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THE USE OF AQUATIC PLANTS IN THE HOME AQUARIUM

Introduction: The use of living plants in tropical fish tanks is a nearly universal practice nowadays, and for two reasons: first, they give the tank community a more "natural" appearance by emulating a situation that occurs in nature and adding interest and beauty to the aquarium as well, and second, the presence of plants benefits the fishes and the aquarium itself in a number of ways, including the absorption of fish wastes in solution, offering protective shelter to small fishes, absorption of excess carbon dioxide in the water, and the production of a certain amount of oxygen beneficial to the other aquarium inhabitants.

Although this latter function of aquarium plants is usually the most frequently-quoted, its value is limited, as most of the available oxygen in the water of an aquarium passes into solution directly from the surface. Since plants actually breathe oxygen and give off carbon dioxide as animals do, only more slowly, a small amount of additional oxygen is used by the plants at night, but during the daytime, when the plants are manufacturing their food by the photosynthetic process, considerable carbon dioxide is taken in and a surplus of oxygen given off as a by-product.

An aquarium well-stocked with plants will seldom have a serious problem of either poisonous bacteria or abundant algae growth, since the plants themselves use the natural fertilizers in solution at a faster rate than do these objectionable organisms.

Obtaining aquarium plants: Most aquarium supply and tropical fish dealers carry a fairly wide variety of aquatic plants, which for the most part are hardy and inexpensive. When selecting plants, it is well to keep in mind the size and capacity of your aquarium, remembering that some water plants grow rapidly and will have to be cut back or thinned out from time to time. Be sure to select those plants that look healthy and are in full color, especially since replanting them will frequently slow their growth for a time until they become adjusted to their new surroundings. Before replanting, cut off all dead leaves, roots, and bare stems and set the plants in the bottom sand or gravel with care, being sure all roots are covered. Various tools, such as plant tongs and planting sticks, can be obtained if desired from your dealer.

In arranging aquarium plants, it is best to place the larger, more rapidly-growing species at the back and sides and the smaller ones in the front and center of the tank. By using rocks or other natural objects in combination with plants, various interesting "aquascapes" can be created.

Native plants: Many native water plants, such as Vallisneria, Saggitaria, spatterdock, etc., may be gathered from the shallow waters of ponds, lakes, and streams, and will grow in the aquarium, but it is well to keep in mind the possibility of introducing harmful insect larvae, snails, disease organisms, etc., along with the plants. For this reason all native plants and grasses should be rinsed thoroughly in running tapwater and all dead portions trimmed away before being placed in the aquarium. Also, when native plants are collected, the ones from deeper water or shaded areas should be selected where possible as these withstand transplantation better than those found growing under full sunlight in shallow water.

Care of aquarium plants: Plant care for most species is fairly simple, provided the aquarium receives adequate light. In nearly all cases where aquatic plants go to pieces or wilt, inadequate light will be found responsible. A planted aquarium should be well lighted in the daytime, either artificially or naturally, although more than an hour's direct sun per day or too much illumination in any case will often result in an overgrowth of algae within the tank, and it may become overheated as well.

Sometimes aquarium fishes and snails will tear or eat portions of the plants, but if the truly harmful species are kept separately and especially if the inhabitants of the tank are well fed, little harm will be done and the plants may even provide a little additional vitamins and "spinach" to aid their growth. Finally, it is well to remember that if the fishes in your tank are in good health and the aquarium receives adequate but not too much light, the plants themselves will nearly always remain in a healthy condition, as the same factors which are conducive to the proper growth of fishes benefit the plants as well.

Desirable aquarium plants: Since new species of aquarium plants are constantly being introduced to the market, the present list cannot be regarded as complete. Rather, it should serve as a general guide to some of the many varieties of aquatic plants, both native and exotic, which are suitable for the home aquarium and which are generally available from time to time from the dealer in aquarium supplies.

DESIRABLE AQUATIC PLANTS FOR USE IN FISH PONDS AND AQUARIA

Common name	Genus & species
Division I, Thallophyta (Algae, Fungi, and Lichens).	
Slender nitella	Nitella gracilis
Branching muskgrass	Chara vulgaris

Common name	Genus & species
Division II, Bryophyta (Mosses and Liverworts).	
Fever watermoss	Fontinalis antipyretica
Slender watermoss	F. gracilis
Common riccia	Riccia fluitans
Purple-fringed riccia	Ricciocarpus natans
Division III, Pteridophyta (Ferns, Horsetails, and allies).	
Quillwort	Isoetes echinospora
Waterfern	Ceratopteris thalictroides
Pepperwort	Marsilea quadrifolia
Mosquitofern	Azolla caroliniana
Salvinia	Salvinia rotundifolia
Division IV, Spermatophyta (Higher seed plants).	
Chile parrotfeather	Myriophyllum proserpinacoides
Pondweed	Potamogeton crispus
Leafy pondweed	P. foliosus
Graceful pondweed	P. pectinatus
India floatingheart	Nymphoides indicum
Spatterdock	Nuphar advena
Arrowleaf spatterdock	N. sagittaefolia
Babystears	Helxine soleiroli
Bladderwort	Utricularia vulgaris
Floating bladderwort	U. inflata
Seedbox	Ludwigia glandulosa
Water seedbox	L. hatahs
Hornwort	Ceratophyllum demersum
Duckweed	Lemna minor
Branching duckweed	L. trisulca
Big duckweed	Spirodela polyrhiza
Canada waterweed	Anacharis canadensis
Dense waterweed	A. densa
Tropical fanwort	Cabomba aquatica
Red fanwort	C. roseafolis
Madagascar dwarf waterlily	Nymphaea micrantha
Mudplantain	Heteranthera dubia
Naiad	Naias flexilis
Spiral wildcelery	Vallisneria spiralis
Giant wildcelery	V. gigantea
Common arrowhead	Sagittaria natans
Giant arrowhead	S. sagittifolia

Common name	Genus & species
Slender arrowhead	S. gracilis
Common cryptocoryne	Cryptocoryne becketti
Broadleaf cryptocoryne	C. griffithi
Ruffled cryptocoryne	C. willisii
Upright cryptocoryne	C. cordata
Amazon sword plant	Echinodorus brevipedicellatus
Pygmy chain sword plant	E. intermedius
Madagascar sword plant	Aponogeton undulatus
Madagascar lace plant	A. fenestralis
Florida water orchid	Spiranthes cernua, var. odorata
Water spider orchid	Habenaria repens

Created in 1849, the Department of the Interior—America's Department of Natural Resources—is concerned with the management, conservation, and development of the Nation's water, fish, wildlife, mineral, forest, and park and recreational resources. It also has major responsibilities for Indian and Territorial affairs.

As the Nation's principal conservation agency, the Department works to assure that nonrenewable resources are developed and used wisely, that park and recreational resources are conserved for the future, and that renewable resources make their full contribution to the progress, prosperity, and security of the United States—now and in the future.

30422 - 63