

*Nature's
Wonders*

Fish

Anchovies - Herring - Sardines



3D model set by Ken Gilliland

Introduction

Nature's Wonders Fish introduces three of the most common "oily" fish species; anchovy, herring and sardine. These three fish has provided important food sources to seabirds, other fish and humans for thousands of years.

The set includes the three fully rigged fish, plus a canned fish tin (which peels back to open) and the packed fish contents. Both Poser and DAZ Studio versions are included and Iray, Superfly, 3Delight and Firefly renderers are supported.

Overview and Use

This set uses a common models to recreate digitally the fish species included in this volume. Each species uses specific morphs from the generic model to single-out its unique features.

- **Models included in this volume:**
 - **Natures Wonders Anchovy Base**
 - **Natures Wonders Herring Base**
 - **Natures Wonders Sardine Base**
 - **Fish Tin**
 - **Fish Tin Contents**

Using Fish in the Set

All fish were created in Character format.

1. Go to the Nature's Wonders Fish folder.
2. Select the "Fish of the World" folder and then appropriate renderer folder.
3. Click and load the fish.
4. Go back to the "Fish of the World" folder and select the "Poses" folder.
5. Apply a pose to the selected fish.

Using the Fish Tin and Tin Contents

The Fish Tin model is fully articulated model, although the majority of the body parts are hidden. Master controls for the hidden parts can be found in the main (BODY) section. The controls primarily lift and /or roll back the lid.

The Fish Tin Contents model is a conforming part in Poser (similar to clothing items). In DAZ Studio, it attaches to the Fish Tin differently, using smart prop technology. Do not use the "Fit to" command in DAZ Studio.

Using the Poses

The poses were designed for a generic model. Since the included fish species have slightly different body part positions, some adjusting may be necessary.

Anchovy

An anchovy is a small, common forage fish of the family *Engraulidae*. Most species are found in marine waters, but several will enter brackish water and some in South America are restricted to fresh water.

The more than 140 species are placed in 17 subspecies; they are found in the Atlantic, Indian and Pacific Oceans, and in the Black Sea and the Mediterranean Sea. Anchovies are usually classified as oily fish.

Anchovies are small, green fish with blue reflections due to a silver-colored longitudinal stripe that runs from the base of the caudal (tail) fin. They range from 2 to 40 cm (0.79 to 15.75 in) in adult length, and their body shapes are variable with more slender fish in northern populations.

The snout is blunt and contains an unique rostral organ which is believed to be sensory in nature. The mouth is larger than that of herrings and silversides, two fish which anchovies closely resemble in other respects. The anchovy eats plankton and recently hatched fish.

The most common commercial species are the European Anchovy (*Engraulis encrasicolus*; 13.5 cm), the Argentine Anchovy (*Engraulis anchoita*; 17 cm), the Californian Anchovy (*Engraulis mordax*; 15 cm), the Peruvian Anchovy (*Engraulis ringens*; 14 cm), the Japanese Anchovy (*Engraulis japonicus*; 14 cm) and the Southern African Anchovy (*Engraulis capensis*; 17 cm).



The Peruvian anchovy fishery is one of the largest in the world, far exceeding catches of the other anchovy species. In 1973 it collapsed catastrophically due to the combined effects of overfishing and El Niño and did not recover fully for two decades.

A traditional method of processing and preserving anchovies is to gut and salt them in brine, allow them to cure, and then pack them in oil or salt. This results in a characteristic strong flavor and the flesh turns deep gray. Pickled in vinegar, as with Spanish boquerones, anchovies are milder and the flesh retains a white color. In Roman times, anchovies were the base for the fermented fish sauce garum. Garum

had a sufficiently long shelf life for long-distance commerce, and was produced in industrial quantities. Anchovies were also eaten raw as an aphrodisiac.

They are used in small quantities to flavor many dishes. Because of the strong flavor, they are also an ingredient in several sauces and condiments, including Worcestershire sauce, Caesar salad dressing, remoulade, Gentleman's Relish, many fish sauces, and in some versions of Café de Paris butter. For domestic use, anchovy fillets are packed in oil or salt in small tins or jars, sometimes rolled around capers. Anchovy paste is also available. Fishermen also use anchovies as bait for larger fish, such as tuna and sea bass.

The strong taste people associate with anchovies is due to the curing process. Fresh anchovies, known in Italy as alici, have a much milder flavor.

Herring

The type genus of the herring family *Clupeidae* is *Clupea* and contains three species: the Atlantic herring (*Clupea harengus*; 30 cm) found in the north Atlantic, the Pacific herring (*Clupea pallasii*; 25 cm) found in the north Pacific, and the Araucanian herring (*Clupea bentincki*; 28.4 cm) found off the coast of Chile.

Herring often move in large schools around fishing banks and near the coast. The most abundant and commercially important species belong to the genus *Clupea*, found particularly in shallow, temperate waters of the North Pacific and the North Atlantic oceans, including the Baltic Sea, as well as off the west coast of South America. Most abundant of all is the Atlantic herring which provides over half of all herring capture. There are other fish which are called “herring” but aren’t in the *Clupea* (true Herring) family which are caught in the Arabian Sea, Indian Ocean, and Bay of Bengal.



Herring has been a staple food source since at least 3000 BC. The fish is served numerous ways, and many regional recipes are used: eaten raw, fermented, pickled, or cured by other techniques, such as being smoked as kippers. Herring are very high in the long-chain omega-3 fatty acids EPA and DHA. They are a source of vitamin D.

Predators of herring include seabirds, marine mammals such as dolphins, porpoises, whales, seals, and sea lions, predatory fish such as sharks, billfish, tuna, salmon, striped bass, cod, halibut and man.

Sardine

"Sardine" and "pilchard" are common names used to refer to various small, oily fish in the herring family *Clupeidae*. The term "sardine" was first used in English during the early 15th century and may come from the Mediterranean island of Sardinia, around which sardines were once abundant.

There are 13 subspecies of sardine. The most common type are the European pilchard (*Sardina pilchardus*; 20 cm), the South American pilchard (*Sardinops sagax*; 20 cm) and the Pacific Sardine (*Sardinops caerulea*; 20 cm).

Sardines feed almost exclusively on zooplankton, "animal plankton", and congregate wherever this is abundant.



Sardines are commercially fished for a variety of uses: for bait; for immediate consumption; for drying, salting, or smoking; and for reduction into fish meal or oil. The chief use of sardines is for human consumption, but fish meal is used as animal feed, while sardine oil has many uses, including the manufacture of paint, varnish, and linoleum.

The manner in which sardines can be packed in a can has led to the popular English language saying "packed like sardines", which is used to metaphorically describe situations where people or objects are crowded closely together.

Species Accuracy and Reference Materials

The author-artist has tried to make these species as accurate to their real life counterparts as possible. Fish of the same species vary considerably, as do all other animals in nature. These Fish were created using the correct field markings and the most common similarities.

With the use of one generic model to create dozens of unique lizard species, some give and take is bound to occur. In addition, 3D-models have many technical challenges, which make exact representations difficult, if not impossible. It's best to think of these Fish represented as resembling the particular species, and they may not, in some cases, be 100% scientifically accurate.

The model and morphs were created using Luxology's Modo. The texture maps were created in Corel's Painter. The model was rigged and materials were created in Smith-Micro's Poser and DAZ's DAZ Studio.

Internet Sources:

- **Wikipedia** (<http://www.wikipedia.com>)