

THE
GARDENERS' CHRONICLE.

A Weekly Illustrated Journal

OF

HORTICULTURE AND ALLIED SUBJECTS.

VOL. XV.—NEW SERIES.

JANUARY TO JUNE, 1881.

LONDON:

41, WELLINGTON STREET, COVENT GARDEN, W.C.

1881.

GARDENERS' CHRONICLE.

Established 1841.

No. 386.—VOL. XV. { NEW }
 { SERIES. }

SATURDAY, MAY 21, 1881.

{ Registered at the General } Price 5d.
 { Post-office as a Newspaper. } POST FREE, 5¹/₂d.

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ROYAL HORTICULTURAL SOCIETY,
 South Kensington, S.W.
 NOTICE!—COMMITTEES' MEETINGS, Fruit and Floral, at 11 A.M.; Scientific at 1 P.M.; General Meeting for the Election of Fellows, &c., at 3 P.M., on TUESDAY next, May 24. N.B.—An Exhibition of Choice FLOWERS, &c., will be held in connection with the Meetings of the Fruit and Floral Committees in the Conservatory.
 Band of the Royal Horse Guards from 4 o'Clock P.M. Admission 1s.

ROYAL BOTANIC SOCIETY,
 Gardens, Regent's Park, N.W.
 SUMMER EXHIBITIONS of PLANTS, FLOWERS, and FRUIT, WEDNESDAYS, May 25 and July 6, 2 to 7 o'Clock.
 Tickets, to be obtained at the Gardens only by vouchers from Fellows of the Society, price 5s., or on the day of Exhibition, 7s. 6d. each
 Schedules of Prizes, and all particulars, may be obtained by post.

CRYSTAL PALACE.—
 GREAT SUMMER EXHIBITION of PLANTS and FLOWERS, SATURDAY, May 28.
 ENTRIES CLOSE May 21.

INTERNATIONAL POTATO EXHIBITION.
 President, the Right Hon. the Lord Mayor of London.
 The SEVENTH ANNUAL EXHIBITION will take place at the Crystal Palace on SEPTEMBER 20 and 21, 1881. Schedules of Prizes and all particulars may be obtained on application to
 J. A. MCKENZIE, Secretary.
 Tower Chambers, Moorgate Street, London, E.C.

ALEXANDRA PALACE, N.
 (Lessees—JONES and BARBER.)
 MESSRS. JACKMAN'S CLEMATIS SHOW, from April 30 to May 21.
 SHOW of FLORAL DECORATION and EXHIBITION of POT ROSES, May 20 and 21.
 EXHIBITION of FLORAL DECORATION and SHOW of PELARGONIUMS, June 10 and 11.
 STRAWBERRIES and CHERRY EXHIBITION, with FLOWER MART, June 17 and 18.
 ROSE FAIR and PRIZE for the BIGGEST GOOSEBERRY, July 2.
 GREAT ROSE SHOW, July 8 and 9.
 J. FORSYTH JOHNSON, Horticultural Director.

ROYAL BOTANICAL and HORTICULTURAL SOCIETY of MANCHESTER.
 The GRAND NATIONAL HORTICULTURAL EXHIBITION of 1881 will open on FRIDAY, June 3, at 2 o'Clock, P.M.
 GREAT SHOW of AMERICAN PLANTS, by John Waterer & Sons, of Bagshot, will open the same day.
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JOHN LINDALL, Gardener, Heckington, Lincolnshire.

natifida, *Elæagnus angustifolia*, *Zizyphus* sp., a handsome tree above 30 feet high; and a species of *Sophora*, the flowers of which are used for dyeing. Among shrubs *Rosa centifolia*, and rarely a species of *Berberis*. Still more rare, and only in consecrated places, is a specimen of *Biota orientalis* or of *Juniperus kokanica*.

THE STEPPES.

We leave the oasis and enter the steppe. Almost everywhere the oases, at least those of any extent, lie in a clayey steppe. This presents a dreary aspect, the eye ranging for miles over a naked, grey solitude. A few bulbous plants enliven the broad expanses in spring; but neither tree nor shrub is to be seen, except here and there small patches of the beautiful *Capparis spinosa*. This withstands the drought and burning sun during the whole year. Along with it, but rarer, is the charming *Rosa simplicifolia*, rising only 2 to 4 inches above the ground. We may ride miles, even for days, through the desert, rarely crossing a small oasis, beyond which the solitude is equally appalling. At length we encounter the stunted *Tamarix*, the foretoken of sand. We reach the sandy steppe and with it a different woody flora.

Where the natives have not stripped it, and thereby transformed it into a desert of moving sand, there is a vigorous vegetation in the sandy steppes, often forming a dense thicket of shrubs difficult to get through. *Tamarix tetrandra* is the prevailing species, appearing in large masses, interspersed and intermixed with *Halimodendron argenteum*, *Haloxylon ammოდendron*, *Elæagnus angustifolia*, *Calligonum polygonoides*, *C. Medusæ*, *Atraphaxis spinosa*, *Lycium ruthenicum*, *Apocynum sibiricum*, *Eurotia ceratoides*, and *Alhagi camelorum*—the last occasionally extending into the clayey steppe. Everything is shrubby, even the *Haloxylon*, with its Equisetum-like foliage; and *Elæagnus angustifolia* were not seen higher than 9 to 12 feet, nor thicker than a foot in the stem. A tree not hitherto mentioned, but which may prove of great importance in the future cultivation of the steppes, is *Populus euphratica*. It is true that there is little of it to be found now, because of all the fuel furnished by the steppe this is the best. This Poplar is sought out by the natives to extermination; what is spared by the Sarts falls into the hands of the Kirghis, who prepare their spoons and drinking utensils therefrom. Only in quite concealed places were actual trees seen, from 30 to 40 feet high, with trunks from 15 to 16 inches in diameter. The foregoing plants practically exhaust the wooded vegetation of the steppes.

THE MOUNTAINS.

Intervening between the sandy steppes and the mountains is another wide stretch of clayey steppe, and the vegetation of the lower hills is similar to that of the latter. Oases are more frequent, however, in consequence of the increase in water, and the Kirghis sometimes venture down and obtain a small harvest in favourable years without irrigation. But natural vegetation is first met with at an elevation of 3000 to 4000 feet above the level of the sea. The first shrubs are commonly *Hippophae rhamnoides*, *Berberis vulgaris*, and some other species, probably *B. cretica* and *B. aristata*; then stunted *Celtis*, *Rosa alba* and *R. rubiginosa*, and *Acer Semenowii*, followed by the first *Coniferae*, *Juniperus kokanica*, *J. Sabina*, and the handsome *J. Pseudo-Sabina*. In the Alai Mountains trees of the last were seen about 25 feet high, with trunks from 12 to 15 inches in diameter. This, however, must not be regarded as its maximum size, for the Kirghis lay the axe to every accessible tree. Ascending higher, *Biota orientalis* is associated with the foregoing. At an altitude of 5000 to 6000 feet the following shrubs appear:—*Spiræa crenata*, *S. hypericifolia*, *Pistacia vera* (rarely), *Cotoneaster integerrima*, *Lonicera tatarica*, *Colutea orientalis*, and *Caragana Gerardiana*, here and there amongst which luxuriate some species of *Clematis* and *Rubus cæsius*.

The vegetation now becomes more arboreal in character. Junipers form small, dense thickets on the steep hill-sides, and in the valleys, bordering the mountain torrents, are *Fraxinus sogdiana*, *Cratægea pinnatifida*, *C. orientalis*, and *Acer Semenowii*. *Ephedra vulgaris* adorns the cliffs with its yellow fruits, and among larger shrubs are *Prunus cerasifera*

and *P. Mahaleb*; but the prettiest floral ornament is afforded by the species of *Rosa* mentioned above, associated with *R. spinosissima* and others. Yet higher must we ascend before reaching the forest in its highest development. In the valleys grow Birch and Mountain Ash, on the heights Firs, now solitary, now in dense masses. *Abies obovata* is one of the Firs—but not the commonest—which may, perhaps, be *A. Smithiana*. The shrubby element is also more luxuriant, and includes the additional species—*Lonicera cœrulea*, *L. chrysantha*, *Ribes nigrum altaicum*, the only *Ribes* known in Turkestan; *Caragana pygmaea*, *C. jubata*, and *Potentilla fruticosa*. Two species of *Euonymus* deserve special attention. One has broad leaves, and is possibly *E. Maackii*; and the other has small leaves persistent two years through the severest winters. It is only from 2½ to 3 feet high, with pendulous branches laden in autumn with showy fruit, and affording a most beautiful sight.

In conclusion, it may be added that the mountains of Turkestan, especially the trackless ones, are clothed with rich woods at an elevation of 8000 to 10,000 feet, whilst above this trees and shrubs gradually dwindle in size until they disappear altogether, and at 14,000 feet commences the zone of eternal snow.

New Garden Plants.

MAXILLARIA FRACTIFLEXA, Rehb. f.*

This curious Lehmannine discovery has just flowered at York with Messrs. J. Backhouse & Sons, who kindly forwarded me a good flower. Both sepals and petals are extended into very long tails, exceeding 6 inches in length, curved and twisted in a curious manner, having the tails ad basilar parts purple, the disk white. The lip is trifid. The middle lacinia has many rugosities, both on the convex disk and on the borders, so that it looks as if it was paved. The lip and disk are white, the middle lacinia and anterior parts of side lacinia red. It is not quite of the same colour as my friend F. C. Lehmann describes it, but it has too much the same shape not to be identical. It is quite a peculiar plant in its curious tail-like sepals and petals, just comparable to nothing, though it stands near *Maxillaria grandiflora*, and *venusta* and *albata*. *H. G. Rehb. f.*

PHALÆNOPSIS TETRASPIS, Rehb. f.

This rare plant is now in flower, so far as I know for the first time in Europe, at Mr. J. Day's, as a fine flower at hand shows. It has the general shape of the flower of *Phalænopsis sumatrana*, is quite white, shining, waxy, excepting a blotch on the middle of each of the side lacinia of the lip. The convex ligulate lanceolate central lacinia bears a large felt-like cushion. The upright retuse side lacinia, with a retrorse bristle, have a rather transverse position. It was obtained from Mr. W. Bull by Mr. J. Day. *H. G. Rehb. f.*

ACRIOPSIS INDICA, R. Wight.

The genus *Acriopsis* may not be known to many orchidists. It was founded by the late Dr. Reinwardt, and published the same year by Dr. Blume under the same name. Masses of short shining bulbs form great clusters, consisting of few joints, sometimes they are oviform, sometimes elongated. The leaves are generally linear lanceolate. The inflorescences form loose panicles. Flowers small, disepalous, dipetalous, with a lip adnate to the curious column. This organ has a great hood like an old-fashioned Paris lady's bonnet of 1843, forming a cavern for the small anther resting on the prolonged rostellum. There are two lateral arms on the sides of the column, as in *Zygostates*. The pollinia are depressed pyriform, on a slender caudicle, which bears a well-developed glandule.

The genus has very seldom appeared in Europe. *Acriopsis javanica*, Reinw. (*picta*, Lindl.), was introduced by Messrs. Papelen and Van Houtte, whence Dr. Lindley and I got specimens. Afterwards it was for some years in Consul Schiller's rich collection near Hamburgh, under M. Stange's able management. And now a kind-hearted anonymous correspondent sends from London a mass of bulbs, and an inflorescence of the very little known *Acriopsis indica* of Dr. Wight. It is a delicate thing. The starlike flowers are of the lightest ochre colour, with a few light brown markings on the petals. The lip is like a spoon, but undulate at its margins; the column is washed with some light brown. Though the flowers are small they give a very elegant *ensemble*, at least

* *Maxillaria fractiflexa*, Rehb. f.; *Otia* bot. Hamb., p. 8.—*Vaginis juvenis caulis* (pseudobulbi) *triangulis acutis distichis* (ad 0.48 m. longis, 0.55 m. latis); *foliis* *petiolatis oblongo ligulatis acutis* (ad 0.48 m. longis, 0.055 m. latis); *pedunculis gracilibus clatis*, *vaginis acutis acuminatis* (0.05 m. altis); *bracteis ligulatis acutis*, *ovario* *pedicellato sublongioris*, *mento obtusangulo sub-acuto*; *sepalis* *triangulo linearibus acuminatis* (siccis 0.11 longis); *lateralibus fractiflexis*; *tepalis* *subaequalibus brevioribus tectis*; *labello* *oblongo apice trifido*, *lacinias* *lateralibus obtusangulis*, *lacinia* *mediana* *triangula obtusa*, *callo* *lineari-ligulato* [*antice abrupto obtuso a basi in discum ultra medium, basi sulcato*; *columna* *crassa elevata*. *H. G. Rehb. f.*

to my taste. The representation of Dr. Wight (*Z. v.* 1748) is not satisfactory, but I have ascertained that it is this plant. The plant was gathered by Dr. W. Griffith and by Rev. C. T. P. Parish.

There is no doubt that Dr. Wallich's *Spathoglottis trivalvis* belongs to this genus, as I stated as soon as I saw the type in Dr. Lindley's collection. *H. G. Rehb. f.*

CYPRIPEDIUM VITTATUM, Vellozo; var. BREVE, n. var.

For a long time we had only the rude representation in the *Flora Fluminensis*, ix., tab. 62. What appeared to be the same plant was finally introduced by Mr. Barrington, of Pant-y-Goitre, who sent me flowers dried in Brazil, which he had obtained with the plant. Mr. H. Low, my eldest orchidic correspondent in England, also gave me Brazilian flowers, but I am not aware of his having introduced it. Then came Director J. Linden, who succeeded, after a first failure, in making a second fine importation. I see from my memoranda that the plant flowered in the finest condition in February, 1876, at Mr. Linden's. A good representation appeared in the *Illustration Horticole*, April, 1876, planche ccxxxviii. I think this was the first flowering of the plant in Europe.

The plant has fine yellow margins to the leaves, and the mauve-brown tints of the flower are very neatly contrasted from the green and olive it has. There is more colour in the flowers than in the longifolium, *Hincksonianum*, *Hartwegii*, &c.

Mr. Sander has lately sent me some materials, which are rather curious. They would be quite identical were it not for the connate sepals, which nowhere exceed in size the lip, as they distinctly do on all sides in the genuine plant, as well in *Vellozo's* and Mr. Linden's figures, as in all my herbarium specimens and all my sketches. It is impossible to decide whether this is accidental or constant. *Qui vivra verra*. *H. G. Rehb. f.*

AERIDES LEEANUM, Rehb. f.

I am desired by various correspondents to express my opinion on this plant. It is not much I have to say, and what I say has no great value; yet I hope to give every orchidist the full opportunity of knowing what reasons guided me in this very difficult question. The plant belongs to the group of *Aerides* *Burbridgei*, *Huttoni*, and *Thibautianum*, all which stand very near one another. It is exceedingly fine in its drooping rich dense racemes of amethyst-coloured flowers, exhaling a lovely perfume. I had, by-the-bye, not well dried single flowers, then a very fine sketch prepared by Mr. Boxall (this time with good colours), and some dead inflorescences with fruits—all these things were sent at various times by my oldest English correspondent, Mr. Stuart Low, who could not give me better than he had. Once there came a glorious fresh inflorescence sent by Mr. Lee, from Leatherhead, who told me he had obtained the plant from Mr. W. Bull. These fine fresh flowers struck me by their novel peculiarity in having the side lacinia of the lip not upright, as they were in the fresh flowers of all the just mentioned species which I have carefully observed, but bent, and thus covering one over the other, both covering at the same time the middle lacinia and the mouth of the spur. Some other peculiarities would not have much influenced me. Thus a separation appeared indicated, and I dedicated the plant to Mr. Lee. Had I, however, had only to do with this gentleman I would have told him we might wait for the publication for the following season to see whether it was *Aerides Leeanum* or *A. Thibautianum Leeanum*. Whether it prove a distinct species, as is more probable, or a distinct variety of *Aerides Thibautianum*, no amateur will repeat of having invested his money in it. It is at all events a fine thing.

I am very sorry to state that I learn there is no more old *Aerides Thibautianum* alive in Europe. Nothing appears left of it but very fine herbarium specimens and my careful sketch. M. Lüddemann, since 1854 my constant, indefatigable, intelligent correspondent, kindly informs me that both plants which were alive at Paris are now dead. By-and-bye we will come to the point. *H. G. Rehb. f.*

HEDERA HELIX MADEIRENSIS, VARIEGATED.

No finer hardy variegated plant than the subject of this note, and of the illustration (fig. 118), was last year exhibited before the Floral Committee on July 13. It was exhibited by Messrs. Osborn & Son, of Fulham, and Messrs. James Cutbush & Sons, of Highgate, and obtained a First-class Certificate. It is a very handsome, large-leaved, silvery variegated plant, perfectly hardy in constitution, and very free growing, and has, moreover, the quality often wanting in variegated Ivies, of retaining its variegation throughout the season.