

OBIS LAWN GUIDE

A guide for identifying organisms
found in and around the lawn



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PREFACE

Outdoor Biology Instructional Strategies (OBIS) is a program with a variety of outdoor activities for youngsters to enjoy. While engaged in these activities, youngsters also learn more about the environment in which they live. OBIS activities emphasize interactions of organisms with each other and with their environment. The activities are also concerned with interactions of people with their environment.

This guide was written to aid people in their interaction with organisms found around lawns and fields. The guide is designed for quick, easy identification of some of the most commonly encountered lawn organisms. Only those organisms readily observed by the unaided eye, or by means of a simple magnifying lens, have been included.

References are listed at the end of the guide. Both the artists and the author express their gratitude to the authors of the consulted works. Those desiring more information about lawn organisms would do well to refer to these publications.

Ecological Note: This guide was produced as an aid to the study and appreciation of lawn and field organisms. We ask the users of this guide to do their best to leave the sites they study as they found them. In this way, others who follow may find the same pleasure in the sites.



OBSERVING LAWN ORGANISMS

This is a guide to common plants and animals that can be found in and around lawns, fields, pastures, vegetable or flower gardens, and vacant lots. You may not be able to find the *exact* plant or animal in this guide, but you can quickly determine the general type.

Plants are easy to locate and closely examine because they do not run away. When you try to catch and observe any of the small animals in a lawn or garden, you may need to use a small net or plastic bag. A hand lens will help you in your observations.

- Do not collect the plants and animals; try to observe them in their original locations. Once you have observed the organisms, return them to the spot where you found them after you have finished looking at them.

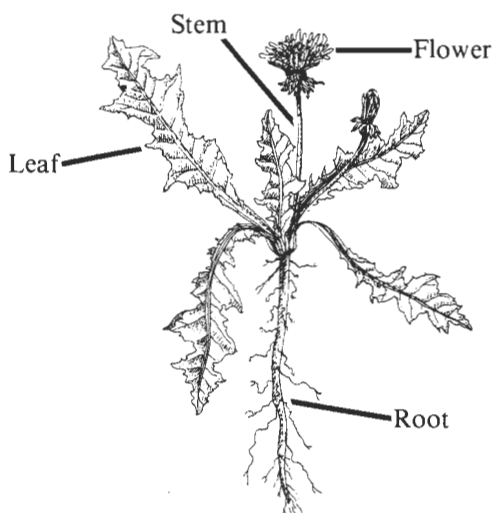


HOW TO USE THIS GUIDE

The *OBIS Lawn Guide* is intended to be an easy reference for identifying organisms on the lawn. The organisms have been grouped according to general type.

The Plant Section

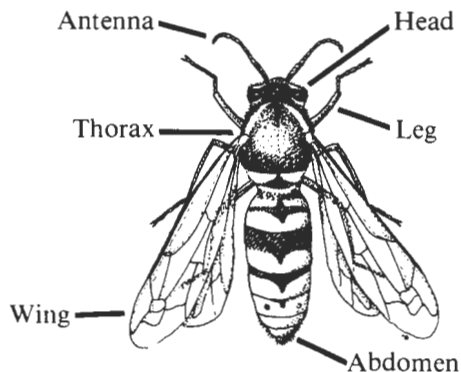
There are two plant sections: Grass and Non-Grass. All the grasses have been shown with flowers, because flowering grasses are much easier to identify. (Since only weedy grasses usually flower in a regularly mowed lawn, most of the grasses included in this guide are weedy grasses.) The Non-Grass plants are easy to identify, and many of the more common ones have been included in this guide. Sizes indicated in plant descriptions refer to mature plants.



PLANT

The Animal Section

For convenience, animals have been grouped in three sections. Small Flying Animals include those flying insects you will most often catch on or near the lawn. Small Crawling and Hopping Animals include insects and other animals such as spiders, snails, and pill bugs. Big Animals include animals such as birds, reptiles, and mammals.



INSECT

The Format of the Guide

Each organism is identified by a picture and a short description. In some cases, the picture of an animal is accompanied by a small drawing showing its actual size. The food habits for each animal are listed, and the length of each plant's life cycle is given. Less common terms are listed in the Glossary at the back of this book.

The small size of the guide lends itself to page flipping until the right picture is found. The brief descriptions can be checked to verify the identification and to find out about food habits or life cycles.

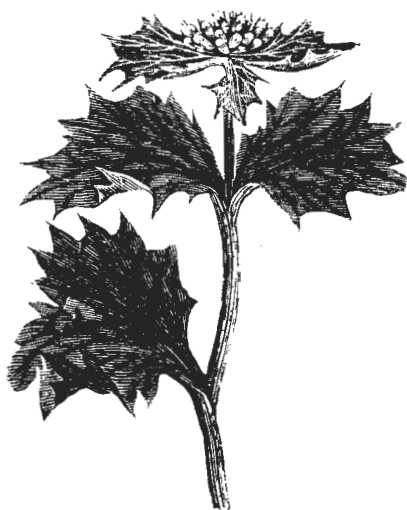


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OBIS LAWN AND FIELD ACTIVITIES

You will find the *OBIS Lawn Guide* useful for these activities.

Animal Diversity
Animals in a Grassland
Bean Bugs
Flower Powder
Hopper Circus
Junk-in-the-Box
Litter Critters
Mystery Marauders
Out of Control
Plant Hunt
Plant Patterns
Roots and Shoots
Scram or Freeze
Seed Dispersal
Shake It!
Sticklers
The Old White Sheet Trick
Who Goes There?



PLANTS

NON-GRASS PLANTS

Common Chickweed

The chickweed has slender, multi-branched stems with a line of white hairs along one side. Its leaves are smooth and pointed. Life cycle: annual.



Scarlet Pimpernel

This low growing plant has branched, four-sided stems. Look for small, salmon-colored flowers. Life cycle: annual.



Common Dandelion

Jagged-edged leaves grow in a circle around the base of this plant. Flower stalks rise from the base. The easy-to-see yellow flowers turn into the familiar puff-ball seed heads. Life cycle: annual, biennial, or perennial.



Sedge

Sedges are grasslike or rushlike plants. They often appear as spikes with grasslike leaves. Their stems are three sided and thus appear triangular in cross section. Sedges generally grow from one-half to one meter tall. Life cycle: annual or perennial.



Moss

Mosses are small, short, leafy, stemmed plants. They are often found in over-watered lawns with many plants to a patch. They have no flowers. Life cycle: annual.





Purslane

Purslane grows flat along the ground. Its leaves and stems are succulent (thick or fleshy). The leaves are clustered at the ends of the branches. Life cycle: annual.



Wood Sorrel

Wood sorrel looks like clover, but is not related. It grows low, with runners, and has heart-shaped leaves and small yellow flowers. It is usually found in the shade. Life cycle: perennial.



Common Knotweed

Very low growing, this plant forms a circular mat. It can be found in areas with lots of foot traffic. Knotweeds have slender, wiry, non-rooting stems; smooth, blue-green leaves; and very small white flowers. Life cycle: annual.



Dwarf Mallow/Cheese Weed

This plant has low and spreading stems, roundish and broad leaves, and white or pink flowers. The fruit looks like little rounds of cheese. Life cycle: annual or biennial.



Spurge

The very low growing stems of this plant form circular mats from a single root. The stems and leaves are green or often reddish. One means of positive identification: pinched spurge leaves yield a milky sap. (Caution: the sap is poisonous.) Life cycle: annual.

English Daisy

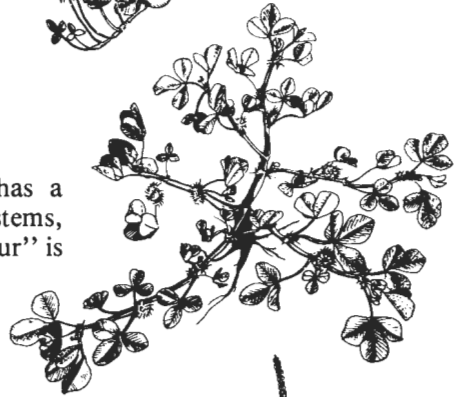
The English Daisy is low growing with oval leaves. The easy-to-see white or pink daisylike flowers face the sky. Life cycle: perennial.

**Clover**

Clover is a common, non-grassy lawn plant. It has three-lobed leaves, is low growing, and has roots at joints. Its flowers are white, red, or pink. Life cycle: perennial.

**Burclover**

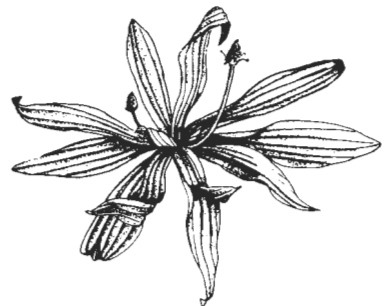
Burclover is related to clover. Burclover has a cloverlike leaf, low growing and spreading stems, and small yellow flowers. The seed pod or "bur" is spiraled and spiny. Life cycle: annual.

**Broadleaf Plantain**

This plant's large, smooth, roundish leaves grow in a cluster or rosette 8 to 15 cm long. Flower stalks rise from the plant's center. Life cycle: perennial.

**Narrowleaf Plantain/Buckhorn**

This plant has long (8 to 30 cm), narrow leaves with parallel veins. The leaves grow in a cluster or rosette. Long flower stalks stick up above the leaves. Life cycle: perennial.





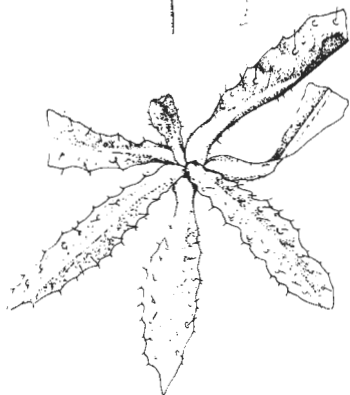
Thistle

The almost stemless thistle has jagged leaves ending in long spines, which are painful to the touch. The leaves are spiny and covered with short hairs. Flowers, when present, are purplish. Life cycle: perennial.



Curly Dock

Large, reddish-green leaves that are curly and wavy along the edges distinguish this plant. Seed stalks are green or reddish-brown in color. Life cycle: perennial.



Bristly Ox tongue

This plant is coarse and rough looking. Its leaves are covered with rough hairs and pimples. The flowers are yellow and look somewhat like small dandelion flowers. Life cycle: biennial.



Dichondra

Dichondra has low, creeping stems and frequently has roots at the nodes. Together, many of these plants form dense mats or even "lawns." Its leaves are lily-pad shaped and 0.5 to 3 cm in width. Flowers are rarely seen. Life cycle: perennial.



Wild Geraniums

The members of the geranium family are also called cranesbills because of the "long beak" in the center of their pink, purple, or blue flowers. Geraniums are low growing, and their leaves are divided like the fingers on a hand. The small-flowered geranium or cranesbill is illustrated here. Life cycle: annual.

GRASS PLANTS

The grasses listed here are mostly weedy grasses. Other grasses do not usually flower in a lawn, and thus would be too difficult to identify. Flowers on these weedy plants are usually green, brown, or beige.

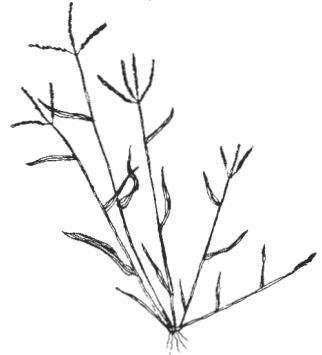
Crabgrass

The leaves on crabgrass are over 6 mm wide and very hairy. The purplish, frayed-looking ends at the top of the stems are flowers. Crabgrass spreads by seed and runners. Life cycle: annual.



• Smooth Crabgrass

The leaves of smooth crabgrass are under 6 mm wide, 2 to 8 cm long, and smooth (not hairy). The leaves are often tinged with purple. Smooth crabgrass spreads by seed and runners. Life cycle: annual.



Bermuda Grass

Bermuda grass is thick, coarse grass. Its leaves are narrow and 2 to 8 cm long. Stems are flattened and wiry. The runners have many jointed parts with roots and stems at each joint. The flower is somewhat similar to that of crabgrass. Life cycle: perennial.



Goosegrass

Goosegrass is a low, thick, mat-forming grass, growing out from a central point. It appears as a silvery, pale green clump. It will flower even under constant mowing. Goosegrass leaf blades are 7 to 15 cm long. Life cycle: annual.





Ryegrass

Ryegrass has long, narrow leaves that are rough on the top and smooth on the underside. Ryegrass is difficult to distinguish from regular lawn grass unless it is flowering. It is, however, somewhat glossier than most grasses. Ryegrass forms clumps. Life cycle: annual.



Kentucky Bluegrass

Kentucky bluegrass is a very common and desirable lawn grass. It can be identified in the cut stage by looking with a hand lens at veins on the upper side of the leaf: the veins look like railroad tracks running down the middle. This plant will flower along the uncut edges of a lawn. Kentucky bluegrass grows tall, from 30 to 60 cm tall. Life cycle: perennial.



Annual Bluegrass

Annual bluegrass is a short, soft, light green grass. It will continue to form flowers and seeds even under frequent mowing. It is usually found in cool, frequently watered areas. Look for light colored flowers growing on short grass plants in the lawn. Life cycle: annual.

Foxtail Barley

Foxtail barley forms clumps, often in new or infrequently mowed lawns. The leaves are smooth and dull green in color. A mature seed head looks like the tail of a squirrel or fox. Foxtail barley's seeds often stick in socks or shoes. Life cycle: perennial.

FUNGI

Fungi are non-green plants, which obtain their nourishment from living or dead organisms. Fungi help release minerals and nutrients for the growth of green plants by breaking down or decomposing the bodies of dead organisms.

Mushrooms

Many kinds of fungi appear on lawns. Most are in the familiar toadstool shape. Others are buttonlike. They are usually white or light brown, but can also be bright red, blue, yellow or black. Many are poisonous. Mushrooms do not manufacture their own food, but live off decaying plant material.



ANIMALS

SMALL FLYING ANIMALS

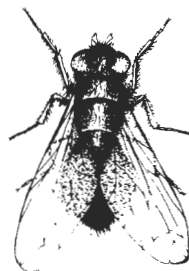
Frit Flies

Frit flies are small black flies. They are usually very numerous. The larvae feed on grass stems.



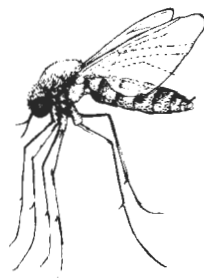
Houseflies

Houseflies are very active, stout-bodied, medium-large flies with a single pair of wings. Houseflies are scavengers, feeding on all sorts of decaying vegetable and animal waste matter.



Fungus Gnats

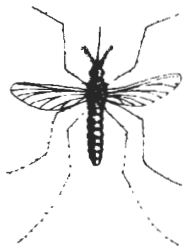
Fungus gnats are small, dark, mosquitolike, long-legged flies. With a hand lens you can see that the first segment of their legs is very long. Larvae and adults feed on decaying vegetable matter and mushrooms.





Marchflies

These small to medium-sized, clumsy, black flies are often very abundant in early spring and summer. The larvae feed on decaying vegetable matter and on the roots of plants.



Mosquitoes

Mosquitoes have one pair of transparent wings, and most are equipped with a long piercing and sucking tube for obtaining their food. A hand lens reveals that mosquito wings are fringed with tiny, colorful scales and hairs. Females suck blood for food, while the males feed on nectar and plant juices.



Craneflies

Craneflies, often mistaken for giant mosquitoes, don't bite and are quite harmless. They are long and slender, and their extremely long legs mark them as the "daddy long legs" among flies. Adults may feed on plant nectar or dew; the larvae scavenge or feed on grass roots.



larva



Bees

The familiar honeybee has a hairy, tan, and black-striped abdomen. Bumblebees have hairy, bright-yellow and black-striped abdomens and are larger and stouter than honey bees. Usually found near or on clover, dandelion flowers, or other showy non-grass-plant flowers, bees feed on pollen and nectar from flowers. Nectar is converted into honey back at the hive.



Yellow Jackets

Yellow jackets are very showy insects with bright black and yellow markings on non-hairy abdomens. These wasps are pesty and will sting if disturbed. Yellow jackets are scavengers and are very noticeable during picnics.

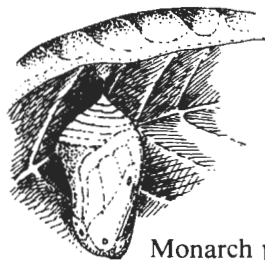
Small Wasps

Small wasps are any of a number of species of small, black, narrow-waisted wasps. They are common in small numbers at all times of the year. Most are parasitic, inserting their eggs into a host insect. The larvae feed on that host from the inside, eventually killing the host.



Butterflies

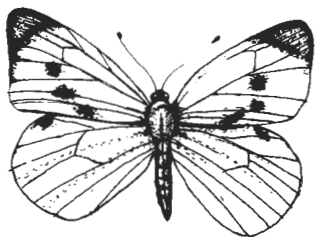
Butterflies are slender-bodied insects with large, often brightly colored wings. The wings are covered with tiny scales. Antennae are slender with a swollen knob at the end. Adults often don't feed. If they do, they usually feed on flower nectars. Larvae feed *constantly* on plant material.



Monarch pupa



Monarch larva



Cabbage butterfly: white and black



Monarch butterfly: black and orange

Moths

Moths, like butterflies, have four large wings that are covered with tiny scales. The bodies of moths, however, are usually fatter and hairier than those of butterflies. Moths' antennae are often featherlike; they aren't swollen at the tips as butterfly antennae are. Most moths are active at night (nocturnal) and attracted to lights.



Sphinx moth



Banded Woollybear larva



Tobacco Hornworm: Sphinx larva



Lawn Moths

Lawn moths are common, slender moths. They are long and narrow, and their wings usually fold against their bodies when they are at rest. They have a snoutlike mouth that sticks out from the head. They flutter about at dawn and will fly short distances when disturbed. The larvae of these moths feed on stems or roots of grass.

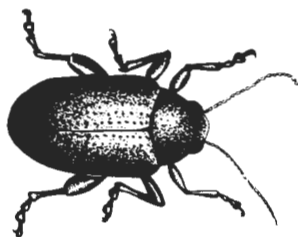
SMALL CRAWLING OR HOPPING ANIMALS



Ground beetle

Beetles

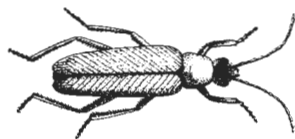
Many types of beetles can be found on lawns. Beetles range in size from less than 3 mm long to 3 cm long. Pictured here are three kinds likely to turn up: a ground beetle, a soldier beetle, and a little flea beetle. Beetles are all hard-bodied and rarely fly. They have two pairs of wings. The top wings are hard and form a protective shell over the soft, flying wings. Some are predators, others are herbivores, and still others are scavengers.



Flea beetle



larva



Soldier beetle



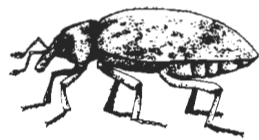
larva

Ladybug/Ladybird Beetles

Ladybugs are medium-sized, round, reddish-orange beetles with black spots (or black with reddish-orange spots). They are often quite common around lawns. They can be seen crawling to the top of a blade of grass, flying a short distance, and repeating the action. Both adults and larvae are predators; their primary food is aphids.

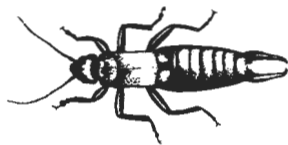
Weevils/Snout Beetles

As their name implies, these are beetlelike in appearance, with the head more or less elongated into a snout. Weevils, like beetles, prefer to run rather than fly. Almost all weevils feed on plant material.



Earwigs

Earwigs are slender, medium-sized insects with large pincers on the end of the abdomen. Earwigs are largely active at night and hide during the day in cracks, crevices, and under objects. Earwigs are mainly scavengers, but also eat live plants.



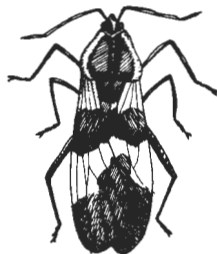
Stinkbugs

Stinkbugs come in many colors and sizes. They have flattened, shield-shaped bodies. When handled, stinkbugs release a strong, foul-smelling liquid.



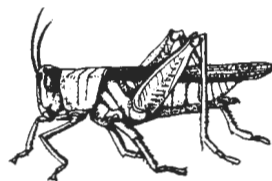
Milkweed Bugs

These black and red or orange bugs have elongated, hard bodies. They are 1 to 1.5 cm long. Milkweed bugs feed on milkweed seeds.



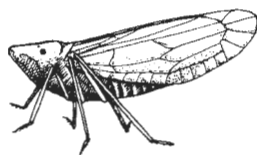
Grasshoppers

Grasshoppers are long-legged, jumping insects. Usually green or brown, they range in size from 2 cm to over 8 cm. Their very large hind legs aid in hopping; they also fly. Males sing by rubbing the inside of the hind leg against the lower edge of the front wing. Grasshoppers eat plants.



Leafhoppers

Leafhoppers are small bugs, very numerous at certain times of the year. They have oval-shaped bodies, and their segments are not well separated. Leafhoppers will move sideways, hop, or fly. They often have interesting coloration: black, brown, and white; or all green, some with red markings. Leafhoppers suck plant-leaf juices for food.





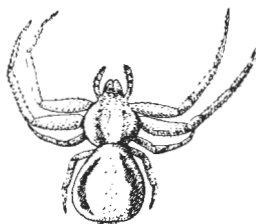
Ants

Ants are small, black or red, narrow-waisted, ground-dwelling insects. (Rarely, winged ones can be found.) Ants are often found in large numbers, in swarms or in lines. Their antennae are usually elbowed. This familiar insect lives in large colonies. Some ants are predators, some herbivores, others are scavengers.



Aphids

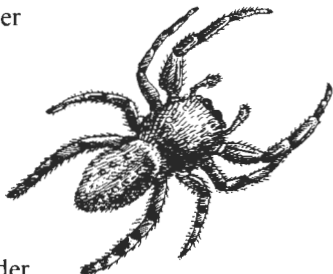
Aphids are small, round, soft-bodied insects. Aphids have wings at certain times of the year and are without wings the rest of the year. Usually green, aphids can also be black or brown. With a hand lens, you can see tiny pegs sticking out from the rear of the abdomen. Adults and young aphids suck plant juices for food.



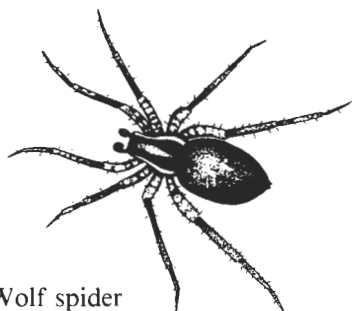
Crab spider

Spiders

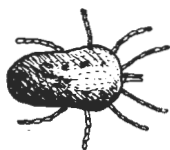
Many kinds of spiders can be found on lawns. All have eight legs, two body segments, and piercing mouth parts. Most lawn spiders, like the spiders pictured here, pounce on their victims instead of using webs. All spiders are predators.



Jumping spider



Wolf spider



Mites

Mites are tiny spiderlike animals; all adults have eight legs. Mites look like fast moving dots. Colors vary; red, orange, brown, and black are most common. Some mites are predators, others herbivores or scavengers.



Millipedes

Millipedes are medium-sized, wormlike animals with many legs. Most millipedes have thirty or more pairs of legs, usually two pairs per segment. Often millipedes can be found coiled into a spiral. Most millipedes are scavengers.

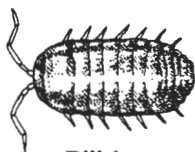
Centipedes

Centipedes are medium-sized, flattened, wormlike animals with fifteen or more pairs of legs. Each body segment has a single pair of legs. They are very active and fast running, unlike millipedes. Centipedes are usually orange in color. Don't pick up centipedes with your bare hands; some bite or sting. Centipedes are predators.

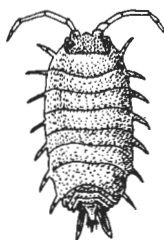


Isopods/Pill Bugs/Sow Bugs

Isopods are medium-sized, oval-shaped armored animals. They are often brown, black, or gray in color, some with yellow spots. Although most isopods look the same, there are two distinct kinds of isopods: pill bugs and sow bugs. Pill bugs, when alarmed, roll up into a tight ball or "pill." Sow bugs, on the other hand, run away. The broad, flattened body of the sow bug allows it to flip over from an upside-down position. (The pill bug cannot do this.) Isopods live in cracks, crevices, or even out in the middle of the lawn; and are mainly active at night. Isopods are scavengers but will eat fresh plant material.



Pill bug



Sow bug

Snails

Snails are soft-bodied animals with a hard, coiled shell. Very small snails, especially ones around 2 mm in size, can be quite plentiful in lawns. Snails secrete a slippery substance on which they travel, thus leaving a track where they have been. Snails eat fresh and decaying plant material.



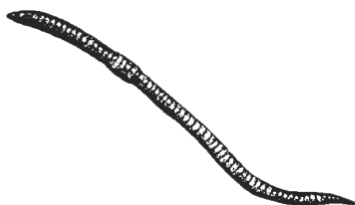
Slugs

Slugs look like snails without shells and also secrete the slippery traveling surface. Slugs eat fresh and decaying plant material.



Earthworms

Earthworms are segmented worms with a large band around the body about one-third of the distance from the head. Their size varies from 2 cm to over 15 cm. Earthworms are very numerous in lawns, frequently coming up after the lawn is watered or at night. Earthworms are scavengers, eating material in the soil.



BIG ANIMALS

AMPHIBIANS

Frogs, toads, and salamanders belong in this group. Their skin is thin, scaleless, smooth or warty, and usually moist. All of these animals may be found on lawns, but they are not regular visitors. All amphibians are predators as adults.



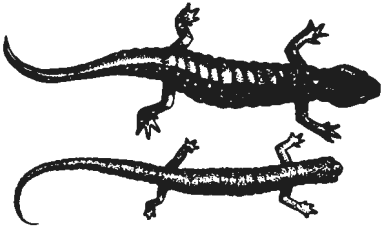
Frogs

Frogs are smooth skinned with long, powerful hind legs.



Toads

Toads possess a warty skin, large neck glands, and are rarely found moving about during the day. Toads have shorter back legs than frogs have.

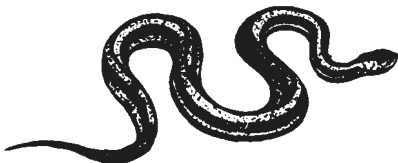


Salamanders

Salamanders also include newts. They have lizardlike bodies but lack claws.

REPTILES

Reptiles have dry, scaly skin, which they periodically shed. Snakes, lizards, and turtles are common reptiles. Snakes are commonly found on lawns — lizards and turtles less often. All snakes and most turtles and lizards are predators.



Snakes

Snakes have no limbs and have nonmovable, transparent (see-through) eyelids.

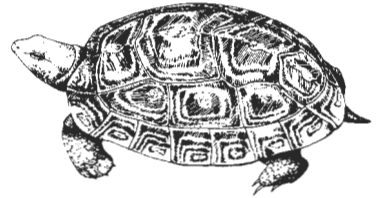
Lizards

Lizards have movable eyelids and usually have limbs with clawed toes.



Turtles

Turtles have body shells into which they can draw their heads and limbs.



BIRDS

Birds have wings and feathers; nearly all fly. Many birds are common and important visitors to lawns. Robins, blackbirds, sparrows, and pigeons are pictured here. Robins are predators, feeding mainly on earthworms. Blackbirds feed primarily on insects, spiders, and seeds. Sparrows feed on insects and seeds. Pigeons eat seeds almost exclusively.



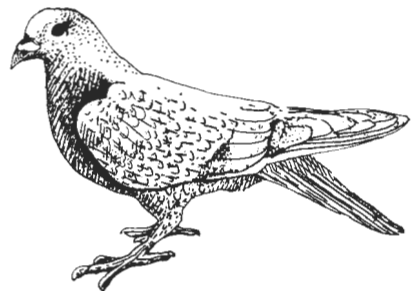
Robin



Sparrow



Black bird



Pigeon

MAMMALS

Mammals have fur or hair and nurse their young on milk. Most mammals are more active at night than during the day.



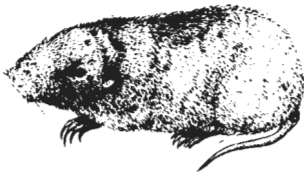
House Mouse

The house mouse eats seeds or scavenges for whatever vegetable remains it can find.



Meadow Mouse

The meadow mouse eats grass and some seeds.



Gophers

Gophers live on roots of plants. Gophers seal their tunnels at the entrances and exits, thus keeping out most intruders.



Moles

Moles make shallow tunnels underground, usually resulting in a ridge along the grass. Moles eat animals such as earthworms and grubs.

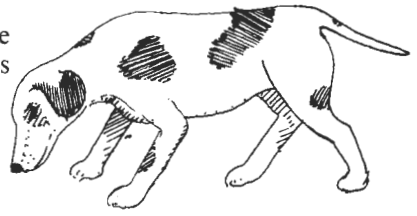


Squirrels

Squirrels are medium-sized rodents that feed mostly on nuts and mushrooms.

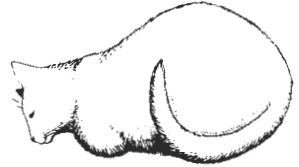
Dogs

Dogs rarely eat on the lawn but do leave waste products, which both fertilize the lawn and serve as food for some lawn animals.



Cats

Cats on lawns occasionally eat birds, gophers, lizards, mice, moles, moths, and butterflies.



People

People affect lawns by cutting and removing grass, fertilizing and watering, and playing and walking on them. People also kill animals and weeds in lawns to protect the lawns and make them more attractive.



GLOSSARY

- Annual:** plants that complete their life cycle from seed in one year.
- Perennial:** plants that live longer than two years.
- Biennial:** plants that complete their life cycle in two years, flowering in the second year.
- Runners:** long stems that grow close to the ground, rooting and sending up new leaves and stems.
- Node:** part of the stem where one or more leaves (and sometimes flowers) are attached.
- Predator:** an animal that catches and eats other animals.
- Herbivore:** an animal that eats plants.
- Scavenger:** an animal that eats dead or decaying plant or animal material.



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NOTES

