

**4D MASTER**



ILLUSTRATED  
**GUIDE BOOK**

# 4D VISION™

## TARANTULA SPIDER

ANATOMY MODEL

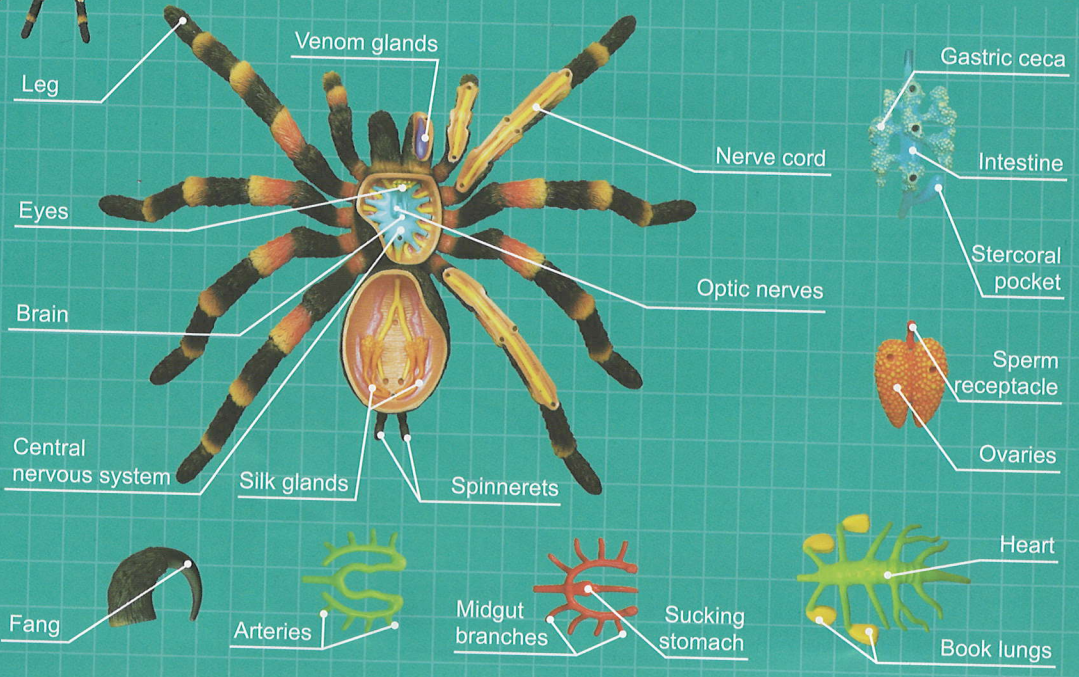


<http://www.4Dmaster.com>

Unit 541, 5/F., Sino Industrial Plaza, 9 Kai Cheung Road,  
Kowloon Bay, Kowloon, Hong Kong

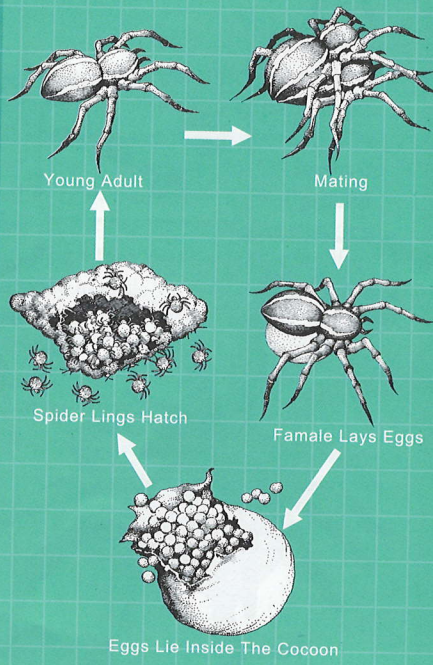
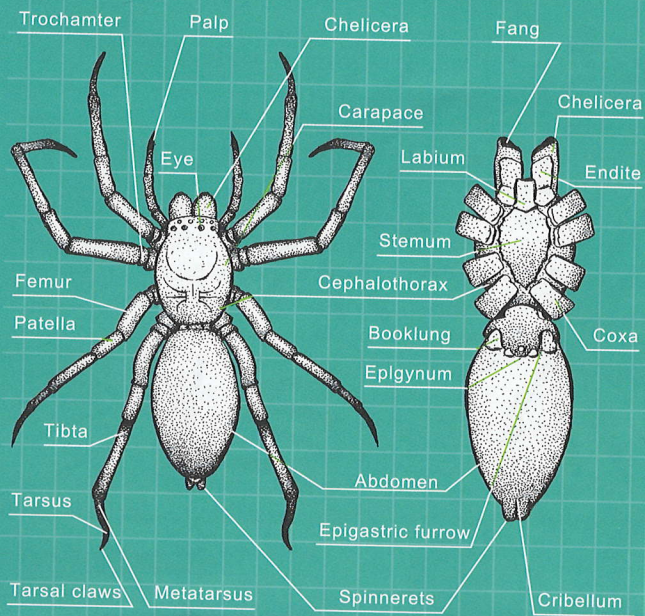
• COLLECTIBLE QUALITY • NEW TYPE OF PUZZLE • HIGHLY DETAILED FINISH •

# TARANTULA SPIDER ANATOMY

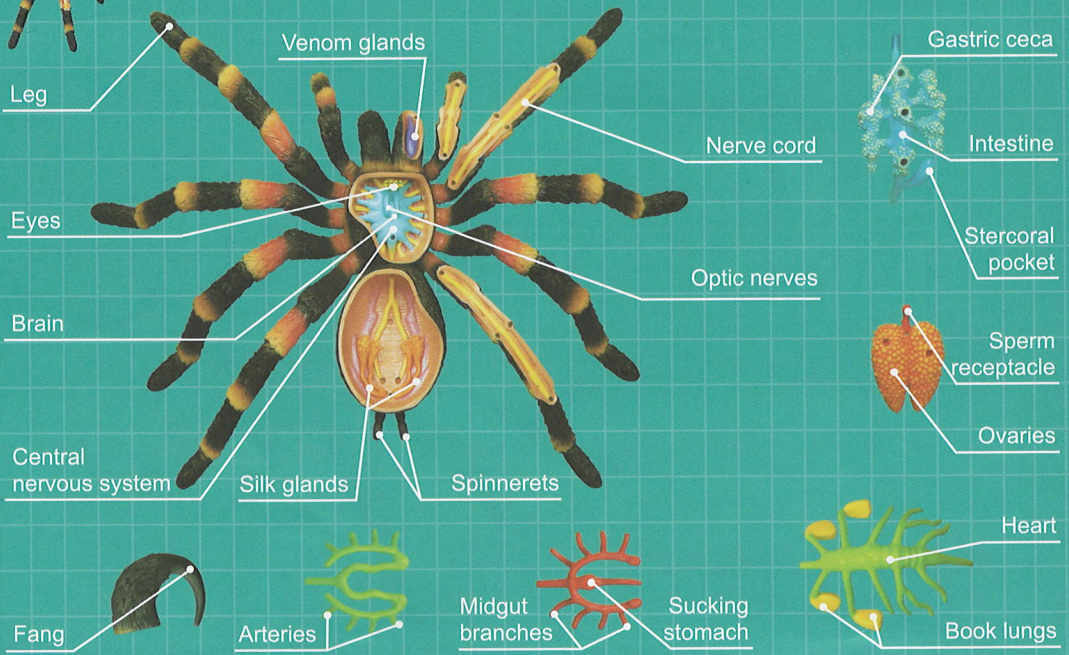


# BODY STRUCTURE

# LIFE-CYCLE OF TARANTULA SPIDER



# TARANTULA SPIDER ANATOMY



### Eyes



Spiders usually have eight tiny eyes (also called ocelli), but only few have good eyesight. Mostly they can only detect light and dark and rapid movements. They are all located on top of the spider's cephalothorax. Some other species have 12, 6, 4, 2 or even no eyes.

### Heart



Spiders do have heart which look like a simple tube form blood pump, which located in abdomen. The heart rate of big spiders is about 25-35 per mins.

### Chelicerae



The pair of chelicerae is mouth part of the chelicerata. Usually, they are of black colour, hollow and connected with venom glands. The main functions are for hunting prey, injecting the venom into prey, also for grasping foods.

### Book Lungs



Spiders have several different respiratory anatomies, based either on book lungs, a tracheal system, or both. Most of the big spiders have two pairs of book lung connected to spider's heart, and located in abdomen.

### Brain



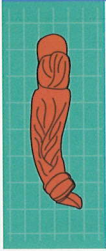
The spider's central nervous system (CNS) including the brain is in the cephalothorax, which all connected to a large group of nerve cells called the gandlion. The nerve fibers from spider's brain and gandlion run throughout the whole body and control every activities of the body.

### Ovary



Female spiders have a pair of ovary which produces eggs. Tarantulas will use their silk to make egg sack (cocoon) for protection. The cottony-white egg sack may contain around 200 eggs.

### Pedipalp



Unlike insects, spiders have no antennae, but have pedipalps (also called palps). This pair of sensory feelers looks more like two shortened legs attached to both sides of the spider's mouth. Each pedipalp has six segments. The spider uses pedipalps to taste foods, and also as the tools to help for eating. In adult male spiders, the last segment of each pedipalp bears a reproductive organ.

### Intestine



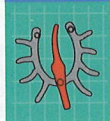
Spider's intestine is full of digestive glands, the juices (enzymes) from the glands help to break the liquid food into molecules, which is small enough to pass through the walls of the intestine into the blood.

### Spinnerets



Spinnerets are located on the end of abdomens which spider web silk is extruded..

### Sucking Stomach



The spider stomach is just like a muscular driven pump, which is located in the cephalothorax part of digestive tube. This powerful sucking stomach draws the liquid food into its intestine.

### Legs



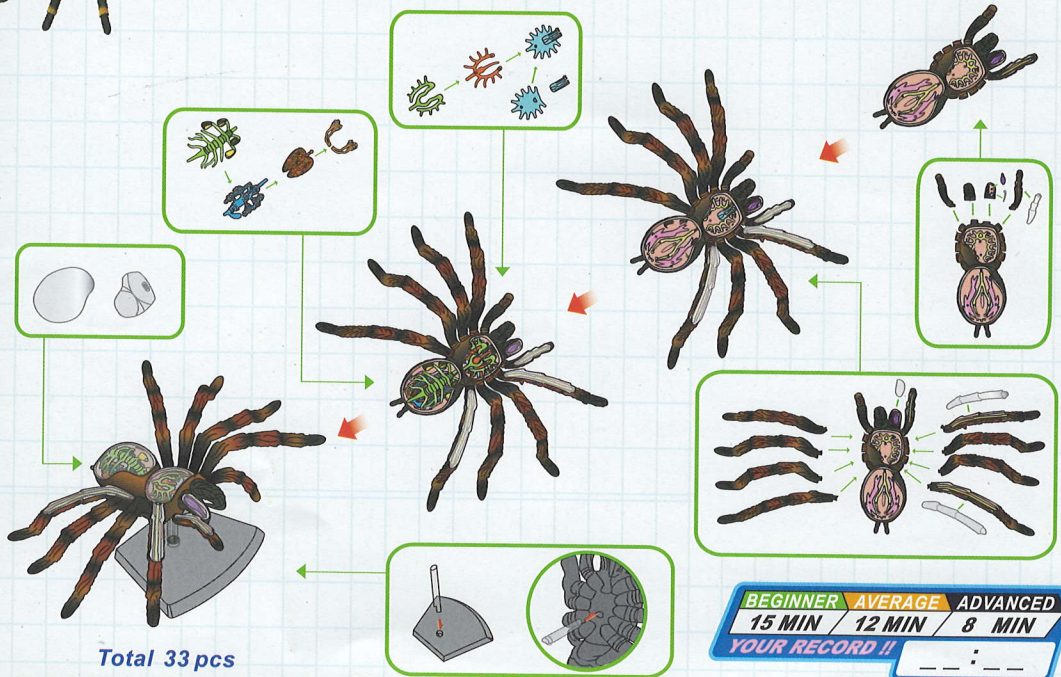
Unlike insects, spiders have 4 pairs of legs instead of 3. All are located in the bottom of cephalothorax, and with tarsal claws at the end.

### Silk Gland



There are totally seven types of silk produced by seven silk glands. One single spider does not have all seven glands, but has at least three if it is male, and four in female, female has additional one is for egg sack silk.

# TARANTULA SPIDER ANATOMY ASSEMBLY INSTRUCTION



Total 33 pcs

BEGINNER	AVERAGE	ADVANCED
15 MIN	12 MIN	8 MIN
YOUR RECORD !!		
---	---	---

**S**piders, unlike insects, have only two body segments, no chewing mouth parts and no wings, but have eight legs. There are about 40,000 spider species recognized. Only about 200 species have bites that can pose health problems to humans. Many larger species' bites may be quite painful, but will not produce lasting health problems.

**T**he name tarantula comes from the town of Taranto in Italy. Originally, it was used for an unrelated species of European spider. Today, tarantula is the common name for the large hairy spiders, which belong to the family Theraphosidae. That is approximately 900 species have been identified. The sizes range is from as small as fingernail, to as big as a dinner plate. Tarantulas can be found in much different ecology, from rainforests to deserts. They hunt in both trees and on the ground. Insects, small birds, lizards, mice and even rodents could be their nice meal. All tarantulas can emit silk and have venom. They hunt by stalking, slowly creeping up. Then they quickly leap onto their prey and stick their hollow, furry fangs into the prey. Venom is pumped in and liquefies the prey's insides. Then the spider eats it like bug soup. Lots of animals tried to eat them, due to their few good defenses; most of the predators were not successful. The hairs on the back less and abdomen can break off with the slightest touch; borrowing into an enemy and making them itch terribly. With their eight legs, tarantulas are pretty fast runners too. If they still cannot escape from the enemy, bite is the last means. Actually, tarantulas' bite is not that dangerous; mostly no worse than a bee sting, their venom is used mainly for hunting prey. Most tarantulas are harmless to humans. People sold them as common pets in shop, while others are eaten as food.





**Q: What are spiders?**

**A:** Spiders are not insects, they are arachnids and belong to the largest phylum of animals – Arthropods (include insects, arachnids, crustaceans...etc). It means animals with hard external skeletons and jointed limbs.

**Q: How many different species in the class of Arachnid, and how many are spiders?**

**A:** In worldwide there are about 73,000 named species in Arachnid, including spiders, scorpions, harvestmen, ticks, and mites. More or less half of them are spiders. Compared with other species, there are only 9,000 species of birds and 4,000 species of mammals on earth.

**Q: What are the differences between spiders and insects?**

**A:** Spiders have two body segments, 4 pairs of legs, numbers of simple eyes, and piercing jaws, abdominal silk spinning organs, anterior abdominal genital opening and no wings. Insects have three body segments, 3 pairs of legs, pair of compound eyes, antennae, chewing jaws, and posterior abdominal genital opening, many of the insects have wings and can fly.

**Q: How long is the lifespan of a spider?**

**A:** The average lifespan of a spider is only about one to two years. However, some species have longer lifespan, even up to 20 years.

**Q: Which specie is the most venomous spider in the world?**

**A:** The Brazilian Wandering Spider (*Phoneutria nigriventer*) in South and Central America may has the strongest venom. Only 0.006mg of its venom can kill a mouse. There are about 40,000 spider species are recognized. About 200 species have bites that can pose health problems to humans, and only 27 species are known to have caused human fatalities.

**Q: Which species of tarantula is the largest in all?**

**A:** Goliath bird-eaters (*Theraphosa blondi*) are the world's largest species of tarantula. This name means large enough to eat a bird. The size of this hairy spider is about 30 cm (12") in its leg span - almost the size of a dinner plate. This giant spider is found in rainforests of the northern South American. Even it looks so horrible, but it is pretty harmless to humans.