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Contribution to the knowledge of the stony corals from the Seychelles and Eastern Africa

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ABSTRACT

During several expeditions to the Seychelles, Mozambique and South-East Africa (1966, 1969, 1972) organized by the Musée Royal de l'Afrique Centrale at Tervuren and the Université Libre de Bruxelles, a large collection of stony corals was made. A short explanation on the problem of the identification of Scleractinian corals and the level we have reached at the present time is given. A historical retrospect on previous work carried out in this area is summarized and a comparison with Pacific coral reef studies is made. Finally a list of the species collected is given with some taxonomical, ecological or geographical data whenever needed.

INTRODUCTION

The collection of Scleractinian corals in the Musée Royal de l'Afrique Centrale (MRAC) at Tervuren (Belgium) was made during four expeditions in the following areas : Seychelles, July-August 1966 and July-August 1972; Mozambique, July-August 1969 and South-East Africa, September-October 1969. A representative collection has been given to the Rijksmuseum van Natuurlijke Historie (RMNH).

For more details on these expeditions and on the localities we refer to the paper by Millard & Bouillon (1973) on the Hydroids collected

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during the same expeditions. A more detailed work on the exact sea localities where work has been carried out has not yet been published by one of the participants. The data on the land localities and hypothesis on the geological development of the Seychelles have been given by Benoit (1978). As a matter of fact it seems that corals were collected only in some specific areas; in 1966 in the Seychelles mainly on the west side of the island Mahé, only in the northern part; in 1972 also on the west side of the island Mahé, but mainly in the southern part and on the south-west side of Ile Curieuse; in Mozambique mainly on the west side of the island Inhaca, and in South Africa only a small collection from the surroundings of Durban.

Because the samples were taken by non-coral specialists, some common but spectacular species are abundantly represented, while other more rare or interesting ones (because of intraspecific variability), were insufficiently collected. Thus this is not a representative collection. However, because so little is so far known of the reef corals of east Africa, and because the list of the corals of the Seychelles is still incomplete, any information will increase the knowledge of coral species and their distribution.

We take the opportunity of this challenge to give an account of the level we have reached in coral identification before writing down the more scientific results based upon the collection. When we consider the five suborders of Scleractinian corals individually there is much difference in the extent of our knowledge of these taxa and subtaxa. We distinguish two different kinds of Scleractinian coral taxa, genera with many species (75) and those with very few. In the following account we adhere to the system suggested by Wells (1956). The aim here is not to be complete but to be of some help for future taxonomic work on corals in geographically limited areas.

Of the suborder Astrocoeniina several genera are very abundant on the reef on which we do not have any sound revision or ecological study to solve taxonomic problems. The major ones in this respect are *Acropora* ($>$ 100 species) and *Montipora* ($>$ 50 species). Apart from these two very abundant genera that need a thorough revision, there are several minor ones to which belong, e.g., *Psammocora* and *Pocillopora*. Of the remaining Indo-Pacific Astrocoeniina; *Stylocoeniella, Stylophora, Seriatopora, Pocillopora,* and *Astreopora* are present. Most of these are represented only by a few species, but the intraspecific variability is large and creates problems on different levels in the different genera.

Of the suborder Fungiina the majority of the genera have few species and are rather well known. The ones with most species are *Pavona* (about 40) and *Fungia*. The latter does not give much trouble, neither with respect to the variation within the species (they are rather constant), nor from the taxonomic (problem of the correct name) point of view. However, a revision on a historical basis is thoroughly needed. The former genus *Pavona* is more adaptable to environmental conditions, and requires a revision on both a historical and an ecological basis. The three genera of the family Poritidae, *Goniopora, Porites* and *Alveopora,* form an exception. *Porites,* the most common genus of the three, is the best known, but ecologically as well as historically the genus has to be worked on. Of *Goniopora* and *Alveopora* a general revision has never been carried out. As far as we know the genera are common but not abundant on the reef, and there are probably just a few species in each genus. They are both rather chaotic as to the names in the literature.

Of the suborder Faviina, to which most coral genera of the five suborders belong, the largest family is that of the Faviidae. The fifteen Indo-Pacific hermatypic genera are rather well treated in the most recent coral literature. In most genera, however, we still deal with taxonomic, ecological or geographical problem as a result of either historical or ecological gaps. Much detailed work still has to be carried out before a sound revision can be produced. However, in a general coral collection (such as the one with which we are dealing here) that has been collected at random, the problems are minor in comparison to those in other groups on which a general study has not been carried out lately. Of the remaining subdivision in the Faviina only the Mussidae and the Pectinidae give some problems. They are of a different nature, however, because these two groups have many species within each genus and are not very variable within each species. This leaves the problem to be mainly of a historical nature.

The last two suborders (Caryophylliina and Dendrophylliina) include mainly ahermatypic genera. The only two hermatypic genera *Euphyllia* and *Plerogyra* belonging to the Caryophylliina do not give major problems because few species are involved. Of the Dendrophylliinae *Turbinaria* gives the greatest problems. It has a wide range of variability within the different species, and extensive ecological work is necessary to bring a well represented collection together.

And because of this variability the historical taxonomy in the literature is rather chaotic, as is always the case when genera with many very adaptive (to different ecological conditions) species are concerned.

Summarizing, it can be stated that whenever a coral collection of a given geographical area has to be identified one deals with problems on different levels. Each group of corals is known to a certain level in the literature, and that varies a great deal. To make things still more complicated the problem of each group needs a different approach to be solved.

The problem can be of a historical nature. In that case some specimens and the knowledge of the literature and the study of the type material is sufficient. This is mostly the case with genera with one or just a few species, which are not very adaptable to different ecological conditions.

The problem can be of an ecological nature. This may be subdivided into intracolonial variability of the specimens (mostly the case in branching colonies), and intraspecific variability.

The intracolonial variability gives rise to a secondary historical problem as a result of the fact that the type specimen can never be representative of the whole of a coral species, because it mostly concerns just a part of a colony; the intraspecific variability is the major problem in coral taxonomy. When are we dealing with large enough a series of one species to know the possible adaptations of that particular species ? Morphologically coral species do overlap, and as long as we have not found a constant character for each coral species we always have to deal with some « growth forms », especially from extreme habitats, for which we do not know to what species or even to what genus they belong.

The problem can also be of a geographical nature. It is known for instance that the colour of the living coral animal may be very different in widely separated areas. A coral species that is widely distributed throughout the Indo-Pacific has certainly geographical subspecies or geomorphs (Wijsman Best, 1979). Within a single population we already see a general morphological pattern throughout the different coral species; intrageographically we find the same. But not much is as yet known of the variability of the different coral species from the various geographical areas in which they occur.

In all taxonomic coral studies a historical-ecological approach of each species is needed, and for each the balance between the two approximations has to be made individually.

The collection, upon which the results given in this paper are based, consists of approximately 600 specimens. A total number of 51 genera and 136 species are recognized.

Previous coral reef work in the West Indian Ocean, and a comparison with recent coral reef studies in the Indo-Pacific.

Some studies have been carried out in the Western part of the Indian Ocean. In the 19th century we have the publications by Ehrenberg (1834) and Klunzinger (1879), who started to investigate the Red Sea coral reefs. Duncan (1889) worked in the Mergui archipelago, Gardiner (1905) in the Maldive and Laccadive archipelagoes. In the 20th century expeditions throughout the Indo-Pacific investigated coral reefs and large collections were brought to Europe. These resulted in reports based on Museum collections e.g. Brook (1893, etc.), Döderlein (1902), Matthai (1914).

Because of lack of knowledge concerning geographical distribution and ecological variability many confusions arose in describing the coral species. With the advancement in ecological and diving techniques more locally oriented studies were carried out after 1965, e.g., the coral reef studies in Madagascar (Pichon, 1971), in the Red Sea (Loya & Slobodkin, 1971), in the Mascarenes (Faure, 1977; Bouchon & Faure, 1979), in the Chagos Islands (Rosen, 1971; Dinesen, 1977), in the Maldives (Scheer & Pillai, 1976). In 1973 a report was given on the coral reefs of the Seychelles by Pillai, Vine & Scheer, based on results of an expedition held in 1971. The collection is at present in the Hessian Museum in Darmstadt. The authors describe 29 species belonging to 21 genera. The present paper gives a total number of 144 species belonging to 51 genera more than 100 of which are present in the Seychelles.

Many of the papers mentioned above give lists of coral species that are found in the area studied. A comparison of our results with those in the other areas will be given in the general discussion.

Lately, more geographical distribution studies were published, e.g., by Rosen (1971) and Scheer (1971) dealing with Indian Ocean coral

species. Both studies are general introductions in this field of coral reef studies, mainly because of lack of enough data and of a thorough systematical basis. Most systematical Indo-Pacific coral reef studies at the present time are carried out in the Pacific : Great Barrier Reef (Veron, Pichon & Wijsman Best, 1977), Indonesia (Wijsman Best, 1974, etc.), New Caledonia (Chevalier, 1971 ; Wijsman Best, 1972), Marshall Islands (Wells, 1954 ; Land *et al.*, in prep.) and various Pacific atolls. More locally orientated field work in the whole Indian Ocean has to be carried out before the two areas can be treated equally, which in the end will result in a general Indo-Pacific geographical distribution of coral reef species. Some general studies have recently been published : on India (Pillai, 1971) and the Nicobars (Scheer & Pillai, 1974); others will be published soon : W. Thailand (Ditlev, in prep), Red Sea (Head, in prep.), Mascarene Archipelago, Comores, Gloriosa (G. Faure, in prep.).

The present paper constitutes a useful step towards a better knowledge of the coral reefs in the Indian Ocean.

SYSTEMATICAL PART

O. Scleractinia
S.O. *ASTROCOENIINA*
Fam. ASTROCOENIIDAE
Genus : *Stylocoeniella*

S. guentheri Bassett-Smith, 1890
MRAC 2 specimens
RMNH Coel. 12078
locality : Seychelles

Fam. THAMNASTERIIDAE
Genus : *Psammocora*

P. contigua Esper, 1797
MRAC 5 specimens
RMNH Coel. 12076
locality : Seychelles, Mozambique

P. haimeana Edwards & Haime, 1851
MRAC 5 specimens
RMNH Coel. 12093
Locality : Mozambique, S. Africa.

Fam. POCILLOPORIDAE
Genus : *Stylophora*

S. pistillata Esper, 1797 (pl. IX, fig. 1)
MRAC 34 specimens
RMNH Coel. 12074
locality : Seychelles, Mozambique
comments : the series can be divided in specimens with long separated branches (MRAC 2238) and specimens with shorter and closer set branches (MRAC 2316). In general the first form is present in the Seychelles, the second in Mozambique.

S. mordax (Dana, 1846)
MRAC 7 specimens
RMNH Coel. 12061
locality : Seychelles

Fam. POCILLOPORIDAE
Genus : *Seriatopora*

S. caliendrum Ehrenberg, 1834
MRAC 8 specimens
RMNH Coel. 12090
locality : Seychelles

S. angulata Klunzinger, 1879 (pl. IX, fig. 2)
MRAC 1 specimen
locality : Seychelles

Genus : *Pocillopora*

P. damicornis (Linnaeus, 1758)
MRAC 36 specimens
RMNH Coel. 12091
locality : Seychelles, Mozambique

P. verrucosa (Ellis & Solander, 1786)
MRAC 6 specimens
RMNH Coel. 12098
locality : Seychelles, Mozambique

P. eydouxi Edwards & Haime 1860 (pl. IX, fig. 3)
MRAC 6 specimens
RMNH Coel. 12084
locality : Seychelles

Fam. ACROPORIDAE
Genus : *Acropora*

A. reticulata (Brook, 1893)
MRAC 9 specimens
locality : Seychelles

A. hyacinthus (Dana, 1846)
MRAC 8 specimens
locality : Seychelles, Mozambique

A. palifera (Brook, 1893)
MRAC 3 specimens
locality : Mozambique

A. corymbosa (Lamarck, 1816)
MRAC 7 specimens
locality : Seychelles, Mozambique

A. spicifera (Dana, 1846)
MRAC 12 specimens
locality : Seychelles, Mozambique

A. pharaonis (Edwards & Haime, 1860)
MRAC 10 specimens
locality : Seychelles
comments : Many branches of colonies, thick or thin; all parts of larger colonies catalogued under one number.

A. cf. *decipiens* (Brook, 1893)
MRAC 1 specimen
locality: Mozambique

A. humilis (Dana, 1846)
MRAC 4 specimens
locality: Seychelles
comments : Many small colonies catalogued under one number.

A. cytherea (Dana, 1846)
MRAC 1 specimen
locality: Seychelles

A. polymorpha (Brook, 1893)
MRAC 4 specimens
locality : Seychelles, Mozambique

A. cf. *brueggemanni* (Brook, 1893)
MRAC 8 specimens
locality: Seychelles

A. danai (Edwards & Haime, 1860)
MRAC 3 specimens
locality: Seychelles

A. cf. *rosaria* (Brook, 1893)
MRAC 9 specimens
locality: Seychelles

A. cf. *prostrata* (Dana, 1846)
MRAC 1 specimen
locality: South Africa

A. cf. *nasuta* (Brook, 1893)
MRAC 1 specimen
Locality: Mozambique

A. granulosa (Edwards & Haime, 1850)
MRAC 1 specimen
locality: Seychelles

A. complanata (Brook, 1893)
MRAC 1 specimen
locality: Seychelles

General comment on genus *Acropora:* The list of species of this genus is not complete; several specimens of the collection, present as small pieces of colonies or branches, remain indeterminable.

Genus: *Astreopora*

A. listeri Bernard, 1896
MRAC 3 specimens
RMNH Coel. 12065
locality: Seychelles, Mozambique

A. myriophthalma (Lamarck, 1816)
MRAC 1 specimen
Locality: Mozambique

Genus: *Montipora*

M. cf. *edwardsi* Bernard, 1897
MRAC 2 specimens
locality: Seychelles

M. foliosa (Pallas, 1766)
MRAC 2 specimens
Locality : Mozambique

M. informis Bernard, 1897
MRAC 2 specimens
locality : Seychelles

M. prolifera Brüggemann, 1879
MRAC 2 specimens
locality : Seychelles

M. meandrina (Ehrenberg, 1834)
MRAC 1 specimen
Locality : Mozambique

M. spongodes Bernard, 1897
MRAC 10 specimens
locality : Seychelles

M. spumosa (Lamarck, 1816)
MRAC 2 specimens
Locality : Mozambique

M. tuberculosa (Lamarck, 1816)
MRAC 5 specimens
locality : Seychelles, Mozambique

M. verrucosa (Lamarck, 1816)
MRAC 2 specimens
locality : Seychelles

M. sp. 1 3 specimens
locality : Seychelles, Mozambique

M. sp. 2 4 specimens
Locality : Mozambique

M. sp. 3 2 specimens
locality : Mozambique

General comment on genus *Montipora:* The list of species of this genus is not complete, the same comment as given for *Acropora.* As stated in the introduction a revision has to be carried out before correct species names can be given.

S.O. *FUNGIINA*
Fam. AGARICIIDAE
Genus : *Pavona*

P. clavus (Dana, 1846)
MRAC 3 specimens
RMNH Coel. 12086
locality : Seychelles, Mozambique

P. explanulata (Lamarck, 1816) (pl. IX, fig. 4)
MRAC 4 specimens
RMNH Coel. 12070
locality : Seychelles, Mozambique

P. cactus (Forskål, 1775)
MRAC 7 specimens
RMNH
locality : Seychelles, Mozambique

P. divaricata Lamarck, 1816
MRAC 1 specimen
RMNH Coel. 12064 *
locality : Mozambique

P. varians Verrill, 1867
MRAC 2 specimens
RMNH coel. 12069
locality : Seychelles, Mozambique

P. praetorta Dana, 1846
MRAC 1 specimen
locality : Mozambique

P. maldivensis Gardiner, 1905
MRAC 3 specimens
RMNH Coel. 12075
locality : Seychelles

P. danai (Edwards & Haime, 1860)
MRAC 1 specimen
locality : Seychelles

Genus : *Leptoseris*

L. mycetoseroïdes Wells 1954 (pl. IX, fig. 5)
MRAC 1 specimen
locality : Mozambique

L. hawaiiensis Vaughan, 1918
MRAC 1 specimen
locality : Seychelles

L. papyracea Dana, 1846
MRAC 1 specimen
locality : Seychelles

Genus : *Pachyseris*

P. speciosa Dana, 1846 (pl. IX, fig. 6)
MRAC 2 specimens
locality : Seychelles

Genus : *Siderastrea*

S. savignyana Edwards & Haime, 1850 (pl. X, fig. 1)
MRAC 1 specimen
locality : Seychelles

Genus : *Anomastraea*

A. irregularis v. Marenzeller, 1901 (pl. X, fig. 2)
MRAC 1 specimen
locality : S. Africa

Fam. SIDERASTREIDAE
Genus : *Coscinaraea*

C. columna (Dana, 1846)
MRAC 8 specimens
RMNH Coel. 12079
locality : Seychelles, Mozambique, South Africa

C. monile Forskål, 1775
MRAC 2 specimens
locality : Mozambique

Genus : *Horastrea*

H. indica Pichon, 1971 (pl.X, fig. 3)
MRAC 1 specimen (a paratype)
locality : Mozambique

Fam. FUNGIIDAE
Genus : *Cycloseris*

C. costulata (Ortmann, 1889) (pl. X, fig. 4)
MRAC 6 specimens

locality : Seychelles, Mozambique

comment : One number includes several specimens. The collection shows juvenile forms, adult forms, and broken specimens that are regenerated.

Genus : *Fungia*

F. scutaria Lamarck, 1816
MRAC 6 specimens
RMNH Coel. 12094
locality : Seychelles, Mozambique

F. fungites (Linnaeus, 1767)
MRAC 10 specimens
RMNH Coel. 12095
locality : Seychelles

F. repanda Dana, 1846
MRAC 11 specimens
RMNH Coel. 12099
locality : Seychelles

F. spec. juvenile forms
MRAC 7 specimens
locality : Seychelles

Genus : *Herpolitha*

H. limax (Houtluyn, 1772)
MRAC 7 specimens
RMNH Coel. 12096
locality : Seychelles

Genus : *Halomitra*

H. pileus (Linnaeus, 1758) (pl. X, fig. 5)
MRAC 3 specimens
locality : Seychelles

Fam. PORITIDAE
Genus : *Porites*

P. (*Synarea*) *danai* Edwards & Haime, 1851
MRAC 5 specimens
RMNH Coel. 12097
locality : Seychelles

P. nigrescens Dana, 1846
MRAC 10 specimens
RMNH Coel. 12059
locality : Seychelles

P. andrewsi Vaughan 1918
MRAC 7 specimens
RMNH Coel. 12056
locality : Seychelles, Mozambique
comment : all specimens are part of thick branching colonies.

P. lutea Edwards & Haime, 1851
MRAC 9 specimens
RMNH Coel. 12089
locality : Seychelles, Mozambique
comment : a most common species, which has been collected plentifully; many numbers of several large specimens.

P. arenosa (Esper. 1794)
MRAC 2 specimens
RMNH Coel. 12057
locality : Mozambique

P. lobata Dana, 1846
MRAC 2 specimens
RMNH Coel. 12058
locality : Seychelles, Mozambique

P. sp. 1 MRAC 3 specimens
locality : Seychelles

P. sp. 2 MRAC 1 specimen
locality : Mozambique

Genus : *Goniopora*

G. somaliensis Vaughan, 1907
MRAC 2 specimens
RMNH Coel. 12063
locality : Seychelles

G. lobata Edwards & Haime, 1851
MRAC 2 specimens
RMNH Coel. 12058
locality : Seychelles

G. savigni Edwards & Haime, 1851
MRAC 2 specimens
RMNH Coel. 12080
locality : Seychelles

G. stokesi Edwards & Haime, 1851
MRAC 5 specimens
RMNH Coel. 12066
locality : Seychelles

G. sp. 1 MRAC 2 specimens
locality : Seychelles

G. sp. 2 MRAC 2 specimens
locality : Seychelles

comment: As stated in the introduction a study of the genus has to be carried out before one can be sure of the correct species name.

Genus: *Alveopora*

A. fenestrata (Lamarck, 1816)
MRAC 4 specimens
RMNH Coel. 12082
locality : Seychelles

A. sp. MRAC 1 specimen
locality: Seychelles

comment : The same as said for *Goniopora* can be stated for *Alveopora.*

S. O. *FAVIINA*
Fam. FAVIIDAE
Genus : *Caulastrea*

C. furcata Dana, 1846
MRAC 1 specimen
locality : Seychelles

Genus: *Favia*

F. pallida (Dana, 1846)
MRAC 16 specimens
locality : Seychelles, Mozambique

F. favus (Forskål, 1775)
MRAC 4 specimens
locality : Mozambique

F. amicorum Edwards & Haime, 1848
MRAC 9 specimens
RMNH Coel. 12071
locality : Seychelles, Mozambique

F. rotumana (Gardiner, 1899) (pl. X, fig. 6)
MRAC 5 specimens
locality: Mozambique, S. Africa
comment : The S. African specimens are extreme forms of this variable species, the ones from Mozambique conform better to the described characters of this species.

F. stelligera (Dana, 1846) (pl. XI, fig. 1)
MRAC 4 specimens
RMNH Coel. 12087
locality: Seychelles, Mozambique, S. Africa
comment: The specimens from S. Africa are extreme growth forms (« geomorphs ») of the present species (see pl. IX, fig. 4).

F. sp. MRAC 2 specimens (pl. XI, fig. 2)
locality : S. Africa

Genus : *Favites*

F. pentagona (Esper, 1794)
MRAC 1 specimen
locality : Seychelles

F. chinensis (Verrill, 1866)
MRAC 4 specimens
locality : Mozambique, S. Africa

F. complanata (Ehrenberg, 1834)
MRAC 4 specimens
RMNH Coel. 12073
locality : Seychelles, Mozambique

F. flexuosa (Dana, 1846) (pl. XI, fig. 3)
MRAC 7 specimens
locality : Seychelles

F. sp. MRAC 2 specimens (pl. XI, fig. 4)
locality : S. Africa

Genus : *Goniastrea*

G. edwardsi Chevalier, 1971
MRAC 12 specimens
locality : Seychelles, Mozambique

G. retiformis (Lamarck, 1816)
MRAC 3 specimens
locality : Seychelles, Mozambique

G. australensis (Edwards & Haime, 1857)
MRAC 1 specimen
locality : Mozambique

Genus : *Platygyra*

P. daedalea (Ellis & Solander, 1786)
MRAC 17 specimens
locality : Seychelles, Mozambique

P. lamellina (Ehrenberg, 1834)
MRAC 7 specimens
locality : Seychelles, Mozambique
comment : In this collection the differences between *P. daedalea* and *P. lamellina* is rather clear (in contrast to the situation in the Pacific)

Genus : *Hydnophora*

H. microconos (Lamarck, 1816)
MRAC 3 specimens
locality : Seychelles, Mozambique

M. exesa (Pallas, 1766)
MRAC 6 specimens
RMNH Coel. 2476
locality :

Genus : *Oulophyllia*

O. crispa (Lamarck, 1816)
MRAC 1 specimen
locality : Seychelles

Genus : *Leptoria*

L. phrygia (Ellis & Solander, 1786) (pl. XI, fig. 5)
MRAC 4 specimens
locality : Seychelles, Mozambique

Genus : *Montastrea*

M. annuligera (Edwards & Haime, 1849) (pl. XI, fig. 6)
MRAC 1 specimen
locality : Seychelles
comment : The colony represents the ecomorph *vacua* as described in Wijsman Best (1977)

M. magnistellata Chevalier, 1971
MRAC 2 specimens
locality : Seychelles

Genus : *Plesiastrea*

P. versipora (Lamarck, 1816) (pl. XII, fig. 1)
MRAC 3 specimens
locality : Mozambique

Genus : *Leptastrea*

L. purpurea (Dana, 1846)
MRAC 2 specimens
locality : Seychelles

Genus : *Cyphastrea*

C. serailia (Forskål, 1775)
MRAC 6 specimens
locality : Seychelles, Mozambique
comment : The specimens from Mozambique are all rounded colonies; those from the Seychelles are all slightly branching.

C. microphthalma (Lamarck, 1816)
MRAC 1 specimen
locality : Seychelles

Genus : *Echinopora*

E. gemmacea (Lamarck, 1816)
MRAC 12 specimens
locality : Seychelles, Mozambique
comment: The specimens are mostly parts of larger colonies and in general of encrusting ones.

E. lamellosa (Esper, 1794)
MRAC 3 specimens
RMNH Coel. 12067
locality : Seychelles

Genus : *Diploastrea*

D. heliopora (Lamarck, 1816)
MRAC 4 specimens
RMNH Coel. 12085
locality : Seychelles

Genus : *Trachyphyllia*

T. geoffroyi (Audouin, 1826)
MRAC 18 specimens
locality : Seychelles

Fam. OCULINIDAE
Genus : *Galaxea*

G. fascicularis (Linnaeus, 1776) (pl. XII, fig. 2)
MRAC 10 specimens
RMNH Coel. 12077
locality : Mozambique

G. clavus Dana, 1846
MRAC 2 specimens
RMNH Coel. 12062
locality: Seychelles

Fam. MERULINIDAE
Genus: *Merulina*

M. ampliata (Ellis & Solander, 1786)
MRAC 1 specimen
locality: Seychelles

Fam. MUSSIDAE
Genus: *Acanthastrea*

A. echinata (Dana, 1846)) (pl. XII, fig. 3)
MRAC 2 specimens
locality: Mozambique

A. cf. *hillae* Wells 1955
MRAC 1 specimen
locality: S. Africa

Genus: *Lobophyllia*

L. corymbosa (Forskål, 1775)
MRAC 10 specimens
RMNH Coel. 12083
locality: Seychelles, Mozambique

L. costata (Dana, 1846)
MRAC 1 specimen
locality: Seychelles
comment: This is a doubtful identification: there is only one branch with four corallites present.

L. hemprichi (Ehrenberg, 1834) (pl. XII, fig. 4)
MRAC 3 specimens
locality: Seychelles, Mozambique

Genus: *Cynarina*

C. lacrymalis (Edwards & Haime 1848)
MRAC 2 specimens
locality: Seychelles

Fam. PECTINIDAE
Genus : *Echinophyllia*

E. aspera (Ellis & Solander, 1786)
MRAC 1 specimen
locality : Mozambique

Genus : *Mycedium*

M. elephantotum (Pallas 1766)
MRAC 2 specimens
locality : Seychelles

S. O. *CARYOPHYLLIINA*
Fam. CARYOPHYLLIIDAE
Genus : *Euphyllia*

E. glabrescens (Chamisso & Eysenhardt, 1821)
MRAC 1 specimen
locality : Seychelles

Genus : *Physogyra*

P. lichtensteini (Edwards & Haime, 1851) (pl. XII, fig. 5)
MRAC 3 specimens
RMNH Coel. 12055
locality : Seychelles

Genus : *Catalaphyllia*

C. jardinei (Saville Kent, 1893) (pl. XII, fig. 6)
MRAC 1 specimen
locality : Seychelles

Genus : *Heterocyathus*

H. aequicostatus Edwards & Haime, 1848
MRAC 2 specimens
locality : Seychelles

Genus : *Polycyathus*

P. sp. MRAC 1 specimen
locality : Seychelles

S. O. *DENDROPHYLLIINA*
Fam. DENDROPHYLLIDAE
Genus : *Dendrophyllia*

D. cf. *gaditana* (Duncan, 1873)
MRAC 2 specimens
locality : Seychelles
comment : The identification is given with doubts by H. Zibrowius. The specimens consist of small dendroid colonies.

D. cf. *micrantha* (Ehrenberg, 1834)
MRAC 4 specimens
locality : Seychelles
comment : The identification is given by H. Zibrowius, with the remark that one cannot be sure until a thorough revision of the genus has been carried out.

D. sp. MRAC 4 specimens
locality : Seychelles

Genus : *Balanophyllia*

B. sp. MRAC 7 specimens
locality : Seychelles
comment : This collection of *Balanophyllia* probably contains several species. But according to H. Zibrowius the genus is still badly known, and a revision is necessary before one can be sure of any name.

Genus : *Tubastrea*

T. aurea (Quoy & Gaimard, 1833)
MRAC 8 specimens
locality : Seychelles

T. sp. MRAC 3 specimens
locality : Seychelles
Comment : This genus also has to be revised; it is badly known according to H. Zibrowius.

Genus : *Heteropsammia*

H. cf. *cochlea* (Spengler, 1781)
MRAC 2 specimens
locality : Seychelles

H. sp. MRAC 1 specimen containing several corallites
locality : Mozambique

Genus : *Turbinaria*

T. cf. *mesenterina* (Lamarck, 1816)
MRAC 7 specimens
RMNH Coel. 12072
locality : Seychelles, Mozambique

T. peltata (Esper, 1797)
MRAC 1 specimen
locality : Seychelles

T. sp. MRAC 1 specimen
locality : Seychelles

General comment on *Turbinaria.* This genus has to be fully revised, which is probably possible only after a lot of field work.

Non Scleractinian corals

ALCYONARIA

O. Tubiporidae

Genus : *Tubipora*

T. musica L. 1758
MRAC 4 specimens
locality : Seychelles

O. Coenothecalia

Genus : *Heliopora*

H. coerulea (Pallas, 1766)
MRAC 2 specimens
locality : Seychelles

HYDROCORALLIA

O. Stylasterina

Genus : *Millepora*

M. platyphylla Ehrenberg, 1834
MRAC 9 specimens
locality : Seychelles

M. tenera Boschma, 1948
MRAC 6 specimens
locality: Seychelles

M. sp. MRAC 1 specimen
locality: Seychelles

Genus : *Stylaster*

S. nobilis (Saville Kent, 1871)
MRAC 1 specimen
locality : S. Africa

DISCUSSION

The study of the coral collection present in the Musée Royal de l'Afrique Centrale in Tervuren resulted in the identification of 144 species belonging to 58 genera (6 species belonging to 4 genera are non Sclaractinian corals). This considerably extends the list of species as given by Pillai, Vine & Scheer (1971), the latest paper about the corals from the Seychelles.

As already noted in the introduction we do not think the collection is a fully representative one, because the samples were taken by non-coral specialists. The common species are well represented while the more rare or interesting (because of intra specific variability) were insufficiently collected, which resulted in several doubtful identifications.

One of the best publications with which we can compare the coral fauna of the Seychelles is the study of Faure (1977) dealing with the corals from the Mascarenes. In that checklist a total of 135 species including 6 species of non-Scleractinian corals) belonging to 58 genera are described. Only a general comparison can be given, a detailed one is not yet fruitful, because of the several taxonomic or ecological mistakes present in this paper of which we are fully aware. The following species are listed in the present paper and are not found in the Mascarenes: *Seriatopora caliendrum, Leptoseris papyracea, Anomastraea irregularis, Halomitra pileus, Goniopora stockesi, Favites chinensis, Goniastrea edwardsi, Goniastrea australensis, Montastrea magnistellata, Trachyphyllia geoffroyi, Galaxea clavus, Merulina ampliata, Cynarina lacrymalis, Physogyra lichtensteini, Catalaphyllia plicata.* This

list certainly includes some species that are restricted to the northern Indian Ocean, but several species that are listed here as: *L. papyracea, G. stockesi, T. geoffroyi, Galaxea clavus, M. ampliata, P. lichtensteini* are present in Tulear (Malagassy) situated 2° latitude more south than the Mascarenes. Others may well be present in the Mascarenes but not as yet recognized or found and vice versa.

A good list of corals from the Red Sea is not available, the study of Loya & Slobodkin is far from complete and the names are often not correct. Field work carried out in the Gulf of Aqaba by one of us and by Bouchon (in prep.) proved that the species diversity of the reefs is far higher than is known in literature at the moment. Only after a more up to date list of the Red Sea corals has not been published (Head, in prep.), a more detailed comparison can be given.

SUMMARY

An important collection of stony corals, present in the Musée Royal de l'Afrique Centrale, Tervuren, Belgium, has been collected during several expeditions to the Seychelles, Mozambique and South East Africa (1966, 1969, 1972) by the Museum in Tervuren and the Université Libre of Brussels. The present paper describes the complete list of the collected material, and treats the general problems of identification of reef building corals in a limited area. Several remarks are given concerning ecological, taxonomical and geographical problems, also a short historical retrospect on previous work in this area, as well as a comparison with coral reef work in the Pacific.

RESUME

Une importante collection de coraux, présente au Musée Royal de l'Afrique Centrale, Tervuren, Belgique, a été récoltée à l'occasion de plusieurs expéditions effectuées aux Séchelles, le Mozambique et le sud-est de l'Afrique (1966, 1969, 1972) par le Musée à Tervuren et l'Université Libre de Bruxelles. La présente note renferme en dehors de la liste complète du matériel récolté, une courte explication des problèmes généraux d'identification posés par les coraux. Quelques remarques d'ordre écologique, taxonomique, géographique; un bref exposé historique sur les travaux effectués dans cette région, ainsi qu'une comparaison avec le Pacifique.

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EXPLANATIONS OF THE PLATES

PLATE IX

1. *Stylophora pistillata* (Esper). MRAC no. 2238
2. *Seriatopora angulata* Klunzinger. MRAC no. 3309
3. *Pocillopora eudouxi* Edwards & Haime. MRAC no. 1163
4. *Pavona explanulata* (Lmarck). MRAC no. 2267
5. *Leptoseris mycetoseroides* Wells. MRAC no. 2495
6. *Pachyseris speciosa* Dana. MRAC no. 3293

PLATE X

1. *Siderastrea savignyana* Edwards & Haime. MRAC no. 3294
2. *Anomastrea irregularis* v. Marenzeller. MRAC no. 2579
3. *Horastrea indica* Pichon. MRAC no. 2474
4. *Cycloseris costulata* (Ortmann). MRAC no. 3358
5. *Halomitra pileus* (Linnaeus). MRAC no. 1166
6. *Favia rotumana* (Gardiner). MRAC no. 2564

PLATE XI

1. *Favia stelligera* (Dana). MRAC no. 2570
2. *Favia* sp. MRAC no. 2578
3. *Favites flexuosa* (Dana). MRAC no.2319
4. *Favites* sp. MRAC no. 2571
5. *Leptoria phrygia* (Ellis & Solander). MRAC no. 2412
6. *Montastrea annuligera* (Edwards & Haime). MRAC no. 3278

PLATE XII

1. *Plesiastrea versipora* (Lamarck). MRAC no. 2522
2. *Galaxea fascicularis* (Linnaeus). MRAC no. 2500
3. *Acanthastrea echinata* Dana. MRAC no. 2483
4. *Lobophyllia hemprichi* (Ehrenberg). MRAC no. 2105
5. *Physogyra lichtensteini* Edwards & Haime. MRAC no. 3327
6. *Catalaphyllia jardinei* (Saville Kent). MRAC no. 2123