BOSQUE ECOSYSTEM MONITORING PROGRAM

Pitfall Trap Lab Directions: Arthropod Identification

Pitfall traps catch arthropods (animals with jointed legs) that live on the ground. We will sort most of these animals to the classification level of Order. You may need a hand lens (magnifying glass) for some of these identifications. On the data sheet record the name, code and number of individuals for each type of animal in each trap.

PLEASE SAVE EVERYTHING out of each trap, including dirt that falls into the trap and all arthropods. After you record the identity of each arthropod, put everything back into the marked ziploc bag for that trap. Put all 10 bags (one for each trap) into one large ziploc for each collection.

NOTE: Sometimes arthropods that you catch may not be on this list. If you cannot match a specimen to a group listed below, make a note of this on the data sheet. Include the specimen with the others when you hand them in.

Also, some arthropods are very, very small. Do not try to identify any that are less than 5 mm in length, but do save them. Turn them in with the other specimens.

If there are no arthropods in a trap, write "No captures" on the data sheet.

To begin, separate the animals by counting the number of legs that they have:

1a. If it has more than 14 walking legs (7 pairs) 2

2a. Body with many segments (parts), flattened, one pair of legs per segment. The jaws contain venom ..... CHILOPODA (centipedes)
CODE: 2000000

2b. Body with many segments (parts), rounded, two pair of legs per segment. The mouth is small ..... DIPLOPODA (millipedes)
CODE: 3000000

1b. If it has 14 or fewer walking legs 3

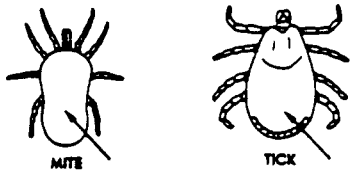
3a. With 14 legs, body with many segments (parts), color gray, sometimes with white speckles. Included here are two kinds, one that can roll up and one that cannot .... ISOPODA (pill bugs, sow bugs, woodlice)
CODE: 6020000

3b. Fewer than 14 legs 4

4a. If it has walking 8 legs (4 pairs) 5

5a. Body all one piece 6

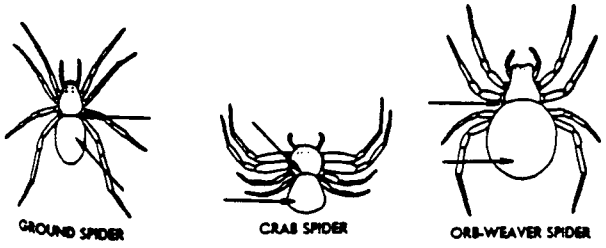
6a. Body size small (often less than 1 mm) ..... ACARI (mites, ticks)
CODE: 5020000



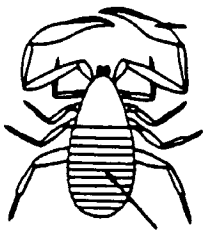
6b. Body size larger, two simple eyes on top of head. Legs often very long .... OPILIONES (harvestmen, daddy long-legs)
CODE: 5040000

5b. Body with at least two pieces 7

7a. Abdomen with spinnerets at the posterior (back) end of ventral (belly) side ..... ARANEAE (spiders)
CODE: 5010000



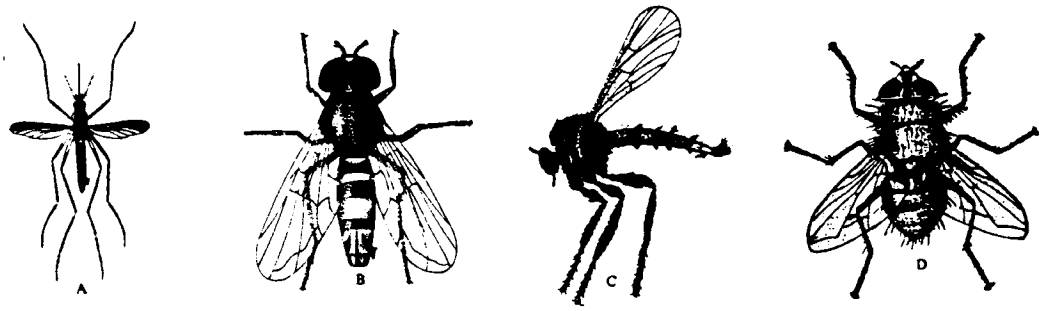
7b. Abdomen without spinnerets and without tail. Body length small (usually less than 2 mm). Front palps (feelers) like pincers .... PSEUDOSCORPIONES (pseudoscorpions)
CODE: 5030000



4b. If it has 6 walking legs (3 pairs) 8

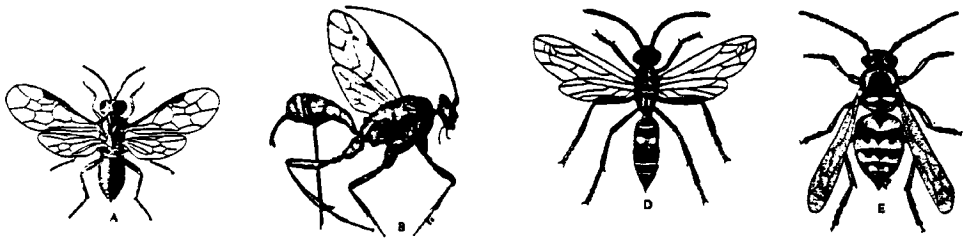
8a. With obvious wings 9

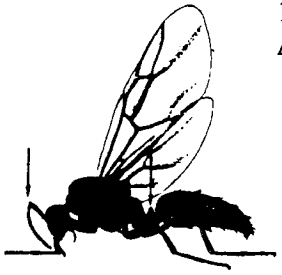
9a. With only one pair of wing..... DIPTERA (flies)
CODE: 1060000



9b. With two pairs of wings 10

10a. Wings do not have scales or hairs and have few veins (lines). Most have skinny waist. Stinger may or may not be present .....
..... HYMENOPTERA (in part: wasps, bees)
CODE: 1110000





10b. Look like wasps but usually with no stinger. Skinny waist. Antennae bent like elbows. Black, brown, red or yellow. . . . . HYMENOPTERA (in part: ants)
CODE: 1111300

10c. Similar to ants but covered with hairs, fuzzy. Often colorful. Only males have wings . . . . . HYMENOPTERA (in part: velvet ants)
CODE: 1111900

10d. Other insects with wings usually do not fall into pitfall traps. These include mayflies, antlions, lacewings, dragonflies, damselflies, caddisflies, butterflies and moths. We do not count these, but save them in the bag.

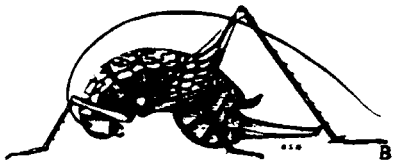
8b. No wings, or front wings thick and cover thinner back wings 11

11a. No wings 12

12a. Look like wasps, very skinny waist, no wings. Antennae bent like elbows. Black, brown, red or yellow. . . . . HYMENOPTERA (in part: ants)
CODE: 1111300

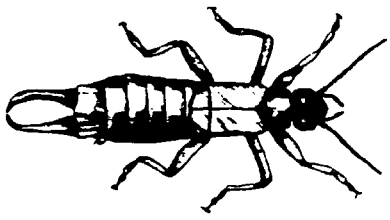
12b. Similar to ants but covered with hairs, fuzzy. Often colorful. Females lack wings and can sting. . . . . HYMENOPTERA (in part: velvet ants)
CODE: 1111900

12c. Long, curved antennae, long back legs. Arched back. . . . . ORTHOPTERA (in part: camel crickets)
CODE: 1190800

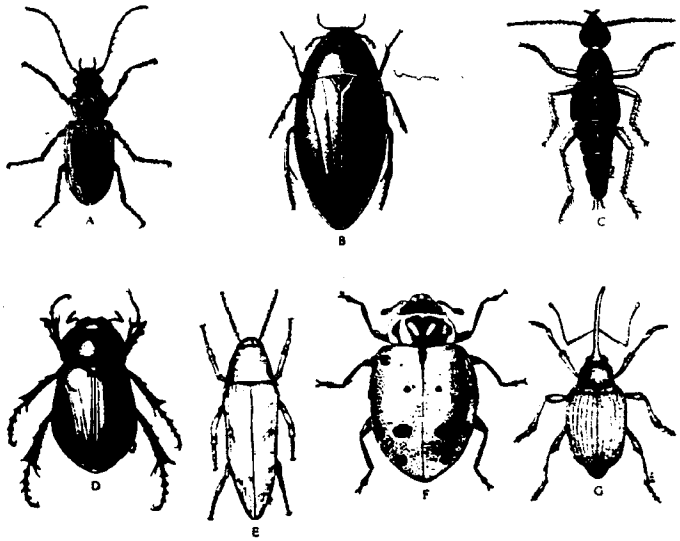


11b. Wings modified, front wings hard or leathery and covering back wings . . 13

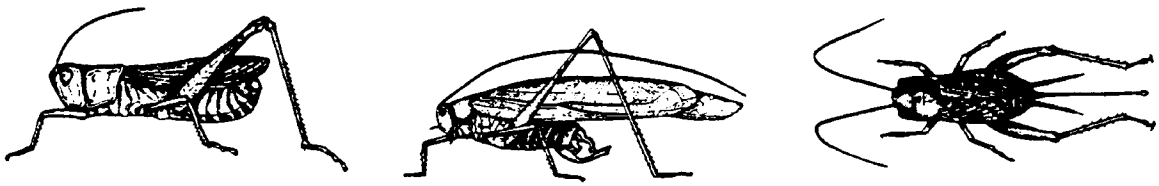
13a Back wings folded under very short, hard front wings (wing covers). Abdomen has pincers on end . . . . . DERMAPTERA (earwigs)
CODE: 1010000



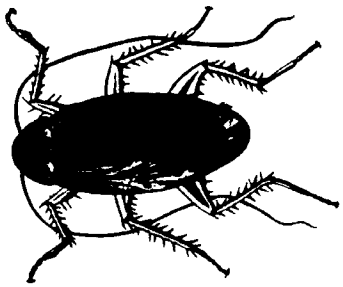
13b. Back wings folded under hard front wings (wing covers) which usually reach the end of the abdomen. No pincers .....
..... COLEOPTERA (beetles)
CODE: 1020000



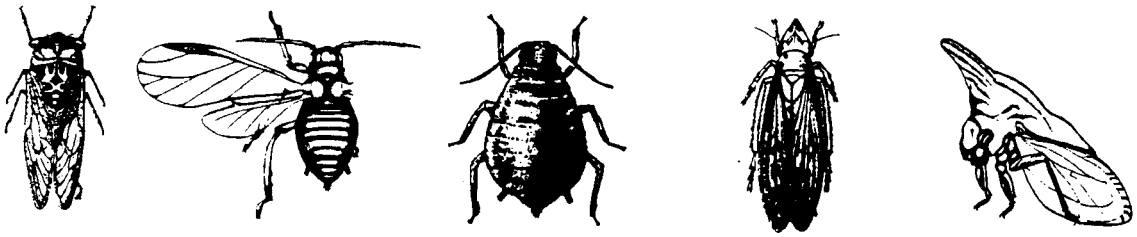
13c. Back wings held lengthwise along back under leathery front wings. Back legs are large for jumping .....
..... ORTHOPTERA (in part: grasshoppers, crickets)
CODE: 1190000



13d. Back wings held lengthwise along back under leathery front wings. All legs are slender (thin). Body is broad, flattened .....
..... BLATTODEA (cockroaches)
CODE: 1170000



13e. The front wings are clear and thin, or slightly thickened. Both pairs of wings are held along the back, or may be held above the body like a tent or roof. Long mouth like a straw that sticks down between the front legs ..... HOMOPTERA (leaf hoppers, cicadas, aphids)
CODE: 1150000



13f. Front wings are thick near the back but very thin near the end, like a membrane. The front wings overlap near the end. Long mouth like a straw that sticks down between the front legs .....
..... HEMIPTERA (true bugs)
CODE: 1750000