

# Precious Coral and the Legacy of the Coral Road



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Edited by

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# TABLE OF CONTENTS

Preface .....	vii
<b>Part One: The Origin of Precious Coral</b>	
Chapter One.....	3
The Origin of Coral Fishery in the Mediterranean Sea	
Chapter Two .....	7
Fishing the Mediterranean Red Coral	
<i>Riccardo Cattaneo-Vietti, Franco Andaloro, Giorgio Bavestrello, Marzia Bo and Giuseppe Rajola</i>	
Chapter Three .....	13
The Trade of Precious Corals in the Mediterranean from the Middle Ages to the Nineteenth Century	
<i>Luisa Piccinno</i>	
Chapter Four.....	21
The Sciacca Red Coral Story	
<i>Riccardo Cattaneo-Vietti, Franco Andaloro, Giorgio Bavestrello, Marzia Bo and Giuseppe Rajola</i>	
<b>Part Two: The Coral Road</b>	
Chapter Five .....	31
Following the Coral Road	
<i>Iwasaki Nozomu</i>	
Chapter Six .....	39
Corals in the Sky: The Coral Roads Seen from Tibet	
<i>Akimichi Tomoya</i>	
Chapter Seven.....	45
A Luminous Manifestation of the Buddha's World	
<i>Sasaki Kazunori</i>	
<b>Part Three: The End of the Coral Road</b>	
Chapter Eight.....	55
The End of the Coral Road: Japan	
<i>Iwasaki Nozomu</i>	
Chapter Nine.....	59
Precious Coral of the Owari-Tokugawa Family	
<i>Koike Tomio</i>	
Chapter Ten .....	65
The Foreign Image of Coral in Japan	
<i>Iwasaki Nozomu</i>	
Chapter Eleven .....	71
Coral in Bygone Times: The Fabric of Fantasy and Fairytales	
<i>Iwasaki Akemi</i>	
Chapter Twelve.....	77
Coral in Beliefs and Festivals	
<i>Iwasaki Nozomu</i>	

Chapter Thirteen.....	83
Coral as a Lucky Charm in Traditional Festivals	
<i>Kishikawa Masanori</i>	
Chapter Fourteen.....	89
Hair Accessories of the Edo Period	
<i>Iwasaki Nozomu</i>	
Chapter Fifteen.....	93
Hairpins and Combs of the Edo Period	
<i>Tsuyuki Hiroshi</i>	
<b>Part Four: Precious Coral in Modern Japan</b>	
Chapter Sixteen.....	99
The Beginning of Japanese Coral Fishery in the 1870s	
<i>Iwasaki Nozomu</i>	
Chapter Seventeen.....	101
Coral Fishery in Japan from the 1870s to the 1920s	
<i>Ogi Shinichiro</i>	
Chapter Eighteen.....	107
Coral Trading from Japan to Italy in the 1910s: The Trade of Precious Corals in Family Life	
<i>Ottavio Lazzara</i>	
Chapter Nineteen.....	117
Coral Products in Modern Times	
<i>Iwasaki Nozomu</i>	
Chapter Twenty.....	121
Imitation Coral	
<i>Iwasaki Nozomu</i>	
Chapter Twenty-One.....	125
Precious Coral and People	
<i>Iwasaki Nozomu</i>	
Contributors.....	133

## PREFACE

This is a re-edition of the Japanese book *Sango* (A. Iwasaki and N. Iwasaki, eds., Tokai University Press, 2011), which was published to coincide with the precious-coral exhibition “Jewelry From the Deep Sea” held at the National Science Museum in Tokyo from 5 April 2011. The book features numerous photos and illustrations in addition to a variety of articles intended to appeal to a general readership.

In the far distant past, how was Mediterranean coral conveyed to Japan? We have named this journey, both physical and metaphysical, the “Coral Road”. How has coral been perceived in Japan? We have examined this question from various historical angles. The scope of this English edition has also been widened to include material on the history of coral fishery and trade in Italy, the birthplace of coral culture. With the publication of this book in English, my hope is to spark further research and widespread interest in the culture of the Coral Road.

In recent years, global concern about depleted precious-coral resources has provoked international debate on the propriety of coral fishing. As resources approach exhaustion, the question we must ask ourselves is: How will we pass this legacy down to future generations? I hope this book will serve as an aid to the discussion.

I wish to thank all those who contributed to this book and assisted in its publication. I also extend my heartfelt thanks for the dedicated efforts of our translator, Joanna Hare.

Iwasaki Nozomu





## **PART ONE**

### **THE ORIGIN OF PRECIOUS CORAL**



## CHAPTER ONE

### THE ORIGIN OF CORAL FISHERY IN THE MEDITERRANEAN SEA

Precious coral fishery originated in the Mediterranean Sea, where its history can be traced back more than 2,000 years. According to Greek mythology, coral was born from the blood of the Gorgon Medusa, a vicious monster with a mass of snakes for hair and glittering eyes, so horrifying that anyone who looked upon her was instantly turned to stone.

After managing with the help of the gods to slay Medusa, the demigod Perseus was flying home with Medusa's severed head in a magic bag when he looked down and saw the beautiful maiden Andromeda chained to a rockface, where she had been left as a sacrifice to a sea monster. Alighting to save Andromeda, Perseus took Medusa's head out of the bag and set it down upright on a bed of leaves and seaweed, which were instantly transformed into red coral. Alternatively, in another version of the story, the blood that dripped from the severed head turned into coral.



Fig. 1.1  
Bracelet centre. Coral cameo depicting Medusa's head wreathed in snakes, held by two coral hands. Carved coral with turquoise and gold bracelets, Italy, c. 1840.  
© Victoria and Albert Museum, London.



Fig. 1.2  
*Perseo e Andromeda*, Giorgio Vasari, 1570–1571. Oil on slate.  
Palazzo Vecchio, Florence.

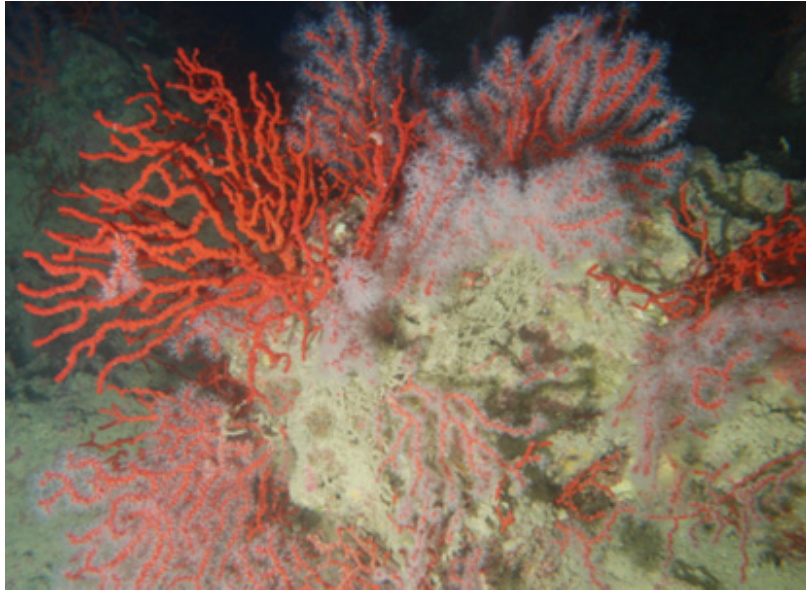


Fig. 1.3  
A typical deep red coral bank at 80 metres depth in the Sicily Channel.  
Photo courtesy of Simonepietro Canese.



Fig. 1.4  
Coral fishing devices: *ingegno* (left) and Italian bar (right).  
Reproduced from Cattaneo-Vietti et al. (2017)



Fig. 1.5

*Korallenfischer*, A. Closs. In Stieler et al., *Italien* (1880). The *ingegno*, pictured here being hauled up by coral fishermen, is a cross-shaped device made from two five-metre wooden bars with a weight attached to the centre and nets hanging from the ends of each bar. Ten-metre bars with 2.5 metre nets were also used.

Riccardo Cattaneo-Vietti Collection.



Fig. 1.6

*Coral Fishing*, Giovanni Pennasilico, latter half of 19th century.

Riccardo Cattaneo-Vietti Collection.



Fig. 1.7

*Pesca dei Coralli* (Coral Fishing, a.k.a. *Allegory of the Discovery of America*), Jacopo Zucchi, c. 1585. Oil on slate. Villa Borghese, Rome.

This small painting (50 x 40 cm) is an allegorical depiction of both the sea—portraying a wealth of marine life, such as coral, seashells, pearls and lobster—and the newly discovered continent of America—featuring black people, a parrot, a monkey, etc. Zucchi (1541–1596) was a Late Renaissance painter, active in Florence and Rome, and the painting is believed to have decorated the study of Cardinal Ferdinando I de' Medici.

## CHAPTER TWO

### FISHING THE MEDITERRANEAN RED CORAL

RICCARDO CATTANEO-VIETTI, FRANCO ANDALORO,  
GIORGIO BAVESTRELLO, MARZIA BO AND GIUSEPPE RAJOLA

Since prehistoric times, the precious red coral *Corallium rubrum* (L., 1758) has been an essential Mediterranean resource (Fig. 1.3). As a precious stone in jewellery, red coral has been found among artefacts unearthed from prehistoric graves in various Mediterranean and European locations (Tescione 1965; Marini and Ferru 1989; Bussoletti et al. 2010; Cattaneo-Vietti and Bavestrello 2010; Tsounis et al. 2010). Over time, its red high-magnesium calcite skeleton has also assumed important religious and apotropaic significance as people believed it to be a good luck charm (Balzano 1838, 1870; Price and Narchi 2015). Even today, coral amulets and necklaces are donated to infants and brides as propitiatory ornaments.

#### Coral Fishery in the Middle Ages and Modern Times

Red coral was harvested for centuries with the *ingegno* (“St. Andrew’s cross”), a fishing device dating from the fourth to third centuries BCE, and in the last hundred years with the “Italian bar”, a sturdy metal tube at least five metres long with bundles of nets suspended from it for the purpose of entangling the coral branches and tearing them from the rocks (Marongiu 1996; Tsounis et al. 2010) (Figs. 1.4 and 2.1).



Fig. 2.1

Fishing coral with the Italian bar.

Above: Hauling up the nets. Photo: Fabio Cicogna.

Below: Recovering coral branches entangled in the nets. Photo: Andrea Balduzzi.

In the twelfth and thirteenth centuries, fishermen from Catalonia, Genoa and Marseille were particularly active in red coral fishing in Tunisia and Algeria. Other banks were exploited in Sardinia and the Gulf of Naples from the fifteenth century, while, at the beginning of the sixteenth century, the Genoese obtained the exclusive right to fish coral in Tabarka (Tunisia). Many companies sprang up around this time to exploit Mediterranean red coral banks. In Marseille, the *Grande Compagnie du Corail des Mers de Bône*, established in 1553, had the monopoly of coral fishing along 250 kilometres of the Maghreb coast and harvested about 4,000 tons in 15 years (from 1575 to 1591) in northern Africa, Corsica and Sardinia (Berti 2003). In the sixteenth century, fishermen from Torre del Greco (Italy) moved towards Corsica and Sardinia, and in 1688 they had more than 400 coral fishing boats (the so-called *coralline*) (Figs. 1.5 and 1.6), reaching the African coasts in 1780. During the eighteenth century, about 250–300 boats, coming from Pisa, Genoa, Provence, Marseille, Spain and Naples, actively fished around the island of Sardinia (Doneddu 1994; Zanetti 1960; Marongiu 1996) as well as along the Maghreb coast. Their number increased to over 600 boats, with sharp fluctuations according to more or less favourable fishing seasons (from 51 in 1741 to 604 in 1747).

In the nineteenth and twentieth centuries, the coral fisheries underwent fluctuating periods of prosperity and decline (Tsounis et al. 2007). According to Lacaze-Duthiers (1864), 204 coralline were employed in 1860 in Algeria, harvesting about 30 tons of raw material. In Tunisia, from 1885 to 1895, the production was about 7 tons/year, while from 1920 to 1925, despite technical improvements to the fishing equipment, it did not reach 1.2 tons/boat/year. In Algeria, following the country's independence from France (1962), coral fishing was resumed from 1975 to 1977 after a period of stasis, totalling some 10 tons (Cau et al. 2013).

In Italy, 350–400 coralline were active during the nineteenth century (Statistica del Regno d'Italia 1863; Mazzei-Megale 1880; Liverino 1998; Errico and Montanelli 2008), landing about 60–140 tons/year (on average, 0.26 tons/boat/year). In this period, Sardinian banks produced the largest yield. In the 1860s, of the 79 tons of coral that was landed in Naples, 28.5 tons was fished in Sardinia, 15 tons in Africa, 10 tons in Corsica, and 25.5 tons in other areas (Tescione 1968). In 1872, 38.5 tons was fished in Sardinia, 15 tons in Africa and 10.5 tons in Corsica (Municipio di Torre del Greco 1872). In 1882, about 2.2 tons was fished in Sardinia, where the most productive areas were those surrounding Carloforte Island.

### **The Discovery of Sciacca Coral**

In 1875 and the years that followed, Mediterranean red coral fishery was turned upside down by the discovery of three extraordinary sub-fossil coral deposits in the Sicily Channel off the town of Sciacca (see Chapter 4). The Italian fleet developed quickly in response to the discovery (Parona 1883; Gangemi 2011, 2014), reaching the impressive number of 2,000 boats. It was a real “coral rush” (Rajola 2012) that, in only 34 years (1875–1888 and 1893–1914), completely depleted the banks (Liverino 1998; Rajola 2012; Cattaneo-Vietti et al. 2016). The best harvests occurred in 1880 and 1881, when about 4,492 tons and 2,630 tons were collected, respectively. The yield from the Sciacca banks reached the extraordinary amount of 18,000 tons, which represents about 90% of all the red coral harvested along the Italian coast in the previous 150 years.

After the Sciacca period, the coral fishing fleet declined due to a combination of circumstances: the considerable amount of raw material still available from the “Sciacca rush”, imports of Japanese coral, the Italian-Turkish war (1911), and World War I (1914–18). Only a few coralline were still operating at the end of the Sciacca period (1914), mainly in Sardinia, landing about 2 tons/year (0.24 tons/boat/year) (Zanetti 1960) (Fig. 2.2).



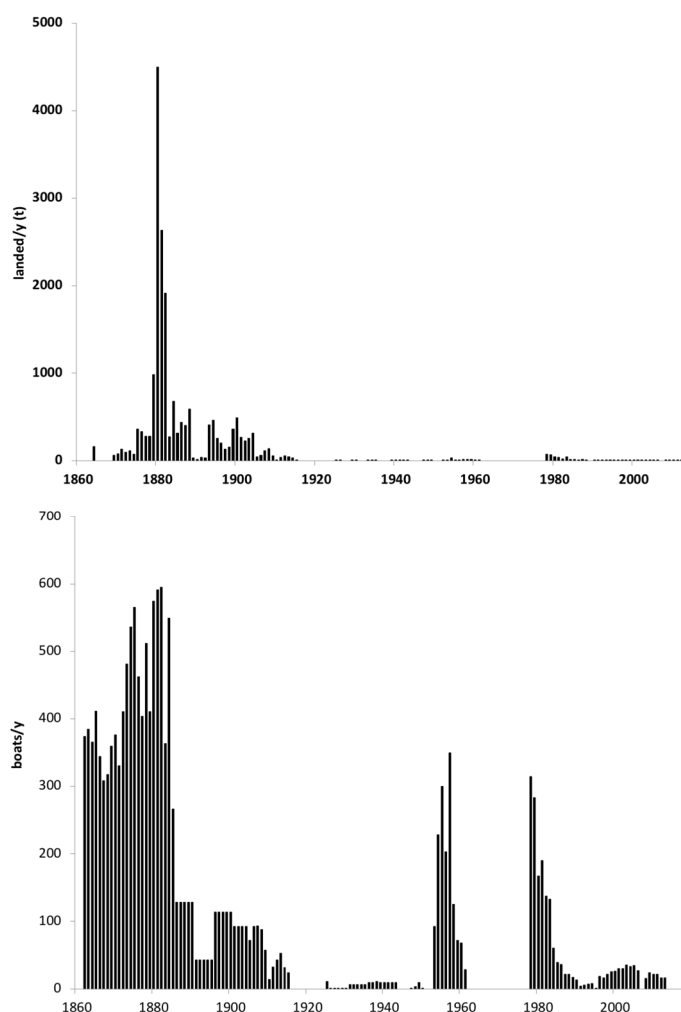


Fig. 2.2

Historical trends of the coral harvest in tons/year (above) and the number of *coralline* in Italian waters from 1850 to the present (below).

Reproduced from Cattaneo-Vietti et al. (2016).

### Modernisation of Coral Fishery and a Decrease in Landings

After World War I, the possibility of using motorised boats and winches for coral fishery facilitated trawling with the “Italian bar”. During the same period, the Italian tax on red coral increased to 10% of the harvested value (Regio Decreto [Royal Decree] 312/1913), discouraging coral fishing and turning fishermen towards the more profitable activity of sponge exploitation (Mazzarelli 1931). Exports continued nonetheless, drawing on the vast reservoir created during the Sciacca period. In 1926, for example, traders exported 6,337 tons to the value of 21,320 Italian lire (Ministero delle Finanze 1926). However, the world economic crisis (1929), the Italian politics of those years inspired by autocracy, and, finally, sanctions imposed by the League of Nations (1935–1936) certainly did not favour the export of luxury goods such as jewellery, and the red coral industry fell into regression.

Italian red coral fishery declined dramatically until the end of World War II (Liverino 1998; Gangemi 2011, 2014)—only five boats were active during the war (1941)—but their number had bounced back to 350 units by the end of the 1940s. During this period, the average landings were about 10 tons/year with low amounts per boat (0.1 tons on average). Unfortunately, no data are available from 1962 to 1977. A new increase occurred around the end of the 1970s (up to 314 coralline in 1978). However, after this period the number of boats dropped progressively to 17, and the average annual yield, initially around 100 tons, decreased to 28 tons in the space of 100 years, demonstrating severe overexploitation (Cattaneo-Vietti et al. 2016).

The spread of scuba diving was a significant event in the history of red coral fishing because it allowed divers to collect corals in protected crevices that were inaccessible to dredging (Fig. 2.3). From 1954, many Italian divers became professional scuba coral fishermen, working on banks in southern Italy (Palinuro), Sardinia, Elba, and Corsica (Liverino 1998), initially in shallow waters (30–40 m deep) and then, over the years, on deeper banks at depths of over 100 metres. At that time, in Sardinian waters alone, harvesting accounted for about 5.6 tons/year (0.36 tons/boat/year). The number of diving boats, operating mainly in Sardinia and Sicily, increased quickly to about 100 units in 1978 before settling at around 40 units in the following years.



Fig. 2.3

Above: Historical image (1970) of a professional diver collecting red coral colonies.

Below: Renowned Italian diver Massimo Scarpati (right) with colonies of exceptional size collected in Sardinian waters.

Photos: Fabio Cicogna & Antonio Terlizzi.

In 1978, a “second red coral rush” began in the central Mediterranean Sea, with the exploitation of the Skerki Bank (Sicily Channel), at 50 nautical miles from Marettimo Island, where an abundant population of living red coral was found in the 40–50 metre depth range. Eighty divers from Italy, France and Spain harvested 70–120 tons in 1978. In 1979, there were 366 boats at work (283 of them registered in Italy) and 150 divers (Liverino 1998). In the Sicily Channel, about 3.5 tons of subfossil colonies was also collected on the Terribile Bank, discovered in 1983 close to Pantelleria Island (Liverino 1998). In the 1980s, the harvest from this site averaged 28.7 tons/year (0.25 tons/boat/year).

In Italy, the fishing activities were concentrated in Sardinia: in the period 1978–1997, the average yield of the coralline and divers operating in the Tuscany Archipelago and Gulf of Naples was 1.8 tons/year, which amounted to only 6.9% of the coral collected in Sardinian waters in the same period (Liverino 1998).

### Conservation of Red Coral and Its Fishery

By the end of the twentieth century, the severe damage that the use of the *ingegno* caused to the habitat hosting red coral became evident, and in 1989, the Autonomous Region of Sardinia (ARS) banned its use. In 1994, the EU banned all coral trawling gear in European waters (UNEP-MAP-RAC/SPA 2008; Cattaneo-Vietti et al. 2016; 2017) and in 2006, the EU Habitats Directive (2006/105/EC) listed *Corallium rubrum* in Annex V (“animal and plant species of community interest whose taking in the wild and exploitation may be subject to management measures”) and reiterated that towed

devices were prohibited. These decisions, necessary to safeguard the overexploited banks (Otero et al. 2016), did not affect fishing activities, as there were very few coralline still operating by that time. It was the spread of scuba divers that struck the final blow against the coralline fleet since, from an economic point of view, it was more expensive to put a traditional sailboat into commission than to equip a scuba-diving boat, while their yield was about the same. Consequently, increasing competition from the divers led to the decline of the coralline's fishing activities long before the legal prohibition of trawling gear.

Today in the Mediterranean Sea, harvesting is permitted only by scuba diving, a technique considered more selective towards colonies of larger sizes and one which seems to have less impact on the red coral habitat (Santangelo and Bramanti 2010). In 1979, the Region of Sardinia (Italy) adopted its own legislation on coral fishing: every year only 30 licensed professional scuba fishers are allowed to harvest corals, and this is only in restricted areas, during specific periods and at depths of over 80 metres. In 1996, the Autonomous Region of Sardinia started collecting information on catches through the use of compulsory logbooks filled out by divers at the end of each harvesting season (Cannas et al. 2010, 2011; Follesa et al. 2013).

The legal restriction and progressive reduction of the number of launched boats characterised red coral fishery at the beginning of the twenty-first century. In the period 1996–2010, total catches amounted to 37.6 tons (official data from the Autonomous Region of Sardinia), less than half of the 88.5 tons reported in the datasets of the Food and Agriculture Organization of the United Nations (FAO) for the same years for the entire Mediterranean Sea.

In 2006 and 2012–2013, the limitation of the harvesting period and the reduction in the number of authorised divers led to a marked decrease in the annual coral harvest. In 2007, the Sardinian Regional Government forbade coral harvesting as a precautionary measure.

At present, commercially valuable populations exist only in Sardinian waters, the Sicily Channel and along the African coasts from Morocco to Tunisia, while all other banks have been abandoned due to negligible yields. In 2013, yields totalled about 54 tons (FAO FIGIS, 2015); however, these data certainly underestimate the overall Mediterranean yield due to illegal fishing and black-market trade (Cattaneo-Vietti et al. 2017).

While the severe restrictions on fishing areas, yields and colony size following overexploitation (Tsounis et al. 2010) further curtailed the activities of the coralline boats, there was also another reason for their decline: in fact, the importation of Japanese red coral had relieved the need for a continuous local supply. In 2011, measures for controlled fishery in terms of the harvesting period, number of licenses, minimum size, maximum daily amount, and permitted areas and depth were suggested by the General Fisheries Commission for the Mediterranean (GFCM-FAO); and in 2015, *Corallium rubrum* was declared a threatened species (Endangered, Mediterranean Red List IUCN).

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## CHAPTER THREE

# THE TRADE OF PRECIOUS CORALS IN THE MEDITERRANEAN FROM THE MIDDLE AGES TO THE NINETEENTH CENTURY

LUISA PICCINNO

Throughout the Mediterranean, the cherished ancient traditions of coral fishing and processing have endured and developed through the ages. As early as the tenth to eleventh centuries, coral was already regularly fished along the coasts of North Africa, Spain, Provence and the Italian peninsula, as well as off the coasts of Corsica, Sardinia and Sicily. Mostly Italian and, to a lesser extent, French and Catalan fishermen were involved in these activities. In Italy, the Mediterranean red coral (*Corallium rubrum*) was fished and used to fashion rudimentary ornaments as early as the Neolithic age, as evidenced by artefacts found in Liguria and along the Adriatic coast. Even far from the sea, in the Alpine valleys, archaeologists have unearthed worked coral items from ancient burial sites (Segre Naldini 2019, 16–21). As far as coral trade in ancient times is concerned, according to some classical sources, the precious “red gold” was carried along the route that ran from Egypt via Cana (in southern Yemen) to Indian and Pakistani ports, where it was traded for fabrics and other precious goods sold by Chinese merchants (Iannello 2017, 111).

### Coral Fishery in the Middle Ages

In the Mediterranean, from the late Middle Ages to the early modern age, coral was fished from small 10–16 ton vessels called *coralline*, each equipped with six to eight oars and a Latin sail. The crew on board was made up of a *patronus*—i.e. the captain, and often also the owner of the vessel—and from seven to eleven sailors, responsible for different tasks. Each boat was usually equipped with two dredges, one placed at the stern and one at the bow. The dredge (*ingegno* or *ordigno*) consisted of two large wooden beams tied together to form a cross, with a weight in the middle to sink it and one or more side nets. Long hemp ropes were used to lower the dredge down to the sea floor, at a depth ranging between 50 and 100 arms (about 24–48 m). The sailors would then raise the sail and follow the wind direction—or use the oars when there was no wind—to drag the nets along the sea floor until they were full enough. By jointly moving the boat and working the winch, they did their best to position the nets in such a way as to tear off as much coral as possible. A similar manoeuvre was necessary to haul the nets back up again. In the Mediterranean, coral was harvested from the end of winter to the beginning of autumn. However, in some fishing grounds, such as along the coasts of North Africa and particularly in the waters surrounding the island of Tabarka in Tunisia, coral was harvested non-stop throughout the year. The boats generally moved in small fleets of 30–40 units accompanied by one or two guard boats. Once a fortnight, or sometimes only once a month, they would return to shore to stock up on supplies and deliver their coral harvest (Figs. 1.2 and 1.7).

The Ligurians were undoubtedly ahead of all the other Italian populations dedicated to fishing and processing this precious product, not only from a chronological point of view but also in terms of their highly skilled workforce. Their investment in capital, men and other resources for these activities was such as to be compared to a “transhumance of the sea” (Grendi 1982, 445). Their coral fisheries expanded to extend from the Maghreb coast to Corsica, Sardinia and, to a lesser extent, the Tyrrhenian coast. This wide coral fishing area was consolidated during the early modern age when they were granted exclusive rights to exploit the rich coral banks growing in these areas. In particular, the King of Tunis granted them a monopoly on coral fishery in the waters of Marsacares in 1462. In 1475, abundant coral beds were discovered in Corsica, at that time ruled by the Republic of Genoa. In 1543, the first agreement was signed under which the Spanish King Charles V granted some Genoese nobles the right to set up a permanent settlement on the Tunisian island of Tabarka and the monopoly to fish coral in its surrounding waters. The Genoese enjoyed this exclusive right for about two centuries. In its heyday, the Mediterranean coral fleet is estimated to have numbered about 300 Ligurian boats and over 3,000 men. For this reason, during the long spring and summer fishing seasons, there would be a dramatic increase in the populations of the small coastal villages of Liguria from where the coralline set sail. This happened regularly in the western Ligurian Riviera, from which, at the beginning of the seventeenth century, about 2,000 people are estimated to have sailed every year to reach the coral fisheries in Sardinia (Doneddu 2002, 199–210).

## Genoa, Centre of Coral Processing and Trade

The art of coral processing was probably initiated in the thirteenth century and further developed in Genoa from the second half of the fifteenth century, spurred by the growing supply of raw material available. In 1477, forty-two coral masters and merchants applied to the city authorities of Genoa to formally establish their own guild governed by special chapters since they still had no statute like the guilds of other trades. It wasn't until 1492, however, that the "*Capitula artis coraliorum*" (Chapters of the art of coral) were finally approved. These were regulations applicable to a guild of coral craftsmen—the so-called *Corallieri*—aimed at governing the work of its members, who numbered about seventy at the time, and protecting their monopoly (Pastine 1933, 279–281). The connection between coral fishermen and the craft of the *Corallieri* was governed by provisions issued by the government of the Republic of Genoa, which were reinforced several times between the sixteenth and seventeenth centuries. The provisions were designed both to ensure the exclusive supply of raw material to Genoese craftsmen and to keep their skills and production capacity within the city boundaries (Pastine 1933, 353–355). However, not all the raw coral reached Genoa. For example, most of the coral harvested in Corsican waters by employees of the Genoese nobleman Francesco Di Negro and his partners at the end of the sixteenth century was sent directly to Marseille. From here, this precious cargo continued its journey aboard French ships bound for Alexandria, where it was traded for equally expensive cargoes of spices (i.e., pepper, cinnamon, ginger, cloves, nutmeg, etc.) (Piccinno 2006, 121–124).

The characteristics and intrinsic value of the harvested product varied, depending on the fishing ground. Sardinian coral was of medium size and good quality, while the coral from the Gulf of Naples was lighter in colour, yellowish, and therefore less costly: its price was about half that of Sardinian coral. Spanish coral and that from the Barbary Coast was dark red in colour and of medium size, hence of good quality and a similar price to Sardinian coral (Ghidiglia 1892, 486).

The art of coral working enjoyed its heyday in Genoa in the sixteenth century before strong competition emerged from nearby Livorno. During this period, Genoese merchants were dominating international finance by leveraging the huge fortunes they had made from lending money to the Spanish Crown, thus triggering what is called "the century of the Genoese". They would combine banking with multi-sectoral investments, which often included the control of coral fishing and trade. The case of the Lomellini family and their centuries-old control of the island of Tabarka is the most striking example of a system involving many members of Genoa's aristocracy (Piccinno 2008).

## Coral Use and Art in Europe

Most of the coral processed in Genoa was sold in the local and European markets, although a significant percentage was sent to Livorno for further shipment to Far Eastern markets, where it was traded for jewels and other valuable products, such as diamonds and pearls (Rollandi 2017–2018, 360). In the Genoese market, coral was used as an ornament only by the working or middle class, as shown in the painting *La Cuoca* by Genoese artist Bernardo Strozzi (Fig. 3.1) (Orlando and Sanguineti 2019). It is no coincidence that the painting depicts a cook and not a noblewoman. On the other hand, while the use of coral in jewellery was generally limited in pre-industrial times, at least in Europe, it was extensively employed to produce sacred objects and other artefacts designed to embellish courts all over Europe. One of the most significant examples was the huge supply of processed corals from Genoa purchased on several occasions by the court of Ferdinand II of Habsburg, Count of Tyrol, between 1577 and 1590. This included outstanding coral artefacts, now part of the collection of Ambras Castle, kept in the *Kunstkammer* of the *Kunsthistorisches Museum* in Vienna. *A Triumph of Galatea* (Figs. 3.2 and 3.3) is one of them, allegedly crafted by Filippo Santacroce, a master from Urbino who worked in Genoa for many years. Members of the Doria family would commission highly precious items from him, fashioned in rare materials such as precious woods, ivory and coral. This particular work features a symbolic mythological diorama enriched with mother-of-pearl shells and coral figures depicting legendary characters and sea monsters. It is dominated by an image of Christ crucified on a coral branch atop an undersea hill of Golgotha. According to an inventory of Santacroce's workshop made in 1607, the artist's works were essentially small in size—rarely bigger than the palm of one's hand—and consisted of sacred icons, images of Christ on the cross and the Virgin Mary, cameos, and amulets. The same Viennese collection includes another highly valuable work, also attributed to Genoese artisans, which dates from the end of the sixteenth century. It is a writing box in sterling silver adorned with a carved coral branch depicting Neptune riding a dragon (Fig. 3.4). The deity holds a shield in his left hand, while in his right hand he was most probably holding a trident, now lost (Del Mare 2014, 3).



Fig. 3.1  
*La Cuoca*, Bernardo Strozzi, c. 1625. Oil on slate.  
Musei di Strada Nuova, Palazzo Bianco, Genoa.



Fig. 3.2  
*Triumph of Galatea (Kabinettschrank mit Korallen)*, 16th century.  
Schloss Ambras Innsbruck, Kunst Historisches Museum, Vienna.



Fig. 3.3  
*Triumph of Galatea*, detail from Fig. 3.2.



Fig. 3.4  
Writing box (*Schreibzeug mit Korallen*), 16th century.  
Schloss Ambras Innsbruck, Kunst Historisches Museum, Vienna.



## The Crisis in Genoa

In the second half of the sixteenth century, the Coral Guild reached the height of its splendour in Genoa, with more than 200 members, both craftsmen and merchants. In addition, there were a few thousand people living in the hinterland of Genoa, along the Bisagno and Polcevera river valleys, who took care of the early stages of processing the raw coral material under the putting-out system, by which factories subcontracted work to them. The semi-finished products were then sent to the craftsmen's workshops for the artistic work. From the following century, however, the Guild gradually declined. This trend became more evident in the eighteenth century, when the artisans' work was largely confined to simple routines involving merely "cutting, drilling, rounding, and shining" (Pastine 1933, 309). This was partly due to competition from other trade and processing centres, such as Livorno, Marseille, Trapani and, some time later, Torre del Greco (Naples). Another reason for the decline was a scarcity of raw material due to a significant reduction in the coral catch of Ligurian fishermen. In 1741, the Genoese fishermen employed by the Lomellini family were ousted from the island of Tabarka following its invasion by Tunisia, and in 1768 the Republic of Genoa sold Corsica to France. A further sign of the coral crisis was the marketing in those years of many fake coral artefacts made by the very members of the Guild, using boiled and dyed marble to imitate the precious material. These episodes prompted legislators in Genoa to enforce new regulations aimed at limiting such illegal conduct. If unchecked, these scams would have damaged the reputation of the Guild itself as well as jeopardised the export of Genoese artefacts to the Indies, which were an important outlet market for local production at the time (Pastine 1933, 366–367).

Nonetheless, precious coral artefacts dating from this period have been found in the reliquaries preserved in some local churches and shrines, which is evidence that production had not completely stopped. One of the most important of these sanctuaries is the so-called Santuario della Madonnetta (also known as Santuario di Nostra Signora Assunta di Carbonara), built on a mountain in the hinterland of Genoa between 1695 and 1696. Some significant examples of these eighteenth-century artworks are preserved there (Fig. 3.5). Furthermore, many churches in the small coastal towns of the Ligurian Riviera hold coral *ex-voto* (votive offerings) featuring coral-fishing boats, or statues of the Madonna adorned with various coral jewellery and necklaces. These were all inspired by the famous Madonna dello Schiavo ("Our Lady of the Slave") kept in Carloforte on the island of San Pietro in Sardinia, which was worshipped as a symbol commemorating the coral fishermen who were captured in Tabarka in 1741 and kept there in slavery for many years before they were eventually able to migrate to Sardinia (Fig. 3.6).



Fig. 3.5

Reliquary, Santuario di Nostra Signora Assunta di Carbonara, Genoa, 18th century.

Photo: Enzo Dagnino.



Fig. 3.6  
Madonna dello Schiavo, Oratorio della Vergine Immacolata, Carloforte.  
Photo: Enzo Dagnino.

In the second half of the eighteenth century, the coral crisis gradually spread to other production centres both in Italy (especially Livorno and Torre del Greco) and abroad (Marseille in particular), and the situation worsened during the nineteenth century. Demand from the European market fell sharply due to changes in popular habits and tastes, leaving only exports to distant markets. In fact, in the mid-nineteenth century, most of the processed coral produced in Italy was sent to Bombay, Madras and Calcutta, or China, England and Paris, to be sold in the United States. In Europe, only Poland, Austria, and especially Russia were still important markets for Italian coral artefacts (Pastine 1933, 387).

### **The Discovery of Sciacca Coral and Recovery from the Crisis**

Italian coral production enjoyed another period of great splendour in the last decades of the nineteenth century following the discovery of abundant new beds in the Sicilian waters off Sciacca (see Chapter 4). According to the data reported in the Italian Statistical Yearbook, in 1875, when the first coral bank was discovered, 360 tons of coral was fished using 360 boats and 3,600 men. While slightly lower coral harvest figures were recorded over the following few years, the number of boats and men employed more than doubled, thus confirming that the sector was once again very attractive to Italian investors. The real boom was recorded in 1880 when the largest bank was discovered. It was two and a half miles long and two miles wide, located at an average depth of 180 metres. That year, 4,492 tons of coral was fished by 1,797 boats and 1,700 men. In five years, a total of more than 11,000 tons of raw material was supplied. Therefore, in order to stem falling prices caused by this oversupply, in 1888 the Italian government issued a temporary two-year ban on coral fishing in these waters (Ghidiglia 1892, 488–492).

In the space of a few years, dozens of small factories were established, spurred by the easy availability of low-cost raw material and new opportunities to make huge profits. As in previous centuries, thousands of people, especially women, were completing the first stages of coral processing at home. In Italy, by the end of the 1880s, there were about 100 factories dedicated to the so called “mercantile processing” of coral: about 70 in Torre del Greco, about 20 in Livorno, and 15 in Genoa. In Genoa, while factories directly employed about 600 workers, there were also around 4,000 women working at home, alternating coral processing jobs with farm work (Ghidiglia 1892, 502).

This was the background against which the company Raffaele Costa & Co. successfully worked in Genoa. For over a century (from 1838 until after World War II) they were based in the Bisagno river valley, in what is still known as the “Coral House”, a three-storey building that served as both a workshop and a warehouse. This company, like other similar firms in the area, bought their raw material in Sardinia and in the Far East (Japan in particular). The company was also involved in the big business arising from the exploitation of the rich Sicilian coral banks off Sciacca. Their production was exported to Paris, Berlin and Russia. In the latter case, at the beginning of the twentieth century, many of the company’s Russian customers defaulted on their credit as a result of the 1905 revolution. At the turn of the century, Raffaele Costa & Co. were also exporting to the United States, where they had close business relations with the New York-based company S.A. Frost’s Son, who specialised in imported products for “Indian Traders”, destined for Native American clients. Frost would soon be joined by other merchants in the Far West who were interested in developing Native American craftsmanship by importing semi-finished coral from Italy. As late as 1937, there are records of a certain Mr C. G. Wallace who, without resorting to Frost’s intermediation, ordered some coral necklaces directly from Messrs Costa in Genoa with a special request that they should be made with large beads. Furthermore, in the early twentieth century, particularly after the great 1929 crash, Raffaele Costa & Co. stood out for their extremely innovative industrial use of coral dust—scraps from coral processing—to manufacture fine tiles. The “Coral House” itself is still perfectly preserved today thanks to the skill and dedication of its current owners. It is an outstanding and extremely rare example of the production of these coral tiles. Every room in the house has a “red gold” floor, each with a different pattern. On a closer look at these floor tiles, one can still see coral twigs amazingly mixed in with the coral dust (Figs. 3.7 and 3.8) (De Maestri 2016).



Fig. 3.7  
Leaflet of coral tile designs manufactured by Raffaele Costa & Co., Genoa.  
Photo: Luisa Piccinno.



Fig. 3.8  
Coral tile, Genoa.  
Photo: Luisa Piccinno.

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## CHAPTER FOUR

### THE SCIACCA RED CORAL STORY

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In the Mediterranean Sea, the Sicily Channel, about 145 kilometres wide, is a sizeable tectonic structure extending in a NW–SE direction along the northern margin of the African promontory. It was produced in the collision, still ongoing, between the African and European plates (Capaccioni et al. 2011) and shaped by two independent tectonic processes that acted simultaneously and overlapped each other: the Maghrebides-Apennines accretionary prism and the Sicily Channel rift (Corti et al. 2006).

This area has long been one of the most famous red coral fishing grounds of the entire Mediterranean basin (Cattaneo-Vietti et al. 2016, 2017), also hosting the deepest population ever found, down to depths of 1,016 metres around the Maltese Islands (Costantini et al. 2010; Knittweis et al. 2016). In particular, between 1978 and 1981, exploitation of the Skerki banks, 50 nautical miles (nm) south of Marettimo Island, yielded significant amounts of red coral, fished at depths of 40–50 metres.

Above all, the Sicily Channel hides one of the greatest mysteries in the natural and geologic history of the Mediterranean Sea, an unprecedented submerged treasure whose origin remains unclear: namely, large sub-fossil red coral banks at depths ranging from 150 to 200 metres off Sciacca, a small town in the south of Sicily (Fig. 4.1).

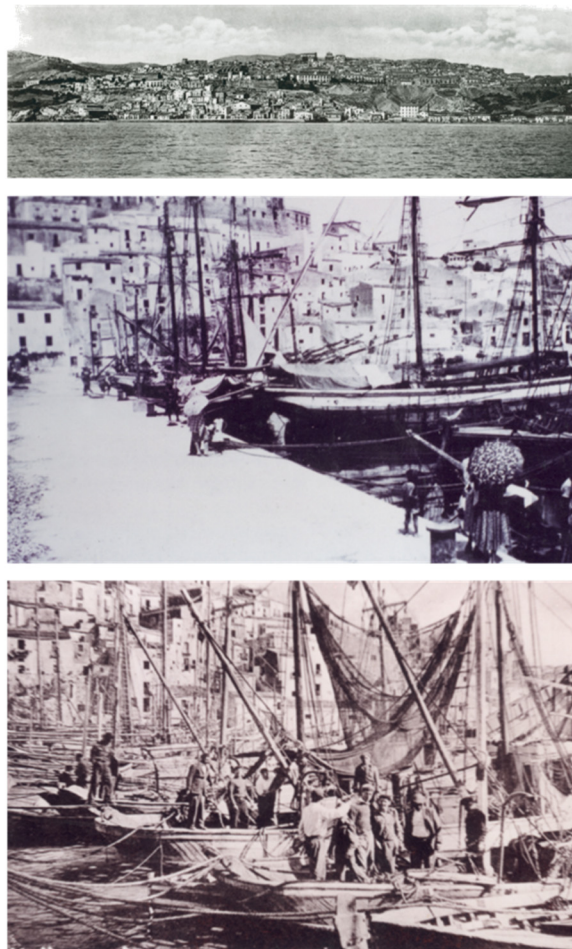


Fig. 4.1  
Overview of Sciacca village and harbour in the late 19th century.  
Giuseppe Rajola Collection.

## The Discovery of the Sciacca Coral

In May 1875, a local fisherman named Alberto Maniscalco, known as Bertu Ammareddu, and his colleagues Giuseppe Muschidda and Alberto Occhidilampa were fishing with long-lines about 16 nm off Capo San Marco when they discovered the first bank, 2.5 nautical miles long and 2 nautical miles wide, at 37°20'3" N and 12°48'7" E (Mazzarelli 1915a,b). While the fishermen of Sciacca had a long tradition of anchovy and sardine fishery, they knew nothing about red coral. So they decided to go and see some fishing crews from Torre del Greco (Naples) who were coral fishing in the nearby Trapani area. When the fishermen of Torre del Greco (Fig. 4.2) heard about the Sciacca bank they rushed to the site, well aware of its economic potential (Rajola 2012).



Fig. 4.2  
Torre del Greco harbour in 1908 with a *corallina*, the typical boat for coral fishing, in the foreground.  
Giuseppe Rajola Collection.

In the following years, two other deposits were discovered, on August 1878 and January 1880, at 37°14'7" N; 12°43'3" E (24 nm off Sciacca) and 37°5' N; 12°36'3" E (33 nm off Sciacca), respectively. These findings were exceptional in terms of the amount of coral involved and they caused a real “coral rush” that lasted 30 years (Rajola 2012).

It was immediately apparent that the coral branches were dead, since they were lying in thick mounds on a flat, muddy sea floor (Fig. 4.3). To collect them, the local fishermen therefore modified the typical “Italian bar”, a sturdy five-metre-long metal or wooden bar with bundles of nets attached beneath, usually employed by professional coral fishermen on hard grounds. In the case of Sciacca, it was not necessary to remove the colonies from rocks, so the *codata* (long tail)—a new, very efficient tool, better suited to the small local fishing boats and the bottom morphology—was adopted. This equipment consisted of a 200-metre-long rope with bundles of old nets attached at regular 1.5 metre intervals to entangle the coral branches (Gangemi 2011, 2014).



Fig. 4.3  
Fragmented branches of the Sciacca sub-fossil red coral.  
Photo courtesy of Giuseppe Rajola.