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such cases the branches are usually short, and are arranged alternately along the stem. The terminal bud is apparently neither injured nor destroyed. (*d*) Palms that are usually soboliferous (producing suckers at the base) are rarely branched at or near the apex. And, lastly, (*e*) no instance appears to be so far recorded of a monocarpic palm with a branched stem.

[*Note added.*—In a "Narrative of an Expedition across Melville Island, north of Port Darwin, Australia" (Trans. Roy. Soc. South Australia, vol. xv. p. 117), Mr. Maurice Holtze writes:—"A botanical novelty which I would have liked very much to have taken with me was found in the shape of a *Livistonia humilis* with four distinct branches." This record is interesting as adding another genus to those already mentioned in which branched palms have been observed. This is apparently the only instance recorded of a branched palm in Australia.—D. M.]

Observations on a Botanical Collection made by Mr. A. E. Pratt in Western China, with Descriptions of some new Chinese Plants from various Collections. By W. BOTTING HEMSLEY, F.R.S., A.L.S.

[Read 21st April, 1892.]

(PLATES XXIX.—XXXIII.)

WHEN the publication of an enumeration of all the plants known from China was commenced in this Society's Journal (vol. xxiii.) in 1886, we knew almost nothing (in this country, at least) of the botany of the Central and Western Provinces. It is true that Mr. Franchet had already published the first part of his '*Plantæ Davidianæ*'; but that contained a comparatively small number of novelties and among them no new genera. Since then, owing to the stimulus given by the publication of the "Enumeration," very large collections have been made by Dr. A. Henry and others, chiefly in the provinces of Hupeh and Szechuen, and transmitted to Kew. The Reverend E. Faber ascended Mount Omei, an isolated elevation on the Min river, upwards of 11,000 feet high, and botanized it, the result being a large number of novelties, including about fifteen ferns. Several other gentlemen, chiefly missionaries and members of the consular service, have sent smaller collections of dried plants to Kew. But it is not my intention to enter into

genera, but they collected at lower elevations. It is a noteworthy fact, that above certain elevations and beyond certain latitudes, varying in different parts of the zone, the generic composition of the northern flora is very uniform throughout. In other words, the peculiar genera of the several regions are found at lower elevations and in lower latitudes; and at great elevations, even in low latitudes, local genera are almost unknown. Among the genera represented by several or many species are:—*Clematis*, *Anemone*, *Cardamine*, *Corydalis*, *Hypericum*, *Rubus*, *Potentilla*, *Rosa*, *Saxifraga*, *Ribes*, *Sedum*, *Lonicera*, *Senecio*, *Saussurea*, *Primula*, *Lysimachia*, *Rhododendron*, *Gentiana*, *Pedicularis*, and *Cypripedium*.

In addition to new species of essentially Himalayan genera there are many Himalayan species, as:—*Clematis montana*, *Anemone rivularis*, *Caltha scaposa*, *Decaisnea insignis*, *Corydalis ophiocarpa*, *Stachyurus himalaicus*, *Hedysarum sikkimense*, *Maddenia himalaica*, *Cyananthus incanus*, *Cypripedium tibeticum*, *Paris polyphylla*, and *Aletris nepalensis*.

Not a few Japanese species extend to the Western provinces of China. Familiar examples are:—*Anemone japonica*, *Euptelea polyandra*, *Corylopsis spicata*, *Primula japonica*, *Habenaria japonica*, and *Smilacina japonica*. Among the ground orchids three are North-American, namely:—*Cypripedium arietinum*, *C. spectabile*, and *Epipactis gigantea*.

It is remarkable that out of about twenty ground orchids only two are local, and most of the others have a wide range, four being British. They include six species of *Cypripedium*.

Nevertheless, as already observed, the proportion of local species in the collection as a whole is large. Associated with them are the following British plants:—*Caltha palustris*, *Actæa spicata*, *Malva sylvestris*, *Hypericum perforatum*, *Oxalis Acetosella*, *Geranium Robertianum*, *Lotus corniculatus*, *Lathyrus pratensis*, *Potentilla fruticosa*, *Agrimonia Eupatoria*, *Pyrus Aucuparia*, *Epilobium angustifolium*, *Circea alpina*, *Cephalanthera ensifolia*, *Gymnadenia conopsea*, and *Habenaria chlorantha*.

This does not exhaust the number of British plants in the collection, the list being given merely as a sample. Very few ferns were collected, but there is one new *Adiantum* among them.

With regard to the novelties I need say no more; but some idea of the richness of the flora of Central and Western China may be gathered from the following figures. Taking half-a-dozen

acuminatæ, 6-10 lin. longæ. *Pedicelli* 6-9 lin. longi. *Sepala* oblongo-lanceolata, acuminata, 9-11 lin. longa, 2½-3 lin. lata. *Petala* sepalis similia, minora. *Labellum* integrum, rotundato-flabellatum, fimbriatum, 7-8 lin. latum, utrinque ad apicem columnæ adnatum, basi in calcar ¾-1 poll. longo gradatim attenuatum, disco lævi. *Columna* clavata, 5 lin. longa.

Pratt, 72, 102, 683. Prov. Hupeh, *Henry*, 6064, 7161. Mt. Omei, Szechuen, at 5000 feet alt., *Faber*, 953.

A very distinct species, most nearly allied to the Himalayan *C. alpina*, Hook. f., which, however, has smaller, very differently coloured flowers and a much shorter spur. The flowers of the present species appear to be a somewhat uniform rose-purple. The lip is much like that of some species of *Galeandra*, except that its margins are adnate to the sides of the column.

Habenaria camptoceras, Rolfe.

Planta pusilla, 2½-3 poll. alta. *Folia* bina, radicalia, elliptico-v. lanceolato-ovata, subacuta, ¾-1¼ poll. longa, 2-6 lin. lata. *Scapus* uni- v. biflorus. *Bracteæ* ovato-lanceolatæ, acuminatæ, 5-8 lin. longæ. *Sepalum* posticum erectum, late ovatum, obtusum, concavum, 4 lin. longum; sepala lateralia erecta, obliqua, late semicordata, obtusa, trinervia. *Petala* cum sepalo postico in galeam conniventia, lanceolato-linearibus, obtusa, binervia, ¾ lin. lata. *Labellum* trilobum, 6-7 lin. longum; lobus medius late ellipticus, obtusissimus, 4 lin. latus, repando-crenulatus; lobi laterales oblongo-lineares, subfalcati, obtusi, 3 lin. longi, 1 lin. lati; calcar 8-9 lin. longum, crassiusculum, curvatum, apice clavatum, obtusissimum. *Columna* brevis, stigmata brevissima.

Pratt, 305.

A most distinct species, with the habit of *H. Aitchisoni*, Rehb. f., but with fewer and many-times larger flowers and erect lateral sepals. This nevertheless appears to be its true affinity.

Cypripedium himalaicum, Rolfe.

Erecta, ½-1¼ ped. alta. *Folia* ovato- v. elliptico-oblonga, brevissime acuminata, 2-4 poll. longa, 1-2¼ poll. lata. *Sepalum* posticum ovatum, acuminatum; lateralia connata, paullo angustiora. *Petala* ovato-lanceolata, acuminata, sepalis æqualia. *Labellum* subglobosum, ¾-1¼ poll. longum. *Staminodium* subcordato-ellipticum, subacutum, 3-4 lin. longum.—*C. macranthon*, Hook. f., Fl. Brit. Ind. vi. p. 170, ex parte, non Sw.

Pratt, 748.—Also Lachen, Sikkim, 11,500–12,000 feet alt., *J. D. Hooker*; Hill above Jhala, Tihri Garhwal, 12–13,000 feet, *Duthie*, and opposite Budhi village, in Nepal, 11–12,000 feet, *Duthie*.

Allied to *C. macranthon*, Sw., but far smaller in all its parts, with various small structural differences and quite different colours. The flowers measure $1\frac{1}{4}$ – $2\frac{1}{4}$ inches in diameter, the sepals and the petals are light yellow, veined with brownish red, and the lip maroon-purple.

Cypripedium tibeticum, *King*, in herb. *Kew*.

Erecta, $\frac{1}{2}$ – $1\frac{1}{4}$ ped. alta. *Folia* elliptico-oblonga, subobtusata v. brevissime acuminata, 2– $5\frac{1}{2}$ poll. longa, 1– $2\frac{3}{4}$ poll. lata. *Sepalum* posticum ovatum, breviter acuminatum; lateralia connata similia. *Petala* lanceolato-ovata, breviter acuminata, sepalis æqualia. *Labellum* subglobosum, 1– $1\frac{1}{2}$ poll. longum. *Staminodium* late cordato-ovatum, obtusum, 5–6 lin. longum.—*C. macranthon* var. *ventricosa*, Hook. f. *Fl. Brit. Ind.* vi. p. 170, ex parte, non Carr.

Pratt, 14, 42, 301, 736.—Also Chumbi and Phari, collected by Dungboo, and communicated by Dr. King.

Allied to the Siberian *C. macranthon*, Sw., but with far shorter and broader petals, a different staminode and other peculiarities, as well as quite different colours. According to Dr. King's Calcutta drawing the sepals and petals are nearly white, passing into light yellow at the apex, all the nerves being maroon-purple with a few transverse reticulations. The lip and staminode are maroon-purple, the latter being much darker round the mouth. The flowers measure three to four inches in diameter, and the veinings of the sepals and petals are very apparent in the dried specimens.

Arisæma parvum, *N. E. Brown*.

Tubere parvo, $\frac{1}{2}$ – $\frac{3}{4}$ poll. diam.; folii solitarii petiolo 3–7 poll. longo, lamina trisecta, segmentis omnibus sessilibus, lateralibus $1\frac{1}{2}$ – $2\frac{1}{2}$ poll. longis suboblique ovatis acuminatis, intermedio duplo brevioribus $\frac{3}{4}$ – $1\frac{1}{4}$ poll. longo et lato late obovato vel obcordato apice subtruncato vel emarginato apiculato basi cuneato; scapo 2–4 poll. longo; spathæ tubo 1– $1\frac{1}{4}$ poll. longo atro-purpureo, lamina $1\frac{1}{4}$ – $1\frac{3}{4}$ poll. longa lanceolata acuta vel acuminata procurva viridi-basi albo-striata; spadicis unisexualis appendice