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THE SALT-MARSH IVA OF NEW ENGLAND.

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THE northern and southern forms of the plant known as *Iva frutescens* differ so widely in several points that it seems best to treat them as distinct species. The northern plant, as it occurs in Massachusetts, is a shrubby perennial from two to four feet tall, generally found on the muddy banks of tidal streams and along salt-marsh ditches. Each clump consists of from ten to a hundred or more stems from a single woody base. The individual stems are simple below the paniculate inflorescence except in very old plants, where branches may occur several nodes below the inflorescence. *Iva frutescens* as described by Small in the "Flora of the Southeastern United States" is from 1 to 3.5 meters (3-11.5 ft.) tall. No accessible specimens show the base of this large southern form, but as nearly as can be judged from herbarium material it has freely branched stems. This is probably due to the fact that in the south the small branches are not deciduous at the end of the growing season, but continue their growth from year to year.

The most noticeable difference between the two plants lies in the leaves, which are much larger and broader in the northern plant than in the southern. The stem leaves of all available specimens of both species were measured and the results expressed as ratio of length to breadth. The ratio varied from $\frac{1}{1.75}$ to $\frac{1}{3.6}$ (average $\frac{1}{2.7}$) in the case of the northern plant, from $\frac{1}{4}$ to $\frac{1}{7}$ (average $\frac{1}{5}$) in the case of the southern plant. That is, the leaves of the northern plant are relatively twice as broad as those of the southern. Other significant differences lie in the heads and achenes. The head of the southern plant is about 4 mm. in diameter at maturity, whereas the head of the northern

plant measures 6 mm. if well developed. In both plants the involucre is usually of five obtuse bracts, but in case the number is not five, variation occurs in opposite directions. Occasionally the southern plant has four bracts, and the northern plant six. This same variation is found in the number of fertile flowers, which are five or four in the southern plant and five or six in the northern. Achenes of the southern plant vary from 2 to 2.4 mm. in length, with an average of 2.1 mm. Those of the northern plant vary from 3 to 3.3 mm., with an average of 3.1 mm. Strange to say, the plants which seem most intermediate between typical extremes are those from Texas, at the southern limit of range.

There can be little doubt that the name *Iva frutescens* L. must be applied to the plant of the Southeastern States. The description of the "Species Plantarum" includes a plant from Peru, which is probably some other species. The northeastern plant is here proposed as new.

Iva oraria sp. nov., fruticosa 0.5–1 m. altitudine; caulibus solum superiore parte ramosis, plus minusve subscabris; foliis plerumque oppositis, ovatis, obtusis vel acutis, profunde serratis; capitulis axillaribus deflexis pedicellatis depresso-globosis; involucreo pentaphyllo vel raro hexaphyllo, ad maturitatem 6 mm. diametro; floribus fertilibus 5 aut raro 6; fructu 3–3.3 mm. longitudine.—Salt marshes, New Hampshire to New Jersey. Differs from *I. frutescens* in the larger size of the fruit, the greater diameter of the involucre, and the much broader leaves. Type, Bartlett 354 (Hb. Bartlett), collected on the banks of the Charles River, Boston, Massachusetts, 18 September, 1905.

Specimens examined:

Iva oraria:—MASSACHUSETTS: Boston, Bartlett 354 and 408; Boston, Aug. 19, 1853, Wm. Boott; Newbury, Aug. 7, 1899, Williams; Ipswich, Oakes. RHODE ISLAND: Tiverton, Greenman 1706. CONNECTICUT: East Haven, 1886 A. L. Winton; Orange, Andrews 90. NEW JERSEY: 1832, Asa Gray.

Iva frutescens L.:—NORTH CAROLINA: Southport, Biltmore Herbarium 2585a. FLORIDA: Titusville, Nash 2287; Mouth of St. John's, Palmer 270; Apalachicola, Biltmore Herbarium 2585b; Lee County, Hitchcock 153; Duval Co., Curtiss 1396; St. Augustine, Curtiss 6457. MISSISSIPPI: Biloxi, Pollard 1183. TEXAS: Galveston Id., Tracy 7716; Mouth of the Brazos, Aug. 1843, Lindheimer.

GRAY HERBARIUM.



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