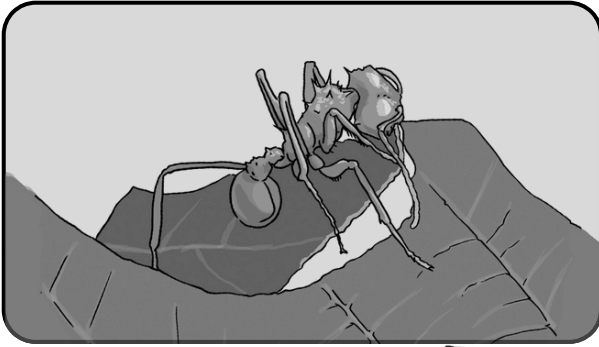
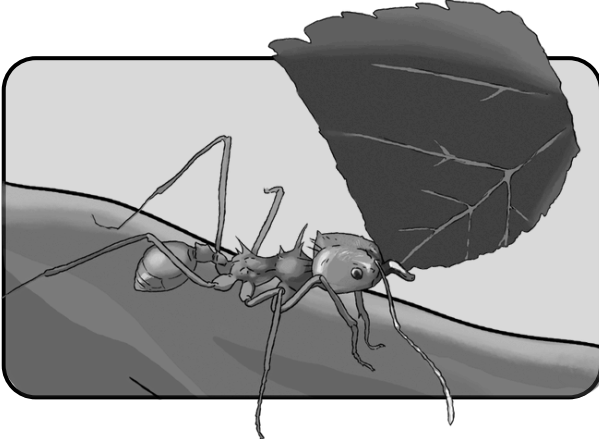


LEAFCUTTER ANTS

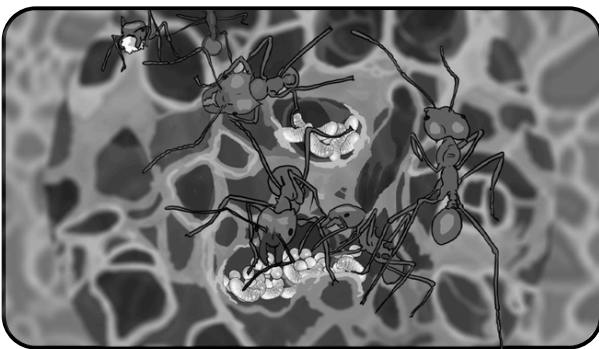
ATTA



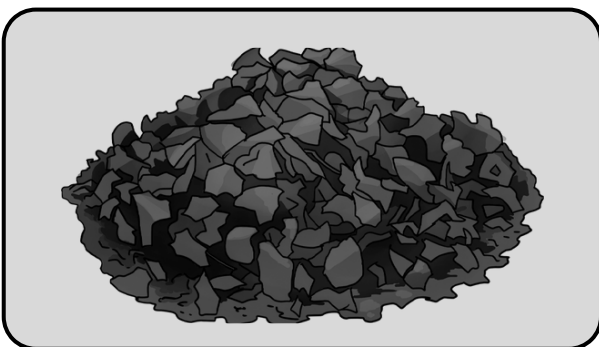
The mandibles (jaw tools) of leaf-cutter ants are particularly strong, sharp and specially adapted to cutting leaves. Thanks to a special arrangement of zinc atoms, they function like tiny surgeon's scalpels with which the ants can cut plant material precisely and quickly.



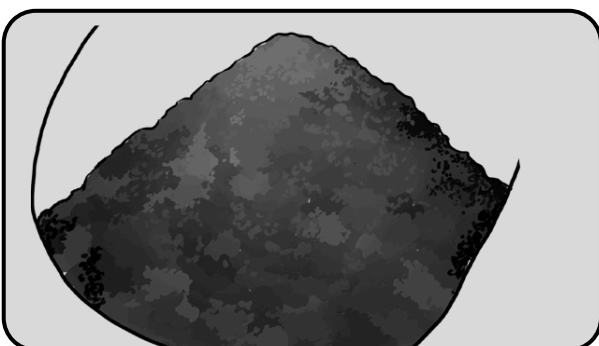
Scouts actively search for suitable plants and then mark the path to them using special scents (pheromones). As soon as these paths are established, large workers, known as cutters, follow and use their powerful mandibles to cut off specific pieces of leaf. The cut leaf pieces are transported to the nest by smaller workers. Such roads often lead in different directions and can cover distances of several hundred meters. A single colony can process several hundred kilograms to several tons of leaf material within a year.



The nests of leafcutter ants are complex, underground structures with various specialized chambers. The mushroom chambers, in which the ants cultivate their food fungus, are central. Here they bring in the collected leaf pieces, chew them carefully and use them as a substrate for the fungus. The conditions in these chambers are optimally regulated. Temperature, humidity and ventilation are precisely controlled. The relationship between leafcutter ants and their food fungus is a close symbiosis. The ants provide the fungus with ideal growth conditions and protection against parasites. The fungus, in turn, is the ants' most important food source, producing special nutrients that they can absorb. Both organisms are completely dependent on each other, without the fungus the ants cannot survive and the fungus exists exclusively in the ants' nests.



Storage chambers: Pieces of leaves are stored here before they are processed for mushroom cultivation. This ensures a continuous supply for the mushroom gardens and compensates for short-term shortages in leaf collection.



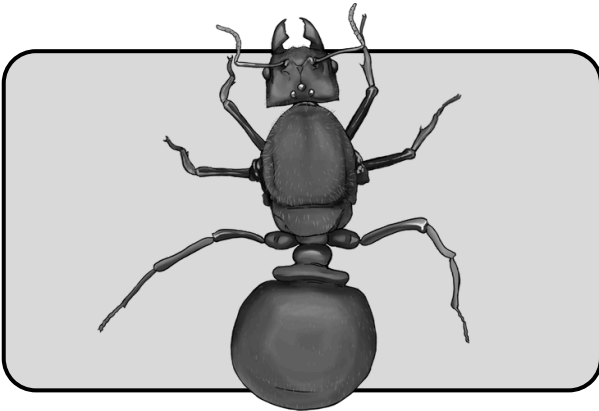
In addition, there are special **waste chambers** in which the ants store used plant material and dead fungal tissue to keep the fungus garden clean and free of pathogens. These are also designed so that warm air rises from them due to the biological processes in the waste and leaves the nest. Due to the resulting negative pressure, fresh air is sucked into the nest at other points in the direction of the fungus chambers. The ants therefore have a sophisticated air conditioning system.

LEAFCUTTER ANTS

ATTA

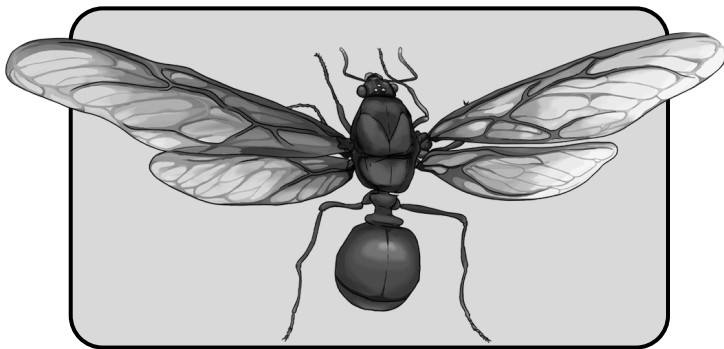


1. **Ventilation chambers:** Certain chambers or passages are used exclusively for air circulation to keep the temperature and humidity within the mushroom and brood chambers constant.
2. **Rest chambers:** These chambers serve as retreats and resting areas for the workers where they can pause and regenerate.
3. **Entrance chambers and defense chambers:** Immediately behind the nest entrances are often special defense chambers where female soldiers stand ready to fend off potential intruders or attackers.



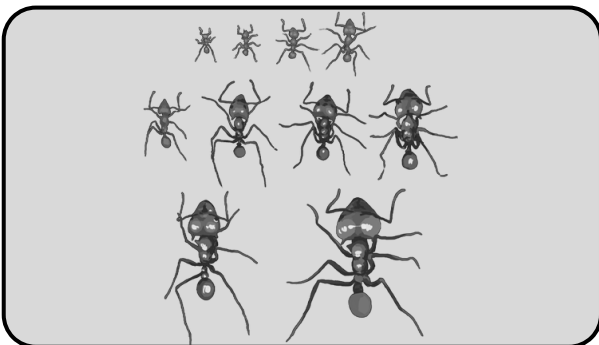
Queens:

- Size: about 25-35 mm
- Color: dark brown to reddish-brown, strong build



Males:

- Size: approx. 18-25 mm, slender build with wings
- Color: dark brown to black



Workers (about 10-20 different castes):

- Large workers (soldiers): 15-20 mm, head large and strong mandibles, color mostly dark brown
- Medium-sized workers (leaf cutters): approx. 8-12 mm, reddish to dark brown in color
- Small workers (gardeners and brood caretakers): approx. 3-7 mm, light brown to reddish brown, petite build



Distribution area of Atta

- North, Central and South America
- From the south of the USA to northern Argentina
- Tropical rainforests and subtropical areas
- Savannahs and agricultural areas