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CORAL SPECIES OF THE INDIAN OCEAN AND ADJACENT SEAS: A SYNONYMIZED COMPILATION AND SOME REGIONAL DISTRIBUTIONAL PATTERNS

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ABSTRACT

A list is provided of hermatypic coral species from 24 locations in the Indian Ocean and its peripheral seas and gulfs. Six sites are newly reported or expanded accounts, and eighteen are derived from recent literature. This is intended: (1) to provide in one place, a uniform compilation of coral species from different areas and from many diverse accounts; (2) to apply synonyms to all sites in a consistent way for the first time, so that; (3) regional analysis at species level is possible. Synonyms are taken mainly from two recent taxonomic series, but because species stability is poor in some genera and authors may differ in their views on synonymy, all names are shown. The sources of data were selected to reduce problems inherent in using diverse material, and many sources themselves include compilations and synonymys of much older works. From 796 entities initially obtained, the removal of synonyms and entries named "spp" leaves 439 species. Further reduction is probably needed. Species rich sites extend across the Indian Ocean, with no westerly decline from South East Asia; the Red Sea as a whole contains the most species. Cluster analysis shows geographical groupings in the Arabian Gulf/Arabian Sea area, in the Red Sea and in the southwest and central Indian Ocean island areas. Of these, the Arabian Group is the most separate. A second analysis corrected for diversity differences also shows three clear groups: a northern one from the Red Sea to Sri Lanka which includes the Arabian group; a large southern or equatorial region; and a group consisting of the Mergui, Nicobar and Andaman islands in the Bay of Bengal.

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INTRODUCTION

To date, most wide scale, comparative work on corals in the Indian Ocean and its peripheral seas and gulfs has been done at the generic level (Stehli and Wells 1971, Rosen 1971, Scheer 1984). Veron (1985a) also shows generic diversity contours in the Indian Ocean, but remarks that this level is inadequate for several purposes and he uses species to discuss distributions in the west Pacific. Emphasis on genera has been partly because stability at generic level is good whereas at species level it is much less so, but also it is due to the difficulty of obtaining comparable and reliable lists of species from a sufficient number of localities. Nevertheless, the species level is arguably the only biologically meaningful one since higher taxonomic levels are largely synthetic, and moreover, work at generic level has the important drawback of treating all genera as equivalent regardless of whether they contain one or a great number of species.

In the last 15 years taxonomic accounts and lists of corals at species level from the Indian Ocean have become more numerous although they are widely dispersed in the literature. Their increase has partly been due to a dramatic improvement in the literature available for coral identification, especially from the taxonomic series of Veron and co-workers and of Scheer and Pillai (Veron and Pichon 1976, 1980, 1982, Veron et al 1977, Veron and Wallace 1984, Scheer and Pillai 1974, 1983, Pillai and Scheer 1976).

An earlier plot of diversity contours at species level (Sheppard 1983) showed that there is a much smaller and less regular drop in diversity away from the east Asian region than is seen at generic level. The plot was not based on fully synonymised lists but it suggested that, numerically at least, the Indian Ocean might be more uniform than the Pacific, a point also made by Veron (1985a). Since then, new or expanded lists have become available for at least six more areas in previously poorly known parts of this region. Also it is still the case that different formats and use of synonyms by different authors makes regional comparisons unnecessarily difficult. To help overcome this therefore, the present list was compiled to include accounts, in a uniform manner and using the same synonyms, from a total of 24 Indian Ocean sites. The full listing is given here in order to facilitate further work at species level, and the result of an initial analysis of the data is reported.

In the Indian Ocean generally, knowledge of coral faunas remains patchy. Very large areas of coast are scarcely visited and many vast, shallow limestone banks and atoll groups are completely unstudied. Recently, descriptions of all known, important coral reefs in the region have been compiled into one volume (Sheppard and Wells in press), but this focuses on the nature, condition and conservation status of reefs and excludes any significant treatment of the coral species themselves. The present work therefore, is also intended to complement the volume by providing data on coral species, to the extent that this is possible at the present time.

METHODS

Sources of material and the species list

Table 1 lists those sites from which substantial lists of coral species have been obtained. Most of them have been examined within the last decade, and only the account from Cocos Keeling is older than about 15 years. Most importantly, in many cases the references given are themselves revisions and compilations to a considerable degree of preceeding work, including records from the classical expeditions. From these, a list was compiled of 796 coral species, including those refered to as "sp". Details of the number of species recorded from each site before and after synonymising is shown in Table 1. To this list the synonyms given by the above mentioned taxonomic series were applied, and unnamed species removed. The result is Appendix 1. Genera are ordered taxonomically after Wells (1956) with later additions, and within each genus, senior synonyms are listed alphabetically. Beneath each senior synonym are its junior ones, indented two spaces. The only names which have been used in the past but which are not necessarily included here are those used by some of the earlier investigators and which were synonymised by the authors shown in Table 1 in their own lists. Inclusion of such names would extend the list to around 1000 names, most of the extras being long abandoned.

For the compilation some simple rules were followed. While lists of synonyms from both main series of taxonomic monographs were used, where disagreement occurs the position of species here often follows that suggested by Scheer and Pillai since their Indian Ocean context may be more applicable than an eastern Australian one in this case. In some cases, and particularly in the Red Sea and Arabian Gulf areas, a personal opinion was sometimes made instead. However, all 678 names are given here so that future workers may judge or use the list according to their own opinions.

Secondly, areas were regarded as discrete sites only if they were obvious geographical units, such as an island group, or when they were separated from other areas by about 500 km or more in contiguous areas. For example, Maldives data are pooled although source material tabulates species from separate atolls, and likewise, the reefs of Sri Lanka, Palk Bay and southern Mandapam form a contiguous area and are also pooled. This reduces the number of sites for which data is available but ensures that a more complete list is provided for each of them. This was done because fairly complete lists are required for any regional pattern extraction, even at the expense of fewer sites. One addition to this listing is in the first column of data which tabulates all species known from the Red Sea; it is based on the monograph of Scheer and Pillai (1983) which incorporated numerous earlier works, most notably that of Head (1980), and includes data from columns 2-4 as well.

Thirdly, where only a very brief and clearly incomplete species list exists for a location then that location was generally excluded. Two exceptions were made for important geographical gaps. These are Cocos

Table 1. Sources of data for the species list of Appendix 1 with some site details. First column is site location (see figure 1). Second column ("Col.") indicates the column number of data in Appendix.
Column A: Total number of species recorded, ie including redundant synonyms and species marked as "spp".
Column B: Probable number of separate species at each area, ie after synonymising but including species recorded as "spp".
Column C: Total number of names used, ie before synonymising, but excluding "spp".
Column D: Number of names, after synonymising and excluding "spp".

Site	Col.	Location	Sources	A	B	C	D
A	1	Total Red Sea	Scheer & Pillai 1983, Head 1980, Mergner & Schuhmacher 1985, (+ cols 2-4)	257	244	235	220
B	2	Gulf of Eilat	Loya & Slobodkin 1971, Scheer & Pillai 1983, Scheer pers. comm.	146	136	144	134
C	3	Yanbu, Saudi Arabia	Sheppard & Sheppard 1985 and unpubl.	146	146	134	134
D	4	South Red Sea	Sheppard 1985b and unpubl.	109	109	94	94
E	5	Arabian Gulf	Burchard 1979, Sheppard 1985a	62	60	40	38
F	6	Gulf of Oman	Sheppard & Salm in press	61	61	53	53
G	7	South Oman	Sheppard & Salm in press	54	54	51	51
H	8	Gulf of Kutch	Pillai et al 1980	17	17	14	14
I	9	Kenya/Tanzania	Hamilton & Brakel 1984	128	118	122	112
J	10	Mozambique	Wijsman Best et al 1980, Boshoff 1981	185	153	181	149
K	11	Tulear	Pichon 1978	135	119	129	113
L	12	Aldabra	Rosen 1979	90	84	89	83
M	13	Seychelles	Wijsman Best et al 1980, Pillai et al 1973	114	107	108	101
N	14	Southeast India + Sri Lanka	Pillai 1971a ,1972, Mergner & Scheer 1974	159	131	158	130
O	15	Lakshadweep	Pillai 1971a, 1971b, 1972	72	66	70	64
P	16	Maldives	Pillai & Scheer 1976, Pillai 1972	214	166	209	161
Q	17	Chagos	Sheppard 1981, LeTissier unpub.	195	185	178	168
R	18	Reunion	Bouchon 1981, Faure 1977	155	135	147	127
S	19	Mauritius	Faure 1977	177	141	172	136
T	20	Rodriguez	Faure 1977	105	89	103	87
U	21	Cocos Keeling	Wells, 1950	67	57	66	56
V	22	Nicobars, Andamans	Pillai 1972, Scheer & Pillai 1974	129	120	129	120
W	23	Mergui	Pillai 1972	43	41	43	41
X	24	Thailand	UNESCO/UNEP 1984	205	201	205	201
[		W. Australia	Veron 1985b	-	-	-	276]
TOTAL				796	-	678	439

Keeling (56 known, named species) and the Seychelles. Data available permit a division into "Seychelles", which mostly includes the granitic islands, and Aldabra, although both are clearly very incomplete. In view of the interest given to these areas terrestrially and intertidally, as well as of the huge area of ocean that they cover, their corals are remarkably poorly studied. With the Arabian Gulf, Gulf of Oman and south Oman, the lists are short but are probably relatively complete for these marginal areas (Sheppard and Salm in press).

Data analysis

Preliminary analyses involved a cluster analysis where sites were entities and species were their attributes. The data are binary, so the Dice or Sorensen similarity coefficient was used. This is similar to the more common Jacard coefficient but doubly weights shared positive attributes (joint presences). In cases where there may be relatively few joint presences it is more suitable than Jacard's coefficient (Clifford and Stephenson 1975), and where the sites vary widely in the number of species they contain it is more intuitively accurate (Boesch 1977). It ignores joint absences, and it is also the direct binary equivalent of the most common quantitative measure, the Bray Curtis. Clustering was then carried out by the simple group averaging method, where upon fusion, the coefficients of two sites or groups of sites are replaced by their arithmetic mean.

Following this procedure, a second analysis was run with a coefficient devised to bring out other aspects of the numbers of species held in common between each pair of sites. This is intended to overcome apparent separations of areas caused by wide differences in diversity, and is described in the next section.

RESULTS AND DISCUSSION

The data set

The process of synonymising almost halves the multitude of original names to 439 species (Appendix 1). Even so, this is undoubtedly an incomplete reduction. Also, further work will suggest the transfer of some names, and the reinstatement of other species presented here as junior names.

There are at least two drawbacks with species lists. These are firstly, the problem of synonyms and the fact that lists from different areas of the Indian Ocean were published at different states of completion of the two major series of taxonomic revisions refered to earlier. Both series of revisions have now provided substantial lists of synonyms which ecologists may use to advantage, in addition to improving the means for coral identification itself. The second problem is the question of the reliability of identifications given by each author, particularly with the highly speciated genera. A solution of the first of these problems is one intention of the present listing. The second problem, that of incorrectly identifying and reporting the presence of a species, is more intractable, because apart from simple

errors, different authors do not always agree on nomenclature. However, inspection of Table 1 will show which sources have been used for each site. Another point to be considered is the degree of completeness of each species list. Probably no species list is complete, but several earlier accounts deal only with shallow water corals. Shallow areas of reefs contain only poor subsets of their total coral composition and so accounts of this kind have generally been excluded. This is a problem of reef ecology generally and not only of this data set.

The analysis

Figure 1 shows the number of hermatypic coral species known to exist at each site included in this study, using the synonymised list. Even if the total number of 439 species is still too high, the number of species shown for any one site is probably low in several if not all areas due to incomplete sampling. The totals in figure 1 indicate that species rich sites in this region may contain from 100 to more than 200 hermatypic species and that some peripheral areas to the north may support considerably less. It also shows that there is no obvious reduction in diversity as distance increases westwards from the high diversity east Asian region, and that the Red Sea is particularly rich with at least 220 hermatypic species.

The results of the first cluster analysis is shown in figure 2. Deeply shaded areas both on the resulting dendrogram and its corresponding map enclose sites which fuse at similarity levels of greater than 0.6. At this level four groups exist: all the Red Sea sites; two sites in the northwest Arabian Sea; Aldabra with Tulear and Chagos; and the three Mascarene islands. These groupings may be considered to show the existence of four areas each with a greater level of homogeneity within the Indian Ocean region.

Sites which fuse at a similarity level of >0.5 are enclosed by light shading. The Red Sea fuses with the southwest Indian Ocean sites, to form a large grouping which extends across the equatorial part of the Indian Ocean to include the Maldives, south India and Sri Lanka. Thailand and the Andaman and Nicobars sites also fuse together at this level, and could perhaps be considered as part of the large southwestern group since they link with it at 0.49 and so only just avoid the arbitrary 0.5 similarity level to which the shading is limited (see histogram, figure 2, sites V and X). At a level of >0.5 too, the Arabian Gulf fuses with those of the northwest Arabian Sea (an "East Arabia" group), which remains separated from the main southwest or equatorial group until a very low level of similarity. Several individual sites remain separate until fairly low similarity levels; these are either remote or species poor areas; Lakshadweep and Cocos Keeling fuse with each other and with the main group at a similarity level of just over 0.4, while the Mergui Archipelago fuses with it at 0.3.

Two factors could affect this clustering pattern. Firstly, clustering could be weakened if the process of synonymising species names is incomplete, as it undoubtedly is. This is because it increases noise

in the data set which will cause an increase in apparent randomness. Secondly, it is clear also that although interesting clusters do emerge despite this, many of the sites which showed the least similarity with others are those with fewest species. The Gulf of Kutch, Cocos Keeling and Mergui sites are all apparently depauperate, and in particular the most separated grouping of all, East Arabia, is likewise composed wholly of sites with less than 53 species. This can affect the clustering because the maximum similarity which is possible between two sites with different numbers of species is always less than 1.0. For example, two sites containing 50 and 150 species have a maximum possible similarity of 0.5. Several site pairs have this disparity or greater. At one extreme, the exceptionally poor Gulf of Kutch with 14 species names will clearly be substantially separated from all other sites using any index of this type.

To overcome this, a measure was devised which would account for disparities in site richness to focus on the degree of commonality or otherwise of species. This "commonality index" was calculated for each pair of sites and is the ratio of the actual Sorensen or Dice index to the maximum possible index for that pair, or

$$I\ (\text{commonality}) = I(\text{Dice}) \,/\, I(\text{max}).$$

This will show a high similarity between two sites with very different diversities if most species in the poorer one are also found in (or perhaps originate from) the richer one. The cluster analysis was rerun with this index (Figure 3).

This result shows several features in common with figure 2 but with important differences. The principal features in common are the emergence at a high fusion level (>0.7, darker shading) of: the Red Sea group (though this time including southern Oman as well); the group of central and southwestern Indian Ocean islands; and again an East Arabia group, though this time without southern Oman. This would seem to support the evidence of these groupings obtained from the first analysis. However, additional clusters involving species poor sites also emerge at this high level. Firstly, the Gulf of Kutch clusters very strongly (0.86) with southern India and Sri Lanka. Thus, the former is shown either to recruit from the latter or else have a remnant of a similar Indian mainland population. Also Lakshadweep fuses with the adjacent Maldives (0.94), and the Nicobars and Andamans fuse with the Mergui Archipelago (0.79). These clusters merge pairs of sites which are in close geographic proximity regardless of their wide differences in diversities.

At a fusion level of >0.6 (light shading), two larger groups are formed. Firstly, a broad, "equatorial" group is formed which consists of all sites from the southwest and central Indian Ocean, all atolls, and the mainland sites on both African and Asian coasts. Secondly, the East Arabia group fuses with the Red Sea group to form a northwestern grouping. Onto this, the Indian sites also fuse at a level of 0.58, to form a large group which extends between Sri Lanka and the Red Sea. At this level, the small group formed from the islands in the Bay of Bengal remains separate.

Both indexes suggest that at the higher levels of fusion there are valid groupings of higher similarity within the otherwise fairly homogeneous Indian Ocean region. Of these, the Arabian Gulf and northern Arabian Sea area is most separated. The Red Sea is also relatively distinct, while the islands between Madagascar and the central Indian Ocean atolls form a third area of higher homogeneity. Possibly the islands in the Bay of Bengal form a final group.

The principal difference between the two analyses emerges at a lower fusion level and is caused by the fusion pattern of the Red Sea: in the first case the Red Sea fuses with the southwestern or equatorial group next, leaving a separate East Arabian group. In the second treatment, which is based more on commonality of species and which overcomes bias caused by diversity difference, the Red Sea merges next with the East Arabian and Indian groups to form a broad northern or northwestern group. In the latter, the broad equatorial group thus excludes the Red Sea, but it includes the mainland sites of both Africa and Asia and all island groups between them with the exception of the islands in the Bay of Bengal.

A hypothesis of a "subprovince" in the western Indian Ocean that has high diversity has been suggested from analysis at genus level (Rosen 1971), which emerged largely from the observation that several genera were restricted to that area. However, the genera concerned were largely monospecific, e.g. *Horastrea, Gyrosmilia, Astraeosmilia, Siderastrea, Anomastrea* and possibly *Ctenella*, and most of them have subsequently been discovered in a wider range of sites which fall into several different site clusters in this analysis. Also, it would be expected that the effects of these monospecific genera would be masked by the polyspecific nature of most other genera, in particular the highly speciated Acroporidae. In fact, both the analyses performed here suggest that in the western Indian Ocean there are three areas with a greater than average degree of internal homogeneity: the Red Sea, the eastern Arabian region, and the equatorial region which includes the southwest. While at a lower level of fusion the affiliation of the Red Sea changes, the second and third of these groupings still remain separated.

The suggestion by Veron (1985a) that there is a high degree of homogeneity of corals at species level throughout the Indian Ocean is supported by this analysis, as are predictions that the Red Sea and Arabian Gulf areas support rather different assemblages of corals from the central Indian Ocean (Burchard 1979, Sheppard and Sheppard 1985). The Arabian Gulf was also separated from the more central Indian Ocean sites at generic level (Stehli and Wells 1971) although in the latter case this was forced by the depauperate nature of the known Gulf fauna, and it was grouped together with other species poor sites in the south Indian Ocean. Both the species compilation and the analysis presented here, however, should be regarded only as a first step. More work on the question of synonyms and the provision of species lists from areas not represented here, particularly the Seychelles atolls, are need to clarify the pattern in the Indian Ocean, and subsequently, to clarify their relationship to the highest diversity regions of southeast Asia.

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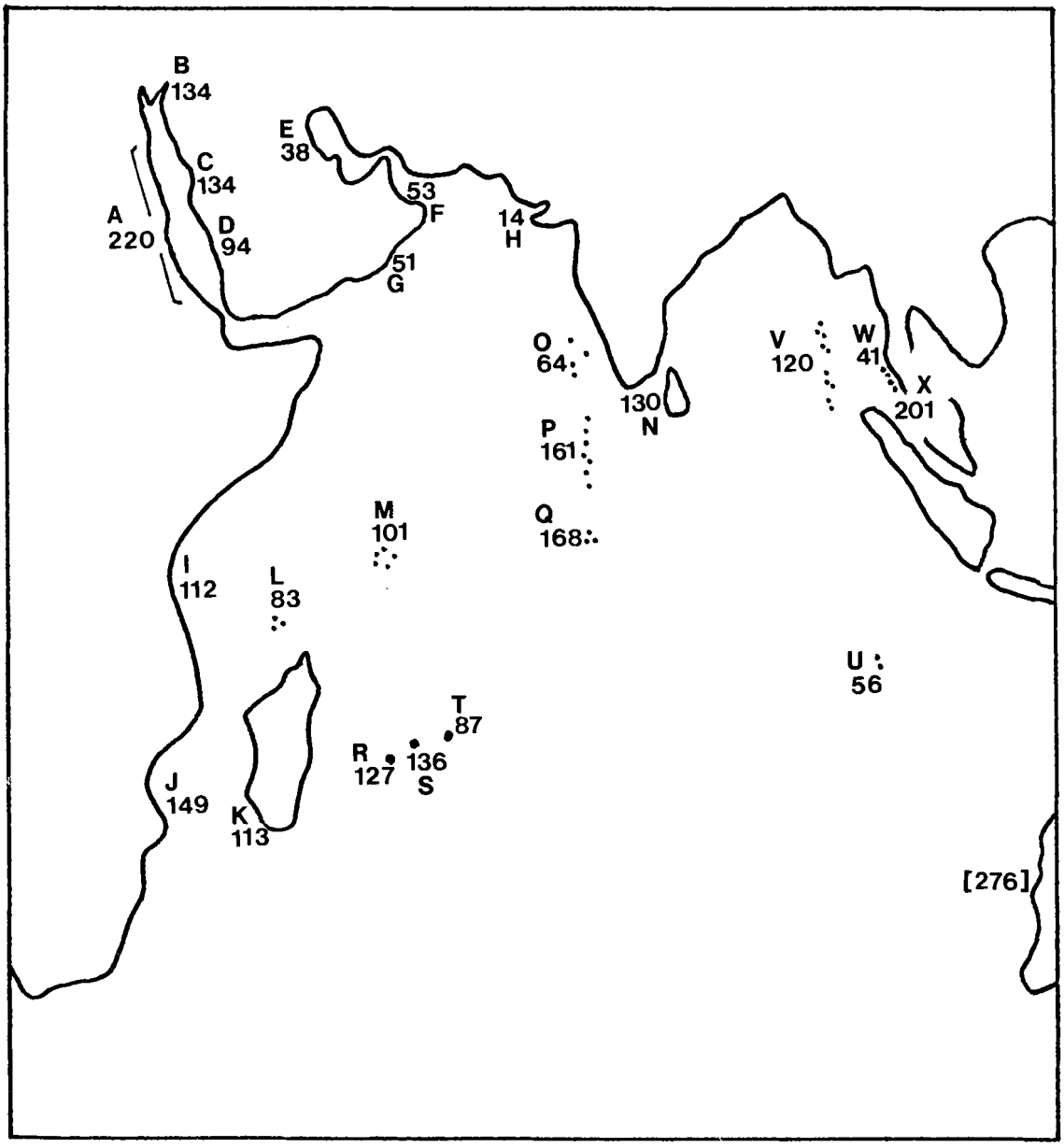
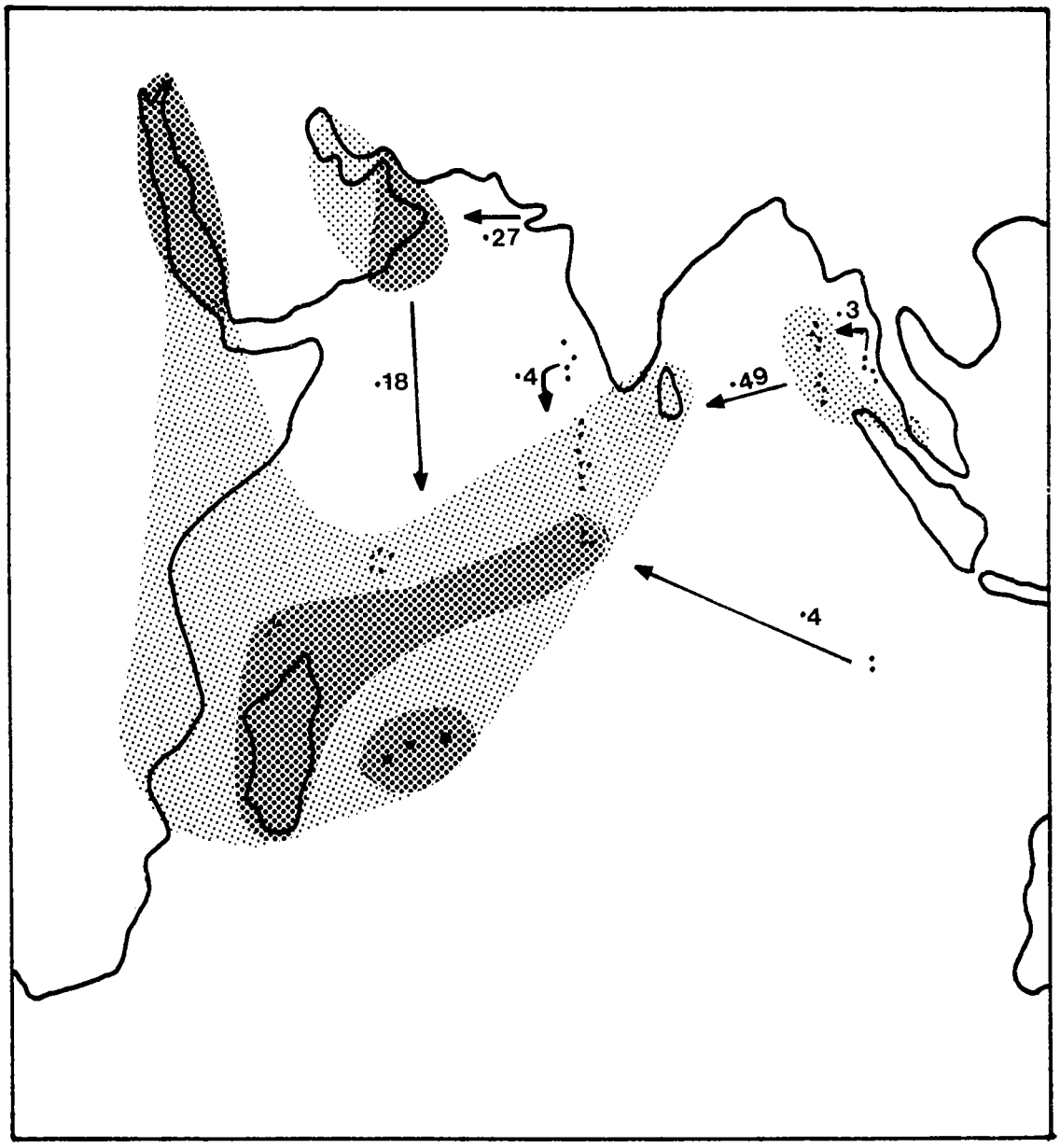


Figure 1. Map of the Indian Ocean region showing numbers of hermatypic coral species at each of the 24 sites used, based on the synonymised species list. Each site is designated by a letter, corresponding to those in Table 1. The sources used for each site are those listed in Table 1, except for western Australia whose total is stated in Veron (1985b).

Figure 2. Result of a cluster analysis using the Dice or Sorensen similarity coefficient, shown as a dendrogram (bottom) which is then mapped (top). In both cases, dark shading encloses sites which cluster at a similarity level of >0.6, light shading encloses sites clustered at >0.5. Other sites cluster at values shown by the arrows. Cocos Keeling and Lakshadweep fuse with each other marginally earlier than their fusion with the main cluster. Letters below dendrogram correspond to the site designation, as shown in Table 1.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·3
·4

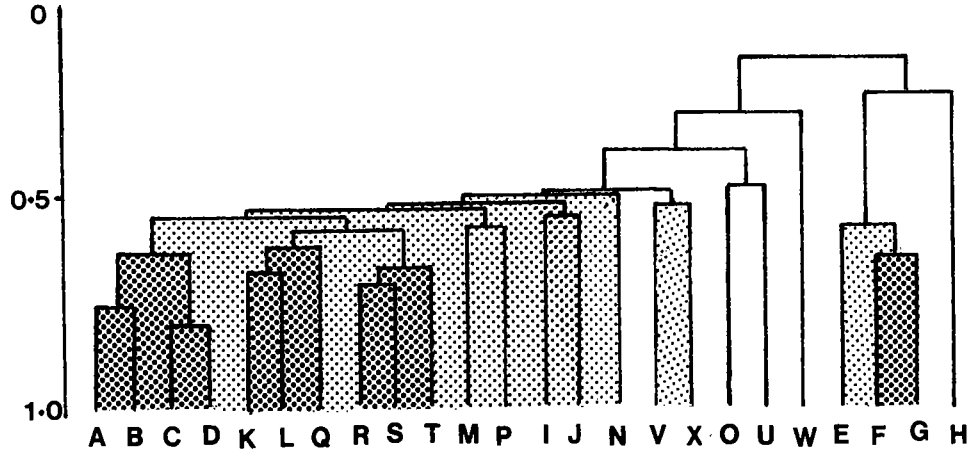
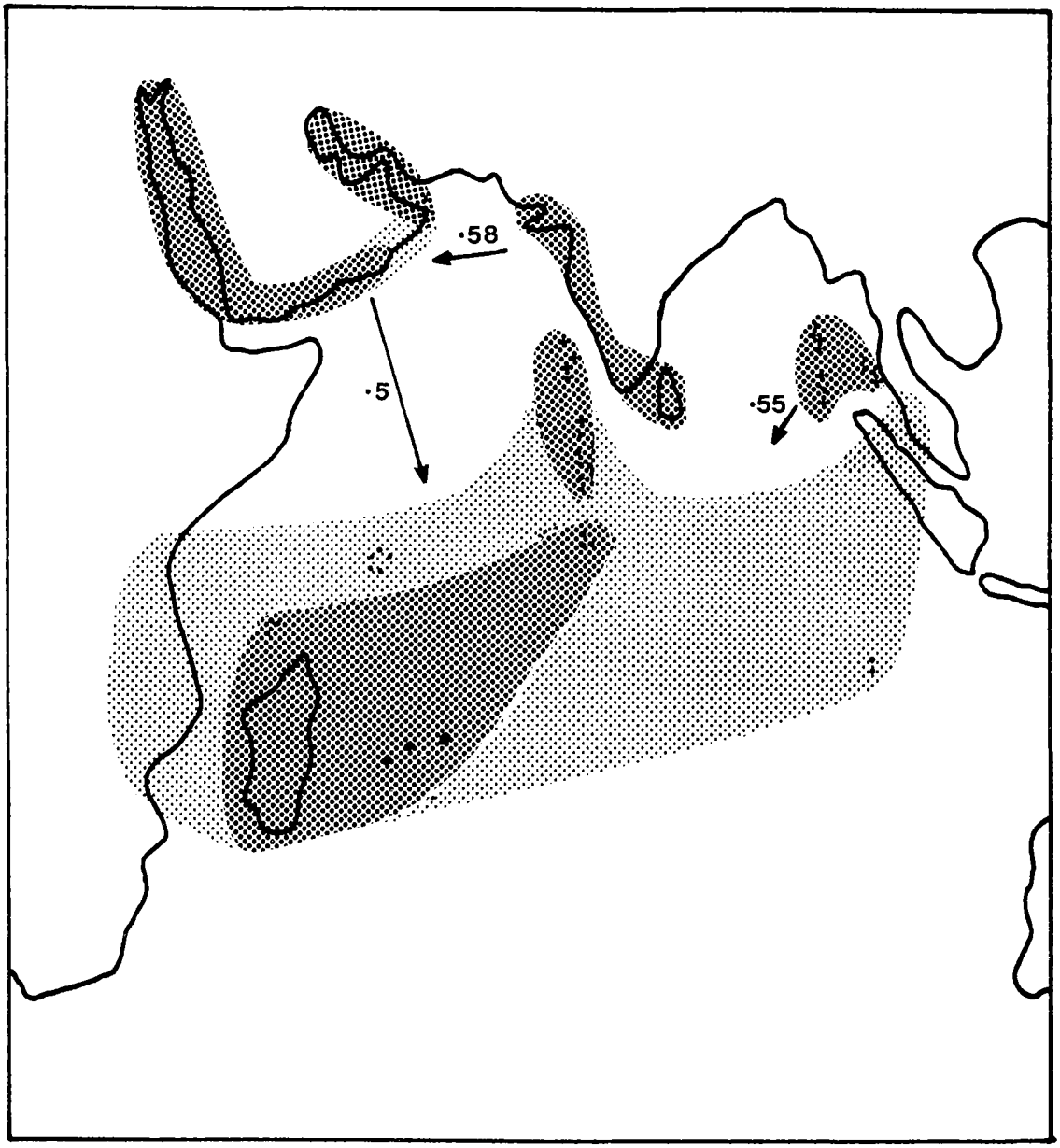
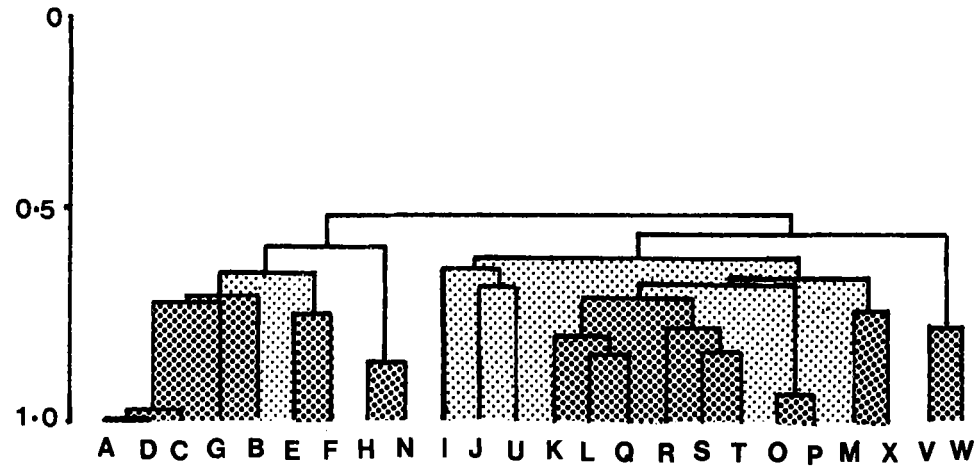

0
0·5
1·0
A B C D K L Q R S T M P I J N V X O U W E F G H

Figure 3. Result of a cluster analysis using the "commonality of species index" (see text), shown as a dendrogram (bottom) which is then mapped (top). Dark shading encloses sites which cluster at a similarity level of >0.7, light shading encloses sites clustered at >0.6. (NB Seychelles and Thailand cluster at 0.74, shown on dendrogram but not on map for clarity). Other sites or groups fuse with larger ones at values shown by the arrows. Letters below dendrogram correspond to the site designation, as shown in Table 1.


·58
·5
·55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A D C G B E F H N I J U K L Q R S T O P M X V W

APPENDIX 1. List of coral species recorded from the Indian Ocean; sources are given in Table 1. In the columns on the right, sites are ordered left to right as in Table 1, eg column 1= Red Sea, column 24= Thailand. A "1" means the species has been recorded there by the authors cited in Table 1. A dot is placed in each vacant cell to facilitate tracing. Junior or redundant synonyms are indented beneath the species name considered to be the senior or valid synonym.

Stylocoeniella armata (Ehrenberg)	1.....1.....111.1...
Stylocoeniella guentheri Basset-Smith	1.11.1....1.1..111.....1
Psammocora contigua (Esper)	1...11..111.11111111...1
Psammocora divericata Gardiner	.............1.....
Psammocora gonagra Klunzinger	.........1.....
Psammocora planipora Edwards & Haime	.....1.....
Psammocora vaughani Yabe & Sugiyama	.....1.....
Psammocora brighami (Vaughan)	.........1.....
Psammocora digitata Edwards & Haime	.....1.....1
Psammocora exesa Dana	.....11.....
Psammocora togianensis Umbgrove	.....1..1....1...
Psammocora explanulata Horst	1.11.....11.....
Psammocora folium Umbgrove	.....1..1.....
Psammocora haimeana Edwards & Haime	111.....111..11.11.1...
Psammocora nierstrazi Horst	111.....1.11...1111.....
Psammocora profundicella Gardiner	1.1.....111..1.1
Psammocora ?superficialis Gardiner	1.1.11.....
Stylophora contorta Ley.	.........1.....
Stylophora flagelalta (Quelch)	.........1.....
Stylophora pistillata Esper	1111111.11111..11111...1
Stylophora danae Edwards & Haime	1.....1.....
Stylophora mordax (Dana)	.....111.11.111.1..
Stylophora palmata Blainville	.1.....1.....
Stylophora prostrata Klunzinger	.1.....
Stylophora septata Gardiner	.....1.....
Stylophora subseriata (Ehrenberg)	1.....11....1..1.....
Stylophora welsii Scheer	1111.....
Stylophora kuehlmanni Scheer & Pillai	1.....
Stylophora mamillata Scheer & Pillai	1.....
Seriatopora caliendrum Ehrenberg	1111..1.....1.....1....1
Seriatopora crassa Quelch	.....1..
Seriatopora hystrix Dana	1.11....1111....1.1..1.1
Seriatopora angulata Klunzinger	.1.....1..1..1..1.1...
Seriatopora spinosa Edwards & Haime	11.....
Seriatopora stellata Quelch	.....1..1..
Seriatopora stricta Brueggemann	.....1.....
Seriatopora octoptera Ehrenberg	1.....
Pocillopora ankeli Scheer & Pillai	.....1..
Pocillopora clavaria Ehrenberg	.....1.....

Pocillopora damicornis Linnaeus	111111..11111111111111.1
Pocillopora acuta Lamarck	..............1.....
Pocillopora brevicornis (Lamarck)	.........1..1...11111..
Pocillopora bulbosa Ehrenberg	.........11.....
Pocillopora cespitosa Dana	.........1.....111....
Pocillopora favosa Ehrenberg	.........1.........1..1.
Pocillopora eydouxi Edwards & Haime	.........1.11111111.111.1
Pocillopora grandis Dana	.........1.....111....
Pocillopora informis Dana	.........1...1.....
Pocillopora ligulata Dana	.........1....11.....
Pocillopora mauritiana Brueggemann	..............1.....
Pocillopora meandrina Dana	..............1.....1.1
Pocillopora molokensis (Ellis & Solander)	.....1.1.....
Pocillopora verrucosa Ellis & Solander	1.11..1.111.1.11111111.1
Pocillopora danae Verrill	.1.....11.1.1.111....
Pocillopora elegans Dana	.........1..1....1.1...
Pocillopora hemprichi Ehrenberg	11.....
Pocillopora woodjonesi Vaughan	.....1...
Madracis kirbyi Veron & Pichon	....11.....1.....1
Acropora aculeus (Dana)	.....1.....1
Acropora elegantula (Ortmann)	.....1.....
Acropora acuminata (Verrill)	1
Acropora alces Brueggemann	.....1....
Acropora anthoceris (Brook)	.....1.....
Acropora appressa (Ehrenberg)	.....1.....
Acropora aspera (Dana)	.....1.....1
Acropora cribripora (Dana)	.....1.
Acropora hebes (Dana)	.....111.
Acropora attenuata (Brook)	.....1.....
Acropora austera (Dana)	1.11.....1
Acropora brueggemanni (Brook)	.....11..1.....
Acropora bushyensis=turbicinaria(Dana)	.....1.....
Acropora carduus (Dana)	1
Acropora capillaris (Klunzinger)	11.....
Acropora cerealis (Dana)	.....1....11....1
Acropora hystrix (Dana)	.....1.....
Acropora tizardi (Brook)	.....1.....
Acropora ceylonica (Ortmann)	.....1.....
Acropora cervicornis (Lamarck)	.....1...1.....
Acropora clathrata (Brook)	1.11..1.1.....111....1
Acropora complanata (Brook)	.....1..1.....
Acropora orbicularis (Brook)	.....1.....
Acropora vasiformis (Brook)	.....1.....1.....
Acropora corymbosa (Lamarck)	11.....11.1111.1111...
Acropora cuneata (Dana)	.....1..1.....
Acropora cytherea (Dana)	1.11....1...1....1.....1
Acropora arcuata (Brook)	.....1.....
Acropora efflorescens (Dana)	.....111.....1..
Acropora symmetrica? (Brook)	.....1.....1.....
Acropora reticulata (Brook)	.....1.1.111111....

Acropora danai (Edwards & Haime)	1.11.....1.1....111...1
Acropora abrotanoides (Lamarck)	.............111.....
Acropora irregularis (Brook)	........11.1...1..1.1...
Acropora rotumana (Gardiner)	........1.1....1........
Acropora dendrum Bassett-Smith	1
Acropora digitifera (Dana)	1.11.....11.1.1.1.....1
Acropora baeodactyla (Brook)	.........1........11....
Acropora brevicollis Brook	..................1....
Acropora effusa (Dana)	.............1.........
Acropora leptocyathus (Brook)	.........1.............
Acropora divericata (Dana)	1
Acropora complanata (Brook)	.............1........
Acropora donei Veron & Pichon	1
Acropora dumosa Brook)	..................1..
Acropora echinata (Dana)	..........1...11.......1
Acropora procumbens (Brook)	..................1..
Acropora effluens (Dana)	.............1........
Acropora elseyi (Brook)	.............1........
Acropora exilis (Brook)	.........1.............
Acropora eurystoma (Klunzinger)	11.........1..11.......
Acropora flabelliformis Edwards & Haime	..................1....
Acropora florida (Dana)	........1.............1
Acropora gravida (Dana)	.........1........1..1..
Acropora formosa (Dana)	1.11....1....1111...11.1
Acropora arbuscula (Dana)	..........1.....1.11.1..
Acropora exigua? (Dana)	.............1..........
Acropora multiformis (Ortmann)	..............1..........
Acropora virgata (Dana)	..................1..
Acropora forskalii (Ehrenberg)	1.......1.....11........
Acropora gemmifera (Brook)	1
Acropora glochiclados (Brook)	...........1....1.......
Acropora gonagra (Edwards & Haime)	................11....
Acropora grandis (Brook)	1.11.............1....1
Acropora granulosa (Edwards & Haime)	11.........1....1......
Acropora eibli Pillai & Scheer	.............1........
Acropora massawensis Marenzeller	........1..............
Acropora hemprichi (Ehrenberg)	11......1....111.111....
Acropora horrida (Dana)	1
Acropora tylostoma Ehrenberg	................1.....
Acropora humilis (Dana)	1111....1.1.11111111.1.1
Acropora calamaria (Brook)	................1......
Acropora erythraea (Klunzinger)	.........1...1.1..1.....
Acropora obscura (Brook)	.............1..........
Acropora ocelata (Klunzinger)	........11.........1...
Acropora paxilligera (Dana)	..................1.
Acropora pyrimidalis (Klunzinger)	................1.....
Acropora scherzeriana Brueggemann	................1.1...
Acropora seriata (Ehrenberg)	.............1....11..1.
Acropora spectabilis (Brook)	.........1.............

Acropora hyacinthus (Dana)	1111....111.11111111.1.1
Acropora conferta (Brook)	.............1...11....
Acropora pectinia (Brook)	.........1..........
Acropora recumbens (Brook)	.........11..........
Acropora spicifera (Dana)	.........11.111......1...
Acropora surculosa (Dana)	.............1.1.1....1.
Acropora indica (Brook)	.........1...11.....
Acropora latistella (Brook)	1
Acropora patula (Brook)	.........1..........
Acropora listeri (Brook)	1
Acropora loripes (Brook)	.1.......1.....1
Acropora murrayensis Vaughan	..............1.....
Acropora squarrosa (Ehrenberg)	1.............11.....
Acropora longicyathus (Edwards & Haime)	.........1......1......1
Acropora rosaria (Brook)	............1.....
Acropora lovelli Veron & Wallace	1
Acropora lutkeni Crossland	1
Acropora microphthalma (Verrill)	1
Acropora monticulosa (Brueggamann)	...........1..1.......1
Acropora multiacuta Nemenzo	.....1..
Acropora muricata (Lamarck)	..............1.....
Acropora nana (Studer)	.....1...
Acropora nasuta (Dana)	1111.....1.....1
Acropora cymbicyathus (Brook)	..............1.....
Acropora disticha Brook	..............1.....
Acropora quelchi (Brook)	..............1.....
Acropora nobilis (Dana)	1.11.........1.......1.1
Acropora intermedia (Brook)	........11...111.....
Acropora oligocyathus (Brook)	..............1.....
Acropora palifera (Lamarck)	........1111..111...11..
Acropora pharaonis Edwards & Haime	1....11.1.1.1111.1111...
Acropora pustulosa (Edwards & Haime)	.....1....
Acropora scandens (Klunzinger)	.1.....
Acropora polymorpha (Brook)	.........1..11.....
Acropora polystoma (Brook)	1.1......1.......11.....
Acropora pruinosa (Brook)	.....1..
Acropora pulchra (Brook)	.........1.......1..1..1
Acropora rambleri Bassett-Smith	.........1....1......1..
Acropora robusta (Dana)	1..1.....1
Acropora conigera (Dana)	........1......1.....
Acropora decipiens Brook	.........11.....
Acropora palmerae Wells	..............1.....1
Acropora pinguis Wells	..........1.........11..
Acropora smithi (Brook)	.....1..
Acropora samoensis (Brook)	1
Acropora schmitti Wells	.....1...
Acropora secale (Studer)	1.1.....1....1.......1.1
Acropora diversa (Brook)	........11.1.1..1....1..
Acropora plantaginea (Lamarck)	............1.....1....
Acropora selago (Studer)	............1.........1
Acropora deliculata (Brook)	.........1.....
Acropora stigataria Edwards & Haime	..............1.....
Acropora stoddarti Scheer & Pillai	1.11..........1.....

Acropora subglabra (Brook)	1
Acropora syringoides (Brook)	.....1.111.1..
Acropora tenuis (Dana)	.....1.....1
Acropora africana (Brook)	.....1...1.....
Acropora kenti (Brook)	.....1.....
Acropora macrostoma (Brook)	.....1.....1.....
Acropora teres Verrill	.....1.....
Acropora thurstoni (Brook)	.....1.....
Acropora tuburculosa Edwards & Haime	.....1.....
Acropora valenciennesi (Edwards & Haime)	1....11.....1.....
Acropora multicaulis (Brook)	.....1....1.....
Acropora valida (Dana)	1.11.11.....1.1.1....11
Acropora concinna (Brook)	.....1.....1..1.....
Acropora rousseauii Edwards & Haime	.....1.....1.....
Acropora variabilis (Klunzinger)	11.....1..11..111..11..
Acropora vaughani Wells	1.1.....1
Acropora verweyi Veron & Wallace	1
Acropora yongei Veron & Wallace	1111.....
Acropora haimei Edwards & Haime	1.....1111.11....
Montipora aequituberculata Bernard	.....11.....1
Montipora composita Crossland	.1.....1.....1..
Montipora erythraea Marenzeller	.1.....1..1....11.....
Montipora verrilli Vaughan	1.....1...1.....
Montipora alveopora Bernard	.....1.....
Montipora angulata (Lamarck)	1
Montipora cocosensis Vaughan	.....11..
Montipora circumvallata (Ehrenberg)	11.....1.....
Montipora abrotanoides (Audouin)	....1.....
Montipora crassituberculata Bernard	1
Montipora culiculata Bernard	.....1.....
Montipora danae Edwards & Haime	1111.....1.....
Montipora brueggemanni Bernard	.....1.....
Montipora meandrina (Ehrenberg)	11.....1.....
Montipora rus (Forskal)	.....1.....
Montipora tuberculata? (Lamarck)	.....1.....
Montipora digitata (Dana)	.....1.....11.1
Montipora divericata Brueggemann	.....1.....1....
Montipora levis Quelch	.....1...
Montipora ramosa Bernard	.....1.....1...
Montipora tortuosa (Dana)	.....1...
Montipora edwardsi Bernard	1.....1.11..11.1....
Montipora cf efflorescens Bernard	.....1.....
Montipora effusa (Dana)	1.....1...1.....
Montipora ehrenbergi Verrill	11.....
Montipora elscheri Vaughan	.....1.1.....
Montipora explanata Brueggemann	.....1....11....
Montipora explanulata Bernard	.....1.....
Montipora exserta (Quelch)	.....1.....
Montipora flabellata Studer	.....1.....
Montipora floweri Wells	1.11.....1.....

Montipora foliosa Pallas	........111..1.1.11111..
Montipora prolifera Brueggemann	............1..1........
Montipora pulcherrima Bernard	..............1........
Montipora foveolata Bernard	................1......1
Montipora socialis Bernard	........11..............
Montipora friabilis Bernard	.........1..............
Montipora gracilis Klunzinger	1.......................
Montipora granulosa (Bernard)	1............1..........
Montipora hispida (Dana)	................1......1
Montipora expansa Dana	..................1.1...
Montipora patula Verrill	.........1..............
Montipora punctata Bernard	..........1............
Montipora informis Bernard	..........1.11.1.1..11..
Montipora granulata Bernard	11......................
Montipora lichen Dana	..................1....
Montipora maldivensis Pillai & Scheer	..............1........
Montipora manauliensis Pillai	............1..........
Montipora millepora Crossland	..................1.....
Montipora subtilis? Bernard	............1...1......
Montipora monasteriata (Forskal)	11...1.......1.........1
Montipora fungiformis Bernard	.........1..............
Montipora incrustans Brueggemann	..................1....
Montipora languinosa Bernard	..................1.....
Montipora verrucosa (Lamarck)	11......111111..111....1
Montipora mollis Bernard	1.1...................1
Montipora paupera Mamen.	.........1..............
Montipora peltiformis Bernard	....................1.1
Montipora perforata Bernard	..................1....
Montipora sinuosa Pillai & Scheer	..............1........
Montipora spongiosa (Ehrenberg)	11...........1..........
Montipora spongodes Bernard	............1.........1
Montipora spumosa (Lamarck)	1........1...1......1..1
Montipora guppyi Bernard	..................1.....
Montipora lobulata Bernard	11..1...........1.1.1...
Montipora stellata Bernard	1.11.11.........1.......
Montipora solanderi? Bernard	................111....
Montipora stylosa (Ehrenberg)	11...............1.....
Montipora suvadivae Pillai & Scheer	..............1........
Montipora tenuissima Bernard	................1.......
Montipora tuberculosa (Lamarck)	11.......1.111..1111....
Montipora mammifera Bernard	..................1.....
Montipora sinensis Bernard	..............1........
Montipora turgescens Bernard	............1.......1..
Montipora undata Bernard	..................1.....
Montipora venosa (Ehrenberg)	11....11.....1...1...1..
Anacropora forbesi Ridley	....................1...
Astreopora expansa Brueggemann	..............1.......
Astreopora gracilis	..............1........
Astreopora listeri Bernard	.........11.1..11....1..
Astreopora horizontalis Bernard	........1........1......
Astreopora mortonensis Veron & Wallace	1

Astreopora myriophthalma (Lamarck)	111..1..11.1.1.111111..1
Astreopora incrustans?	.....1.1.....
Astreopora profunda Verrill	.....1.....1.....
Astreopora ocellata Bernard	.....111.....
Pavona acuticarinata (Umbgrove)	.....1.....
Pavona cactus (Forskal)	111111...11.1...11111..1
Pavona danai	.....11.1....1.11...
Pavona praetorta (Dana)	....1....1.1.....1..1..
Pavona venusta (Dana)	....1.....
Pavona clavus (Dana)	11.....11.1..11111.1.1
Pavona duerdeni (part) Vaughan	.....111.....
Pavona clivosa Verrill	.....1.1....1.....
Pavona decussata (Dana)	1111....1.1..1...11.1..1
Pavona crassa (Dana)	.....1.
Pavona lata Dana	.....1111.
Pavona seriata Brueggemann	.....1.....
Pavona diffluens (Lamarck)	....1.....
Pavona divericata Lamarck	11.....111..1...111....
Pavona duerdeni (part) Sheer & Pillai	1.11.....1.....1.....1..
Pavona cf. explanulata (Lamarck)	1111111..11111.11111.1.1
Pavona frondifera Lamarck	.....1.11....111.....
Pavona maldivensis (Gardiner)	1111....1..1111111..11.1
Pavona pollicata Wells	.....1.1.....
Pavona minor Brueggemann	.....1.....
Pavona minuta Wells	.....1.....1
Pavona varians (Verrill)	11111...11111111111111.1
Pavona venosa (Ehrenberg)	1.1...1.....1
Pavona obtusata (Quelch)	.....1.....11.....
Pavona xarifae Scheer & Pillai	.....1..
Gardineroseris planulata (Dana)	1.11..1.1..1...111.....1
Gardineroseris ponderosa (Gardiner)	.....1..
Agariciella minikoiensis (Gardiner)	.....1.....
Agaricia ponderosa Gardiner	.1.....11.....111....
Pavona planulata (Dana)	.....1.....
Pavona ponderosa (Gardiner)	.....1.....
Coeloseris mayeri Vaughan	.....1.....1.1
Pachyseris rugosa (Lamarck)	11.....11.1..11...1.1
Pachyseris valenciennesi Ed. & Haime	.1.....1.1.....
Pachyseris speciosa (Dana)	1111....111.1..11111.111
Pachyseris levicollis (Dana)	.....1...11.1..1..
Leptoseris explanata Yabe & Sugiyama	11.....1
Leptoseris fragilis Edwards & Haime	11.....1.1...1..
Leptoseris gardineri Horst	1.....1.....1
Pavona gardineri (Horst)	11.....1...1.....
Leptoseris hawaiiensis Vaughan	1.11.....11.1...111..1.1
Leptoseris tubulifera Vaughan	.1.....1.....
Leptoseris incrustans (Quelch)	.....11....11111....
Leptoseris mycetoseroides Wells	1111.1...111....111....1

Leptoseris papyracea (Dana)	.....1.1.....1.1
Leptoseris digitata Vaughan	.....1.....1.....
Leptoseris scabra Vaughan	1.11.....1....111.....1
Leptoseris columna Yabe & Sugiyama	.....1.....1.....
Leptoseris regularis (Quelch)	.....1.....
Leptoseris solida	.....1.....
Leptoseris porosa (Quelch)	.....1.....
Leptoseris tenuis Horst	1.1..1.....
Leptoseris foliosa Dinesen	.....1.....1
Leptoseris yabei (Pillai & Scheer)	1.11.....
Pavona yabei Pillai & Scheer	11.....1.....
Siderastrea savignyana Edwards & Haime	1.11111.....11.....1..
Siderastrea lilacea	.1.....1.....1.....1.
?*Siderastrea radians* (Pallas)	.....11..1.....
?*Siderastrea siderea* Ellis & Solander	.....1.....
Pseudosiderastrea tayamai Yabe & Sug.	....111...1.....1
Anomastrea irregularis Marenzeller	....111.11.....
Coscinaraea columna (Dana)	.....1..1111...11.1...1
Coscinaraea monile (Forskal)	111111111111.1.11111..11
Coscinaraea donnani Gardiner	.....1.....1.....
Coscinaraea ostraeformis Horst	.....1.....
Coscinaraea wellsi Veron & Pichon	.....1.....1
Craterastrea levis Head	1.....1.....
Horastrea indica Pichon	.....11.....11.....
Cycloseris cooperi (Gardiner)	.....1.....
Cycloseris costulata Ortmann	11.....1..11.11.....1
Cycloseris cyclolites (Lamarck)	1.....11.1...111.1.1
Cycloseris doederleini (Marenzeller)	11.....
Cycloseris erosa Doederlein	11.....1.....
Cycloseris hexagonalis Edwards & Haime	.....1.....1..
Cycloseris marginata (Boschma)	.....1....1.1
Cycloseris mycoides Alcock	.....1..
Cycloseris patelliformis (Boschma)	11.....1...1....1...1..
Cycloseris somervillei (Gardiner)	.....1...1.1.1..11.
?*Cycloseris sinensis* Edwards & Haime	.....1.....
Cycloseris tenuis Dana	.....1.....
Cycloseris vaughani (Boschma)	1.11.....1.....
Diaseris distorta (Michelin)	11.....1111.1.11....1.1
Diaseris fragilis Alcock	.....1.....1..
Heliofungia actiniformis (Quoy & Gaimard)	.....1.....

Fungia (Fungia) fungites (Linnaeus)	1111....11111.11111111.1
Fungia agariciformis Lamarck	.....1.....
Fungia haimei Verrill	.....1....
Fungia patella (Ellis & Solander)	.....1.....
Fungia (Danafungia) corona Doderlein	1.1.....1....11.
Fungia (Danafungia) danai Edwards & Haime	1.....1.11111111.1..
Fungia (Danafungia) horrida Dana	111.....11.....1....1..
Fungia (Danafungia) klunzingeri Doderlein	111.....
Fungia (Danafungia) scruposa Klunzinger	11.....1.....
Fungia (Danafungia) subrepanda Doderlein	.....1..
Fungia (Danafungia) valida Verrill	1.1.....1.....1.....1
Fungia (Danafungia) madagascarensis Ver.	.....1.....
Fungia (Ctenactis) echinata (Pallas)	11.....1.1.....111
Fungia (Verrillofungia) concinna Verrill	1.....1.....1....1.1
Fungia (Verrillofungia) plana (Studer)	.....1.....
Fungia (Verrillofungia) fieldi Gardiner	.....1.....
Fungia (Verrillofungia) granulosa Klunz.	111.....1.....1
Fungia (Verrillofungia) repanda (Dana)	1.....1.1.11.11.....1
Fungia (Verrillofungia) samboangensis V.	.....1.....
Fungia (Pleuractis) moluccensis Horst	11.....1
Fungia (Pleuractis) paumotensis Stuchbury	1.1.....11.....1...1.1
Fungia (Pleuractis) scutaria Lamarck	1111....11111111111.11.1
Fungia dentigera Leuckart	.....1....
Herpetoglossa simplex (Gardiner)	1.11.....11....1.1
Herpolitha limax (Hottuyn)	1111....111111.111111111
Herpolitha weberi (Horst)	.....1.....1
Halomitra pileus (Linnaeus)	.....1...1.....1
Halomitra philippinensis Studer	.....1.1....1.....
Polyphyllia talpina (Lamarck)	.....11....111
Podabacia crustacea (Pallas)	1111....1111.111111....1
Sandalolitha robusta Quelch	.....1.1.....1
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Lithophyllon edwardsi (Rousseau)	1
Porites australensis Vaughan	.....1.....1.....
Porites fragosa (Dana)	.....1.....
Porites cocosensis Wells	.....1.....1...
Porites columnaris Klunzinger	1.....1.....
Porites compressa Dana	1...1..1.1...1.....
Porites cribripora Dana	.....1.....
Porites cylindrica Dana	1
Porites andrewsi Vaughan	1.....11111.111.1.....
Porites levis Dana	.....1...
Porites echinulata Klunzinger	11.....1.....
Porites exserta Pillai	.....1.....
Porites faustinoi Hoffmeister	.....1.....1.....

Porites gaimardi Edwards & Haime	.....1.....
Porites gibsonhilli Wells	.....1...
Porites lichen Dana	1.11.....11.1.11.1.1...
Porites viridis Gardiner	.....1.....
Porites lobata Dana	1.1.....11..1.....1..1.1
Porites lutea Edwards & Haime	1111111.11.111111111.1.1
Porites arenosa (Esper)	.....1.....1.1....
Porites somaliensis Gravier	.....1.1..11.11111...
Porites mannarensis (Pillai)	.....1.....
Porites mauritiensis Bernard	.....1..1.....
Porites mayeri Vaughan	11.....
Porites minicoyensis Pillai	.....1.....
Porites mordax Dana	.....1.....
Porites murrayensis Vaughan	....1...1.....1.....1.1
Porites nigrescens Dana	1.11..1.11111...111.1..1
Porites suppressa Crossland	.....1..
Porites nodifera Klunzinger	1...1.1.....1.....
Porites nodulosa Verrill	.....1.....
Porites palmata Dana	.....11.....
Porites profundus Rehberg	.....1.....
Porites pukoensis Vaughan	.....1.....1.1....
Porites punctata (Klunzinger)	1.....11.1.....
Porites seychelles 1 Barnard	.....1.....
Porites solida (Forskal)	1....11..11..111111111..
Porites alveolata Edwards & Haime	.1.....1.1.....
Porites stephensoni Crossland	1.1.....1
Porites studeri Vaughan	11.....
Porites thurstoni Pillai	.....1.....
Porites vaughani Crossland	1
Porites (S) rus (Forskal)	1.11.....1
Porites (S) iwayamaensis Eguchi	1.....11....1111....
Porites (S) convexa Verrill	.....1....1.1.....
Porites (S) danai Ellis & Solander	.....1....111....
Porites (S) monticulosa (Dana)	.....1.....
Porites (S) undulata	11.....1.....
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Goniopora pulvinula Wells	.....1.....
Goniopora fruiticosa Saville-Kent	1
Goniopora gracilis (Edwards & Haime)	.....1.....
Goniopora granulosa Pillai & Sheer	.....1.....
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Goniopora parvistella Ortman	.....1.....
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Alveopora simplex	.....1.....
Alveopora spongiosa Dana	1.1.....1
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Favia fragum (Esper)	.....1.....
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Goniastrea paulauensis (Yabe et al)	.....1....11.....1
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Platygyra daedalea (Ellis & Solander)	1.11111111111...1111...1
Platygyra astreiformis (Ed. & Haime)	.....1.....
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Platygyra lamellina (Ehrenberg)	1111..1.111111111111.11.
Platygyra subdentata Edwards & Haime	.1.....
Platygyra pini Chevalier	1
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Platygyra ryukyuensis (Yabe & Sugiyama)	.....1.....
Favia sinensis (Edwards & Haime)	.....1.....
Platygyra verweyi Wijsman Best	1
Leptoria phrygia Ellis & Solander	1111..1.11111111111111.1
Oulophyllia crispa (Lamarck)	1.11....111.1..11111...1
Oulophyllia aspera Quelch	.....1.....1..1..1..
Montastrea annuligera (Edwards & Haime)	.....1..1....1.....

Montastrea aperta (Verrill)	.....1.....
Montastrea curta (Dana)	1.11.....1.....111....1
Montastrea magnistellata Chevalier	1.1.....1.....1
Montastrea valenciennesi Edwards & Haime	.....1.....1
Oulastrea crispata Lamarck	.....1.1
Plesiastrea versipora (Lamarck)	1.11111...111111111111.1
Plesiastrea mammillosa (Klunzinger)	.1.....
Plesiastrea urveilli Edwards & Haime	.....1.....
Diploastrea heliopora (Lamarck)	1.11.....111.111....1.1
Leptastrea bottae (Edwards & Haime)	111.....111...11111.1...
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Leptastrea solida Edwards & Haime	.....1.....
Leptastrea pruinosa Crossland	1
Leptastrea purpurea (Dana)	1111111.1.11111111111..1
Leptastrea ehrenbergana Edwards & Haime	.....1.....1.....
Leptastrea transversa Klunzinger	1111.11.....1111111.111
Cyphastrea chalcidicum (Forskal)	1111....1111.1.11.1.1..1
Cyphastrea microphthalma (Lamarck)	111111..1.1.11.1111111.1
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Echinopora hirsutisima Edwards & Haime	1.1.....1...1..11.....
Echinopora horrida Dana	1.1.....1
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Echinopora concinna Vaughan	.....1.....
Echinopora mammiformis (Nemenzo)	1.1.....
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Trachyphyllia geoffroyi (Audouin)	11.....1.1.1..1.....1.1
Galaxea cf. astreata (Lamarck)	1.1..1.....1.....1
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Galaxea lamarki Edwards & Haime	.....1.....
Galaxea fascicularis (Linnaeus)	1111..1.1111.1111111.111
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Merulina ampliata (Ellis & Solander)	1111....111.11111....111
Merulina speciosa Verrill	1
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Scapophyllia cylindrica Edwards & Haime	.....1.1
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Hydnophora exesa (Pallas)	1.111111111111.1111111.1
Hydnophora contignatio (Forskal)	.1.....1.....
Hydnophora grandis Gardiner	.....1.1.....
Hydnophora tenella Quelch	.....1.....
Hydnophora microconos (Lamarck)	1111.11.111111111111111
Hydnophora rigida (Dana)	.....1.....1
Merulina laxa Dana	.....1..
Blastomussa loyae Head	111.....1.....
Blastomussa merletti (Wells)	1111111...11....1.....
Blastomussa wellsi Wijsman Best	11.....
Cynarina lachrymalis (Edwards & Haime)	11.....1.11.1.....1
Scolymia vitiensis Bruegemann	.....1....1111.....
Acanthastrea angulosa=bowerbanki (E & H)	.....11.1....
Acanthastrea echinata (Dana)	1111111.1111..111111...1
?Acanthastrea irregularis Quelch	.....1.....
Acanthastrea maxima Sheppard & Salm	.....11.....
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Symphyllia agaricia Edwards & Haime	.....1.....111
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Symphyllia nobilis (Dana)	.....1...1...11.....
Symphyllia simplex Crossland	.....1.....
Symphyllia valenciennesii Edwards & Haime	1.1.....1...1.....1.
Symphyllia hassi Pillai & Scheer	.....1.....
Lobophyllia corymbosa (Forskal)	1111.....11111111111.11.
Lobophyllia fistulosa (Edwards & Haime)	.....1.....
Lobophyllia diminuta Veron	1
Lobophyllia hataii Yabe et al	1.1.....1.....1
Lobophyllia hemprichii (Ehreberg)	1111....11111..11111...1
Lobophyllia costata (Dana)	.....111.1..11.1...1.
Lobophyllia pachysepta Chevalier	1.....
Australomussa rowleyensis Veron	1
Echinophyllia aspera (Ellis & Solander)	1111111.11111..11111..11
Physophyllia ayleni? Wells	.....1.....
Echinophyllia echinata (Saville-Kent)	1.11.....
Oxypora lacera (Verrill)	1111.1..111....11111...1
Mycedium elephantotus (Pallas)	1.11....1.1.1...1.1....1
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Mycedium tubifex (Dana)	.1.....11.1.1.....11.
Pectinia alcicornis (Saville-Kent)	.....1.....1
Pectinia lactuca (Pallas)	.....1.11...1.1...111

Pectinia paeonia (Dana)	1
Pectinia teres Nemenzo	1
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Euphyllia fimbriata (Spengler)	.....1.....1.
Euphyllia (E) glabrescens (Cham. & Eys.)	11.1..1.....1111..1..111
Euphyllia turgida (Dana)	.....1.....
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Plerogyra sinuosa (Dana)	1111....1.1....11.1..1.1
Physogyra lichtensteini (Edwards & Haime)	1.....1.111..11.....1
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Catalaphyllia jardinei (Saville Kent)	.....1..1.....
Catalaphyllia plicata (Edwards & Haime)	.....1.....
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Turbinaria frondens (Dana)	1.1.....1....1.....1
Turbinaria magna Bernard	.....1.....
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Turbinaria marmorea Rehb.	.....1.....
Turbinaria mesenterina (Lamarck)	11.....111.11.11111...1
Turbinaria mollis Bernard	.....1..
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Turbinaria reniformis Bernard	1.1.....
Turbinaria veluta Bernard	.....1..
Turbinaria stellulata (Lamarck)	1.1.....1.....1
Turbinaria globularis Bernard	.....1.....
Turbinaria stephensoni Crossland	.....1.....
Heteropsammia cochlea (Spengler)	....11.....11.....1
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Heteropsammia geminata Verrill	.....1..
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