasant, and although the thermometer occasionally registers high in summer, the heat is dry and much more endurable than a much lesser heat in a moist climate. In the interior districts, however, the heat is sometimes very trying to Europeans. In Northern Territory the climate is of a tropical character, except on the table-lands where it is comparatively cook Observation has determined the area of the state adapted by reason of seasonal rains to the growth of wheat, and in this area crops are almost certain ; agriculture outside this area is, however, purely speculative. The average rainfall at Adelaide taken for a period of 52 years was 21∙204 in. As the rain falls at seasonable times the quantity is sufficient for cereal cultivation. The maxi- mum shade temperature recorded at Adelaide Observatory in 1905 was 109∙7—the highest for any Australian city; the minimum was 34∙8 and the mean temperature 61∙1.

*Population.—*The population of South Australia in i860 was 124,112, and the province was third in importance among the states forming the Australasian group. In 1870 the population stood at 183,797, and in 1880 at 267,573 ; in 1890 it was 319,414; in 1901, 362,604; and at the end of 1905, 378,208. These figures are inclusive of the population of Northern Territory, the pro- vince of South Australia, properly so-called, containing 374,398 inhabitants, and Northern Territory, 3810, the respective density of the two divisions being one person per square mile and one per 128 sq. m. The estimated population of Adelaide in 1905 was 175,000. The number of males in 1905 was 197,487, and the females 180,721. The births in the same year were 8868 and the deaths 3804, representing 23∙44 and 10∙05 per 1000 of population respectively. The birth-rate has declined greatly.

Dividing the years from 1861 to 1905 into five-yearly groups the following were the average birth-rates :—

|  |  |  |  |
| --- | --- | --- | --- |
| Period. | Births per 1000 of Population. | Period. | Births per 1000 of Population. |
| 1861-1865 | 44·14 | 1886-1890 | 34·48 |
| 1866-1870 | 4o∙6o | 1891-1895 | 31·24 |
| 1871-1875 | 37∙24 | *1*896-1900 | 26∙59 |
| 1876-1880 | 38·28 | 1900-1905 | 24∙46 |
| 1881-1885 | 38·52 |  |  |

Illegitimate births are less frequent in South Australia than elsewhere in Australia; in 1905 the proportion of illegitimate to total births was 4∙37%∙

The death-rate has always been remarkably light, not having exceeded 13 per 1000 in any year since 1886. The averages for each quinquennial period from 1861 were as follows:—

|  |  |  |  |
| --- | --- | --- | --- |
| Period. | Deaths per 1000 of Population. | Period. | Deaths per 1000 of Population. |
| 1861-1865 | 15∙70 | 1886-1890 | I2∙55 |
| 1866-1870 | 15∙01 | 1891-1895 | 12∙08 |
| 1871-1875 | 15·83 | 1896-1900 | 11∙93 |
| 1876-1880  1881-1885 | 14∙90  14∙71 | 1901-1905 | 10·78 |

The excess of births over deaths in 1905 was 5071 or 13∙48 per 1000 of population. The number of marriages celebrated during 1905 was 2599; this represents a marriage-rate of 6∙87 per 1000. The number of divorces and judicial separations during the ten years closing with 1905 was 72.