

# Nomenclature, Taxonomy, And Distribution Of *Egeria* And *Elodea*<sup>1</sup>

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## ABSTRACT

During the past 10 years, a number of *Egeria densa* Planch. collections have been made in Louisiana. At no time has *Elodea canadensis* Michx. been collected in Louisiana, except as it has been improperly identified as a botanical specimen. *Elodea canadensis* is found in the northern half of the United States and in most of California. There is an overlapping area, however, where both species may occur.

## INTRODUCTION

Botanical nomenclature is that part of plant science that deals with the identification, classification, and naming of plants. Rules of the INTERNATIONAL CODE OF

BOTANICAL NOMENCLATURE have governed "due process" of this science but consensus on a particular system of binomials has only come within recent times. Article 1 of the International Code states that "Botany cannot make satisfactory progress without a precise system of nomenclature which is used by the great majority of botanists in all countries," and in Article 7, "Scientific names of all taxonomic groups are usually taken from Latin or Greek. When taken from some other language they are treated as Latin." Although Casper Bauhin was first to use the binomial system, Charles Linne was first to standardize the nomenclature by rejecting polynomials and accepting binomials only. At the beginning of the 19th century Auguste de Candolle gave a more precise explanation but it was not until the First International Congress convened in Paris in 1876, that an international code was formulated and developed. This was followed by a series of discussions and conferences. The current system was finally adapted by the Cambridge Congress in 1930.

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## BOTANICAL CITATION

Plant taxonomy is a "moving" science in which there is a constant revision of various units of classification, recommended changes, rejection or conservation of names, etc., etc. The various names by which a specific plant is designated in the literature may often confuse the casual onlooker as well as the serious student. It should be noted, however, that authors are free to use any name pertaining to a taxon provided that name is published validly. Most names or name combinations appear in plant monographs. Investigators who work with a certain group of plants should consult the latest monograph pertaining to the species in question. Misunderstandings and misinterpretations often result from references to popular publications which give only vague descriptions and often disregard the rules of botanical nomenclature.

## BOTANICAL DESCRIPTIONS

The arbitrary way in which nomenclature rules are applied, such as the use of scientific genera as common names for a taxon, adds greatly to the confusion in identification. The genus *Hydrilla*, for example has the common name of Florida Elodea, and the genus *Egeria*, the com-

mon name Brazilian Elodea (2). However, neither *Hydrilla* nor *Egeria* is *Elodea*, both differing from each other and from *Elodea*. Until the publication of the monographs on *Egeria* and *Elodea* by Harold St. John (7) and the recent publication by Correll and Correll, (3) the confusion existing around the nomenclature of these two hydrophytes was not resolved.

The genus *Elodea* was first published by L. C. Richard (6) and the genus *Egeria* was first published by Planchon (5). Publications by Harold St. John provide the basic authority for the definition of the two genera.

Harold St. John (7) lists in his Monograph an impressive number of synonyms:

For *Elodea canadensis* Michx.: *E. planchonii* Casp.; *E. oblongifolia* Michx., ex Casp.; *E. canadensis* v. *planchonii* (Casp.): Farw.; *E. ionensis* Wylies.; *Anacharis canadensis* Planch.; *A. planchonii* (Casp.) Rydb.; *A. planchonii* (Casp.) Peck; *A. canadensis* v. *planchonii* (Casp.) Victorian; *Philotria canadensis* (Michx.) Britton, *Philotria planchonii* (Casp.) Rydb, *P. iowensis* Wylie; *Udora canadensis* (Rich. in Michx.) Nutt.; *Serpicula canadensis* (Richx. in Michx.) Eaton. For *Egeria densa* Planch.: *Elodea densa* (Planch.) Casp.; *Elodea canadensis* Michx., v. *gigantea* Hort.; *E. densa*

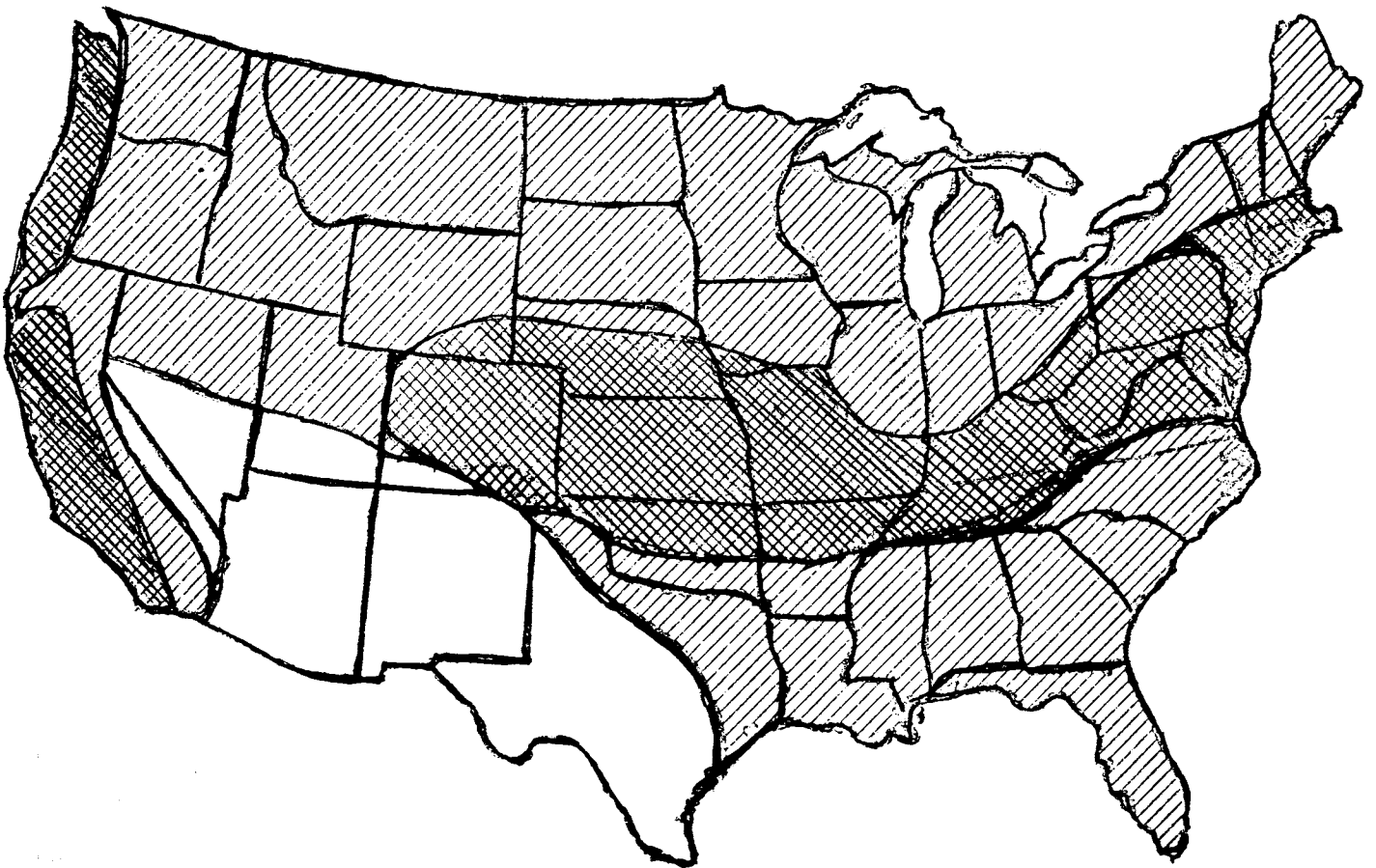


Figure 1. *Egeria densa*: in an area with Massachusetts, Florida, eastern Texas, eastern Utah and along the Pacific coast. *Elodea canadensis* may be found approximately in the northern half of the United States and most of California. The area for *Egeria* and *Elodea* are defined on the map, and the area in which both taxa may occur is shaded.

Casp. v. *longifolia* Hort.; *Anacharis densa* (Planch.) Victorian; *Philotria densa* (Planch.) Small.

At this point it seems to be appropriate to cite Harold St. John's description of both genera: *Elodea* and *Egeria*:

Staminate spathe 1-flowered with a slender, stalk-like base, or, if sessile subglobose and containing a sessile staminate flower that is liberated before anthesis, or if with an urceolate spathe the flowers perfect; stamens 9 with 3 central ones raised on a common stalk of the connate filaments, or rarely the stamens 9 and distinct, the anthers with 2 locules explosively dehiscent at the axial side of the connective into one wide-spreading valve (septifragal)<sup>2</sup>, then simulating heavy ribbed petals; or the flowers perfect with 3 stamens; filaments smooth, not glandular, much shorter than the anthers in the staminate flowers; petals smaller than or but little larger than the sepals; nectary lacking; pistillate spathe evenly and shallowly bifid at apex; pistillate flowers with 3 (or 4) entire or bifid or bipartite stigma; flowers water-pollinated after the explosion of the anthers . . . *Elodea*.

Staminate spathes 2-4 flowered, sessile, funnel-form or ellipsoid; stamens 9 (-10) distinct; filaments papillose, glandular above, at least thrice as long as the anthers; anthers each with 2 locules dehiscent by longitudinal lateral sutures into 2 equal valves (loculicidal); petals about thrice larger than the sepals; in the center of the flower a 3-lobed nectary; pistillate spathe split

<sup>2</sup>With valves breaking from the partitions in dehiscent or falling away from the partition.

half way down one side; the 3 stigmas 2-3 parted, flowers insect pollinated . . . *Egeria*.

#### DISTRIBUTION OF EGERIA AND ELODEA

During the past 10 years, a number of *Egeria densa* specimens have been collected in Louisiana. At no time has *Elodea canadensis* been collected in Louisiana, except as it may have been improperly identified as a botanical specimen. (8). *Elodea canadensis* is known to be distributed over most of the northern half of the United States (1, 2, 4, 9). There is an overlapping area, however, where both species may occur, (Figure 1).

#### LITERATURE CITED

1. Bailey, L. H. 1949. Manual of Cultivated Plants. Macmillan, New York. 1117 pp.
2. Blackburn, R. D., L. W. Weldon, R. R. Yeo and T. M. Taylor. 1969. Identification and Distribution of Certain Similar Appearing Submersed Aquatic Weeds in Florida. Hyacinth Contr. J. 8:17-21.
3. Correll, O. S. and Correll, H. B. 1972. Aquatic and Wetland Plants of the Southeastern U. S., Washington, U. S. Gov't Print. Off. 1777 pp.
4. Fassett, N. C. 1966. A Manual of Aquatic Plants., the University of Wisconsin Press, Madison. 382 pp.
5. Gangstad, E. O. 1971. Aquatic plant control program. Hyacinth Contr. J. 9:45-48.
6. Muencher, W. C. 1944 Aquatic Plants of the U. S. Comstock Pub. Co. 374 pp.
7. St. John, H. 1963. Flora of Southeastern Washington and adjacent Idaho. 583 pp.
8. Thieret, J. W. 1971. Aquatic and Marshland Plants of Louisiana; A Check List. Louisiana Society for Horticultural Research. 45 pp.
9. U. S. Department of Agriculture. 1970. Selected Weeds of the United States. Pages 28-31 in Agri. Handbook No. 336.