The Coral Book

CIBJO Coral Commission 2020-12-22



THE BLUE BOOKS

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Foreword

CIBJO is the French acronym for the Confédération Internationale de la Bijouterie, Joaillerie, Orfèvrerie, des Diamants, Perles et Pierres, which in English translates to the International Confederation of Jewellery, Silverware, Diamonds, Pearls and Stones (normally shortened to the International Jewellery Confederation). Founded in 1926 as BIBOAH, a European organisation whose mission was to represent and advance the interests of the jewellery trade in Europe, it was reorganised in 1961 and renamed CIBJO, in 2009 it was once again reorganised and officially named "CIBJO, The World Jewellery Confederation". Today CIBJO, which is domiciled in Switzerland, is a non-profit confederation of national and international trade associations including commercial organisations involved in the jewellery supply chain. It now has members from countries representing all five continents of the world. CIBJO printed its first deliberations on terminology and trade practices in 1968.

It is the task of CIBJO to record the accepted trade practices and nomenclature for the industry throughout the world. The records of the trade practices complement existing fair trade legislation of a nation or in the absence of relevant national laws they can be considered as trading standards. In countries where laws or norms exist, which conflict with the laws, norms or trade practices in other countries, CIBJO will support the national trade organisations to prevent trade barriers developing. The purpose of CIBJO is to encourage harmonisation, promote international co-operation within the jewellery industry, consider issues which are of concern to the trade worldwide and to communicate proactively with members. Foremost amongst these the aim is to protect consumer confidence in the industry. CIBJO pursues all of these objectives through informed deliberation and by reaching decisions in accordance with its Statutes. CIBJO relies upon the initiative of its members to support and implement its standards, and to protect the trust of the public in the industry.

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

The work of CIBJO is accomplished through Committees, Commissions and Sectors. Committees and Commissions consider standards for use in the jewellery supply chain. Sectors represent levels of trade in the jewellery industry. Sectors and commissions advise the Executive Committee on current trade practices and issues that affect the jewellery industry.

Three independent sectors exist within the confederation:

Sector A — The Products Sector

Sector B — The Supply Chain Sector

Sector C — The Service Sector

The Executive Committee may appoint Commissions that consider detailed issues. At present these are:

Coloured Stone

Coral

Diamond

Ethics

Gemmological

Pearl

Marketing & Education

Precious Metals

Responsible Sourcing

The Commissions for Coral, Diamonds, Gemstones, Pearls and Precious Metals have collated the guidelines, which present the accepted trade practices for applying descriptions to these materials. It is in the best interest of all those concerned to be aware of them.

The Sectors and Commissions will propose changes in the standards, also known as the Blue Books, to the Executive Committee. After review the Executive Committee will submit the accepted proposals for adoption to the Board of Directors and if approved they will notify the assembly of delegates of the changes at the annual congress. Furthermore, it is our mutual responsibility to support these recommendations, which concern all professional people connected with coral, diamonds, gemstones, pearls and precious metals. CIBJO Standards are subject to government regulations in the respective jurisdictions of CIBJO members.

The national umbrella organisation for each country represents, in principle, all the national trade organisations involved in the sectors mentioned above. This democratic structure, which has contributed to CIBJO's world-wide recognition also includes international trade and commercial organisations, it provides an international forum for the trade to collectively draw attention to issues and implement resulting decisions.

CIBJO Secretariat:

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Background:

CIBJO's status on the Economic and Social Council of the United Nations (ECOSOC) enables it to represent the jewellery industry and present its strategy and objectives in support of the UN development goals. CIBJO's strategy in this respect is multi-layered. It serves to protect its constituents from factors that threaten the confidence of consumers in the jewellery industry, as well as factors that threaten the confidence of consumers in the jewellery product itself, and at the same time promote the jewellery industry, which creates

sustainable economic and social opportunity in the countries and regions in which it is active.

The harmonisation of industry standards is a critical element of CIBJO's mission and stands at the heart of its effort to protect the confidence of consumers in the jewellery product itself. To advance the goal of universal standards and terminology in the jewellery industry, CIBJO developed its "Blue Book" system, which involves a definitive set of standards for the grading, methodology and nomenclature of diamonds, coloured gemstones, pearls and other organic materials, precious metals and gemmological laboratories.

Introduction

This CIBJO Coral guide is designed to assist all those involved with coral and artificial products, by recording the accepted trade practices and nomenclature for the industry throughout the world.

The standard/rules are non-judgmental and the definitions and clauses contained herein are designed to prevent unfair or deceptive trade practices, they are formatted and worded to ensure that each gemstone and artificial products bought or sold is done with clarity and honesty. The stability of the market place depends up on the use of the proper nomenclature and the declaration of all known facts that ensure a fully informed purchase or sale, throughout the distribution pipeline all the way to the final consumer.

The following definitions apply in understanding how to implement CIBJO Blue Books and some of its normative references, e.g. when applicable ISO standards.

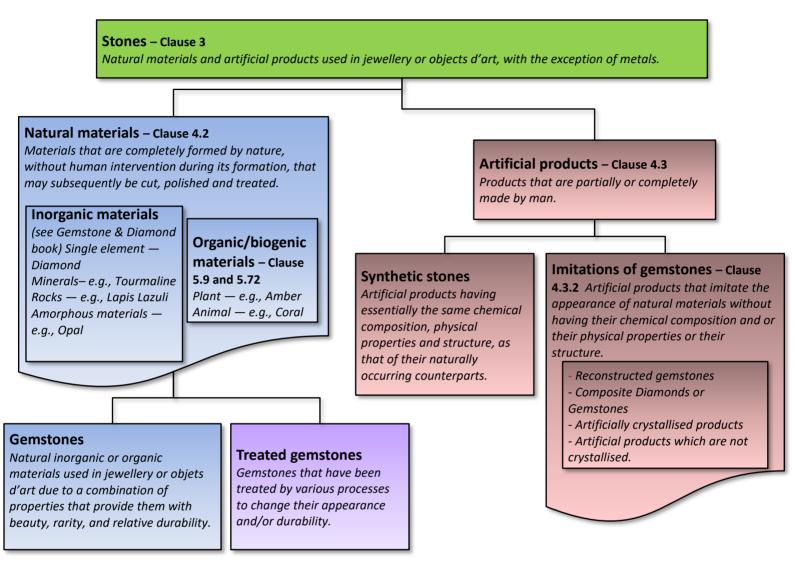
- "shall" indicates a requirement;
- "should" indicates a recommendation;
- "may" is used to indicate that something is permitted;
- "can" is used to indicate that something is possible.

The Scope (1) of the guide is set out, as are the Normative References (2). The Terms and Definitions (5) are expansive and are extensively cross referenced throughout the Classifications of Materials (3), Normative Clauses (4), Annex A Coral care requirements (6), Annex B Normative trade codes (7), Annex C Coral taxomony chart (8), Annex D Coral descriptions and definitions (9), Annex E Washington Conventions Cites (1), Annex F Coral sustainability and regulations for harvesting (2) and Annex G Geographic locations of precious coral harvesting (3). It is important that the reader refers to the relevant Terms and Definitions (5) when consulting each Normative Clause.

The CIBJO Coral Commission

April 2020

Gemstone, organic/biogenic materials and artificial product chart



CORAL AND ARTIFICIAL PRODUCTS — TERMINOLOGY AND CLASSIFICATION

1. Scope

The terminology and classification of coral (5.27) and artificial products (5.5) are established with reference to commercial usage, in conformity with the classifications and practices of the coral, artificial product and jewellery trades. It shall be used by all traders participating as members of CIBJO member organisations within all member nations.

NOTE — CIBJO recognises that its standards are subject to government regulations in the respective jurisdiction of CIBJO members. In the event there are no government regulations in a member's country, the local industry regulation will take precedence as long as it is stricter.

2. Normative references

The following references are useful for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced guides (including any amendments) applies.

The Diamond Book, *CIBJO*, International Confederation of Jewellery, Silverware, Diamonds, Pearls and Stones), the World Jewellery Confederation, Viale Berengario, 19, 20149, Milano, Italy. <u>cibjo@cibjo.org.</u>

The Gemmological Laboratory Book, *CIBJO*, International Confederation of Jewellery, Silverware, Diamonds, Pearls and Stones), the World Jewellery Confederation, Viale Berengario, 19, 20149, Milano, Italy. cibjo@cibjo.org.

The Gemstone Book, *ClBJO*, International Confederation of Jewellery, Silverware, Diamonds, Pearls and Stones), the World Jewellery Confederation, Viale Berengario, 19, 20149, Milano, Italy. <u>cibjo@cibjo.org.</u>

The Pearl Book, *CIBJO* (International Confederation of Jewellery, Silverware, Diamonds, Pearls and Stones), the World Jewellery Confederation, Viale Berengario, 19, 20149, Milano, Italy. cibjo@cibjo.org.

The Precious Metal Book, *CIBJO* (International Confederation of Jewellery, Silverware, Diamonds, Pearls and Stones), the World Jewellery Confederation, Viale Berengario, 19, 20149, Milano, Italy. cibjo@cibjo.org.

The Responsible Sourcing Book, *CIBJO* (International Confederation of Jewellery, Silverware, Diamonds, Pearls and Stones), the World Jewellery Confederation, Viale Berengario 19, 20149, Milano, Italy. cibjo@cibjo.org

Convention on International Trade in Endangered Species of Wild Fauna and Flora, Appendices I, II and III valid from 10 March 2016. International Environment House • Chemin des Anémones • CH-1219 Châtelaine, Geneva, Switzerland, info@cites.org.

WORMS - World Register of Marine Species - a taxonomically oriented database which aims to provide an authoritative, permanently updated account of all molluscan species. http://www.marinespecies.org

3. Classification of materials

The jewellery industry recognises two categories of materials: natural materials, clause 3.1 and artificial products, clause 3.2.

3.1. Natural materials

3.1.1. Corals

Cnidarians with skeletons are referred to collectively as "coral". Corals (5.27 are marine invertebrates formed by nature without human intervention. Corals may have been subsequently modified by normal lapidary practices.

3.1.1.1. Precious corals

Precious corals are those that are used in jewellery and decoration, specifically red, pink and white varieties with porcelain like luster after polishing. They are limited to few species belonging to the Corallidae family, consisting of the three following groups: *Corallium*, *Pleurocorallium* and *Hemicorallium*. They have a specific gravity of approximately 2.8 and a hardness of 3½ on Mohs scale.

3.1.1.2. Common corals

Common corals are mostly of calcareous type, usually found in the coral reef, some have soft skeletons e.g., sponge coral (5.92), bamboo coral (5.8), black coral (5.12), golden coral (5.46) and blue coral (5.13). After treatment, some species are sometimes used as ornaments.

3.1.2. Treated corals

Corals which have been treated to change their appearance and/or durability. See clause 4.2.5.

3.2. Artificial products

Products that are partially or completely made by man, see clause 4.3.

3.2.1. Imitations of corals

Artificial products (5.5) that imitate the appearance of natural materials (5.68), specifically precious corals, without having their chemical composition and/or their physical properties or their structure.

3.2.1.1. Artificially produced composite stones (see clause 4.3.2.2.)

Composite products (5.26) composed of two or more previously separate parts or layers assembled by bonding or other artificial methods. Their components can be natural and/or artificial.

3.2.2. Other artificial products

Artificial products (5.5) that imitate the appearance of corals.

4. Normative clauses

4.1. General clauses

4.1.1. Description and display

All materials classified in clause 3 shall be named, described and displayed in accordance with the definitions, annexes and the terminology set out in all the clauses herein. This applies to all publications, advertisements (5.1), communications addressed to consumers, and to the general (5.44) or specific information (5.91) given to a purchaser, prior to or during a final sale, as well as to all commercial documents (5.23) (e.g., offers, labels, memos, delivery notes and invoices) and to appraisals, gemmological identification and classification reports, etc.

4.1.1.1. Disclosure

Full disclosure (5.32) by the vendor to the purchaser of all material information (5.59) shall take place whether or not the information is specifically requested and regardless of the effect on the value of the product being presented or sold.

4.1.1.1.1 Verbal disclosure

Full verbal disclosure (5.32) shall take place using clear and understandable language prior to the completion of a sale.

4.1.1.1.2. Written disclosure

Full written disclosure (5.32) shall be conspicuously included on all commercial documents (5.23) in clear and plain language so as to be readily understandable to the purchaser. The disclosure shall immediately precede the description of the materials listed in clause 3 and shall be equally conspicuous to that description.

4.1.1.2. Terms used to disguise

It is contrary to the purposes of this document to make any misleading or deceptive statement, representation or illustration relating to origin, formation, production, condition or quality that does not conform in all respects with the clauses contained herein.

The terms "natural treated coral" or "treated natural coral" shall not be used because they can be misleading.

4.1.1.2.1. Display

In cases when coral is displayed, or jewellery is decorated, with treated coral that require specific information (5.91) and or with composites, reconstructed coral and imitations, an easily noticeable and legible label adjoining each item shall clearly indicate the precise nature of the objects being shown in accordance with the clauses herein.

4.1.1.2.2. Cultured

The term "cultured" (5.28) or "cultivated" shall only be used for cultured pearls.

4.1.1.2.3. The names of cuts

The name of coral cuts/shapes shall only be used in conjunction with the correct name of

the materials from which they have been fashioned.

Examples — "through, half or not drilled coral beads", "oval and round coral cabochon", "marquise", "baguette", "emerald cut coral cabochon", "pear-shape", "drop-shape coral", "barrel, cylinder, olive, tube and baroque coral shape" and "carved coral".

4.1.2. Weight (mass)

4.1.2.1. Gram

The weight (5.101) of a coral shall be expressed in gram (g); The weight of a coral shall be stated in gram to two decimal places.

4.1.2.2. Momme, Kin and Kan

The units commercially used among the traders, fishermen and auction dealers for weighing coral in Japan and Taiwan. The International System of Units is also used:

- 1 momme is equivalent to 3.75 gram
- 1 kin is equivalent to 600 gram
- 1 kan is equivalent to 3,750 gram

4.1.2.3. Weight rounding

Weight shall be rounded downwards by considering the second decimal, for example:

$$0.125 g = 0.12 g$$

$$0.196 g = 0.19 g$$

$$1.999 g = 1.99 g$$

NOTE — It is unfair trade practice to misrepresent the weight or to deceive as to the weight of any coral. It is also an unfair trade practice to state or otherwise represent the weight of all coral contained in any article unless such weight figure is accompanied with equal emphasis and prominence by the words "total weight", or words of similar meaning, so as to indicate clearly that the weight so stated or represented is that of all coral in the article and not that of the centre or largest one.

4.1.2.4. Total weight

The total weight of corals and other gems contained in the same article can only be stated providing it is accompanied, with equal emphasis and conspicuousness, by the total separate weight(s) of each variety or species of coral.

4.1.3. Measurements

The measurements of a coral shall be expressed in millimetres to two decimal places. The following measurements shall apply:

- round and oval shape: minimum diameter:
- other shapes: length, width and depth (total height).

4.2. Coral clauses

4.2.1. Use of term

Only corals that conform to the definition contained in 5.27 and 5.78 shall be described as natural coral and all descriptions for natural coral shall conform to the content of all other clauses herein.

4.2.2. The terms "real", "precious", "genuine" or "natural"

The adjectives "real" (5.81), "precious" (5.78), "genuine" (5.45) or "natural" (5.68) shall only be used to refer to or designate natural corals.

NOTE — It is unnecessary to note the genesis of a natural material, as the use of the correct name of the material alone and without qualification states that it is natural.

4.2.3. Place of origin

4.2.3.1. Geographical areas

Names of geographical areas shall only be used when they denote the areas where coral have been harvested (place of origin).

4.2.3.2. Origin opinion

When places of origin for coral are presented they shall be considered as a matter of opinion.

4.2.3.3. Origin and quality

Place of origin does not imply a level of quality.

4.2.3.4. Processing centres

Geographical names where corals have been processed.

NOTE — The geographical origin may be used, e.g. Italy, Taiwan, Japan, China, etc.

4.2.4. Commercial names

4.2.4.1. Approval of commercial names

All commercial names, whether new or old, shall be submitted to CIBJO for approval and inclusion within this standard.

4.2.4.2. Names of corals used in direct conjunction with each other

Do not use the names of coral in direct conjunction with each other (for description of colour or otherwise) in such a fashion, that the identity of the material is not apparent: i.e. "Sardinian very dark" and "Oxblood colour".

4.2.5. Treated corals

There are two categories of coral that have their appearance and/or durability altered (5.3) by a treatment:

4.2.5.1. Coral treated by methods requiring general information

Treated corals requiring general information on their description at the point of sale are:

4.2.5.1.1. Substances present in fissures that do not add colour

Coral that have fissures (5.37) permeated (5.76) with agents such as oil, wax, resin, polymer, or any similar substances.

NOTE — When filled fissures are polished flush with the surface of the stone, the filler will be found to have a different polished surface lustre to the host material, when viewed at 10 power magnifications by a trained observer.

4.2.5.1.2. Oiling

Colourless oiling specifically on carvings and figurines is a routine lapidary practice to assist in the polishing process and to enhance lustre.

NOTE — The oil may dry over time due to dehydration.

4.2.5.1.3. Heating

Coral permanently treated by heating (5.49). If such modification has been undertaken to make the corals look antique (i.e. Sciacca), it shall be disclosed.

4.2.5.1.4. Bleaching

Black coral treated to golden by bleaching (5.11).

4.2.5.1.5. Disclosure requirements for treated coral requiring general information

Prior to the closing of a sale, members of the trade shall tell their customers which type of treatment a coral has undergone and ensure that they understand that the coral has been treated by one or more of the methods mentioned in clauses 4.2.5.1.1. to 4.2.5.1.5. In addition, commercial documents (5.23) accompanying the coral shall include information regarding the type of treatment used.

4.2.5.2. Coral treated by methods requiring specific information

4.2.5.2.1. Surface waxing

Coral that change colour with the use of agents such as oil, wax or organic fluid require specific information (5.91).

The exception is with natural colourless wax used to protect the surface of the coral, which is considered as a normal lapidary practice (5.69) — and not a treatment. Therefore, neither specific nor general information is required for natural colourless wax at the surface level.

4.2.5.2.2. Artificial irradiation

Coral with a colour treated by artificial irradiation (5.53) to change its colour.

4.2.5.2.3. Dyes or other colouring agents

Coral with a colour treated by dyes (5.35) or other colouring agents.

4.2.5.2.4. Filling of fractures and cavities

Coral treated by the filling (5.36) of open fractures (5.39) or cavities.

4.2.5.2.5. Impregnation

Coral treated by impregnation (5.51) with polymers or similar substances.

NOTE — This clause does not include the bonding of powdered materials. These are artificial products.

4.2.5.2.6. Coating

Coral treated by coating (5.21).

4.2.5.2.7. Other treatments requiring specific information

Treatments requiring specific information (5.91), other than those mentioned in clause 4.2.5.1 must be disclosed in accordance with clause 4.2.5.2.

4.2.5.2.8. Disclosure requirements for treated coral requiring specific information on treatments

Coral requiring specific information on a treatment listed in clause 4.2.5.2.1. to 4.2.5.2.6, where the treatment shall be described by the correct name of its untreated counterpart immediately preceded by the word "treated" (except as in the Note 1 below) and shall, prior to the closing of the sale, require a verbal explanation that the gemstone has been treated. In the event of a written presentation, the word "treated" shall be of equal emphasis and prominence, with characters of the same size and colour as those of the name itself. Do not abbreviate or place an asterisk next to the name of a coral making reference to a footnote explanation of the fact that the stone is treated.

NOTE 1 — As an alternative to clause 4.2.5.2 the word "treated" may be replaced by the following terms (where these terms apply is indicated by the relevant clause(s) in parenthesis and following the term) providing that the application of these terms adhere to the requirements regarding the term "treated" in clause 4.2.5.2.

"Artificially irradiated" (5.53), "Dyed" (5.35), "Fracture filled" (5.40), "Impregnated" (5.51), "Coated" (5.21).

It is the responsibility of the seller to disclose irradiated coral in accordance to national regulations.

4.2.5.2.9. Display

When materials described in clauses 4.2.5.2 or merchandise containing these materials are displayed (whether alone or mixed with other natural materials, in a single piece of merchandise or otherwise), easily noticeable and legible labels, adjoining these loose stones or pieces of merchandise shall clearly indicate the precise nature of the objects being shown in accordance with the clauses herein.

4.2.5.3. Trade codes

Trade codes (5.95) listed in clause 7 Annex B shall only be used within the industry; they are not to be used for the consuming public. The codes are intended to facilitate the insertion of vital information on tags attached to merchandise, on invoices, and on other commercial documents that are used within the trade.

For definitions and instructions on how to use trade codes refer to clause 7 Annex B.

4.3. Artificial products clauses

4.3.1. General clauses

Any artificial product (5.5) may in certain situations comply with the classification and definition of an imitation (5.50). When this occurs the product may be described in accordance with clause 4.3.

4.3.1.1. Display

When artificial products or merchandise containing artificial products are displayed (whether alone or mixed with natural materials, in a single piece of merchandise or otherwise), easily noticeable and legible labels, adjoining these loose products or pieces of merchandise shall clearly indicate the precise nature of the objects being shown in accordance with the clauses herein.

4.3.1.2. Names of geographic areas

Names of geographical areas producing coral and names of cutting or exporting centres shall not be used when referring to artificial products.

4.3.1.3. The terms "real", "precious", "genuine" and "natural" etc.

Refrain from the use of adjectives such as "real" (5.81), "precious" (5.79), "genuine" (5.45), "natural" (5.68), or any word or phrase of a similar meaning including "precious stone", "gemstone" or "ornamental stone" in descriptions of artificial products.

4.3.1.4. Names of natural materials

Do not use the name of any natural material in direct conjunction with the name of an artificial product (for description of colour or otherwise) in such a fashion, that the identity of the coral is not apparent.

Example: correct: « treated coral »

not correct: « natural treated coral »

4.3.2. Imitations of coral

4.3.2.1. Description and display

The name of a coral imitation shall be used in conjunction with the term "artificial product" (5.5) or "artificial coral" (5.6) (except as in clause 4.3) which must appear, in the event of a written presentation, with equal emphasis and prominence, with characters of the same size and colour as those of the name itself. Do not abbreviate. Do not place an asterisk next to the name of an artificial coral, making reference to a footnote explanation of the fact that the product is artificial.

4.3.2.1.1. Name similarities

The name of a coral imitation shall not show a similarity to the name, or sound of the name (neither entirely, nor abbreviated, nor by way of an allusion), of any natural material nor be an established name for another coral imitation.

4.3.2.1.2. Terms other than "artificial product" or "artificial coral"

Do not use a qualifying term other than "artificial product" (5.5) or "imitation of coral" to describe any artificial coral except as allowed for in clause 4.3.2.

4.3.2.2. Artificially produced composite coral

4.3.2.2.1. Description and display

Artificially produced composite products (5.26) shall (except as in clause 4.3) be described by the words "doublet" (two parts) or "triplet" (three parts) or "composite" (more than three parts — see also clause 4.3.2.2.4 below), and these words shall be immediately preceded or followed by the correct names of the components of the assembled product (except as in clauses 4.3.2.2.2 and 4.3.2.2.3), the names of which shall be mentioned from the upper part downwards and be separated by a slash (/). However, if all parts of a composite (excluding the bonding agent) are the same material, the name of this material shall be stated *only* once. The words "doublet" (5.33) or "triplet" (5.98) or "composite" (5.26) must appear, in the event of a written presentation, with equal emphasis and prominence, with characters of the same size and colour as those of the names of the components. Do not abbreviate. Do not place an asterisk next to any name or combination of names, making reference to a footnote explanation of the fact that the product is a composite coral.

4.3.2.2.2. Coral doublet

A composition of two pieces where a slice of natural coral is bonded to a base material shall be called a "coral doublet" or "doublet coral".

4.3.2.2.3. Coral triplet

A composition of three pieces where a thin slice of natural coral is bonded to a dark base and provided with a transparent top layer, must be called a "coral triplet" or "triplet coral".

4.3.2.2.4. Coral mosaic

The word "composite" shall be replaced by the word "mosaic", when the various parts of the composite are placed side by side (to create a picture or pattern or otherwise) providing that the application of this term adheres to the requirements regarding the term "composite" in clause 4.3.2.2.1.

4.3.2.2.5. Terms other than those specified in clause4.3.2.2.1.

Do not refer to any composite stone in any way other than that specified in clause 4.3.2.2.1 (except as in clause 4.3).

5. Terms and definitions

For the purposes of this CIBJO Standard, the following terms and definitions shall apply.

5.1. Advertisement

the activity of attracting public attention to a product or business, as by announcements in the print, broadcast, or electronic media.

5.2. Aka

precious coral from the *Corallium japonicum* species that is found in Japan at depths of 80 to 300 m. It is dark red to very dark red with a white lengthwise interior, in fan-shape, with an average height of 5-30 cm, average trunk diameter of 5-25 mm and an average weight of 100-500 g. Same as Moro or Oxblood coral.

NOTE — see Clause **Errore. L'origine riferimento non è stata trovata.** Normative References; Convention on International Trade in Endangered Species of Wild Fauna and Flora.

5.3. Alterations

any change made to corals or artificial products that requires general (5.44) or specific (5.91) information.

5.4. Angel's Skin

commercial name for a very rare anomalous (albino) light pink precious coral, notably from the *Pleurocorallium elatius* species (Japan and Taiwan) also known as Boké or Magai. In even more rare occasions, it may also occur in *Corallium rubrum* (known as "Bello", meaning beautiful) and in *Corallium japonicum*.

5.5. Artificial products

products which are partially or completely made by man.

5.6. Artificial coral

misnomer for an imitation with no known natural counterparts.

5.7. Assembled coral

see composite products (5.26).

5.8. Bamboo coral

common coral from species of the large, flexible and segmented species of the Isididae family (subclass Octocorallia) composed of white calcitic internodes and dark keratinous gorgonian nodes, including species of the genus *Isis*, *Lepidsis* and *Acanella*. The white calcareous component is commonly bleached and then dyed pink or red to imitate precious coral.

5.9. Biogenic gem materials

a substance produced by life processes. It may be either constituents, or secretions, of plants or animals, e.g., biomineralized calcite in precious coral.

5.10. Biomineral

a crystalline substance produced by the activity of living things.

5.11. Bleaching

to remove or alter a colour by means of chemical and/or physical agents or light.

5.12. Black coral

common coral of very dark brown to black colour, composed of protein and chitin, belonging to the order Antipatharia (subclass Hexacorallia) that are quite flexible, spiny, tree like, unbranched or branched. May be bleached to obtain golden coloration.

NOTE — see Clause **Errore. L'origine riferimento non è stata trovata.** Normative References; Convention on International Trade in Endangered Species of Wild Fauna and Flora.

5.13. Blue coral

reef-building coral, a common coral, of calcareous composition belonging to the family Helioporidae (subclass Octocorallia), specially the *Heliopora coerulea*. It has a distinct blue colour, with a rough and porous skeleton that usually requires resin impregnation to be used as ornament.

NOTE — see Clause **Errore. L'origine riferimento non è stata trovata.** Normative References; Convention on International Trade in Endangered Species of Wild Fauna and Flora.

5.14. Body colour

the dominant, overall colour of coral.

5.15. Boké

same as angel's skin (from Pleurocorallium elatius).

5.16. Bonding

the cohesion of two or more parts or layers. See composite products (5.26).

5.17. Carat

a unit of weight, one carat being equivalent to 200 milligrams (1/5 gram).

5.18. Cerasuolo

precious coral from the *Pleurocorallium elatius* species that is found in Japan and Taiwan at depths of 150 to 350 m. It may be bright red, salmon, orange, dark pink and flesh dark red to very dark red with a white lengthwise interior, in fan-shape, with an average height of 15-40 cm, average trunk diameter of 10-50 mm and an average weight of 100-5000 g. Same as Momo or Satsuma.

NOTE — see Clause **Errore. L'origine riferimento non è stata trovata.** Normative References; Convention on International Trade in Endangered Species of Wild Fauna and Flora

5.19. Carving

an object or design cut from a hard material as an artistic work.

5.20. Cleaning

to leave corals in a mixture of water and hydrogen peroxide (5%) for a couple of days to bring the pigment back to its original colour. Cleaning is considered a normal lapidary practice (5.69).

5.21. Coating

an artificial layer of any natural or artificial substance spread over the surface, or part of the surface, of coral for protection, colouration, increased lustre, decoration or to alter their appearance; a covering layer.

5.22. Colour

colour has three attributes: hue, tone, and saturation. Hue is the basic impression of colour yellow, green, blue, etc. Tone is the relative impression of lightness or darkness of the colour. Saturation is the strength or intensity of the colour. In general, the colour of precious coral may be described in terms of a combination of 'body colour' and colour distribution.

5.23. Commercial document

any writing or electronic transmission that evidences, anticipates or concludes a commercial transaction, including any agreement, memorandum of agreement, purchase order, blanket purchase order, identification reports, blanket purchase agreement, purchase order acknowledgment, request for proposal, quote, offer, warranty, representation certification, guaranty, import documentation, packing list, bill of sale, memorandum of consignment, receipt and advertisements. Commercial documents include mandatory information of the seller, and when necessary the buyer.

5.24. Commercial name

a name assigned for marketing purposes; synonymous with a trade name. It may have global or regional significance.

5.25. Common coral

common corals are mostly calcareous types that are usually found in coral reefs, and are not considered as "precious coral". Some non-calcareous type species are also considered common corals. Includes species from the Isidae, Primonidae, Zoanthidae, Helioporidae, Melithaeidae, Sylasteridae families and Antipatharia order. It is not used in the jewellery industry.

 ${\sf NOTE}$ — For additional information regarding "Precious coral" see clauses 5.78 and 5.27, and the annexes.

5.26. Composite products

artificial products (5.5) composed of two or more previously separate parts or layers assembled by bonding or other artificial methods. Their components may be natural and/or artificial but at least one part must be coral.

5.27. Corals

collective name for over 7,300 marine colonial species of the phylum Cnidaria. A limited number of species, notably from the Anthozoa class, including many in the subclasses Alcyonaria (Octocorallia) and Hexacorallia, are suitable for use in decoration. For the jewellery industry, only eight species of the Corallidae family, called Precious Corals (5.78), are considered. Other species, both with calcium carbonate and/or keratinous exoskeletons, not used in jewellery but as decoration and trinkets are called Common Corals (5.25). Jewellery grade coral lives in deep ocean and secrete biomineralized calcium carbonate to form a hard skeleton. The chemical composition of coral is calcium carbonate (82–87%) with minor magnesium. It can also include small amounts of calcium sulphate, iron oxide and various phosphates.

5.28. Cultured

the term "cultured" shall only be applied to "cultured pearls".

NOTE — See the CIBJO Pearl Book for additional information.

5.29. Cut

the style or shape in which coral and artificial products have been fashioned.

5.30. Cutting

one of several normal lapidary practices (5.69) used to give a shape to corals.

5.31. Deep Sea

precious coral from the *Hemicorallium laauense* species that is found in Midway, N/W around Emperor Seamount at depths of 1000 to 2000 m. It is usually variegated bright white, clear pink white pomegranate with red veins or spots, in fan-shape and parallel trunks, with an average height of 10-40 cm, average trunk diameter of 5-15 mm and an average weight of 50-250 g.

5.32. Disclosure

the act of providing all material information (5.59). To fully inform a purchaser, prior to or during a final sale.

5.33. Doublet

a composite coral consisting of two parts.

5.34. Drilled

a coral with a cylindrical hole engineered to enter at one point and exit on the opposite side. Also see part-drilled (5.75)

5.35. Dyeing

application of a dye or stain to natural materials (5.68) or artificial products (5.5) to alter their colour.

5.36. Filling

to introduce a substance that occupies a whole or part of a void.

5.37. Fissure

a very narrow opening; a fine fracture.

5.38. Fluid

a substance of low enough viscosity that it will flow easily.

5.39. Fracture

an opening; a crack.

5.40. Fracture filling

to occupy the whole or part of a fracture with a substance, e.g. resins, oil, etc., to pervade; to spread throughout; to occupy completely; or to make full, with the purpose of making the fracture less visible.

5.41 "Garnet coral"

precious coral from the *Hemicorallium regale* species that is found in Hawaii at depths of 350 to 600 m. It is usually purplish-pink, in parallel-shape, with an average height of 10-20 cm, average trunk diameter of 4-10 mm and an average weight of 50-150 g.

NOTE — Not to be confused with the name of the garnet mineral group.

5.42. Gem

another term, often used as an adjective, to describe an exceptional coral or other gemstone noting perfection or very high quality. See gemstone clause 5.43.

NOTE — the term "Gem" shall only be used to qualify the terms "real", "precious", "genuine" and "natural".

5.43. Gemstone

a natural inorganic geological materials/substances, a mineral or an aggregation of two or more minerals, in a form of a rock, which has been formed completely by nature without human interference.

NOTE 1 — Gemstones are usually used in jewellery or objets d'art due to a combination of properties that provide them with beauty, rarity and relative durability.

NOTE 2 — For the purpose of this standard clauses and examples referring to coral may also apply to precious stones and ornamental coral.

5.44. General information

a method to provide information, at the time of sale, when materials have been subjected to a treatment that requires a verbal disclosure (5.32) and a general comment on a commercial document (5.23).

5.45. Genuine

actually possessing the alleged or apparent attribute or character.

5.46. Golden coral

common coral of a natural golden colour and non-calcareous skeleton belonging to two taxonomic groups (e.g. Primnoidae family and Zoanthidae family, notably *Kulamanamana haumeaae*). It may be treated black coral (5.12).

5.47. Golden coral (treated)

black coral (5.12) bleached to become golden colour.

5.48. Gram

the gram (g) is 1/000 of a kilogram, a unit of mass of the International System of Units.

5.49. Heating

to heat a coral to a temperature that may alter its appearance.

5.50. Imitation of coral

artificial products that only simulate the appearance of coral.

5.51. Impregnation / Impregnated

to fill throughout; saturate.

5.52. Invertebrate

an animal without an internal backbone. Examples include cnidarians (e.g. reef corals, precious corals, sea fans), molluscs (e.g. snails, clams), arthropods (e.g. insects, spiders, shrimp), echinoderms (e.g. starfish, sea urchins) and annelids (e.g. worms).

5.53. Irradiation / Irradiated

exposing coral, gemstones, diamonds, synthetic stones, pearls and cultured pearls to any form of radiation which is controlled wholly or partially by man, usually to alter the appearance of the material. See clause 4.2.5.2.2.

5.54. Kan

a unit of weight equal to 1,000 momme or 3.75 kilograms. This unit was most frequently applied by the Japanese coral industry.

5.55. Kin

a unit of weight equal to 600 grams. This unit was most frequently applied by the Japanese and Taiwanese coral industry.

5.56. Lace coral

common coral belonging to the *Stylaster* genus (Sylasteridae family), with similar visual characteristics to some pink to red precious corals. Usually dyed and impregnated.

NOTE — see Clause **Errore**. **L'origine riferimento non è stata trovata**. Normative References; Convention on International Trade in Endangered Species of Wild Fauna and Flora

5.57. Lustre

The quality and quantity of light a coral reflects from its surface, being usually porcelanous with a variable degree of glassy appearance.

5.58. Lustre enhancement

any treatment, other than polishing, applied to enhance the lustre of a coral.

5.59. Material information

any information that, if disclosed (5.32) prior to and or during the time of sale, would alter the value, saleability or desirability of materials listed in clause 3, including any care, cleaning and or maintenance requirements.

5.60. Magai

same as angel's skin (from Pleurocorallium elatius)

5.61. Mediterranean coral

precious coral from the *Corallium rubrum* species that is found mostly in the Mediterranean Sea as well as in the western Atlantic coast of northern Africa and Portugal at depths ap to 1000 m. It has uniform red, orangey to pink uniform colour, in bush-shape, with an average height of 10-20 cm, average trunk diameter of 8 mm and an average weight of 50-200 g. Same as Sardinian coral.

5.62. Midway

precious coral from the *Pleurocorallium secundum* species that is found in Hawaii and Midway sea mount at depths of 400 to 600 m. It may be uniform white-pink with small red speckles or veined white with pink, sometimes uniform clear pink, in fan-shape, with an average height of 10-30 cm, average trunk diameter of 8-20 mm and an average weight of 50-300 g. Same as Rosato or White/Pink coral.

NOTE — see Clause **Errore. L'origine riferimento non è stata trovata.** Normative References; Convention on International Trade in Endangered Species of Wild Fauna and Flora

5.63. Misu or Missu

precious coral from the *Hemicorallium sulcatum* species that is found in the north of Philippines. at depths of 100 to 300 m. It is mostly white with thin skin of uniform pink, in long fan-shape, with an average height of 25 cm, average trunk diameter of 15 mm and an average weight of 200 g. Same as Missu or Miss.

5.64. Momme

unit of weight, equal to 0.13 ounces or 3.75 grams; 1,000 momme = 1 kan. This unit was most frequently applied by the Japanese coral industry, sometimes spelt *monme*.

5.65. Momo

same as Cerasuolo (Pleurocorallium elatius).

5.66. Moro

Same as Aka or Oxblood coral (Corallium japonicum).

5.67. Natural colourless wax

the use of a natural colourless wax is used to protect the surface of the coral. The wax can be of vegetable, animal and mineral (paraffin) origin. The use of a natural colourless wax at the surface level is considered as a normal lapidary practice (5.69) — and not a treatment. Therefore, neither specific nor general information is required for natural colourless waxing.

5.68. Natural materials

materials that are completely formed by nature, without human intervention during its formation, that may subsequently be modified by normal lapidary practices (5.69) and or altered by a treatment that require general (5.44) or specific (5.91) information.

5.69. Normal lapidary practices

methods used to fashion gemstones and artificial products which include cutting (5.30), sawing, grinding, faceting, polishing, carving, engraving, drilling and cleaning (5.20).

5.70. Objets d'art

an object considered to be of artistic worth.

5.71. Oiling

filling coral fissures and/or fractures with agents including essential oils (e.g. cedarwood oil) and mineral oils (e.g. Joban oil, paraffin), to make the fissures and fractures less visible.

5.72. Organic substances

natural products of animal or plant origin used in jewellery or *objets d'art (5.70)*, e.g., amber, tortoiseshell.

5.73. Ornamental coral

precious coral that is used in objets d'art (5.70).

5.74. Oxblood coral

Same as Aka or Moro (Corallium japonicum)

5.75. Part-Drilled

a coral with a cylindrical hole engineered to enter at one point but which does not exit. Sometimes known as half-drilled.

5.76. Permeate

the filling of fissures and/or fractures with oil, wax, resin, polymer or other fluid substances, other than glass to diminish their appearance. See clause 4.2.5.1.1.

5.77. Place of origin

name of the geographical origins where corals have been harvested, e.g., Mediterranean Sea, Atlantic Ocean, South China Sea, Sea of Japan and Pacific Ocean.

5.78. Precious coral

precious corals are those that are used in jewellery and decoration, specifically red, pink, orangey and white varieties with porcelain-like lustre after polishing. They are limited to species belonging to the family Corallidae, consisting of the three following groups: *Corallium, Pleurocorallium* and *Hemicorallium*. They have a specific gravity of approximately

2.8 and a hardness of 3 on Mohs scale.

The distinguishing characteristic of precious coral, which is used in jewellery and ornamental products, is their durable and intense red colour, and or pink or white skeleton.

NOTE — For more information regarding precious coral see clause (3.1.1.1) and clause (9.1)

5.79. Precious stones

see gemstones.

5.80. Pure White

precious coral from the *Pleurocorallium konojoi* species that is found in South China Sea close to Vietnam at depths of 80 to 300 m. It is uniform white, in fan-shape, with an average height of 10-40 cm, average trunk diameter of 10-30 mm and an average weight of 100-700 g. Same as Shiro.

NOTE — see Clause **Errore**. **L'origine riferimento non è stata trovata**. Normative References; Convention on International Trade in Endangered Species of Wild Fauna and Flora

5.81. Real

genuine (5.45); not artificial (5.5 and 5.6).

5.82. Reef coral

Reef building corals that live in shallow water in specific ecosystems (e.g. Great Barrier Reef, Caribbean). Not considered precious corals and not used the jewellery industry.

5.83. Rosato

Same as Midway or White/Pink coral (Pleurocorallium secundum).

5.84. Sardinian coral

Same as Mediterranean coral (Corallium rubrum).

5.85. Satsuma

Same as Cerasuolo or Momo (Pleurocorallium elatius)

5.86. Sciacca

orangey, sometimes dark pink, *Corallium rubrum* from modern sedimentary deposits off the coast of Sciacca in southern Sicily, Italy, found at depths from 30 to 60 m. The branches are usually small in size, with an average branch size of 7-10 cm, and trunk diameter of 5 mm.

5.87. Semi-precious

a misleading term that shall not be used.

5.88. Shiro

Same as Pure White (Pleurocorallium konojoi).

5.89. Simulant

see imitations (5.50).

5.90. Special care

additional care needed to preserve the appearance of natural materials (5.68) or artificial products (5.5), or any alteration which require general (5.44) or specific information (5.91), that may have been applied.

5.91. Specific information

a disclosure method to provide information to consumers in all publications, advertisements (5.1), communications, commercial documents (5.23) and at the time of sale, when materials have been subjected to a treatment that requires a combination of a verbal and written disclosure (4.1.1.1.2). Also see clause 4.2.5.1.5.

5.92. Sponge coral

common coral belonging to Melithaeidae family (e.g. *Melithaea ochracaea*) with characteristic highly porous skeleton requiring stabilisation treatment with impregnation and filling with resins or polymers before being polished. Sometimes dyed or assembled with epoxy.

5.93. Stability

a measure of the ability of coral to maintain their appearance under normal wear and care.

5.94. Stones

natural geological materials and artificial products used in jewellery or objects d'art (5.70), with the exception of metals.

5.95. Trade codes

a list used within the trade, consisting of one or more letters, for labelling treated gemstones and organic and biogenic substances. See Annex 7.

5.96. Trade name

a name assigned for marketing purposes; a commercial name. It may have global or regional significance.

5.97. Treated coral

corals that have been treated to change their appearance and or durability. See clause 4.2.5.

5.98. Triplet

a composite stone (5.26) consisting of three parts.

5.99. Void

a cavity that contains no matter.

5.100. Waxing

the application of a colourless wax or similar products to, or near, the surface of coral.

5.101. Weight

mass of a diamond, gemstone, coral, pearl or cultured pearl, synthetic stone and other artificial products.

NOTE — The SI (Système International) generally uses the term *mass* instead of *weight*. Mass is a measure of an object's inertial property, or the amount of matter it contains. Weight is a measure of the force exerted on an object by gravity or the force needed to support it.

5.102. White/Pink coral

Same as Midway or Rosato (Pleurocorallium secundum).

6. Annex A — Coral care requirements

6.1. Normal care

With all corals avoid rough handling and when not in wear, keep items of jewellery separate to avoid scratches. Clean with soft leather and gentle brushing. Ultrasonic cleaners should not be used for porous gems e.g. coral, pearl, and other organic/biogenic gemstones.

6.2. Special care

In addition to normal care, some corals have special care requirements

- a. Corals are prone to scratching due to low hardness. Wear them with care.
- b. Corals are porous. Do not allow contact with coloured fluids.
- c. Corals are prone to crack due to loss of structural water. Keep away from heat and drying environments.
- d. Corals are prone to damage due to thermal shock. Do not expose them to extreme temperature changes.
- e. Corals fade or revert to original colour when exposed to strong light. Do not wear or leave them for extended periods under these conditions.
- f. Corals dissolve upon contact with acids and solvents (such as nail varnish remover). Keep them away from all solvents and other strong chemicals.
- g. Corals are particularly susceptible to damage from ultrasonic cleaning. Do not expose them to ultrasonic cleaning.

- h. Modifications to corals with dye, oil, resin, wax, or plastic are not permanent. Keep away from all solvents (including various dish-washing liquids), chemicals and heat.
- i. Coral with superficial colour and surface layers are not suitable for re-cutting or re-polishing.
- **j.** As a biogenic gem, coral must be kept in a condition that is not too dry and not too humid.
- k. Coatings on coral are often easily removed by the action of solvents, heat or abrasives, which are generally harmful to the coral. Keep away from all solvents, heat or abrasives. Coated coral is not suitable for re-cutting or repolishing.

6.3. Fading and other colour changes

Some corals that have been colour-treated may fade or revert to their original colour when exposed to natural sunlight, artificial light or strong display lights. In these cases, special care advice shall include instructions that these corals should not be exposed to strong natural or artificial light or to strong display lighting for an extended period of time.

7. Annex B — Normative trade codes

Trade codes

Trade codes shall only be used within the industry.

Methods of coral treatment disclosure shall be in accordance with clause 4.2.5.

7.1. N code

The N code shall only be used for corals that have no known treatment. See clause 4.2.5.

7.2. Codes to disclose treated corals that require general information

Codes that may be used to disclose corals treated by methods requiring general information (5.44) on their modification. See clause 4.2.5.1.

- H Heating (5.49)
- O Oil/Resin (5.71)
- W Waxing (5.100)
- B Bleaching (5.11)

7.3. Codes to disclose treated corals that require specific information

Codes that may be used to disclose corals treated by methods requiring specific information (5.91). See clause 4.2.5.2.

- C Coating (5.21)
- D Dyeing (5.35)
- I Impregnation (5.51) (with colourless foreign substances other than oil/resin)

7.4. SC code

Code for corals that require special care (5.90). See clause 6 Annex A.

sc Special care (5.51)

8. Annex C - Coral taxonomy chart

Anthozoa (class)

The basic unit of the adult is the polyp (no medusa stage) which consists in a sac-like body with an opening surrounded by stinging tentacles armed with "cnidocytes" bearing "nematocysts". Coral polyps can be solitary, but most are colonial with polyps linked together. Corals may secrete a skeleton made of calcium carbonate (CaCO₃), biomineralized in calcite or aragonite.

Octocorallia (subclass)

Comprises around 3,000 species of marine organisms formed of colonial polyps with 8-fold symmetry. These organisms have polyps with eight tentacles and eight mesenteries and can possess an internal calcite skeleton.

Hexacorallia (subclass)

Comprises approximately 4,300 species of aquatic organisms formed of polyps, generally with 6-fold symmetry. These organisms are formed of individual soft polyps which in some species live in colonies and can secrete a aragonite skeleton.

(order)

Alcyonacea (soft coral):

Soft corals contain minute, spiny skeletal elements called sclerites, useful in species identification. Sclerites give these corals some degree of support and give their flesh a spiky, grainy texture that deters predators. Unlike stony corals, most soft corals thrive in nutrient-rich waters with less intense light. Among them, the Corallidae family includes precious corals: Corallium rubrum, Corallium japonicum, Pleurocorallium elatius, Pleurocorallium konojoi, Pleurocorallium secundum, Hemicorallium regale, Hemicorallium laauense and Hemicorallium sulcatum.

Helioporacea (blue coral):

Forms massive lobed crystalline calcareous skeletons in colonial corals. It has no spicules, and is the only octocoral known to produce a massive skeleton formed of fibro-crystalline aragonite fused into lamellae, similar to that of the Scleractinia (stony corals).

Pennatulacea (sea pens):

Unlike other octocorals, however, a sea pen's polyps are specialised to specific functions. Comprises 16 families.

(order)

Actiniaria (sea anemones):

A group of water-dwelling, predatory animals. Comprises 46 families.

Antipatharia (black coral):

group of deep water, tree-like corals related to sea anemones.

Corallimorpharia:

Closely related to stony corals (Scleractinia). Contains 46 species, inside 10 genera in 4 valid families.

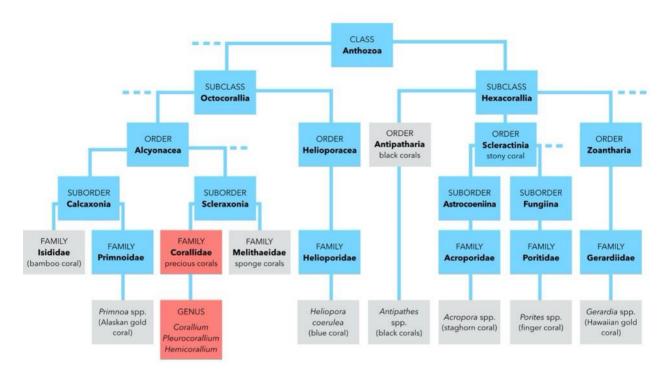
Scleractinia (stony corals):

Also called hard corals. Scleractinian corals may be solitary or colonial. Consists of 35 families.

Zoantharia:

Zoanthids can be distinguished from other colonial anthozoans and soft coral by their characteristic of incorporating sand and other small pieces of material into their tissue to help make their structure (except for the family Zoanthidae). Consists of 7 families.

Simplified Coral Taxonomy



- Precious corals
- Common corals

9. Annex D — Coral descriptions and definitions

9.1. Precious coral description and definition

CITES Classification	Scientific name	Commercial Name	Colour	Fishing Area and Depth	Coral Features (Morphology Size & Weight)
Corallium rubrum	Corallium rubrum	Mediterranean Sardinian Sardegna	Uniform red to dark orange.	Mediterranean and west African Atlantic areas. 50–1000 m	Bush-shape Avg. height: 10-20 cm Avg. diam.of trunk: 8 mm Avg. weight: 50-300 g
Corallium rubrum	Corallium rubrum	Sciacca	Orange, pink and darkened "smoked" orange.	Mediterranean, south part of Sicily. 30–60 m	Small branches Avg. height: 7–10 cm Avg. diam.of trunk: 5 mm
Corallium japonicum	Corallium japonicum	Aka Moro Oxblood	Dark red and very dark red with lengthwise white "soul".	Japan 80–300 m	Fan-shape Avg. height: 5-30 cm Avg. diam.of trunk: 5-25 mm Avg. weight: 100-500 g
Corallium elatius	Pleurcorallium elatius	Cerasuolo Momo Satsuma	Bright red, salmon, orange, dark pink and flesh colour with lengthwise white "soul".	Taiwan and Japan 150–350 m	Fan-shape Avg. height: 15-40 cm Avg. diam.of trunk: 10-50 mm Avg. weight: 100-5,000 g
Corallium elatius	Pleurocorallium elatius	Angel skin Boké Magai Peau d'Ange Pelle d'Angelo	Flesh pink with different colour intensity.	Japan and Taiwan 150–300 m	Fan-shape Avg. height: 15-40 cm Avg. diam.of trunk: 10-50 mm Avg. weight: 100-5,000 g
Corallium konjoi	Pleurocorallium konojoi	Pure White Shiro Bianco	Milky white and red or pink speckled white.	South China Sea and Vietnam 80–300 m	Fan-shape Avg. height: 10-40 cm Avg. diam.of trunk: 10-30 mm Avg. weight: 100-700 g
Corallium secundum	Pleurocorallium secundum	Midway Rosato White/Pink Bianco Rosa	Red speckled or veined white or pink; uniform clear pink.	Hawaii and Midway Island (1965) 400–600 m	Fan-shape Avg. height: 10-30 cm Avg. diam.of trunk: 8-20 mm Avg. weight: 50-300 g
	Hemicorallium regale	"Garnet coral"	Pomegranate-colour with different intensity shades of uniform pink.	Hawaii (1979) 350–600 m	Parallel shape Avg. height: 10-20 cm Avg. diam.of trunk: 4-10 mm Avg. weight: 50-150 g
	Hemicorallium laauense	Deep Sea	Bright white, clear pink, white pomegranate. red veined or spotted.	Midway (1981) N/W around Emperor Seamount 1,000–2,000 m	Fan-shape and parallel trunks lacking of primary and secondary branches. Avg. height: 10-40 cm Avg. diam.of trunk: 5-15 mm Avg. weight: 50-250 g
	Hemicorallium sulcatum	Misu Missu Miss	Pink to violet uniform colour	North Philippines, Taiwan and Japan (Boso Peninsula) 100–300 m	Fan long shape Avg. height: 25 cm Avg. diam.of trunk: 15 mm Avg. weight: 200 g

Precious corals — Image Summary For commercial use (e.g., import and export) it is suggested to use CITES Classification.

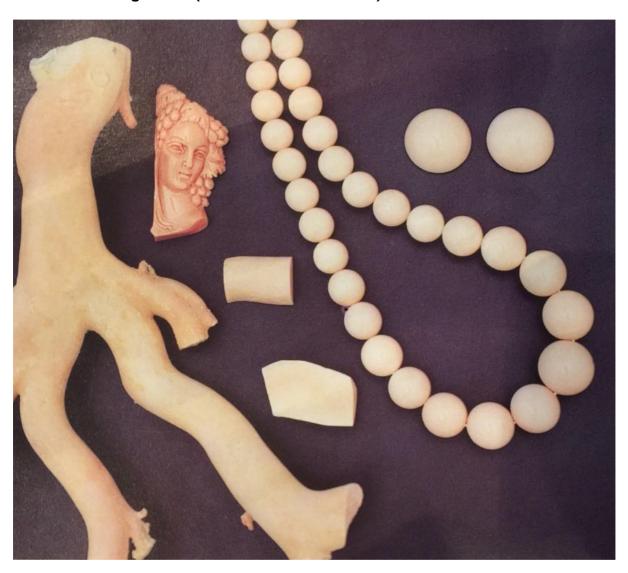
9.1.1. Aka (Corallium japonicum)



9.1.2. Momo (*Pleurocorallium elatius*)



9.1.3. Angel skin (*Pleurocorallium elatius*)



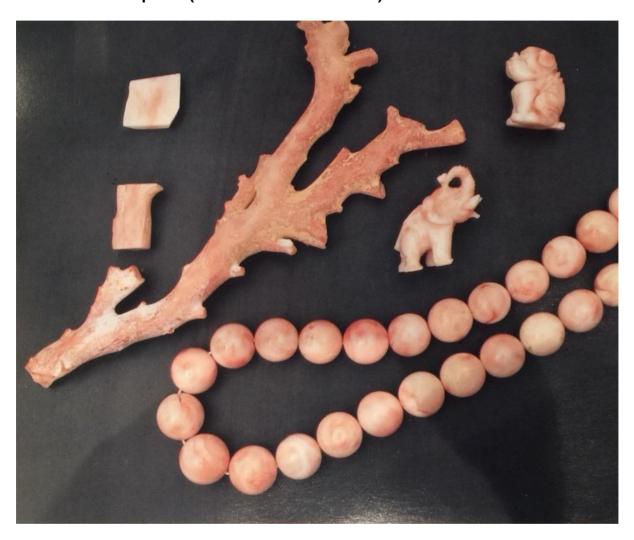
9.1.4. Pure White (Pleurocorallium konojoi)



9.1.5. Midway (*Pleurocorallium secundum*)



9.1.6. Deep Sea (Hemicorallium laauense)



9.1.7. "Garnet coral" (Hemicorallium regale)



9.1.8. Missu (Hemicorallium sulcatum)



9.1.9. Sardinian (Corallium rubrum)



9.1.10. Sciacca (Corallium rubrum)



9.2. Precious Coral Commercial Names

Commercial name	Scientific name	
Aka	Corallium japonicum	
Angel's skin	Pleurocorallium elatius (albino)*	
Bello	Corallium rubrum (albino)	
Bello di Sciacca	Corallium rubrum (albino from Sciacca deposit)	
Bianco	Pleurocorallium konojoi	
Bianco Rosa	Pleurocorallium secundum	
Boké	Pleurocorallium elatius (albino)	
Cerasuolo	Pleurocorallium elatius	
Deep Sea	Hemicorallium laauense	
"Garnet coral"	Hemicorallium regale	
Magai	Pleurocorallium elatius (albino)	
Mediterranean	Corallium rubrum	
Midway	Pleurocorallium secundum	
Miss	Hemicorallium sulcatum	
Missu	Hemicorallium sulcatum	
Misu	Hemicorallium sulcatum	
Momo	Pleurocorallium elatius	
Moro	Corallium japonicum	
Oxblood	Corallium japonicum	
Peau d'Ange	Pleurocorallium elatius (albino)*	
Pelle d'Angello	Pleurocorallium elatius (albino)*	
Pure White	Pleurocorallium konojoi	
Rosato	Pleurocorallium secundum	
Sardegna	Corallium rubrum	
Sardinian	Corallium rubrum	
Satsuma	Pleurocorallium elatius	
Sciacca	Corallium rubrum (from Sciacca deposit)	
Shinkai	Hemicorallium laauense	
Shiro	Pleurocorallium konojoi	

^{* -} Very very rarely, the commercial name may be also used for albino varieties of *Corallium rubrum* and *Corallium japonicum*.

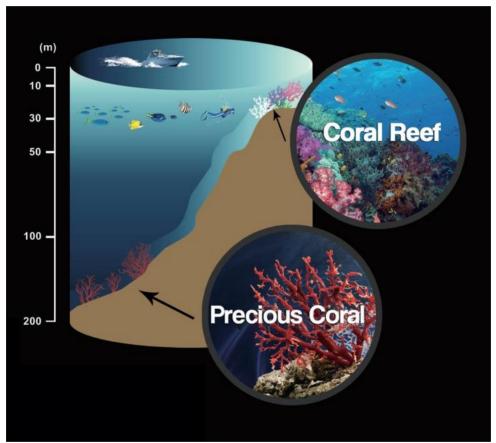
9.3. Distinction between precious coral and common coral

In the gem and jewellery industries, coral is typically divided into two distinct categories:

- 1. Reef-building coral and other common coral
- 2. Precious coral (typically deep sea).

Reef coral ecosystems lives are located in shallow waters typically up to 50 meters deep and have been facing damage and subject to stress caused by climate change and ocean acidification. This situation is of great concern due to their importance in marine biodiversity and protection of this ecosystem is critical.

Precious coral mostly used in jewellery, is typically located and harvested below 50 m or more below the surface, belonging to a different ecosystem than reef-building corals, and fishing precious coral legally would not destroy the environment.



Most Reef coral is located at approximate 8–20 m below sea level, whereas precious coral, such as "Aka" used in this example, is at depths of around 80–300 m and more.

9.4. Common Coral Species

9.4.1. Bamboo coral

common coral from species of the large, flexible and segmented species of the Isididae family (subclass Octocorallia) composed of white calcitic internodes and dark keratinous gorgonian nodes, including species of the genus *Isis*, *Lepidsis* and *Acanella*. The white calcareous component is commonly bleached and then dyed pink or red to imitate precious coral. Occurs practically worldwide, notably in Tasmania, New Zealand and USA. Also known in the trade as "mountain coral", "Chinese coral", "sea bamboo coral", "king coral", "tiger coral" and "jointed coral".

9.4.2. Black coral

generic designation of the colonial common coral belonging to the order Antipatharia (subclass Hexacorallia). These form quite flexible, spiny, tree like, unbranched or branched colonies composed of protein and chitin (non-calcareous skeletons) with very dark brown to black colour. Bleaching is common to obtain golden coloration. Common commercial names include accarbaar, akabar, horn coral and king coral. Black coral occurs almost worldwide, especially in strong current environments at depths up to 6000 meters, namely in the Caribbean, Hawaii and Oceania. All corals belonging Antipatharia order, including the *Antipathes* genera (*Antipathes* spp.) are listed in Appendix II of CITES.

9.4.3. Blue coral (Heliopora coerulea)

reef building coral of calcareous composition belonging to the family Helioporidae (subclass Octocorallia), specially the *Heliopora coerulea*. It has a distinct blue colour, with a rough and porous skeleton that usually requires resin impregnation to be used as ornament. Occurs in Indo-Pacific shallow waters and, as a reef building coral, is protected and hardly seen as a gem material in current days. This species is listed in the Appendix II of CITES. Also known in the trade as blue ridge coral, blue sponge coral and denim coral.

9.4.4. Sponge coral

a common coral (5.25) belonging to the family Melithaeidae of the order Alcyonnacea. Its name is derived from its similar appearance to sponges. Until recently sponge coral was not used for jewellery because it has too many holes. As such, to be used in jewellery today, it heavily relies on stabilisation by being filled with resin or polymer and being polished. In addition to being filled, some material is also dyed, and a small amount of sponge coral has reportedly been "pressed" (crushed up) $_{7}$ and mixed with epoxy to be formed into desired shapes. Sponge coral is often sold as natural Congi or "red spongy coral".

9.4.5. Golden coral

natural golden coloured non-calcareous varieties belonging to the Primnoidae family with characteristic ring growth structures that occur at various depths, up to 1000 meters or more, in Alaska, USA, and to the Zoanthidae family, notably *Kulamanamana haumeaae*, also with characteristic growth structures that lives at depths of 340-580 meters in Hawaii that, after polishing may acquire a characteristic sheen effect. Black coral may be treated to obtain golden colour.

9.4.6. Lace coral

pink-to-red branches of the common coral of the *Stylaster* genus from the Stylasteridae family, with similar visual characteristics to some precious corals. Apart from a totally different taxonomy and geographic distribution, these have a different compositions (aragonitic skeleton, compared with the calcitic skeleton of Corallidae species) and are usually dyed and impregnated to imitate precious corals. All of these species belonging to the Stylasteridae family are listed in Appendix II of CITES since 1990.

1. Annex E — Washington Convention CITES

The Convention on International Trade in Endangered Species

The Washington Convention — CITES, entered into force in 1975, in response to concerns that many species were becoming endangered because of international trade.

Because this trade crosses national borders, international collaboration and cooperation is crucial to ensure this trade is sustainable and controlled and does not threaten or endanger wildlife.

CITES regulates international trade in species by including species on one of three Appendices.

Appendix I — species that are threatened with extinction that cannot be traded internationally for primarily commercial purposes, unless permitted in exceptional circumstances (e.g. scientific research).

Appendix II — species that are not necessarily threatened now, but that may become so unless trade is controlled. They can be traded internationally for commercial purposes, but within strict regulations, requiring determinations of sustainability and legality.

Appendix III — species that are not endangered and that have been included at the request of a country which then seeks the cooperation of other countries to help prevent what considers to be unsustainable or illegal exploitation. The main objective is monitoring.

Coral groups included in the CITES Appendices II

- Black coral (Antipatharia spp.)
- Blue coral (Heliopora coerulea)
- Stony corals (Scleractinia spp.)
- Organ-pipe corals (Tubiporidae spp.)
- Fire corals (Milleporidae spp.)
- Lace corals (Stylasteridae spp.)

Coral groups included in the CITES Appendix III

 Red and pink coral (Corallium elatius, C. japonicum, C. konojoi, C.secundum), at the request from China.

Coral groups which are NOT included in the CITES Appendices

- Sardinian coral Corallium rubrum
- "Garnet coral" Hemicorallium regale
- Deep Sea coral Hemicorallium laauense
- Misu coral Hemicorallium sulcatum
- Bamboo coral (Isididae)
- New coral (Not classified)

International regulation

Information for traders, customs and shipping agencies

Commercial name and Scientific name	CITES Appendix	Note and Comment
Mediterranean Sardinian Sciacca (Corallium rubrum)	Not included in any CITES Appendix	Can be exported and imported in every country
"Garnet coral" (Hemicorallium regale)	Not included in any CITES Appendix	For import/export, the use of <i>Corallium secundum</i> taxa is recommended
Deep Sea (Hemicorallium laauense)	Not included in any CITES Appendix	For import/export, the use of Corallium secundum taxa is recommended
Misu Missu Miss (Hemicorallium sulcatum)	Not included in any CITES Appendix	For import/export, the use of Corallium secundum taxa is recommended
Midway (Corallium secundum)	CITES Appendix III	Requested by China But lives only in the Pacific Ocean
Aka Moro Oxblood (<i>Corallium japonicum</i>)	CITES Appendix III	Requested by China
Cerasuolo Momo Satsuma (Corallium elatius)	CITES Appendix III	Requested by China
White (Corallium konojoi)	CITES Appendix III	Requested by China
Angel skin Boké Magai (Corallium elatius)	CITES Appendix III	Requested by China

Coral included in Appendix III:

Enacted in 2008, expired in 2013 and extended until 2016, when CITES must pronounce definitively to include Appendix II or exclude it from the Washington Convention.

Fish and wildlife

Any importer in Switzerland and the United States requires a Fish and Wildlife licence to import coral.

2. Annex F — Coral sustainability and regulation for harvesting

See www.sustainablecoral.org

Taiwan's situation:

Strict regulations about coral fishery have been implemented since February 2009. In order to preserve resources, Taiwan adopts a restrictive approach towards coral fishery. It is regulated that only vessels with coral fishery licenses are allowed to undergo such practices.

These vessels must abide by the following rules:

- Vessels must be fitted with Vessel Monitoring Systems which reports the location by the hour;
- Vessels can operate only in five designated regions;
- 220-day operation limit for each year;
- Annual quota of 200 kg for each vessel;
- Fishermen must record and submit fishery logbooks on a daily basis;
- Subject to random inspections.

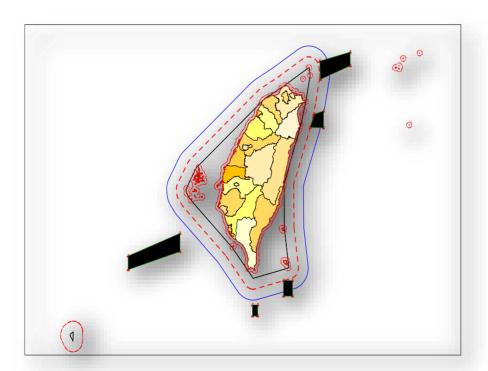


Illustration of the operating areas of coral fishing vessels. The white squares indicate the only 5 designated coral fishing areas wherein the fishing boats can harvest coral.

If the fishermen fail to comply with these regulations, their licenses will be retracted and will never be reissued again. In 2009, there were 96 legitimate coral fishery licenses. Currently, there are only 60 licenses left.

Coral boats can only park at the Suao or Magoong port. Every boat must notify the government before heading out for coral activities. Upon their return, the customs will record details of the corals harvested.

Japan's situation:

To explore the possibility of a sustainable fishery of Japanese red coral (*Corallium japonicum*, also known as *Paracorallium japonicum*), the morphometry and the population structure of populations in a non-harvested area and in a harvested area were investigated using a remotely operated vehicle (ROV) off Amami Island, Southern Japan, in 2009. In the harvested population, the estimated modal ages are 10 to 20 years. In contrast, the main mode in the non-harvested population extends widely from 20 to 40 years, with a small but distinct secondary mode between 50 and 60 years. Commercially collected specimens are mainly 30–40 years old. The difference in the modes of non-harvested and harvested populations suggests that harvested populations return to the pre-fishing level after at least 10–20 years of a biological rest period. This study indicates a rotational harvest is useful for sustainable management.

In Japan, the prefectural governments control the coral fishery.

The coral fishing regulations of Kochi Prefecture include:

- Only the boats with coral fishing permit are allowed to harvest coral, and new permits are not to be licensed.
- From January to February, and June to July, the period when corals are laying eggs, coral fishing is prohibited.
- After the nets are placed in the deep sea, the boat must stay still and the engine must be turned off in order to prevent the dragging of the nets minimising the possible damage of the seabed.
- Corals too small, from sizes 3cm to 7cm, must be put back in the sea.
- Fishermen must record their daily activities in a logbook, which are to be submitted to the government.
- Maximum 750kg of living coral harvesting per year.
- For protective reasons, there are only certain areas where boats can harvest coral.

In Kagoshima and Okinawa, the prefectural governments permit only fishing gear which can catch precious corals selectively, such as remotely operated vehicles (ROV).

Off Ogasawara Island, the coral fishing prohibited from January to April and June.

Italy and the Mediterranean situation:

The General Fisheries Commission for the Mediterranean (GFCM) is a regional fisheries management organisation (RFMO) established under the provisions of Article XIV of the FAO Constitution. The GFCM initially started its activities as a Council in 1952, when the Agreement for its establishment came into force, and

became a Commission in 1997. The main objective of the GFCM is to promote the development, conservation, rational management and best utilisation of living marine resources in the Mediterranean Sea.

At the request of its members, GFCM has engaged in several actions over the past 4 years to develop a Regional Management Plan for Red Coral. Two recommendations have been issued in 2011 and 2012 as a temporary measure for the conservation of this highly valuable species from an ecological and economical point of view. In 2014 a document with Guidelines for the management of Mediterranean red coral populations in the Mediterranean was adopted by the GFCM members as a transitional measure towards the adoption of a Regional Management Plan which is being under development. Members at the 38th Session agreed that this resource deserve a specific research program to fill important gaps on the knowledge of its actual status in the whole region and proposed a series of priority lines of research in which experts of the area should get involved. Fundraising is needed to launch a comprehensive program to improve the knowledge of red coral in the Mediterranean.

Rec. GFCM/35/2011/2 on the exploitation of red coral in the GFCM competence area This recommendation prohibits the harvest of red coral at less than 50 m depth until scientific studies indicate otherwise and establishes that the hammer used by scuba divers is the only permitted gear for harvesting. Until 2015, remotely operated vehicles (ROVs) can only be used for scientific purposes provided that they are not equipped with manipulator arms. The recommendation also states that fishers should record and report to national authorities daily catches and fishing effort by area and depths and make this information available to GFCM Secretariat so that it can be submitted to the consideration and advice of the SAC.

Rec. GFCM/36/2012/1 on further measures for the exploitation of red coral in the GFCM area

This recommendation establishes that the legal minimum size for red coral colonies to be harvested, retained on board, transshipped, landed, transferred, stored, sold or displayed or offered for sale as raw product should be at least 7 mm diameter at the trunk, measured within one centimeter from the base of the colony. A margin of tolerance of 10 % in live weight of undersized colonies is authorised and could be revised by the SAC on the basis of relevant studies.

According to this recommendation, GFCM members should submit, no later than 31st January of each year starting with the 2013-harvesting season, data on red coral harvesting by means of electronic forms, which have been developed by the GFCM Secretariat.

The adaptive regional management plan has been developed through several seminars and workshops, and may still be revised depending on various input from experts. It is, however, probable that this plan will be finalised, approved, and enforced during 2016. Then, the GFCM recommendations must be adopted by each Mediterranean country and only stricter measures may be implemented or maintained by a single country.

Hawaii & Midway's situation:

The current situation in Hawaii and Midway is that there has been very little harvesting, especially due to the high costs associated with such fishing. Thus, regulations are weaker than for the aforementioned countries and areas.

3. Annex G — Geographic locations of precious coral harvesting

NOTE — These maps are based on recent data. However, they may or may not correspond to exact locations of specific coral.

South China Sea and Japan Sea

Corallium japonicum Aka

Pleurocorallium elatius Momo, Boké, Magai

Pleurocorallium konojoi Pure White Hemicorallium sulcatum Misu

NINCATO
SHANXI
SHANXI
SHANDONG
Yellow sea

China

HENAN
JIANGSU
FUJIAN
GUIZHOU HUNAN JIANGXI
FUJIAN
GUANGXI
GUANGXI
GUANGXI
Cambodia

Philippines

North Korea
Soy of Jugan
Japain
Japain
Japain
Japain
Anhui
Leaf China Sea
ZHEJIANG
Cambodia

Philippines

Mediterranean Sea and Atlantic Ocean

Corallium rubrum

Sardinia, Sciacca

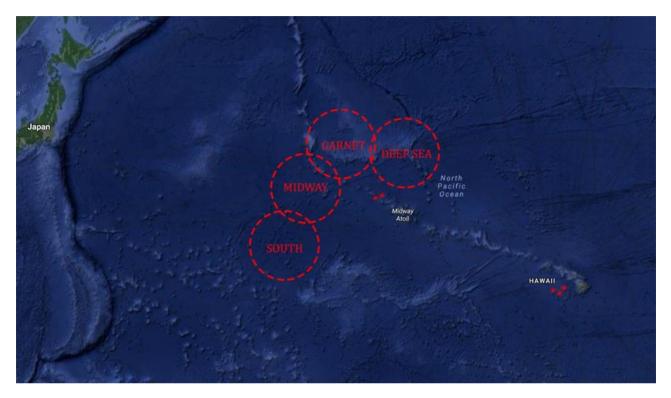
Coral Banks

- Dead Coral Deposit (Sciacca and Alboran)



Pacific Ocean

Pleurocorallium secundum Rosato, Midway & White/Pink Hawaii waters Hemicoralium regale "Garnet coral" Hawaii and Midway waters Hemicorallium laauense Deep Sea Midway waters



Bibliography

- Anderson, K. (2008). Coral Jewellery. Victorian Review 34(1), 47–52.
- Ascione C. (2000). La Real fabbrica de' coralli della. Torre del Greco, Italy. Enzo Albano Editore.
- Chisholm, H. (1911). Coral. Encyclopedia Britannica (11th ed.). Cambridge University Press. p. 131.
- Coral. (N.D.). Jewelry Central. Retrieved from http://www.jewelrycentral.com/Target_Coral.asp
- Corallium Cuvier. (N.D.). WoRMS World Register of Marine Species. Retrieved from http://www.marinespecies.org/aphia.php?p=taxdetails&id=125325
- Corallium species *ARKive*. Torre Del Greco, Italy. Retrieved from http://web.archive.org/web/20070620223811/http://www.arkive.org/coral/Coral/corallium_more.html
- Cerrano, C, Ponti, M., Silvestri, S. (2004). *Guida alla biologia marina del Mediterraneo*, Continente blu, Ananke. Torre Del Greco, Italy. ISBN 88-7325-072-6.
- Cicogna, F. & Cattaneo-Vietti, R. (1993). *Red corals in the Mediterranean Sea: Art, history and science*. Rome, Italy: Massa Lubrense. 263 pp.
- Cooper, E.W.T., Torntore, S.J., Leung, A.S.M, Shadbolt, T. and Dawe, C., 2011. Guide to the Identification of Precious and Semi-precious Corals in Commercial Trade. TRAFFIC North America and WWF-Canada
- Corallium rubrum: 1758, Linnaeus. Food and Agriculture Organization of the United Nations. Retrieved from http://www.fao.org/fishery/species/3611/en
- Crocetta, F., Spanu, M. (2008) *Molluscs associated with a Sardinian deep water population of Corallium rubrum (Linné, 1758)* in *Mediterranean Marine Science*, 9(2), 2008, pp. 63-85. Vincenzo Liverino , Dispensa IGI- GIT.
- Fischer, W. & Bauchot, M. L. (1987). FICHES FAO d'identification des especes pour les besoins de la Pêche. *Méditerraneé et Mer Noire, 1(1), 755–798.*
- Gemstones: Coral. (N.D.). International Colored Gemstone Association. Retrieved from http://www.gemstone.org/index.php?option=com_content&view=article&id=136:sapp-hire&catid=1:gem-by-gem&Itemid=14
- Grasshooff, M. & Bargibant, G. (2001). Blue Coral. *Coral reef gorgonians of New Caledonia*. Institute de recherche pour le developpement. IRD.
- Hasegawa. H., Rahman. M. A., Luan. N.T., Maki. T. and Iwasaki. N., 2012. Trace elements in Corallium spp. as indicators for origin and habitat. Journal of Experimental Marine Biology and Ecology, 414–415. 1–5.
- Iwasaki, N.,ed., 2010. A Biohistory of Precious Corals: Corals Scientific Cultural and Historical Perspectives. Tokai University Press.
- Iwasaki. N., Fujita. T., Bavestrello. G. and Cattaneo-Vietti. R., 2012. Morphometry and population structure of non-harvested and harvested populations of the Japanese red coral (Paracorallium japonicum) off Amami Island. southern Japan. *Marine and Freshwater Research*, 51 (3). 372–382.
- Linares, C., Bianchimani, O., Torrents, O., Marschal, C., Drap, P., & Garrabou, J. (2010).

 Marine protected areas and the conservation of long-lived marine invertebrates: The Mediterranean red coral. *Marine Ecology Progress Series*, 402(1), 69–79. Retrieved from http://www.int-res.com/abstracts/meps/v402/p69-79/
- Liverino B. (1998). Il corallo. Arte tipografica editrice. Torre Del Greco, Italy. 978-600-05-

0655-1.

- Maki, T., 2014. Management of precious corals in Japan and the discussion about precious corals at CITES. M.-S. Jeng ed, International Symposium on Pacific Precious Corals Final Report 2014, Taiwan Jewelry Industry Association, Taipei, 276-278.
- Nonaka. M., Mizuk. K. and Iwasaki. N.,2012. Descriptions of two new species and designation of three neotypes of Japanese Coralliidae from recently discovered specimens that were collected by Kishinouye. and the introduction of a statistical approach to sclerite abundance and size. Zootaxa, 3428. 1–67.
- Opresko, D., Tracey, D. & Mackay, E. (2014). Antipatharia: Black corals for the New Zealand region. Also published in New Zealand Aquatic Encironment and Biodiversity Report No. 131, 1–20. Retrieved from https://www.mpi.govt.nz/document-vault/4377
- Ovid's Metamorphoses. Metamorphoses. Retrieved from http://ovid.lib.virginia.edu/trans/Metamorph4.htm
- Pérès, J.M. & Picard, J. (1964). Nouveau manuel de bionomie benthique de la mer Méditerranée. *Recueil des Travaux de la Station Marine d'Endoume*. 47(31), 1–137.
- Red coral. (N.D.) *Marenostrum*. Retrieved from http://marenostrum.org/vidamarina/animalia/invertebrados/cnidarios/corales/rojoi.htm
- Rizzi T. L., Penco, A. (2000). *Le armie di Portofino. Guida al parco marino sull'acqua e sott'acqua*, Le Mani-Microart'S. Torre Del Greco, Italy. ISBN 88-8012-148-0.
- Santangelo, G., Abbiati, M., Giannini, F. & Cicogna, F. (1993). Red coral fishing trends in the western Mediterranean Sea during the period 1981–1991. *Scientia Marina*, 57(1), 139–143.
- Trainito, E. (2004). *Atlante di flora e fauna del Mediterraneo (*ed.), Milano, Italy: Il Castello. ISBN 88-8039-395-2.
- Troina, G. Russo, F., (2007). *Il porto del corallo. Analisi storica del porto di.* Torre Del Greco, Italy. ISBN 978-88-95430-01-0.
- Tu, T., Dai, C., Jeng, M., 2012. Precious corals (Octocorallia: Coralliidae) from the northern West Pacific region with descriptions of two New Species. Zootaxa. 3395, 1–17.

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