Chiefly the three southern states.—*Chamaecyparis thyoides; Juniperus virginiana; Pinus rigida. Pinus rigida* occurs northward at low altitudes in the Champlain, Connecticut, Androscoggin, and lower Kennebec valleys, is found in the sandy areas around Lake Ossipee, N. H., and extends along the Maine coast as far east as Mt. Desert Island. Its range is intermediate between typical ranges of this and the preceding group. *Juniperus virginiana* likewise follows the Champlain and Connecticut valleys northward, and the Maine coast eastward as far as the mouth of the Kennebec and Monhegan Island (*J. R. Churchill*). It is said by Dame and Brooks (Trees of New England 26 (1902)) to reach the middle Kennebec valley.

Miscellaneous.—*Juniperus communis; J. horizontalis. Juniperus communis* occurs at scattered stations in southern New England and as far north as Gilead, Maine. It is not reported from Vermont. *J. horizontalis* is, except for a single station on the slopes of Mt. Equinox in Manchester, Vt. (*Mary A. Day*), confined to the immediate vicinity of the coast in Maine, New Hampshire, and extreme northeastern Massachusetts (Newbury). It is also reported from Templeton, Mass. (Jackson, Cat. Pl. Worcester Co., Mass. 10 (1909)), but this record is open to doubt and we have not been able to verify it.

C. A. Weatherby,
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HEDEOMA HISPIDA IN CONNECTICUT.

Edwin H. Eames.

By incidentally traversing one of the comparatively sterile, limestone tracts in Salisbury, Connecticut, a very interesting series of revelations was started. Such areas are attractive in many ways but their flora is limited since few species can endure such hardships.

In this particular place, a pasture with a few scattering red cedars as the only woody vegetation, several small colonies of *Hieracium florentinum* All.—which seems to be getting frequent in such situations—and a few other species usually confined to such soils, together with a sparse growth of grasses, were several colonies of *Hedeoma hispida* Pursh.

Although this species has been found at several other stations in

New England and in eastern New York, the uniform habitat here was very peculiar. This feature was that of a highly restricted calciphile, growing in close contact with the native limestone either in crevices or usually in the shallow soil overlapping the borders of outcrop and occasionally spreading away a few feet.

Time did not permit further investigation until two months later, early September, 1925, when other colonies were found in several nearby pastures of like kind and for some two miles into Sheffield, Massachusetts. It probably extends much further since this Stockbridge limestone continues across the State well into Vermont and along the borders of New York.

As I was returning because of stormy weather, a brief stop in Canaan revealed it then in the Lime Rock region of Salisbury, while some two miles beyond, in Sharon, it was found more or less about most of the outcrops, here dolomitic, over a particularly favorable hilly area of hundreds of acres, just as it did at Salisbury. But here and there it also covered the glacial drift which smoothes the intervening areas and so generally covers the immense mass of rock throughout its geological limits.

It was in Sharon, particularly, that the plants on some broad acres assumed an unsuspected character, that of somewhat spherical plants composed of many stiff branches, to the extent of 35 or 40 in some cases and a foot or so tall and broad: wonderful tumble-weeds they might be during the high winds of Autumn, for this is elevated (to 860 ft.) and much exposed country.

But here, as elsewhere, the plants usually were simple or little branched, 3 or 4 to 10 rarely 12 inches tall. Entirely unbranched plants often become the tallest. At this late season wholly past flowering and mostly crisp-dried and brown.

Associated with the massive form was a profusion of *Verbena stricta* Vent. and upon the drift in another section the dominant thing was what is passing as *Polygala verticillata* L., var. *ambigua* (Nutt.) Wood, many acres of it and all without any seeming tendency toward the species itself, however much that tends to upset preconceived ideas.

This whole area of more than a square mile was more or less misty-gray with *Echium vulgare* L.

In Sharon Valley, beyond, was more *Hedeoma* while in another pasture of the same type was a profusion of *Carduus crispus* L., some

of it fully six feet tall. The *Hedeoma* was noted at several points near the State line in Dutchess County, New York, in Northeast, Amenia and Dover, always on limestone as before, but seen only because of a few wayside observations while homeward bound in an effort to avoid prevailing rains. Further south, especially in Westchester County, New York, and at its southern limits in Connecticut at Ridgefield and parts of Danbury, this limestone is very little in evidence, being largely buried. Not one of the objective plants was seen in several trips. Working northward on several occasions the *Hedeoma* was found sparingly in Danbury and Bethel, about 47 miles from the Sheffield locality.

In Brookfield, next north, it was found exactly as at first, about most of the pasture ledges south of the village and also a carpet of it occupying a once cultivated old field adjoining. So, too, in scattered areas in New Milford and Kent. A little beyond, the formation ends, being connected with the main body of it through a pass in the mountains at Bulls Bridge to South Dover, New York, where great areas are very promisingly exposed. Two detached colonies were found there although many thousand acres remain for later examination. This in itself indicates the probability of recent introduction of the species. Until failure to find the plant here it had been found *in every favorable locality.*

All of this formation was, until the arrival of white settlers, well wooded just as some of it is today, and there was no suitable environment in the region. It seems to be an example of extraordinary dissemination by natural methods of an introduced species.

The surprising rapidity of this is apparent when it is understood that some of the localities noted have been for years more or less familiar to several close students of our flora. It has been shown that in the special habitat several other species have become similarly widespread locally, but no other equals the subject of these notes either in extent or numbers, whereas the native calciphiles have been reduced in numbers as well as congenial locations rather than otherwise.

Bridgeport, Connecticut.

The date of the February issue (unpublished as this goes to press) will be announced later.