

and all the different nations of living things have their own proper place in the world, and the world would be incomplete and imperfect without them."

I once asked an old Omaha what was the feeling of Indians when they saw white men wantonly slaughtering the buffalo. He dropped his head and was silent for a little while, seeming to be overcome by a feeling of sadness. When he spoke again it was in a low, sad tone, seeming filled with shame that such a thing could be done by human beings. He said: "It seemed to us a most wicked, awful thing."

Again I was talking with an old man of the Omaha nation. He, recalling the old days and comparing them with the present time, said: "When I was a youth the country was very beautiful. Along the rivers were belts of timberland, where grew cottonwoods, maples, elms, ash, hickory and walnut trees, and many other kinds. Also there were various kinds of vines and shrubs. And under these grew many good herbs and beautiful flowering plants. In both the woodland and the prairie I could see the trails of many kinds of animals and hear the cheerful songs of birds of many kinds. When I walked abroad I could see many forms of life, beautiful living creatures of many kinds which Wakanda had placed here; and these were after their manner walking, flying, leaping, running, playing all about. But now the face of all the land is changed and sad. The living creatures are gone. I see the land desolate, and I suffer an unspeakable sadness. Sometimes I wake in the night and I feel as though I should suffocate from the pressure of this awful feeling of loneliness."

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THE FLORA OF SIBERIA*

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After we left Moscow on the Transiberian Railroad, we crossed Russia by way of Vologda, Viatka and Perm, reaching the Sib-

* The identification of plants mentioned are based on my knowledge of the genera and some of the species, the notes from the literature I brought with me, and identifications kindly made for me at the Baical Station of the University of Irkutsk, by the botanists W. Jasnitsky and Nina A. Epoff.

erian border in the vicinity of Tyumen. It was very hot when we arrived in Leningrad on July tenth, and continued so while we were in European Russia, but as we approached the Urals it began to rain, and we had no opportunity to get a good view of the mountains. All across Siberia, nearly to Irkutsk, it was cold and rainy, the weather being (we are assured) quite exceptionally bad this year. In all this long journey two species of plants stand out as most characteristic and universally present. One is the birch (*Betula alba* or related segregates), the other *Epilobium* or *Chamaenerion angustifolium*. The latter, we thought, should be the Russian national flower. It occurs in masses in the woods, enlivening the landscape by its bright pink color. In places, I thought I could see also *Lythrum salicaria*, but could not be quite sure from the train. The landscape crossing Siberia was on the whole monotonous; open grassy country, giving place here and there to forest. The forest is called "taiga," and the station Taiga, where people change for Tomsk, is evidently so named because it stands near the beginning of a considerable forested area. We passed no desert country and it is easy to understand how the Palaearctic biota can spread east and west from Lake Baikal to the shores of Europe. Our first real contact with the Siberian flora was at Ust Balei, on the River Angara, where we went to examine the Jurassic beds which contain fossil insects. The locality is famous not only on account of the fossil insects but also for an extensive flora, described by Heer in 1878. We found the exposures on the cliffs facing the east side of the Angara, and guided by Mr. Jemchujnikov of the Geological Committee, had no difficulty in finding numerous specimens. The various kinds of *Ginkgo*, *Samaropsis*, *Phyllothea*, *Baiera*, *Kaidocarpum*, etc. were very well preserved, as well as species of ferns. Seward has shown that the nomenclature of Heer is to be considerably revised, and I suppose that the 56 species catalogued from the Irkutsk district will have to be reduced to a much smaller number. However, the large collections already made by Jamchujnikov have been sent to Leningrad, and it is expected that a revision will be forthcoming in due course. The bank where we got the fossils was covered in large part by a growth of vegetation with many beautiful flowers. I catalogued the genera I happened to see just around me, as follows: *Trifolium*,

Lilium, *Euphrasia*, *Equisetum*, *Rosa*, *Salsola*, *Allium*, *Galium*, *Sanguisorba*, *Artemesia* (with parasitic *Orobanche*), *Geranium*, *Spiraea*, *Cotoneaster*, *Fragaria* (wild strawberries are abundant and much used for preserves), *Linaria*, *Aconitum*, *Convolvulus*, *Scutellaria*, *Agrimonia*, *Sedum*, *Campanula*, *Thymus*, *Potentilla*, *Sisymbrium*, *Epilobium*, *Plantago*, *Achillea*. This is a very typical Palaearctic series, with no infusion of oriental elements. Returning from Ust Balei, we visited the Biological Station of the University of Irkutsk, on the western shore of Lake Baikal. This is a charming spot, with flowery meadows and pine-covered hills, and in front the great lake, with the Transbaikal Mountains on the other side appearing high and formidable. Perhaps the most conspicuous and splendid flower of this region is the magnificent blue *Delphinium grandiflorum*. According to Hans Johansen of Tomsk (1925) there is around Baikal an endemic variety, *turczaninowii* Popl. but whether all the plants belong to it I do not know. A species of *Sanguisorba* is extremely abundant throughout this country: Johansen cites a species *S. baicalensis* Popl. peculiar to the region, but the local botanists refer the common plant to the European species. The birch is considered to be *Betula alba verrucosa*; Johansen mentions a *B. baicalensis* from the vicinity of the lake. We found the yellow poppy which Johansen cites as a possible endemic variety of *Papaver nudicale*. Other local forms or species are referred to under *Polygonum*, *Elymus* and *Festuca*, but I gather that on the whole the flora is not at all rich in peculiar species. It impresses one as essentially of European type, with little in common, so far as species are concerned, with the flora of the Maritime Province, which we saw in 1923. Thus we saw no sign of the *Trollius ledebouri* and the flame-colored *Lychnis fulgens* so conspicuous in the Maritime (Primarsky) Province. On the other hand, one has the feeling that several of the species, assigned to European types, are not exactly the same and might be considered racially distinct. The *Achillea millefolium* is nearly all various shades of pink; the *Chrysanthemum leucanthemum* is variable and perhaps not quite the same as the plant familiar in England. Another *Chrysanthemum*, with pinkish flowers, is *C. sibiricum*. *Chelidonium majus* appears to be exactly as in Europe; so also *Rhinanthus crista-galli*. *Geranium* is represented by two splendid large-flowered species, *G. eriostemon* and *G.*

pratense, and the small-flowered *G. sibiricum*. A common *Spiraea* with pink flowers is referred to *S. salicifolia*. *Potentilla* or *Dasiphora fruticosa* is exceedingly abundant, looking just as it does in Colorado. *Polemonium coeruleum* represents a genus that has its headquarters in America. *Scutellaria galericulata*, in great abundance, reminds us of our Colorado *S. brittoni*. *Parnassia palustris* is everywhere in damp places. The common dandelion (*Taraxacum*) is all around the station. There is a tall light yellow aconite (*Aconitum barbatum*), and also a blue species of the *A. napellus* type. Yellow bedstraw (*Galium verum*) is conspicuous; the white species (*G. boreale*) is rather less common. *Tanacetum vulgare* shows its orange button-like heads everywhere. *Lilium tenuifolium*, with red flowers and narrow leaves, occurs here and there; a little later we found *L. martagon*. There is a blue *Lactuca*, looking like the Colorado *L. pulchella*. *Polygonum viviparum* and *P. bistorta* are familiar plants. *Lamium album* reminds us of England; in the Maritime Province is a distinct form with pinkish flowers, considered a different species (*L. petiolatum*). I noticed, however, that rarely the *L. album* in the Baikal region was somewhat pink. *Veratrum* abounds, occupying the same ecological position as in Colorado. *Polygala vulgaris* seems to be quite the same as the English plant. *Leonurus cardiaca* has a weedy aspect, we found it also in Irkutsk where it was very attractive to wild bees. *Phlomis tuberosa* is a tall labiate with pink flowers; I also found a f. *albiflora*, with pure white flowers. *Campanula glomerata* is one of the most conspicuous elements of the flora: *C. steveni*, with long blue flowers is much less common. There are numerous umbellifers, including *Peucedanum baicalense*. The tall stems of *Hieracium umbellatum* are commonly seen on the slopes. A delicate *Zygadenus* is referred to *Z. sibiricus*. The local *Sambucus*, with red berries is referred to the wide-spread *S. racemosa*. The low-growing *Rubus arcticus* has large edible fruits which are used for jam. A species of azalea (*Rhododendron*) is one of the commonest bushes, but not now in flower. It is much like the one seen in New York State at Garrison. *Hemerocallis flava* is very abundant, and recalls our gardens. I have notes of many other plants, but the above will suffice to give a good idea of the flora.

At Maritne, further down the lake, I found a *Cardamine* which seemed to be *C. pratensis*. Later we went to Kultuk,

at the southwest corner of the lake, and thence to Archan, 105 versts west of Kultuk. The journey to Archan was an arduous one, two days in a springless cart with a cushion of hay. The first day we started at 6:20 A.M., and reached our night's lodging at 11:30 P.M. Archan, famous for its mineral springs, is situated at the foot of a splendid range of mountains, strongly suggestive of Switzerland. The altitude is 900 meters above sea level. The flora is on the whole identical with that of the region around Baikal, in spite of the greater altitude. The lake is excessively cold, and this probably has some effect on the surrounding biota. Outstanding features in the Archan flora are a splendid pink *Paeonia* (in fruit at the time of our visit), a large flowered *Hypericum*, a handsome *Achillea* of the *A. ptarmica* type, an *Ephedra* with large bright red berries, *Pulsatilla*, with yellowish tinted flowers, at least when first opened, two gentians, one of the type of our *G. barbellata*, but larger, the other a *Dasystophana*. At Smolenschona and Kychtak, near Irkutsk, we found a beautiful red fruited *Crataegus*. There is a fine *Dianthus* very common throughout this region.

The roses, everywhere abundant, appear to me to belong to a single species, a form with densely bristly stems and red fruits, which are usually elongated, exactly like those of our *R. engelmanni*. The fruits vary in shape and are sometimes much shorter and rounder. This plant is evidently *Rosa baicalensis* Turczaninov, or *R. acicularis baicalensis*. I was very anxious to get buds for Dr. Hurst of Cambridge, so that he might study the chromosomes, these being quite unknown in Siberian roses. For a long time we could find only plants in fruit but on the high ground east of Kultuk my wife detected a plant in flower, and we got a few buds, which were preserved in Carnoy's fluid. We secured a number of seeds of different plants, including those of an *Aquilegia*, which was past flowering. This was at Archan.

Populus tremula is common at Archan, occupying the same position as our *P. tremuloides* in Colorado. No *Quercus* has been seen in the whole region. *Alnus* is common, and *Larix* is a conspicuous feature of the valleys. A large hemp-like *Urtica* abounds everywhere along the roadsides. It is appropriately called *U. cannabina*.

At Archan we met Demitri Korposoff, an illiterate peasant who seems to be a born naturalist, and knows the life of the

region well. He has on his own initiative constructed an apparatus for distilling the oils of various plants, especially oil of juniper from a species of *Sabina* (of which he furnished a specimen) obtained high up on the mountains at timber line.

IRKUTSK, SIBERIA,

AUGUST 21, 1927.

A NEW PINWEED FROM SOUTHERN PENINSULAR FLORIDA

JOHN K. SMALL

Some years ago a collector resident in Florida for many years, stated that "Lecheas are scarce in this State." Such a statement indicates that at that time much of the State was unexplored, for today we know about a dozen species of the genus *Lechea* native within the boundaries of Florida. The following proposed species grows in the most southern island of scrub known on the eastern coast. It is now well within the city limits of Miami. A few years ago the spruce-pine (*Pinus clausa*) and the rosemary (*Ceratiola ericoides*) grew there, but frequent fires have now exterminated these prime characteristic scrub plants.

✓ ***Lechea Deckertii*** Small, sp. nov. Plants 0.5–1.5 dm. tall, yellowish-green: flowering stems erect, bushy-branched, minutely appressed-pubescent, brown, the branchlets slender-wiry or almost filiform, evenly scarred with leaf-bases: leaves of the branchlets, linear to linear-subulate, 1.5–2.5 mm. long, acutish, glabrous, sessile: bracts of the inflorescence similar to the leaves, but smaller: flowers relatively few: pedicels about 1 mm. long, reddish, glabrous, mostly spreading at maturity: sepals of two kinds, green, the two outer ones about 0.5 mm. long, acute, the three inner, oval, nearly 1 mm. long, concave, obtuse, persistent for a time, but deciduous when the fruit is fully mature: petals oval or suborbicular, about as long as the inner sepals, obtuse, reddish: filaments slender-filiform, about 1.5 mm. long: anthers subglobose, about 0.2 mm. long: capsule subglobose, 1.2–1.3 mm. in diameter, glabrous, shining, exceeding the sepals.—Scrub, Miami (N. W. 64th Street), formerly Lemon City.

Specimens of this pinweed were first found by the writer on December 18, 1921, but without flowers or fruits. The locality was visited again last winter and early this spring (1926) but the plants were only in leaf. Early in June Mr. Richard F. Deckert—for whom the species is named—collected specimens in flower and by the last week in June sent in specimens in fruit.



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