

the pond bed without true roots, have clustered needle-like projections, and are often mistaken for leafy plants. The two common kinds are chara and nitella. When mashed between the fingers, they both feel gritty and give off a musk-like odor. There is often a white or brownish crust of lime or "scale" on the plants. Chara occurs under natural conditions as small clumps about 6 to 8 inches high. When over-fertilized, it forms continuous

stands several feet high. Overabundance of chara is a common pond problem.

Rooted, leafy plants also occur in three general forms:

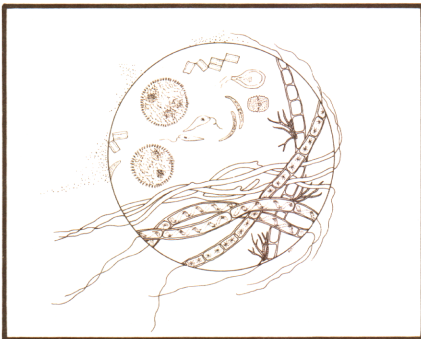
—**Submergent plants** (or submersed plants) grow rooted to the bottom with most parts beneath water. Some have a few leaves floating at the surface. Many thrust blossoms above the water. Common submergents are pondweed (*Potamogeton* in many varieties), coontail,

milfoil, waterweed (*Elodea*), water buttercup and bladderwort.

—**Floating plants** have all or most of their leaves and flowers at the water surface and roots dangling free in the water or rooted in the pond bed.

—**Emergent plants** (or emersed plants) have stems and leaves thrust above the water. These grow at pond margins and may extend into water several feet deep.

Algae



Planktonic algae (many species) — free-floating, usually minute, may be single-celled or in colonies. When abundant, they may color the water murky greenish to brownish—or in extreme cases give the water a pea-soup appearance.

Filamentous algae (many species) — long strands, filaments or nets. Often form floating mats.



Chara algae (muskgrass or stonewort) — Upright plants attached to pond bed. Roughly resemble rooted, flowering plants, but are really algal colonies with stems and whorled branches. Each joint of the stem consists of a single cell. Even-lengthed branches are clustered at each joint. Chara algae occur in shallow waters having high alkalinity. They are rough to the touch. When crushed between fingers, it feels gritty and gives off an ill-smelling, skunk-like odor.

Submergent Plants



Coontail (*Ceratophyllum demersum*) — Whorls of leaves at joints of stems. Leaflets forked once or more, have toothed edges. Leaves densely crowded near tip of stem. Grows in hard water.



Water milfoil (*Myriophyllum* species) — Leaves whorled on stem and divided feather-like, not forked as in coontail.



Bladderwort (*Utricularia* species) — Tiny oval bladder near bases of finely divided leaves. Often floats free under surface without roots. Found in cold, acid water. Flowers yellow or purple.



Fanwort (*Cabomba caroliniana*) — Leaves fan-shaped. Leaflets forked and wider at tip than at base. Sometimes small floating leaves. Plants have gelatinous slime. Flowers white to lavender.



Naiad (*Najas* species) — Leaves occur as opposite pairs or whorled, very narrow, toothed on edges. Commonly grows in water 1 to 4 feet deep but sometimes much deeper.



Elodea (*Elodea canadensis*) — Flat, thin leaves occur in opposite pairs or whorled. This plant commonly used in home aquaria.