

VII.—ON AN ARBORESCENT VARIETY OF *Juniperus communis*,
OF LINNÆUS, OCCURRING IN NOVA SCOTIA, AND NOT
PREVIOUSLY NOTICED IN OUR FLORA.—BY J. SOMERS,
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Some time ago my attention was directed to a variety of our common juniper not commonly met with. Mr. William Gibson of this city, had for some years given much time to investigating the subject. He introduced me to several arborescent junipers, some of them, one at least, growing to the size of a lofty shrub. Another, he tells me, grew to the size of a small tree, the bole of which he judged would be four inches in diameter. The locality of these was on the Dartmouth shore of the harbor, near the old windmill. The larger one, which I did not see, grew on the Halifax side, near the Cotton Factory road. He informs me he has been observing the growth of the shrub juniper for over twenty years. Some have disappeared in process of clearing, others still remain. At the time I visited the place where most of those plants grew, Mr. Power, of the Public Gardens, procured several specimens for transplantation. I think I am correct in stating that some success was attained in this. I know from experience of earlier years that though the low juniper was common in our vicinity, the shrub form was not. With us, the ordinary conception of *juniperus communis* is of a low shrubby plant, decumbent, forming a circle of growth from the centre towards the periphery, the patches varying from two to six feet in diameter, depending on the surroundings, rarely rising in growth two feet above the surface, the tough fibrous roots spreading themselves somewhat deeply in the soil.

The juniper here presented departs widely from the method of growth described above. It rises upward in a form beautifully symmetrical, assuming the proportions of a shrub with numerous branches, and root stocks ascending and adpressed to

the parent stem, attaining the height of fully fifteen feet in old plants, forming a column cylindrical and varying in circumference, in the largest one seen, I should say, about five or six feet, a beautiful column of greenery, surpassing in appearance many exotic cultivated species of its tribe.

Studying this juniper from a botanical view, the sole difference presented to us is the difference in growth between it and the ground juniper. In foliage, inflorescence, and fruit they are alike. The only question is, from its mode of growth should we describe it as a marked variety. In the locality where the upright plants grew were many circles or saucers of the low growing plant. In some of these the terminal (peripheral) branches showed a tendency to upward growth. Individual, central branches grew upwards a foot or more above their neighbours. Some arborescent plants seemed to rise from prostrate roots. They, however, did not assume the perfect cylindrical form of the true shrubby plants which we found growing independently and remote from the ground-lying form. The fact seemed that upgrowth exists most strongly in isolated plants of this kind. The individual difference between the junipers mentioned above is so great as to the eye of any ordinary observer, even though having botanical knowledge, to cause the supposition that they were distinct species. Closer observation, however, convinces that the plants are the same though varying in growth.

We will, for descriptive purposes, take first, Linnæus's diagnosis of his *Juniperus communis* from the *Sps. Plantar.*, 1470, viz.: "A large shrub, extremities of the branches smooth and angular; leaves in threes, linear, acrose, sharply mucronate, shining green beneath, but with a glaucous line along the centre of the upper surface, they are resupinate, turning their upper surface to the ground; barren flowers in aments, small, axillary, with roundish stipitate scales, enclosing the anthers; fertile flowers on another plant having a small, three-parted involucre growing to the scales, which are three; fruit fleshy, berried, of a dark, purplish color, formed of the confluent succulent scales,

which are marked with three prominences, or vesicles, at the top, and contain three seeds." We have in the above a perfect description of our arborescent juniper drawn by a master hand.

Periera, English medical authority, thus describes *Juniperus communis*:—"Leaves three, in a whorl, spreading, linear, subulate, mucronate, longer than the galbulus; a bushy shrub, flowers sessile, axillary, male and female flowers separate; fruit called a berry, in botany a galbulus, requires two seasons to arrive at maturity, black with blue bloom not more than half the length of the leaves."

Louden, in his *Arboriticum*, Vol. IV., p. 2489, mentions seven varieties, some of which he says are probably distinct species. "One juniper, Nana (Smith), procumbent stems, imbricated, incurved; leaves, linear, lanceolate, fruit nearly as long as the leaves, endigiment in mountains."

Prof. Amos Eaton, *Manual of Botany*, sixth edition, pub. Albany, 1833, by Oliver Stub, gives, from an American view, a diagnosis like that of Linnæus, though he calls the plant "*Juniperus communis*, Willd." He mentions two varieties:—

"Var. 1, *erecta*, branches erect.

"2, *depressa*, branches prostrate, or horizontal." He gives no details as to appearance of *erecta*, except the above.

Wood, in his class book, gives "a shrub, with numerous prostrate branches, growing in dry woods and on hills, often rising in a slender pyramid six to eight feet high." He quotes Robbins as saying it is rarely arborescent. This, of Wood, agrees with our shrub. He gives no varieties. Gray is very indefinite. After the usual diagnosis he says: "Low shrub, ascending or spreading on the ground (Europe)." It requires some botanical skill to evolve our juniper out of this.

Taking all the above statements into consideration, I am of opinion we have two varieties of *Juniperus communis*, Linn.; one most common, decumbent, the other uncommon, shrubby.

Since writing the above I have received from Prof. George Lawson, LL.D., the following valuable information which he

kindly forwarded to me to help out my notes on the Junipers, for publication in the Proceedings. It is dated January 5th, 1895 :

DEAR DR. SOMERS,—

On reference to Endlicher's *Synopsis Coniferarum*, published at Cracow, in 1847, I find that he describes four forms of *Juniperus communis*, viz. :—

(a) *vulgaris*.—Shrubby, with spreading branches and spherical berries.

(b) *Hispanica*.—With ascending straight branches, and egg-shaped berries.

(c) *Caucasica*.—With divaricate spreading, somewhat pendent branches, leaf clusters or verticils distant from each other, berries ovate.

(d) *arborescens*.—With ascending straight fastigiate branches, forming a top.

In Koch's *Synopsis Floræ Germanicæ*, edition of 1844. *Juniperus communis* is described as shrubby (*fruticosus*) erect, becoming arborescent.

In the English Cyclopædia (Nat. Hist., vol. iii, p. 311,) it is stated that juniper occasionally becomes a small tree.

The French dictionaries give the name Genevre, *Juniper* ; Genevrier, Juniper tree. The name of the old town of Geneva is said to be derived from the juniper, as are obviously the names in modern European languages of the fermented liquor called Geneva, obtained from juniper berries, and the distilled spirit from grain flavored with these berries, called Holland gin, the latter being a contracted corruption of Geneva.

In the *Flora Rossica* of Petrus S. Pallas, a large folio of magnificent colored drawings, published at St. Petersburg, in 1784, by command by Catherine II., the *Juniperus communis*, is described as growing in sterile, sandy places and woody hills throughout the Russian empire, frequent in the northerly and temperate regions, occurring also in the southern mountain tracts, as in the Taurian Chersonese, about Sudak, Balaklava, Lambert, and Sebastopol Harbour, also in the

Caucasian promontory, viz.: "Mostly shrubby, but in the temperate and southern parts with well-marked erect stems, but in Siberia almost always shrubby." The remark is made by Pallas that this plant is so common and well-known in the use of both the berries and wood that it is not necessary to inform Russians on this point.

Yours truly,

GEORGE LAWSON.

The recent lamented death of Dr. Lawson, pioneer botanist of Canada, will, I am sure, invest this communication of his with great interest to those who, knowing him, admired him, as being probably among the last of his writings upon the science so endeared to his heart.