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SEYCHELLES

Collections of plants and animals from Seychelles date from the mid 1800s and include a variety of both native and introduced species. The lack of specimens predating settlement of the islands causes problems in distinguishing introduced species from the native component. This problem is particularly important in understanding the biogeography of the islands and in undertaking conservation measures. Habitat restoration, in particular, requires a reasonable estimate of the 'natural' habitat that is desired. A way around this problem may be provided by a consideration of the historical records relating to the islands. Some of the early expeditions to Seychelles provided tolerably useable descriptions of the flora, fauna and habitats they encountered. Of particular interest in this respect are the accounts from the 18th century. These comprise the observations of Picault and Grossin in 1742, Morphey in 1756, the Marion Dufresne expedition of 1768, Du Roslan in 1771, Gillot in 1772, Dennis de Trobriand in 1773 and De Bouganville and Brayer du Barre in 1775 quoted in Fauvel (1909).

These observations are compiled below into an overview of the 18th century nature of Seychelles. Where identifications are not self-evident from the original text the interpretations given by Lionnet (1983) for the Marion-Dufresne records are followed, modifications to these interpretations are explained below.

Mahé

The coasts of Mahé were fringed with *Cocos nucifera* Linnæus, 1753 with local areas of mangrove swamps and small numbers of *Casuarina equisetifolia* Linnæus, 1759, *Thespesia populnea* (Linnæus, 1753) and *Cordia subcordata* Lamarck, 1791. Around the coasts both green turtles (*Chelonia mydas* Linnæus, 1758) and hawksbill turtles (*Eretmochelys imbricata* Fitzinger, 1843) were present in large numbers, as were the crocodiles (*Crocodylus porosus*). Tortoises (*Geochelone* spp.) were present but only in small numbers in coastal forest.

Lowland forests away from the coast was characterised by an absence of undergrowth. Palms were abundant (*Deckenia nobilis* Wendland, 1877, *Phoenixophorium borsigianum* (Koch), and *Vershaffeltia splendida* Wendland, 1865, although *Cocos nucifera* were absent). Other common trees included *Calophyllum inophyllum* Linnæus, 1753, *Terminalia catappa* Linnæus, 1767, *Heritiera littoralis* Ait., 1789, *Ochrosia oppositifolia* (Lamarck), *Mimusops sechellarum* (Oliv., 1916), *Ficus* spp., *Syzygium wrightii* (Baker, 1877), *Vateriopsis sechellarum* (Dyer, 1877) and *Drypetes riseleyi* (Shaw). Less common were *Pisonia grandis* (Br., 1810), *Brexia madagascariensis* Thouars, *Intsia bijuga*

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(Colebr.), *Dillenia ferruginea* (Baillon, 1866), *Diospiros seychellarum* (Hiern, 1873) (locally common) and *Pandanus* spp.

High altitude forests were dominated by *Northia hornei* Hartog, 1879. Tortoises were more abundant in the lowland forest than along the coast. Fruit bats (*Pteropus seychellensis* Milne-Edwards, 1885), tree frogs *Tachycnemis seychellensis* and the Seychelles wolf snake *Lycognathophis seychellensis* were present as were large scorpions (*Chiromachus ochropus* (Koch, 1838)). The Mascarene frog *Ptychadena mascariensis* (Dumeril & Bibron, 1834), was restricted to lowland swamps. Invertebrates included unidentified blue flies, abundant millipedes, ants, caterpillars and the fire fly (*Luciola laeta* Gerlaecker, 1871). Common birds included turtle doves (*Streptopelia picturata* (Temminck, 1815), blue pigeons (*Alectroenas pulcherrima* (Scopoli, 1768)), kestrels (*Falco araea*), sunbirds (*Nectarinia dussumieri* (Hartlaub, 1877)), flycatchers (*Terpsiphone corvina* (Newton, 1867)), green parakeets (*Psitacula wardii* (Newton, 1867)), bulbuls (*Hypsipetes crassirostris* Newton, 1867), moorhens (*Gallinula chloropus* (Linnaeus, 1758)), galinules (*Porphyrio* sp.) and black parrots (*Coracopsis nigra* (Linnaeus, 1766)). There were small numbers of warblers (*Acrocephalus sechellensis* (Oustalet, 1877)) and Madagascar fodies (*Foudia madagascariensis* Bonaparte, 1850) (see Gerlach & Gerlach 1994 for a discussion of this identification). Sea-birds present around the coast (but not necessarily nesting) included terns, boobies (*Sula* spp.) and frigates (*Fregatta* spp.). Three species of uncertain identification were also recorded; 'bengalis' may have been either fodies or waxbills (*Estrilda astrild* (Linnaeus, 1758)) (Gerlach & Gerlach 1994), 'loriots' (orioles) and 'pies de la petite especes' are unidentified (all are recorded by Malavois in 1787).

Freshwater fish were abundant, comprising several estuarine species, freshwater eels (*Anguila bicolor*) and *Pachyplanchax playfairi* Gunther in the mountain streams. The lists of fish given include a large species (up to 30cm long) in freshwater away from the estuaries, these could be tilapia (*Oreochromis mossambicus* (Peters, 1852)) although there are no published records of the species until 1974 (High 1974) which would indicate that it was not present until the middle of the 20th century.

Intermediate forest was dominated by *Mimusops sechellarum*, with many *Drypetes risleyi*. Other trees were uncommon (*Syzygium wrightii*, *Brexia madagascariensis*, *Vateriopsis seychellarum*., *Ficus* spp. *Diospiros seychellarum*, *Dillenia ferruginea*, *Deckenia nobilis*, *Phoenicophorium borsigianum*, *Versaffeltia splendida* and *Pandanus* spp.). Animal life in this forest type included tree frogs, skinks and the chameleon *Chamaeleo tigris*.

The islands off the east coast of Mahé (Anonyme, Cerf, Long, Moyenne, Round, St Anne and South-East) were characterised by a uniform flora and fauna. Vegetation was predominantly of the coastal/lowland type with small numbers of *Cocos nucifera* along the beaches and much *Calophyllum inophyllum*. Behind the beach crest trees included *Mimusops seychellarum*, *Drypetes risleyi*., *Syzygium*

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wrightii, *Ficus* spp., *Terminalia catappa* and *Adenantha pavonina* Linnaeus, 1753. The endemic palms *Phonicophorium borsigianum*, *Versaffelteia splendida* and *Deckenia nobilis* were also present, the first two were very abundant but the latter scarce. A large species of sedge or grass was also present.

The fauna included tortoises, crocodiles and turtles on all the islands. Large numbers of land-birds were present including turtle doves, blue pigeons, bulbuls, Madagascar fodies, black parrots, green parakeets and magpie robins (*Copsychus sechellarum* Newton, 1867). Fruit bats, *Mabuya* skinks and *Phelsuma* day geckos (species not identified) were all present. A range of invertebrates were noted including slugs (Veronicellidae presumably), woodlice, mosquitos, butterflies, caterpillars, ants and bees (*Megachile* sp. and *Sceliphron violaceum*). Centipedes (including *Scolopendra subspinipes*) were abundant. The largest and highest of these islands, St. Anne, supported a number of species that were not recorded on the other islands. These included giant millipedes (*Sechelleptus sechellarum*) and a number of plants; *Rhipsalis baccifea* (Soland), *Ochrosia oppositifolia*, *Vateriopsis sechellarum* and *Dillenia ferruginea*. *Casuarina equisetifolia* and *Thespesia populnea* were reported on Cerf only.

Small rocky islands shared much of their limited nature; Mamelles supported 20 'vaches marines' in 1768, boobies (*Sula* spp.), tropicbirds (*Phathon lepturus* Lácèpede & Daudin, 1802), common noddies (*Anous stolidus* (Linnaeus, 1758), shearwaters (*Puffinus* sp.) and 100 tortoises. The identification of the 'vaches marines' as seals (Stoddart 1972) is undoubtedly correct, it is not possible to identify the species precisely but the descriptions appear to refer to a fur seal, on present distribution this is most likely to have been *Arctocephalus pusillus*. The only trees present were *Pisonia grandis*. Seche also supported tortoises (30 in 1768) but its flora consisted of *Euphorbia pyrifolia* Lamarck and *Cyperus* sp. Isle aux Vaches Marines was also inhabited by seals.

Praslin group

The small sea-bird islands of the Praslin group have always had a flora characterised by its low diversity. In 1787 only *Pisonia grandis* was recorded on Aride, Cousin and Cousine. The only animals recorded were tortoises on Aride.

The larger islands were more diverse. Curicuse supported very little forest in 1768 when small numbers of coco-de-mer *Lodoicea maldivica* (Gmelin, 1807), *Cocos nucifera* and *Casuarina equisetifolia* were recorded, with some other palms (species not recorded). Tortoises were scarce. The wolf snake was recorded as being present.

Felicite was similarly poorly wooded in 1768, although *Mimusops sechellarum* and *Calophyllum inopyllum* were recorded in 1787. Tortoises were present. Marianne supported no forest at all, being described as merely rocks and scrub with some tortoises present.

La Digue exhibited the typical vegetation zonation of the larger islands with a littoral fringe of *Cocos nucifera* and forest on the hills, this was

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predominantly *Calophyllum inophyllum* and *Mimusops seychellarum*. Tortoises were abundant.

Praslin was poorly wooded for the most part. The coasts were fringed with *Cocos nucifera* with some *Casuarina equisetifolia*. Hills were dominated by *Lodoicea maldivica*, *Decekenia nobilis* and *Phoenicophorium borsigianum*. A few trees of *Vateriopsis seychellarum*., *Mimusops seychellarum* and *Terminalia catappa* were present. The only non-palm dominated forests were in the south-east where *Ochrosia oppositifolia* and *Terminalia catappa* were abundant, with some *Lodoicea maldivica*. There were small numbers of *Vateriopsis seychellarum*., *Mimusops seychellarum* and *Trilepisium madagascariense*.

Birds recorded on Praslin were turtle doves, magpie robins, black parrots, green parakeets, bulbuls, white-eyes (*Zosterops semiflava* Newton, 1867), ducks (probably the migratory garganey *Anas querquerula* Linnaeus, 1758) and moorhens. There is also one unidentified species, the 'poule pintade' which could be a species of rail. Fruit bats, hawksbill turtles, crocodiles and tortoises were also recorded, the latter in small numbers. Freshwater life included eels and fish.

Silhouette group

There are few observations for the Silhouette group. North was completely destroyed by fire before its first description in 1787 when tortoises were reported to be present. Silhouette's coasts were sparsely fringed by *Cocos nucifera*, *Casuarina equisetifolia* and *Calophyllum inophyllum*. Crocodiles and turtles were reported to be more abundant than on other islands. Tortoises were present as were flies, ants and 'brown caterpillars'.

Fregate group

Unlike most of the other islands Fregate did not have a coastal fringe of *Cocos nucifera* in the late 1700s. The main forest was dominated by *Pisonia grandis*. Tortoises and seals were present. Recif was not wooded although described as 'verdant'. There were seals and some tortoises.

Outer islands

Tortoises were recorded on most of the outer islands (Alphonse, Farquhar, Bird, Denis and Desroches). Other animals included fur seals on Bird, turtles on Denis and large numbers of birds (presumably tern colonies) on Denis and Farquhar. Vegetation was predominantly *Pisonia grandis* (Bird, Coetivy, Denis, Desroches and Farquhar) with some *Cocos nucifera* (Coetivy and Desroches) and *Casuarina equisetifolia* (Desroches).

These observations confirm that the 'natural' habitats of the islands were densely forested high islands with fringes of coastal vegetation. Islands of the Praslin group contained a high proportion of palms and the smaller islands were predominantly sea-bird/seal islands with a poor flora dominated by *Pisonia grandis*.

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The forests of the higher islands were notably different from their present day composition in the predominance of *Mimusops seychellarum* and *Vateriopsis seychellarum*, both now very rare trees. Most interesting are the species that were recorded on the different islands. These include plants that have been categorised as introduced (*Adenantha pavonia*) or restricted to a single island (*Vateriopsis seychellarum*). Of the animals recorded the presence of giant millipedes on St. Anne is noteworthy as is the presence of the wasp *Sceliphron violaceum* which has been considered to be an introduction. The birds appear to have been more or less uniformly distributed between the islands with both parrot species recorded in both the Mahé and Praslin groups, as were the flycatcher, magpie robin and brush warbler. The presence of several unidentified species of birds is further evidence of the incompleteness of our knowledge of the original Seychelles avifauna.

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