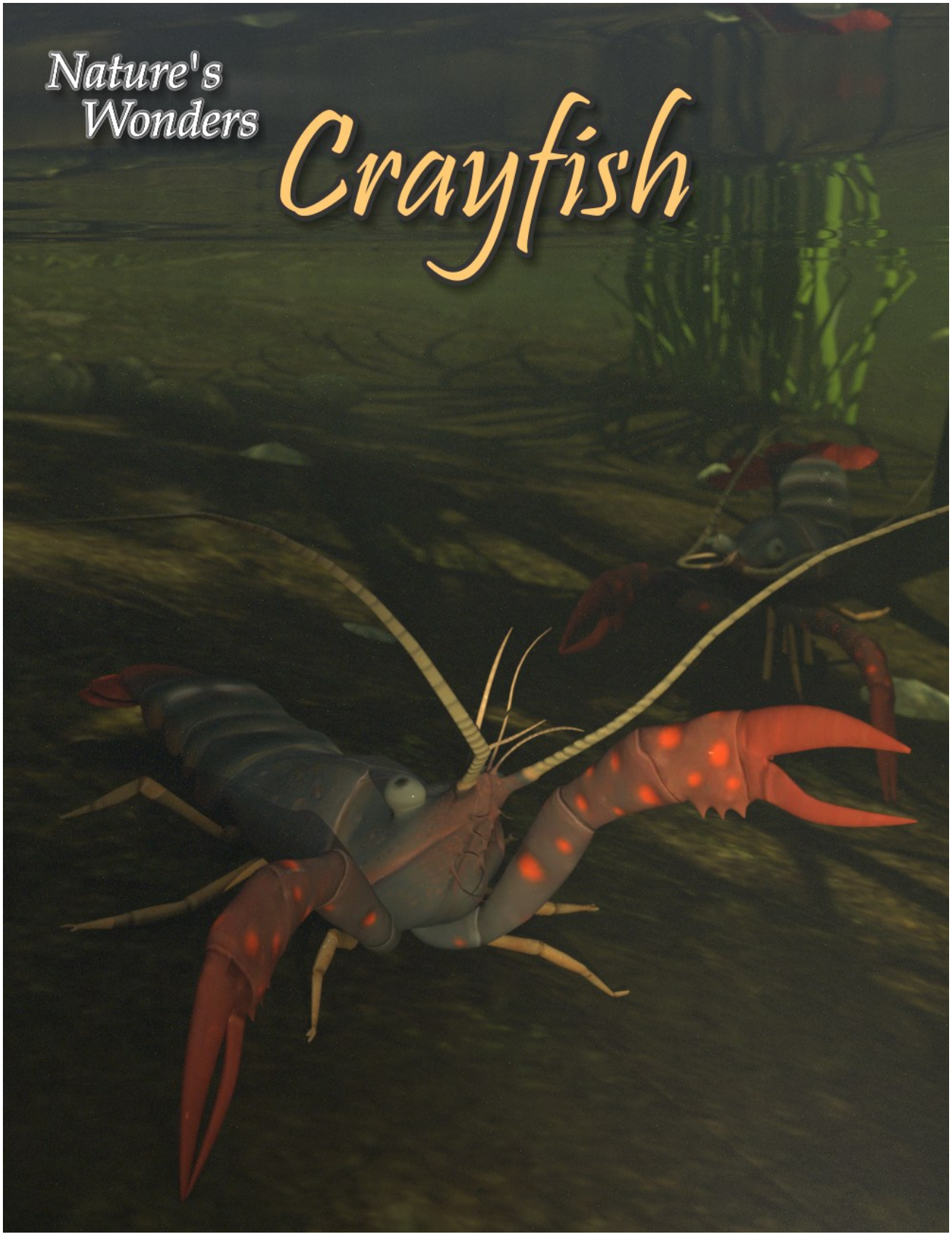

3D model set by Ken Gilliland

Nature's Wonders

Crayfish

Manual

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Introduction

Crayfish, crawfish, or crawdads are freshwater crustaceans belonging to the infraorder *Astacidea* (which also contains lobsters). They breathe through feather-like gills. Some species are found in brooks and streams, where fresh water is running, while others thrive in swamps, ditches, and paddy fields. Most crayfish cannot tolerate polluted water, although some species, such as *Procambarus clarkii*, are hardier. Crayfish feed on animals and plants, either living or decomposing. The term "crayfish" is applied to saltwater species in some countries.

This set includes the base model and poses. The featured species in this base model set is the Red Swamp Crayfish which is common to the American deep south but has been introduced throughout the world. The model is fully articulated with over 180 body parts so it will do just about anything you'd expect a real-life crawdad to do. Several pet trade color variations are also included as well.

It comes in both Poser and DAZ Studio native versions and support Firefly, Superfly and Iray render engines.

Overview and Use

This set uses a common model to digitally recreate the crayfish 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:**
  - Nature's Wonders Crayfish (Base Set) Model

The set is located within the **Animals : Nature's Wonder** folder. Here is where you will find a number of folders, such as **Manuals, Resources** and **Fauna Libraries**. Let's look at what is contained in these folders:

  - **Fauna Libraries:** This folder holds the actual species and poses for the "premade" fauna. The fauna for this set can be found in the following folder(s):
    - **Crustaceans / Crayfish of the World**
  - **Manuals:** Contains a link to the online manual for the set.
  - **Props:** Contains any props that might be included in the set
  - **Resources:** Items in this folder are for creating and customizing your fauna included in the set
  -

Creating a Specific Crayfish using Poser

1. For this example, we'll create the Red Swamp Crayfish.
2. Load Poser, select the FIGURES library and go to the "Animals", "Nature's Wonders" and then the Nature's Wonders Fauna Libraries Crustaceans folder.
3. Go to the Crayfish of the World folder and select the Firefly or Superfly sub-folder.
4. Select the Red Swamp Crayfish (or a Crawdad of your choice) and load it by clicking the mouse.

Creating a Specific Crayfish using DAZ Studio

1. For this example, we'll create the Red Swamp Crayfish.
2. Load DAZ Studio and go to the "Animals", "Nature's Wonders" and then the Nature's Wonders Fauna Libraries Crustaceans folder.
3. Go to the Crayfish of the World folder and select the Iray sub-folder.
4. Select the Red Swamp Crayfish (or a Crawdad of your choice) and load it by clicking the mouse.

Using the Poses

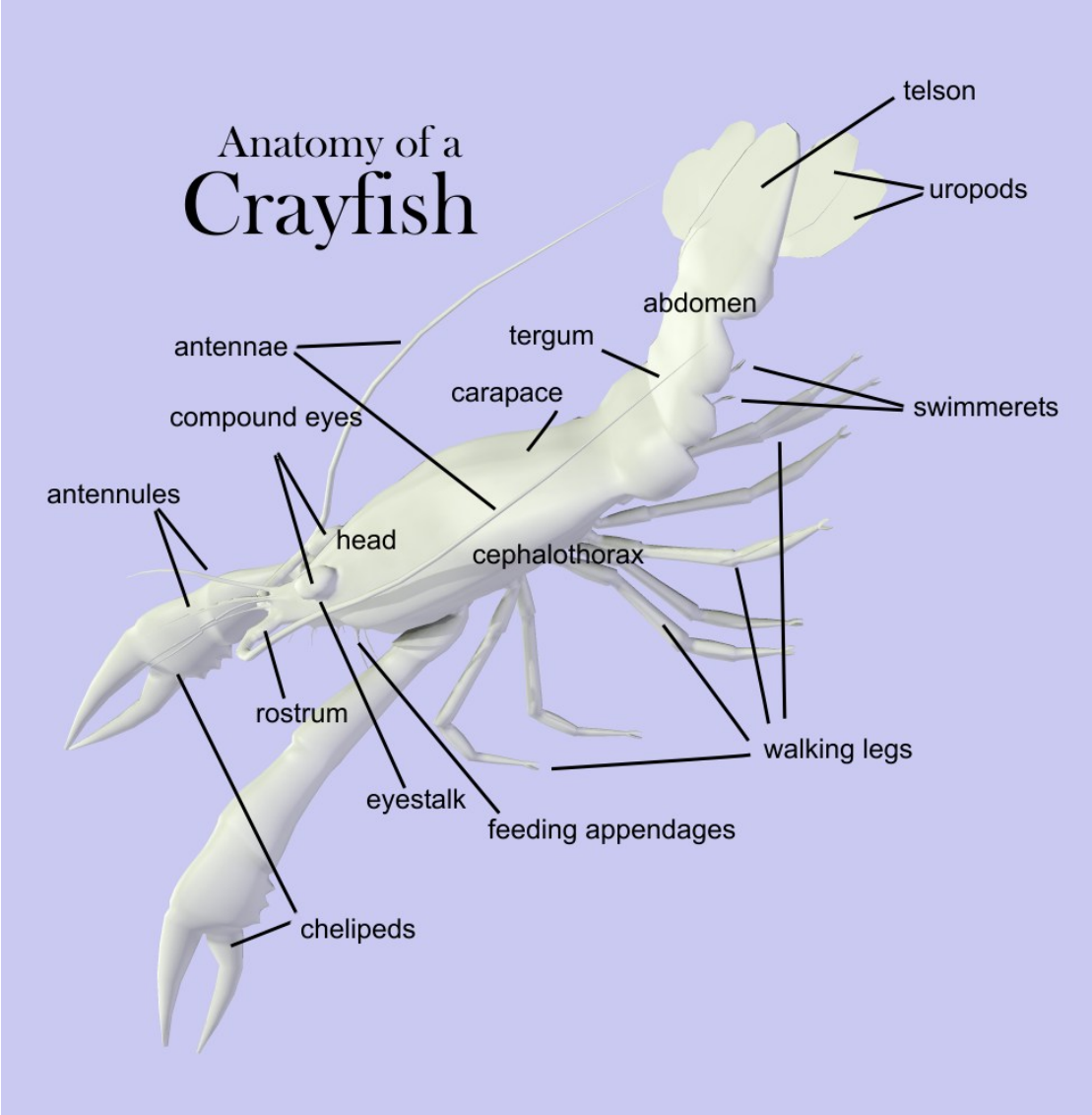
The poses were designed for the default model. The base or "hip" section of the model is **Carapace3**. The poses were designed for the default base model. Since individual species may use different body and leg scaling, it may alter the expected ground level of the species model or its legs. Some adjusting may be necessary such as using the "ytran" dial to raise or lower the model or the Up-Down commands on the individual legs to raise or lower them to the desired heights.

Superfly and Displacement

The crayfish model on certain species uses fairly heavy displacement. Unfortunately, displacement is something that the Superfly render engine does not do well, even with additional subdivision on the model. In my own work, I have had to trade off displacement with usability on this set when using Superfly. I suggest sticking with the Firefly render engine for the best results in Poser.

Crayfish

FIELD GUIDE



About Crayfish

The name "crayfish" comes from the Old French word, *écrevisse*. The word has been modified to "crayfish" by association with "fish" (folk etymology). The largely American variant "crawfish" is similarly derived.

Some kinds of crayfish are known locally as lobsters, crawdads, mudbugs, and yabbies. In the Eastern United States, "crayfish" is more common in the north, while "crawdad" is heard more in central and southwestern regions, and "crawfish" farther south, although considerable overlaps exist.

The body of a decapod crustacean, such as a crab, lobster, or prawn (shrimp), is made up of twenty body segments grouped into two main body parts, the cephalothorax and the abdomen. Each segment may possess two pairs of appendages, although in various groups, these may be reduced or gone. On average, crayfish grow to 17.5 cm (6.9 in) in length. Walking legs have a small claw at the end.

The greatest diversity of crayfish species is found in southeastern North America, with over 330 species in 15 genera, all in the family *Cambaridae*. A further genus of *astacid* crayfish is found in the Pacific Northwest and the headwaters of some rivers east of the Continental Divide. Many crayfish are also found in lowland areas where the water is abundant in calcium, and oxygen rises from underground springs. Crayfish are also found in some non-coastal wetlands; eight species of crayfish live in Iowa, for example.

Crayfish are opportunistic omnivorous scavengers, with the ability to filter and process mud. In aquaculture ponds using isotope analysis they were shown to build body tissue selectively from the animal protein portion of pelleted food and not the other components of the pellet.

They have the potential to eat most foods, even nutrient poor material such as grass, leaves, and paper, but can be highly selective and need variety to balance their diet. The personalities of the individual crayfish can be a key determinant in the food preference behavior in aquaria.

Crayfish all over the world can be seen in an ecological role of benthic dwellers, so this is where most of their food is obtained – at the sediment/water interface in ponds, lakes, swamps, or burrows. When the gut contents are analyzed, most of the contents is mud; fine particulate organic matter (FPOM) and mixed particles of lignin and cellulose (roots, leaves, bark, wood). Some animal material can also be identified, but this only contributes a small portion of the diet by volume.

Red Swamp Crayfish *Procambarus clarkii*

The Red Swamp Crayfish is also known as the "Louisiana Crawfish" or "Mudbug". It is native to the slow-flowing freshwaters of northern Mexico and far southeastern New Mexico, through the Gulf States to the Florida Panhandle, as well as inland north through the Mississippi Basin to southern Illinois. It has also been introduced, sometimes deliberately, outside its natural range to countries in Asia, Africa, Europe and elsewhere in the Americas. In Europe, it has been considered an invasive alien species since 2016 and cannot be imported, bred, transported, commercialized, or intentionally released into the environment in the whole of the European Union. In Holland, the species threatens the survival of rare dragonflies. Native birds enjoy it as a food source. The authorities are running a campaign to exterminate the crayfish from Dutch waters using traps that make it easy prey for the birds.

This species will grow up to 10-12 cm (4-5 inches) and is typically dark red, with long claws and head, small or no spines on the sides of its carapace just below the head, and rows of bright red bumps on the front and side of the first

leg. Males have bigger claws than females. It has been bred in the pet trade with color morphs such as orange, yellow, white, light blue and multi-colored.

In the wild, this crayfish can survive in extreme seasons. For example, it can also tolerate dry spells of water for up to 4 months.

It has quickly become very popular in the aquarium pet trade because it is extremely hardy and adaptable. The average life span is around 3 years, though they can easily exceed this age in a well-maintained aquarium.

Special Thanks to…

….my betatesters Alisa and FlintHawk

Species Accuracy and Reference Materials

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

With the use of one generic model to create dozens of unique Crayfish 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 Crayfish 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)
- **American Crayfish Atlas** (https://americancrayfishatlas.web.illinois.edu/)
- **USGS** (https://nas.er.usgs.gov/)
- **Aquarium Breeder** (https://aquariumbreeder.com)