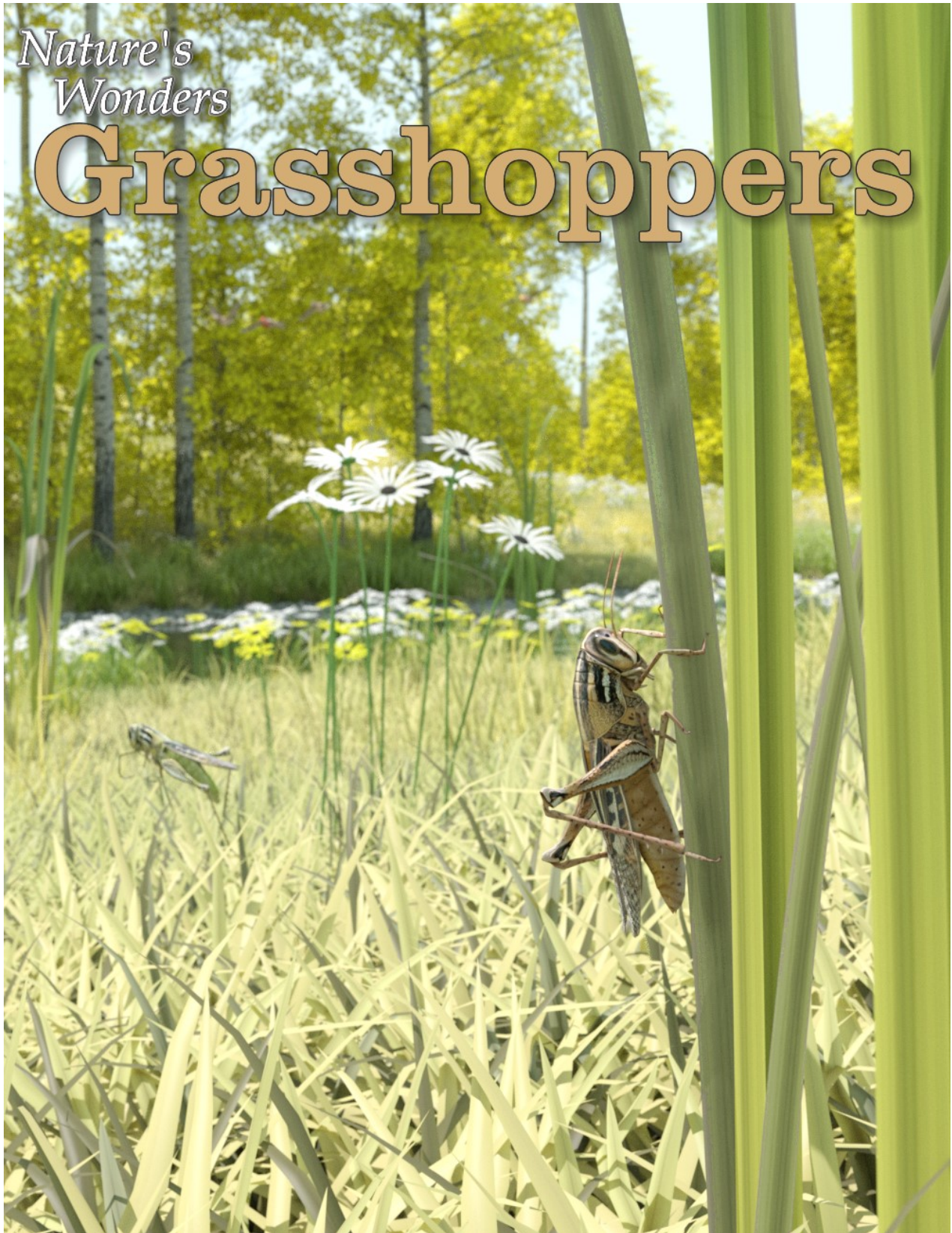


*Nature's
Wonders*

Grasshoppers



A 3D Model set by Ken Gilliland

Nature's Wonders

Grasshoppers

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Nature's Wonders

Grasshoppers

Introduction

Grasshoppers are a group of insects belonging to the suborder *Caelifera*. They are amongst what are possibly the most ancient living groups of chewing herbivorous insects, dating back to the early Triassic around 250 million years ago.

The Grasshopper family includes short and long horned grasshoppers, as well as locusts, katydids, and crickets.

Grasshoppers have had a long relationship with humans. Swarms of locusts can have devastating effects and cause famine, having done so since Biblical times. Even in smaller numbers, the insects can be serious pests. They are used as food in countries such as Mexico and Indonesia. They feature in art, symbolism and literature. The study of grasshopper species is called acridology.

The Nature's Wonders Grasshopper base model is designed to be a generic grasshopper that will shape via morphs to the correct species of grasshopper, cricket or locust. There are two versions of this set for native support in Poser and DAZ Studio. Materials have been tuned to support Iray, 3Delight, Superfly and Firefly renderers.

Overview and Use

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):
 - **Insects/Grasshoppers 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
 - **... Based Models:** This folder has the blank, untextured model(s) used in this set. These models are primarily for users who wish to experiment with poses or customize their own species. When using physical renderers such as Iray and Superfly, SubD should be turned to at least "3". For DAZ Studios 3Delight renders, the SubD must be turned from the "High Resolution" setting to the "Base" setting (otherwise some areas will render incorrectly transparent).

Loading a Grasshopper using Poser

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

Loading a Grasshopper in DAZ Studio

1. For this example, we'll create the American Bird Grasshopper.
2. Load DAZ Studio and go to the "Animals", "Nature's Wonders" and then the Nature's Wonders Fauna Libraries Insects folder.
3. Go to the Grasshoppers of the World folder and select the Firefly or Superfly sub-folder.
4. Select the American Bird Grasshopper (or a grasshopper of your choice) and load it by clicking the mouse.

Sizing & Poser Issues

An issue that can appear when rendering in Poser, with only a grasshopper (no other items) in the scene, is that it will produce a default square shadow. It is a known bug within Poser. To correct this issue, include a second larger item off-screen and the shadows will render correctly.

The InsectCam

All of the grasshopper species in this set have been scaled to their appropriate sizes in relation to human figure models. In most cases, these can be very small. With that in mind, this set comes with an "InsectCam".

The InsectCam is a camera set-up to focus on the default position of the insect. With **Poser**, it will also change the "hither" setting from its default value of 0.800 to 0.0 to allow close focus.

American Bird Grasshopper

Schistocerca americana

Type: Grasshopper

Range: In North America, the American bird grasshopper is found east of the Great Plains, throughout the southeast and north to near Iowa and Pennsylvania. It is common throughout Florida, and is also found in Mexico and the Bahamas.

Habitat and Ecology: Fields can be invaded daily by the adult grasshoppers, which often roost at night in nearby trees and shrubs. The short-winged nymphs are less mobile of course, and normally reside within sunny fields, as the grasshoppers avoid shade.

The American bird grasshopper has two generations per year. It overwinters in the adult stage, unlike most grasshoppers, which pass the winter in the egg stage. Thus, American bird grasshoppers are present throughout the year in Florida. The principal hatching periods are from February to May, and again from August to September, but the generations may overlap. Their eggs are deposited in the soil.

Size: The length of the male is 39 to 45 mm, whereas the female is 42 to 55 mm long.



Description: The overall color gradually changes from a pinkish-brown or reddish-brown to more of a yellowish-brown hue as the grasshopper reaches sexual maturity. The adults bear fully developed wings with large dark brown spots on a lighter background. Adults are distinctly different in appearance from the immature stages (nymphs).

Rarity and Status: Not Threatened. Occasionally causes serious damage to crops and ornamental plants, and their great abundance can be a nuisance.

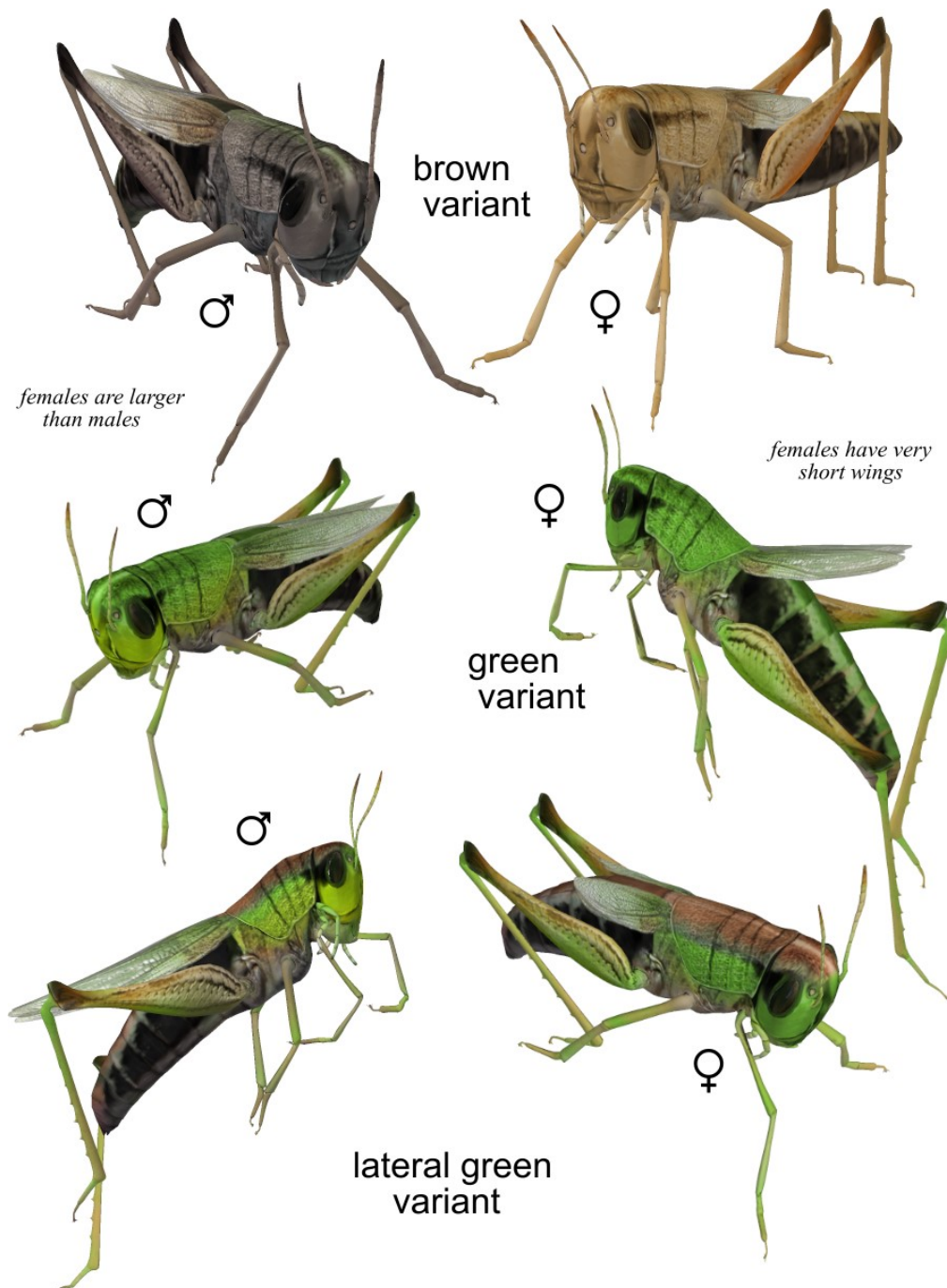
Meadow Grasshopper

Pseudochorthippus parallelus

Type: Grasshopper

Range: The range of the Meadow Grasshopper extends from the Atlantic coast of Europe, including the British Isles, to the Urals. It is found from Scandinavia in the north to southern Spain and Anatolia in the south.

Habitat and Ecology: It prefers moist vegetation and in southern regions is typically found in river valleys and at altitude up to 2000 meters. It is not being found in arid areas.



Size: The length of the male is 15 mm, whereas the female is 20 mm long.

Description: Both sexes are flightless although they appear to have wings. In females, the wing cases (covering vestigial wings) extend only a short way down the abdomen while males have longer wing cases extending to almost the tip of the abdomen. They can be variable in color with green, brownish, purple-red and pink forms, but “greens” are most common. Color forms are genetically determined and some populations can show high frequency of pink grasshoppers. It is distinguished from similar species by the approximately parallel nature of the bars (pronotal side-keels) on the back of the neck which gives the species its name.

Due to high densities of these insects in Western Europe, some researchers have also proposed their possible utilization as human food. These insects contain 69% proteins on dry weight with excellent amino acid profile and digestibility

Rarity and Status: Not Threatened.

Migratory Locust

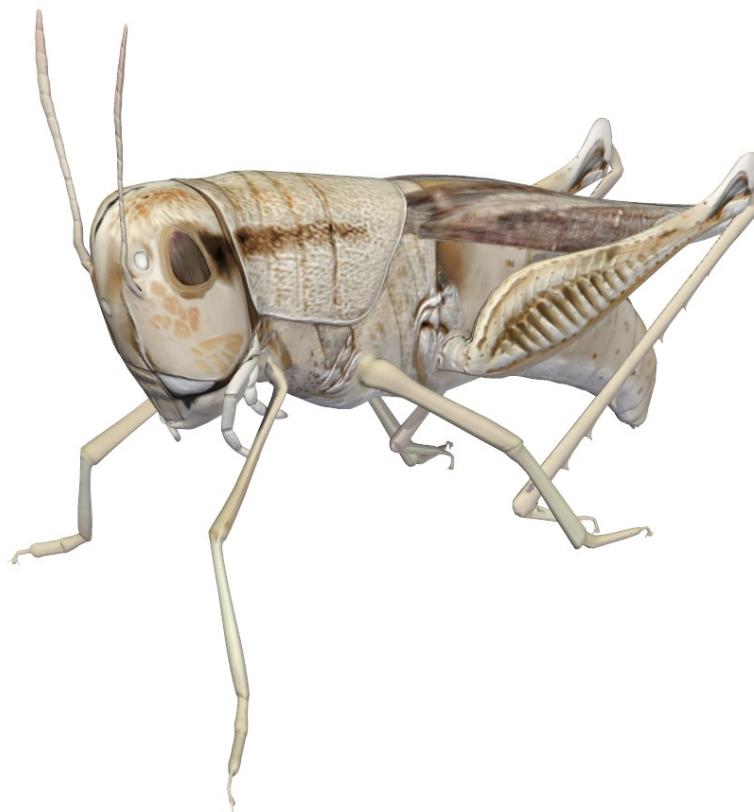
Locusta migratoria

Type: Locust

Range: It occurs throughout Africa, Asia, Australia and New Zealand. It used to be common in Europe, but has now is rarely reported.

Habitat and Ecology: It comprises many different ecological zones. An adult locust can consume its own weight (several grams) in fresh food per day. For every million locusts, one ton of food is eaten.

Size: The length of the male is 35 to 50 mm, whereas the female is 45 to 55 mm long.



Description: Pigmentation and size of the migratory locust vary according to its phase (gregarious or solitary form) and its age. Gregarious nymphs have a yellow to orange covering with black spots; solitary nymphs are green or brown. The gregarious adult is brownish with yellow, the latter colour becoming more intense and extensive on maturation. The solitary adult is brown with varying extent of green colour depending on the colour of the vegetation.

This is found over a vast geographic area, and its range covers many different ecological zones. Because of this, numerous subspecies have been described; however, not all experts agree on the validity of some of these subspecies.

- *L. m. burmana*. First reported by Ramme in 1951.
- *L. m. capito*. First reported by Saussure in 1884 (Madagascar)
- *L. m. cinerascens*. First reported by Fabricius, 1781 (Italy, Spain)

- *L. m. migratoria*. First reported by Linnaeus in 1758) (Europe)
- *L. m. manilensis*. First reported by Meyen in 1875.
- *L. m. migratorioides*. First reported by Fairmaire & L.J. Reiche in 1849 (Africa and Atlantic islands)

Rarity and Status: Not Threatened. In Africa, the last serious widespread plague of this locust occurred from 1928 to 1942. Since then, environmental transformations have made the development of swarms from the African migratory locust unlikely. Nevertheless, potential outbreaks are constantly monitored as plagues can be devastating.

Special Thanks to:

... to my beta testers, Alisa and FlintHawk

Sources:

- Wikipedia (<https://www.wikipedia.org/>)
- Discover Wildlife (<https://www.discoverwildlife.com>)
- Amateur Entomologists' Society (<https://www.amentsoc.org>)

