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#### *About the Institute*

The Hunt Institute for Botanical Documentation, a research division of Carnegie Mellon University, specializes in the history of botany and all aspects of plant science and serves the international scientific community through research and documentation. To this end, the Institute acquires and maintains authoritative collections of books, plant images, manuscripts, portraits and data files, and provides publications and other modes of information service. The Institute meets the reference needs of botanists, biologists, historians, conservationists, librarians, bibliographers and the public at large, especially those concerned with any aspect of the North American flora.

Hunt Institute was dedicated in 1961 as the Rachel McMasters Miller Hunt Botanical Library, an international center for bibliographical research and service in the interests of botany and horticulture, as well as a center for the study of all aspects of the history of the plant sciences. By 1971 the Library's activities had so diversified that the name was changed to Hunt Institute for Botanical Documentation. Growth in collections and research projects led to the establishment of four programmatic departments: Archives, Art, Bibliography and the Library.

Notes on Tobacco.

An examination of the herbaria at Kew, Cambridge, Copenhagen, Upsala, Stockholm, Lund, and Gothenburg indicated that from the point of view of new and distinct species - that is to say new from the point of view of those which we grow - there are only a few of any real interest. In the first place, there is Nicotiana micrantha, which I saw growing in the botanical garden at Oxford and came across in most of the larger herbaria which I examined. This is an extremely small type, rather close to our acuminata. The leaves are petioled and in shape closely approximate acuminata. The plants at Oxford were not over 18" high and most of those seen in the herbaria were considerably smaller. Fully mature plants in flower have been seen which were not over 6" high. The origin of this species, as shown in the herbaria sheets, I have forgotten. However, seed was obtained at Oxford. The flower is white and shaped very much like the small flowered acuminata which we grow.

I was particularly struck with the species called fragrans and which is represented very fully in the sheets at Kew. I did not see it growing in any of the gardens. Indeed the representation of the genus in all botanical gardens is very poor and is derived from self sowing in most cases. I saw nothing growing, with the exception of micrantha, except the ordinary species such as Tabacum rustica, paniculata, sylvestris, Sanderae, and in some cases alata and suaveolens. N. fragrans has been collected only in certain of the South Sea islands and was labeled as growing on sea cliffs. It is obviously a perennial but very low-growing, perhaps because all the specimens I saw had been col-

lected in exposed positions. It had much the appearance of a young shoot of a conifer, with a mass of small, sharp, pointed, slender, sessile leaves at the top. The leaf scars below, which gave to the stem the resemblance noted above, were very close together. The plants from sheets indicated that it did not grow more than two feet high. There were no flowers in good condition as I remember it. Seed of this species was supplied by Juel at Upsala but was not among the seed which he indicated as having been "controlled."

Another striking species was the one collected I think originally by Brandegee on the islands off the coast of Lower California and called N. Stocktoni. I can remember nothing about this species except that it appeared to me as one which we should have in our collection. In the same connection I might mention N. Palmeri, which struck me as being worth looking into but concerning which I can remember nothing. Seed of this species was obtained for me by Lagerheim from a sheet in the herbarium at the Riksmuseum near Stockholm.

The species which Skottsberg collected in Patagonia is a very striking one and it has what seems to be a well-marked variety collected by Robert Fries in South America. This latter species is called Friesii, I think. Skottsberg's species is a perennial, probably somewhat close to glauca, with flowers of the glauca shape but considerably larger and provided with a more spreading limb which appeared to be dark red in color. The leaves are somewhat like those of glutinosa but rather with the texture of glauca and very silvery beneath. The variety or species collected by Fries differs from the typical form mainly in the fact that the inflorescences are very much elongated and curved and that the

practically subtending flowers are extremely long. The result is that the inflorescences are long and curved and very shaggy. It may be possible to obtain through Fries seed of his variety.

I was much impressed by the variations exhibited in the representations at Kew of <sup>the</sup> longiflora-~~noctiflora~~ group. There were a great many interesting notes on the sheets as to variations in flower size and the vespertine character of these plants. Apparently they grow as weeds in cultivated fields and in neglected areas cover a large acreage with a more or less solid stand. One collector referred to the beauty of such a field with all the flowers open at a certain time in the late afternoon. It should be worth while to look into the representation of these species in the botanical gardens of South America, especially the more important garden at Buenos Ayres. Much the same statements might be made in the case of N. suaveolens. Although no exception need be made to the general statement that the only *Nicotiana* in Australia is N. suaveolens, still the sheets at Kew indicate that there was an extremely wide variation in the forms from different localities. It would certainly pay to look into this matter and attempt to get together seed from various parts of Australia.

In all the herbaria great numbers of sheets of *N. Tabacum* were present. Many of these *Tabacum* varieties were given specific rank. For example, continually a variety called *N. chinensis* appears. This is a specific designation used, apparently, for all cultivated forms in Asia, at least so far as the older collections are concerned. There were a very considerable number of interested forms but nothing more striking than some of the recombination products obtained in our experiments. I was particularly struck with the distribution of *Tabacum*. I saw one plant of a red flowered form in the suburbs of Stockholm. Last May this commercial planting was being set out. The seed is sown in hot frames in April and fair sized seedlings are set out in the field in the last of May. I should say that some ten thousand acres of Tobacco is grown in this one area near Stockholm. Without doubt this is the most northerly latitude in which *Nicotiana Tabacum* is ever grown and indeed it is probably one of the very few commercial plantings in Sweden. Kylin at Landskrona is conducting some investigations on mosaic but is not making any hybrids so far as I know. Some of the sheets at Kew were labeled as having been collected in the Himalayas at an altitude of from 7000-8000 feet. In addition, there were many sheets at Kew from tropical climates. This gives some idea of the wide range of climatic conditions under which this species is commercially grown.

There were many interesting notes on the sheets at Kew concerning the methods of preparation of Tobacco by wild tribes and its use in their ceremonials. Prepared Tobacco is to be seen in the museum at Kew and the exhibits are fully catalogued in the museum pamphlet which I have.

I would suggest that we get in touch with the directors of botanical gardens in all of the cities of South America, in order to

secure a wide representation of the wild forms as they occur in South America - in particular the longiflora-noctiflora group. Further, it would be important to clear up the question of the limits of variation of *N. suaveolens* as it occurs throughout Australia. This would involve getting in touch with directors of botanical gardens, etc.