

The Fauna and Geography
of the
Maldivé and Laccadive Archipelagoes

Being the Account of the Work carried on and
of the Collections made by an Expedition
during the years 1899 and 1900

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MARINE MOLLUSCA.

BY EDGAR A. SMITH, I.S.O.

(With Plates XXXV. and XXXVI.)

As the first collection of Marine Mollusca of any importance that has hitherto been obtained at the Maldive Islands, that about to be described is of considerable interest. It consists of about 380 different species and probably comprises a large proportion of the forms which occur in these islands. That many have escaped notice and will eventually be collected by others is quite certain, but it seems probable that most of the larger species are represented in this collection and that it is only among the smaller and obscurer forms that many additional species will hereafter be discovered.

There are, however, certain common and widely distributed species which one would have expected to have been found, notably belonging to the genera *Conus*, *Terebra*, *Sistrum*, *Purpura*, *Nassa*, *Oliva*, *Solarium*, *Trochus* and *Circe*. It is also worthy of remark that certain genera which have representatives in the surrounding seas do not appear to have been met with. Of these I may mention *Fasciolaria*, *Rissoa*, *Patella*, *Eulima*, *Hydatina*, *Aplysia*, *Umbraculum* and *Mytilus*.

As might be expected the fauna is similar to that of other islands in the Indian Ocean, many of the species occurring in Ceylon, Mauritius, Madagascar, the Amirantes, Seychelles, and a great many ranging as far north as the Red Sea and Persian Gulf. Rather more than a seventh of the forms have been recorded from the Andamans, and probably many others occur at these and the neighbouring Nicobar group. It is well known that great numbers of marine molluscs have a very wide range, and therefore it is not surprising that many, in fact about three-fourths, of the Maldive shells are known to occur in the seas surrounding the Philippine Islands and the Malay Archipelago, and still further north about one-fourth of the species have been recorded from the islands of Japan. In the Pacific, from the East coast of Australia to the Loyalty Islands and Polynesia, rather over three-sevenths of the Maldive species have been recorded, many of them ranging all over both the Indian Ocean and the Malay region also. About one-third of the species are known from Ceylon, but doubtless many more occur there, although they may not have been recorded. About 177 species have been found at the Mauritius, the fauna of which has been more extensively worked than that of the Seychelles. With regard to the general distribution of the species about to be recorded, it is curious to observe that a larger proportion of them have previously been noted from the China Sea eastward and in the Pacific, than in the Indian Ocean, including the Red Sea and Persian Gulf.

The following table shows at a glance the distribution of the species as far as the writer has been able to ascertain without a very exhaustive search. The column under Malaysia includes species which occur in the China Sea, the Philippine Islands, Malay Archipelago, N. Australia, New Guinea, and as far east as the Solomon Islands. Under Polynesia are indicated the species which are met with either in E. Australia or at the Loyalty Islands, or at the various groups of islands of Polynesia.

	Mauritius	Madagascar	Amirantes	Seychelles	Red Sea and Gulf of Aden	Persian Gulf	Ceylon	Andaman Is.	Malaysia	E. Australia to Polynesia
<i>Solidula glabra</i>
" <i>nitidula</i>	+	+	+	+
" <i>solidula</i>	+	..	+	+	+	..	+	+
" <i>tessellata</i>	+
<i>Bulla ampulla</i>	+	+	..	+	+	+	+	..	+	+
<i>Alys cylindrica</i>	+	+	+	..	+	+	+	..
" <i>naucum</i>	+	+	..	+	..	+	+
" <i>succisa</i>	+
<i>Volvatella cincta</i>	+
<i>Oxynoe delicatula</i>	+
<i>Cryptophtalmus minikoiensis</i> , n. sp.	+
<i>Conus arenatus</i>	+	+	+	+	+
" <i>betulinus</i>	+	+	+	+	+	+	+	..	+	+
" <i>catus</i>	+	..	+	+	+	..	+	..	+	+
" <i>ceylanensis</i>	+	+	..	+	+
" <i>consors</i>	+	+
" <i>disims</i>	+	+	+
" <i>eburneus</i>	+	+	+	+	..	+	+
" <i>ermineus</i>	+	..	+	+
" <i>flavidus</i>	+	..	+	+	+	+	+	..	+	+
" <i>generalis</i>	+	+	+	+	+	+	+	..	+	+
" <i>glans</i>	+	+	..	+	+
" <i>hebraeus</i>	+	+	+	+	+	..	+	..	+	+
" <i>lividus</i>	+	+	+	+	+	+	+	..	+	+
" <i>miles</i>	+	+	+	+	+	..	+	+
" <i>minimus</i>	+	+	+	..	+	+
" <i>nussatella</i>	+	+	+	+	+	..	+	..	+	+
" <i>penmaceus</i>	+	+	+	..	+	..
" <i>quercinus</i>	+	+	+	+	..	+	+
" <i>tendineus</i>	+	+	+
" <i>tessellatus</i>	+	+	+	+	+	+	+	..	+	+
" <i>textile</i>	+	+	+	+	+	+	+	..	+	+
" <i>tulipa</i>	+	+	+	..	+	+
" <i>zonatus</i>	+
<i>Terebra maculata</i>	+	..	+	+	+	+	+	..	+	+
" <i>dimidiata</i>	+	+	+	+	+	..	+	+
" <i>argus</i>	+	+	+
" <i>oculata</i>	+	+	+	+
" <i>subulata</i>	+	+	+	+	+	..	+	..	+	+
" <i>crenulata</i>	+	+	..	+	+	+	+
" <i>cingulifera</i>	+	+	+
" <i>babylonia</i>	+	+	+	+	..	+	+
" <i>monile</i>	+	+	+

	Mauritius	Madagascar	Amirantes	Scyelles	Red Sea and Gulf of Aden	Persian Gulf	Ceylon	Andaman Is.	Malaysia	E. Australia to Polynesia
<i>Terebra undulata</i>	+	+
" <i>offinis</i>	+	+	+	+	+	+
" <i>columellaris</i>	+
" <i>brugueri</i>	+	+	..
" <i>amœna</i>	+	+	..
" <i>violascens</i>	+	..
" <i>lanceata</i>	+	..	+	+	+
" <i>celidonota</i>
<i>Pleurotoma armillata</i>	+	..
" <i>bijubata</i>	+	..
" <i>tigrina</i>	+	+	..	+	..	+	+	+	+	+
<i>Drillia exasperata</i>	+
<i>Clathurella robillardi</i>	+
<i>Daphnella saturata</i>	+	..
<i>Oliva erythrostoma</i>	+	+	..	+	+	+	+
<i>Harpa ventricosa</i>	+	+	+	+	+	+	+	..	+	+
" <i>minor</i>	+	..	+	+	+	..	+	..	+	..
<i>Marginella picturata</i>	+
<i>Mitra episcopalis</i>	+	+	+	+	+	..	+	+
" <i>pontificalis</i>	+	+	+	+
" <i>tessellata</i>	+
" <i>adusta</i>	+	+
" <i>digitalis</i>	+	+	..
" <i>crenifera</i>	+	+	+	..
" <i>scabriuscula</i>	+	+	+	..	+	+
" <i>variegata</i>	+	+	..
" <i>cucumerina</i>	+	..	+	+	+	..	+	+
" <i>flaris</i>	+	+	+
" <i>insculpta</i>	+
" <i>interlirata</i>	+	+	+
" <i>literata</i>	+	+	+	+	+	+	+	+
" <i>acuminata</i>	+	+	+
" <i>auriculoides</i>	+
" <i>exasperata</i>	+	+	..	+	+	+	..
" <i>sculptilis</i>	+	..
" <i>acupicta</i>	+	+
" <i>arnigera</i>
" <i>deshayesii</i>	+	+	..	+
" <i>angustissima</i> , n. sp.
<i>Cylindra sinensis</i>	+	..
<i>Latirus craticulatus</i>	+	+	+	+	+
" <i>fastigium</i>	+	+
<i>Peristernia nassatula</i>	+	+	..	+	+	+	+	+

23. **Conus lividus**, Hwass. **37, I.** (var. = *C. citrinus*, Gmelin, **40, b, III.**, var. = *C. sanguinolentus*, Quoy and Gaimard, **35**, var. = *C. maurus*, Gray? **18, b**) IX, XI.

24. **Conus miles**, Linn. **37, I.** IX.

25. **Conus minimus**, Linn. **37, I.** (*Conus coronatus*, Dillwyn (non Gmelin), **43**. *C. barbadiensis*, Hwass. **40, b, III.** *C. aristophanes* (Duclos?), **40, b, III.**) I, XV.

26. **Conus nussatella**, Linn. **37, I.** (*C. terebra*, Chemnitz (nec Born), **9**). IX.

27. **Conus pennaceus**, Born, **37, I.** IX, XI.

C. praelatus, Hwass, *C. rubiginosus*, Hwass, *C. episcopus*, Hwass, *C. omaria*, Hwass, *C. magnificus*, Reeve, *C. elisae*, Kiener, *C. racemosus*, Sowerby, and *C. madagascariensis*, Sowerby, may be regarded as varieties of this species.

28. **Conus quercinus**, Linn. **37, I.** (*C. buxeus*, Link, **30**. *C. ponderosus*, Beck, **6**). II.

29. **Conus consors**, var. **40, b, III.** (var. = *C. innexus*, A. Adams, **I, b**) I.

With this species, besides *C. innexus*, I also associate, as varieties, *C. anceps*, A. Adams and *C. daullei*, Crosse.

The single specimen from Addu atoll differs from the typical form of the variety *innexus* in being almost entirely white, and of a slightly more slender form. It is clothed with a thinnish greyish periostracum and the upper whorls of the spire are finely coronated and of a lilac tint.

30. **Conus tendineus**, Hwass. **40, I.** IX.

31. **Conus tessellatus**, Born. **37, I.** IV, V, IX, XIV.

32. **Conus textile**, Linn. **37, I.** IX.

The variation in this species is most remarkable, and although we can recognise typical examples of the many named forms, personally I have not been able to accept as distinct species the following:—*C. vicarius*, Lamarck, *C. verriculum*, Reeve, *C. textilina*, Kiener, *C. tigrinus*, Sowerby, *C. corbula*, Sowerby, *C. scriptus*, Sowerby, *C. panniculus*, Lamarck, *C. canonicus*, Hwass, *C. rubescens*, Bonnet, *C. legatus*, Lamarck, *C. paulucciae*, Sowerby, *C. archiepiscopus*, Hwass, and *C. abbas*, Hwass.

33. **Conus tulipa**, Linn. **37, I.** (var. = *C. obscurus*, Humphreys, **37, I**, jun. = *C. borbonicus*, Adams, **2, 42**). IX, XI, XV.

34. **Conus zonatus**, Hwass. **37, I.** IX.

Family TEREBRIDAE.

35. **Terebra maculata**, Linn. **37, XII.** IX, XI, XV.

36. **Terebra argus**, Hinds, **37, XII.** (*Terebra nebulosa*, Kiener, **23**). IX.

37. **Terebra dimidiata**, Linn. **37, XII.** IX.

38. **Terebra oculata**, Lamarck, **37, XII.** IX.

39. **Terebra subulata**, Linn. **37, XII.** XI.

40. **Terebra crenulata**, Linn. **37, XII.** XV.

Buccinum varicosum, Gmelin; *B. luteolum*, Martyn, are synonyms and *T. fimbriata*, Deshayes, and *T. interlineata*, Deshayes, I regard as varieties of this species.

41. *Terebra cingulifera*, Lamarck, 37, XII. (*Buccinum succinctum*, Gmelin, 16. *T. punctulata*, Sowerby, 40, c. *T. punctatostriata*, Gray, 18, a. *T. pallida*, Deshayes, 12, b. *T. chinensis*, Deshayes, 12, d). IX, X, XII.

42. *Terebra babylonia*, Lamarck, 37, XII. XIV.

43. *Terebra monile*, Quoy and Gaimard, 37, XII. II.

44. *Terebra* (*Myurella*) *undulata*, Gray, var. 37, XII. (*T. approximata*, Deshayes, 12, d). II, XIV.

45. *Terebra* (*Myurella*) *affinis*, Gray, 37, XII. (*T. striata*, Quoy and Gaimard, 34). IX, X, XII, XIII, XV.

46. *Terebra* (*Myurella*) *columellaris*, Hinds, 37, XII. VIII, X, XII.

47. *Terebra* (*Myurella*) *bruguieri*, Deshayes, 37, XII. (*T. hindsii*, Deshayes, 12, b). II.

48. *Terebra* (*Myurella*) *amoena*, Deshayes, 37, XII. (*T. andamanica*, Melvill and Sykes, 39). VII.

A comparison of the types of the above-named species shows that they are merely different stages of growth of one and the same form.

49. *Terebra* (*Myurella*) *violascens*, Hinds, var. 20, b, 37, XII. II, IV, VI.

The specimens from the above stations are not typical and vary *inter se*. None are of a violet tint, but whitish or yellowish. The shell described by Reeve had the whorls undivided by a groove or punctured depression, whereas Hinds described the type with whorls "supernè lineâ impressâ obsoletè cinctis." The Maldivé specimens agree with the type in this respect. *Terebra exigua*, Deshayes, and *T. polygyrata*, Deshayes, are probably only slight varieties.

50. *Terebra* (*Hastula*) *lanceata*, Linn. 37, XII. (var. *penicillata*, Hinds, 37, XII, var. *venosa*, Hinds, 37, XII). XV.

The specimen from Minikoi (station XV.) belongs to the variety *penicillata*.

51. *Terebra celidonota*, Melvill and Sykes, 29. XIV.

Family PLEUROTOMIDAE.

52. *Pleurotoma armillata*, Reeve, 37, I. VI.

53. *Pleurotoma bijubata*, Reeve, 37, I. VIII.

54. *Pleurotoma tigrina*, Lamarck, 37, I. VI, IX, XIV.

55. *Drillia* (*Clavus*) *exasperata*, Reeve (*Pleurotoma exasperata*, Reeve, 37, I). II.

56. *Clathurella robillardi*, Adams, 41, VI. XIV.

57. *Daphnella saturata*, Reeve, 37, I. II, VI.

Family OLIVIDAE.

58. *Oliva erythrostroma*, Lamarck (var. *ponderosa*, Reeve, 37, VI). IV, VI, IX, XI.

Apparently browsing on a black crinoid (Gardiner).