

FIELD NOTES
OF
TREES, SHRUBS AND
PLANTS.

COLLECTED BY
KINGDON WARD

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KW 12,826. *Xiris* ? (Iridaceae).

"A bog plant, growing in small colonies in ditches on the open plain. Height 1-2 ft. Flowers small, very showy, in close rank along one, two or three sprays arching from the top of the stem. Perianth orange, ovary bright lavender. Sub-tropical, growing only below 2,000 ft., where frost is unknown and the summer is intensely hot and moist. In winter drier, but still damp, the soil a black tenacious loam. Hkamti Long, 1,500 ft. July."

KW 12,860. *Coelogyne*.

"An epiphyte with fragrant yellow flowers, common in hill jungle. Flowers during the rainy season. Hkamti Long. 3,000 ft."

KW 12,900. Zanthoxylum.

"A small unarmed tree or shrub, often epiphytic. Deciduous, the leaves pale beneath, turning crimson in December. Out of flower, it resembles Sorbus. Fruits crimson, in massive bunches, exposing the brilliant orange seeds; strongly aromatic. Not rare, but local in Oak-Castanopsis forest, 6,000 ft. Nam Tamai Valley."

KW 12,933. Anemone.

"Height 6-9 ins. Flowers white, small but elegant. Leaves enlarge greatly after the flowers are over. A shade seeker, preferring sandy soil or light loam on the margin of forest or along river banks. Flowers July and August during the rains, probably tender, not occurring much above 4,000 ft. Nam Tamai Valley."

KW 12,950. Polygonatum.

"Flowers pale green, drooping berries orange. Often epiphytic in temperate rain forest, Nam Tamai Valley, 6,000-8,000 ft."

KW 12,953. Clethra.

"A shrub, 6-10 ft. high. In August the tall slender spires of white flowers with crimson calyx, make a fine show. They rise clear of the foliage, which is deciduous. In thickets along rocky ridges, too exposed for trees. Nam Tamai Valley, 8,000-9,000 ft."

KW 12,957. Cornus.

"A remarkable rock plant with creeping rhizomes from which spring short erect leafy flowering shoots, each ending in a single 'flower.' Height 2-4 ins. Leaves glossy, whorled, turning purple in winter. The true flowers are inconspicuous, a dozen or fewer in each head surrounded by four large cream-coloured bracts, just as in *Cornus*. As they age, the bracts turn pink, and the plant resembles a miniature *C. florida*. Fruits scarlet, usually few, 1-seeded. Gregarious, under bushes, along the exposed ridges; sometimes on open cliffs. Flowers July and August, fruit in November. A wonderful species, unique in my experience. Nam Tamai Valley, 8,000-10,000 ft."

K.W. 12,962. *Coelogyne*.

"A rock orchid, or epiphyte. Flowers large, white, the shovel-shaped lip with yellow and purple lines. Doubtfully hardy in spite of the altitude. Nam Tamai Valley, 8,000-9,000 ft."

KW 12,969. *Juniperus recurva* var. ?

"A large spreading much branched shrub of weeping habit. Sometimes a tree 30 ft. high. Foliage glaucous. In thickets along the exposed ridge, also on cliffs. Often low growing, almost an undershrub. Nam Tamai Valley, 8,000-10,000 ft."

KW 12,974. *Sorbus* (*Pyrus*) *Harroviana*.

"A small tree with enormous leaves, leaflets two or three pairs, white beneath. Flowers cream in large corymbs, berries small white. Grows within the Fir forest belt, in exposed rocky places where trees cannot survive. Nam Tamai Valley, 9,000-10,000 ft."

KW 12,980. *Ilex*.

"A small tree with big leathery leaves and small scarlet berries; quite unlike the popular idea of a holly. In moss forest along the high rocky ridges above the Nam Tamai at 8,000-9,000 ft."

KW 12,982. Cotoneaster.

“A large spreading but depressed shrub like *C. horizontalis*. Leaves small purple in winter; berries vermillion. On granite cliffs high above the Nam Tamai, 8,000-10,000 ft.”

KW 12,985. Pyrus (Whitebeam).

„A stumpy spreading umbrageous tree, with large leaves, snow white with cottony hair beneath. Flowers cream, scented, in large bunches, the crab-apples yellow and hard. The leaves hang on till mid-November, curling up and showing their dead-white reverse. One of the most handsome of the Crabs, especially in spring. In moss forest above the Nam Tamai, 8,000-10,000 ft.”

KW 12,987. Acer Wardii.

“A small forest tree with 5-pronged elegant leaves which turn quite brilliantly in autumn. Fruits scarlet when nearly ripe. Scattered in mixed forest, on the steep ridges above the Nam Tamai, at 9,000-10,000 ft.

KW 13,006. *Rhododendron tephropeplum*.

"A small shrub, sometimes very small. Flowers (not seen) in fives and sixes. Perhaps typical. In thickets along the open rocky ridges which buttress the great ranges coming down from the north, above the Nam Tamai Valley, 9,000-10,000 ft."

KW 13,010. *Lilium* ? or *Nomocharis* ?

"A rarity. The 1-flowered stem and numerous narrow grass-like leaves suggest *Nomocharis*. The large bulb suggests *Lilium* and the seeds endorse this. Flowers unknown. Height 1-2 ft. Underground stem not creeping. Bulb usually 6 to 8 ins. down, wedged amongst the rhizomes of *Arundinaria*, in a fine sticky black soil, which was wet even in November. Scattered in dense waist-high seas of cane brake along a high rocky ridge difficult of access. Very rare. Above the Nam Tamai, 9,000-10,000 ft.

KW 13,013. *Vaccinium* ?

"A shrub, the long flexuous branches bearing smooth leathery leaves. Berries black, or blue-black. Keeps to the cliffs and ridges. Nam Tamai Valley, 9,000-10,000 ft."

KW 13,017. *Rhododendron Martinianum*.

"A small bushy shrub, in exposed places an undershrub not 2 ft. tall. Flowers some tint of pale purplish pink, darker spotted, single or paired. It grows in thickets along the razor-backed ridges, and carpets steep open slopes well within the forest belt, almost like an alpine *Rhododendron*. Nam Tamai Valley, 8,000-10,000 ft."

KW 13,020. *Rhododendron* sp. § Grande.

"A fair-sized tree with big spreading crown and long narrow leaves, silvered beneath. Scattered in the moss forest, ascending higher than *R. sino-grande*. Nam Tamai Valley, 8,000-9,000 ft."

KW 13,027. *Edgeworthia Gardneri*.

"A shrub, growing on a ledge of one of the smooth granite faces from which the forest has been peeled by a slip. If hardy, it should be a great acquisition. Nam Tamai Valley, 8,000 ft."

KW 13,028. *Viburnum*.

"An evergreen shrub with tough stiff leaves and corymbs of small black berries. Flowers probably white. On the slab-faced cliffs above the Nam Tamai, 8,000-9,000 ft."

KW 13,052. *Vaccinium*.

"A bushy undershrub with shining Box-like leaves and small pink or white flowers in clusters. Berries at first red, ripening black, shining. On rock, or trees, or dead tree trunks indifferently. Nam Tamai Valley, 7,000-9,000 ft."

KW 13,100. ? (Labiatae).

"A charming herbaceous perennial with usually variegated leaves and tall spikes of large pink flowers—the delicate pink of *Luculia gratissima*. Maximum height 3 ft. A shade-loving plant though it keeps to open banks or the edge of the jungle along the path. Not hardy, but might be successfully grown as an annual like *Dracocephalum Hemsleyanum*. Otherwise a greenhouse plant flowering over six months. Nam Tamai Valley, 4,000-5,000 ft."

KW 13,124. *Eriobotrya Wardii*.

"A small tree, almost evergreen, casting its leaves in August and September. Flowers cream, in large bunched heads, smelling deliciously of hawthorn. They open in October after the leaf buds have begun to open. Fruits as large as walnuts, in big heavy clusters, brown skinned. Leaves vivid green, 8 or 10 ins. long and half as broad. Common in the temperate forests of the Nam Tamai 7,000-8,000 ft."

KW 13,126. *Ilex Thomsoni* ?

"An erect undershrub. Leaves small, dark polished green. Fruits pillar-box scarlet, borne singly on long stiff pedicels in the leaf axils. A shrub for the larger mixed rock garden. Amongst scrub along the open ridge overlooking the Nam Tamai Valley, 8,000-9,000 ft."

KW 13,130. *Rhododendron* sp. nov. ? § *Maddeni*.

"A tall reedy shrub, more condensed when more exposed. Leaves oval, scaly beneath, the scales close. Flower buds globular, the bud-scales neither lepidote nor white fringed with hairs ; containing four to six flowers probably yellow. Rarely epiphytic, generally amongst cliffs, in mixed thickets along the windy ridges. On the border line of hardiness. Nam Tamai Valley, 7,000-8,000 ft."

KW 13,131. *Cotoneaster*.

"A big angular shrub, the long stiff branches sticking out in all directions. Berries scarlet ; the leaves turning scarlet in Novemer. A notable shrub. Rare. It grows on the granite cliffs of exposed ridges above the Nam Tamai, at 8,000 ft."

KW 13,141. Parnassia.

“Flowers white, uncommonly large. A rock plant 2-3 ins. high growing under alpine conditions, on banks, earth slips and boulders within the silver fir forest zone. Nam Tamai Valley, 8,000-10,000 ft.

KW 13,142. Polygonum.

“A mat-forming plant with wiry stems and pinkish flowers in short erect spikes. On rocks and earth slides. Nam Tamai Valley, 8,000-9,000 ft.”

KW 13,143. Androsace.

“Flowers not seen, in stiff little umbels, on longish stalks. Leaves rounded, incised geranium fashion. A modest shade-loving semi-alpine, flowering in the early part of the summer before being swamped under bushes and herbs. Widely scattered, nowhere abundant. Nam Tamai Valley, 8,000-10,000 ft.”

KW 13,150. *Rhododendron chaetomallum*.

"A neat shrub. Leaves with thick foxy-red wool beneath, the young leaves dusted with bronze powder on the upper surface. Flowers crimson-scarlet? in truses of 4-6. Abundant above 9,000 ft. in thickets of *Rhododendron* all along the open ridges, ascending to 11,000 ft. Nam Tamai Valley."

KW 13,151. *Rhododendron timeteum*?

"Varies greatly in size from a small shrub to a fair-sized tree, according to the situation. Occasionally epiphytic. Leaf scales small, rather distant; midrib finely pubescent. Truss 3-4 flowered. The capsule resembles *R. triflorum*, the seeds do not. Nam Tamai Valley, 9,000-11,000 ft."

KW 13,152. *Saxifraga*.

"Flowers golden, immaculate. Grows in matted tufts on the stark granite cliffs, the flowering stems 2 ins. high. A bright little rock plant. Nam Tamai Valley, 8,000-11,000 ft."

KW 13,159. *Adenophora*.

"A slender fairy-like plant, up to 15 ins. in height, with 6 or 8 unusually large dangling *Campanula* flowers. The best *A.* I have come across. Grows in sheafs on the granite cliffs. Rare. Nam Tamai Valley, 8,000-9,000 ft."

KW 13,165. *Rhododendron* sp. nov.? § *Nerii-florum*?

"In the forest a small contorted tree; on the open ridge more compressed. Leaves long and narrow, with a buff-coloured cobweb of hairs on the under surface, cottony, turning white later. Truss 10-flowered, the flowers not crimson, probably pinkish purple, or light red (not seen). In *Abies-Tsuga* forest, Nam Tamai Valley, 8,000-10,000 ft."

KW 13,172. *Gaultheria*.

"A creeping plant, the stems thread-like, leaves very small in close ranks. Flowers red, fruits blue-black. On any open ground within the Conifer forest zone. Nam Tamai Valley, 9,000-10,000 ft."

KW 13,174. *Vaccinium* ? sp. nov. ?

"A root-climbing creeper, growing up tree trunks or cliffs in the deep shade of the forest ; often hanging in festoons from the support. Leaves thick and leathery, purple beneath. Ripe fruits bright red. Nam Tamai Valley, 9,000-11,000 ft."

KW 13,177. *Gaultheria* sp. nov. ?

"A minute mat-forming completely prostrate plant. Leaves tiny, suggesting *Diapensia*. Fruits snow-white, large and numerous, as conspicuous as hailstones on a lawn. Very rare, on rocks and earth slides in open alpine gullies. Nam Tamai Valley, 10,000-11,000 ft."

KW 13,180. *Rhododendron* sp. § *Sanguineum*.

"A small closely knit shrub. Leaves with a fawn-coloured plastered film beneath. Flowers blood red, two or three together. In winter the leaf indumentum turns mouse colour. In alpine gullies, and on exposed rock faces. Nam Tamai Valley, 10,000-11,000-ft."

KW 13,182. *Viburnum Wardii* var. ?

"A shrub, stunted on the open windy ridge, more diffuse in the forest. Deciduous, the leaves turning brilliantly after September. Fruits at first red, later black, attractive to birds and disappearing quickly. In thickets all along the steep alpine ridges at 9,000 ft. and over. Nam Tamai Valley."

KW 13,183. *Hypericum* sp. nov. ?

"A gregarious almost herbaceous plant forming large cushion-like clumps under cane brake, and on rocky outcrops. Evergreen, the new leaves appearing close to the ground, tightly packed as in many *Gentians*. Bears innumerable, probably large flowers (not seen) on short erect stems, so that the whole cushion is covered. Probably a first-rate rock plant. Nam Tamai Valley, 11,000 ft."

KW 13,188. *Vaccinium* ?

"An erect undershrub, 6 to 8 ins. high. Fruit blue. Found along the razor back of the granite ridge. Nam Tamai Valley, 10,000 ft."

KW 13,189. *Primula* sp. § *Nivalis*.

"Scape 6 ins. tall with one or two flowers (not seen). Leaves narrow, coated with pale golden yellow meal underneath. In fruit on the cliffs, scattered amongst scrub, and in beds of wet moss. Not common. Nam Tamai Valley, 10,000 ft."

KW 13,190. *Rhododendron* sp. § *Saluenense*.

"A broom-like dwarf undershrub, bristling with large solitary rose-purple flowers hoisted up on long pedicels. Leaves very small polished above, covered with buff-coloured scales beneath. Near. *R. calciphila* ? On granite cliffs, and rocky slopes, lining the rock scuppers. Nam Tamai Valley, 10,000 ft."

KW 13,191. *Magnolia globosa*.

"A small tree branching repeatedly from close to the ground. Leaves large, glistening with long tawny silken hairs. Flowers not seen. On sheltered rocky slopes amongst *Rhododendron* scrub ; in stony gullies. From such a high altitude as 10,000 ft. it should be hardy. Nam Tamai Valley.

KW 13,193. *Betula utilis* ?

"A small gregarious tree with reddish bark and harsh leaves, scaly beneath. On sheltered rocky slopes and in gullies, below the cliffs. Nam Tamai Valley, 10,000 ft."

KW 13,194. *Rhododendron* sp. nov. ? § *Haematodes* ?

"A middling-sized shrub with oval leaves, rufous beneath the felt thick and spongy. Flower buds globose, bearing about six crimson or blood-red flowers. Bears some resemblance to the yellow-flowered *R. lanatum*. Found scattered in thickets on the exposed flank of the ridge where there is no forest, and on the ridge itself above 10,500 ft. Nam Tamai Valley."

KW 13,195. Rhododendron sp. § Maddeni.

"A small shrub, almost always epiphytic. Leaves plated beneath with bronze coloured scales. Flowers solitary, on short stiff pedicels, bright butter yellow; anthers reddish-brown. Generally on Hemlock or Fir trees, especially along the open ridge. It probably flowers twice a year, at the beginning of the rains (May-June) and again towards the end (September-October). Found in flower, October and September. Nam Tamai Valley, 9,000-11,000 ft."

KW 13,200. Meconopsis? Cathcartia?

"A softly hairy perennial (or biennial?) the flowers (not seen) borne singly on long stems in the axils of the uppermost leaves, forming a graceful cyme. Height 2-3 ft., in September more or less hidden in the lush herbaceous growth of a steep gully, but only near the top where there was loose earth. It probably flowers in June. May be the Sikkim species with yellow flowers. Nam Tamai Valley, 10,000-11,000 ft."

KW 13,201. *Primula Agleniana* var. ?

"A hearty perennial, the flowering stem 12-15 ins. high bearing up to a dozen flowers (not seen). In winter a large resting bud is formed. Grows in colonies in the rocky mountain scuppers, either on the cliffs or on steep earth banks, just above the splashing water, where it is not smothered by other plants. Probably flowers in June ; pink ? Nam Tamai Valley, 10,000 ft."

KW 13,209. *Allium*. sp. nov. ?

"A delicious dwarf rock plant, half hanging from the cliffs and earth banks of deep moist ravines down which the torrents gush. Flowers white, speckled purple at the base ; this colour runs as the flowers age, so that they turn pink. Two or three flowers at the top of the 3-in. scape, each on a separate short pedicel. A clump of this *Allium* somewhat recalls a cluster of snowdrops. Nam Tamai Valley, 10,000 ft."

KW 13,210. *Rhododendron* sp. § *Campylogynum*.

"Forms almost prostrate mats, bristling with stiff and comparatively tall flowering stems, on precipitous rock faces lining the high narrow gullies. Each stem bears a solitary flower, not seen. Leaves darkly polished above, brilliantly silvered beneath. In very sheltered situations it forms ruffled brooms rather than mats. Very aromatic. Nam Tamai Valley, 10,000-11,000 ft."

KW 13,213. *Nomocharis*.

"A small plant, not exceeding 9 ins. in height, bearing a solitary flower (not seen). Widely scattered on the steep rocky slopes, amongst dwarf *Rhododendron*; rare and often inaccessible. Nam Tamai Valley, 10,000 ft. (Not *N. pardanthina*, and much too low down for *N. Souliei*)."

KW 13,215. *Omphalogramma*.

"A rare, widely scattered plant growing on the barer rocky slopes and cliff ledges of the deep gullies. Leaves very hairy. Flowers (not seen) solitary, on rather tall peduncles, at least in fruit. Nam Tamai Valley, 10,000 ft."

KW 13,222. *Sorbus*.

"A small tree, more conspicuous in autumn decked with scarlet leaves and small white berries in large bunches, than in summer. In moss forest. Nam Tamai Valley, 9,000-10,000 ft."

KW 13,224. *Rubus Wardii* ?

"A creeping plant with trifoliate leaves, carpeting the spongy floor of the moss forest. A good covering plant for the rock garden. Nam Tamai Valley, 9,000 ft."

KW 13,225. *Rhododendron repens*.

"Perhaps the typical plant, with small leaves, always deep crimson purple on the under surface, and solitary prone flowers (erect in fruit) on short pedicels; but it looks untypical and out of place here. Plastering the rocks with other dwarf species—'Campylogynum' and 'Saluenense'—above the rock scuppers. Nam Tamai Valley, 10,000 ft."

KW 13,228. *Ilex*.

"A small tree. Crown large, leaves very large, berries tiny, scarlet, in thick clotted clusters. In forest and thicket along the open ridge. Conifer belt. Nam Tamai Valley, 8,000-9,000 ft."

KW 13,230. *Rhododendron* sp. § *Maddeni*.

"A small epiphytic bushy shrub as happy on the cliffs of the ridge as on trees. Flowers comparatively large, pale yellow in pairs. In full bloom during the first half of September, but as there were also nearly ripe capsules, the plant must flower twice a year, spring and autumn. There is no reason to suppose that the spring flowers, of which I collected seed, differ from the autumn ones, which probably never ripen seed. Nam Tamai Valley, 8,000 ft."

KW 13,260 ? (Rubiaceae).

"A carpeting evergreen herb, covering sandy and moss-plastered boulders in the river bed above high water level. Leaves shining, glossy, flowers white, inconspicuous, succeeded by polished violet berries. May not be hardy, but would be a good covering plant if it were. Might have economic use in reclamation work. Nam Tamai Valley, 3,000-4,000 ft."

KW 13,263. Dicentra.

"An annual climber with cream-coloured flowers, which are followed by long narrow crimson pods, quite unlike those of *D. scandens*. Flowers and fruits seen together in September. A rank scrambler, growing in open places amongst cultivation. Nam Tamai Valley, 5,000 ft."

KW 13,286. Vaccinium. sp. nov. ?

"A fair-sized shrub with long branches, and large leathery rounded leaves, snow white with meal beneath. Fruits large, in grape-like bunches, making an attractive display. Flowers probably white, not particularly beautiful. It is for its leaves and fruits that this is worth growing. First collected in 1931, and confused by growers with *V. glauco-album* which it does not resemble. In thickets and on rocky slopes in the open. Adung Valley, 6,000 ft."

KW 13,290. Smilax ?

“A small leafed prickly under-shrub of neat habit, the branches spreading out fanwise. Covered with large scarlet berries. it makes a good decorative plant. Useless for the rock garden as it requires the deep shade and rich mouldering soil of the forest. Nam Tamai Valley, 5,000-7,000 ft.”

KW 13,294. Euonymus.

“A small forest tree bearing large bunches of flowers, a pleasant maroon shade. A tree in full bloom, smothered in dangling clusters of these quite showy little flowers, and with angular fruits, is a handsome object. One of the best of the many E. found here. Easily recognised by its 5-merous flowers and fruits, and by its leaves serrate only in the upper half. It must flower twice a year. Should be hardy, and if autumn blooming in Britain, invaluable. Nam Tamai Valley, 8,000 ft.”

KW 13,299. Enkianthus.

"A shrub with regularly whorled branches, and solitary cherry red flowers dangling in circles from the leaf axils. Generally more stunted than *E. Nimalaicus*, not so full of flower. The leaves turn brilliant scarlet in autumn. It begins where *E. Nimalaicus* leaves off, growing on rocky ridges amongst thickets of *Rhododendron*. Nam Tamai Valley, 9,000-11,000 ft."

KW 13,300. Viburnum.

"A small deciduous tree without autumnal colour. Flowers probably white. Fruits jet black. It has no merit unless as a flowering tree. In alpine gullies within the silver fir belt, more or less well sheltered. Nam Tamai Valley, 10,000-11,000 ft."

KW 13,302. Viburnum.

"A small deciduous tree with white flowers and violet berries. The foliage is handsome. In thin forest. Adung Valley, 6,000 ft."

KW 13,303. *Prunus Puddum*.

"A glorious tree 100 ft. high. Flowers carmine, opening in March, before the leaves appear. In foliage about May. Fruits ripe July or August. Adung Valley, 6,000-7,000 ft."

KW 13,310. *Androsace Henryi*.

"A gregarious herb, hidden in the undergrowth in mixed forest. Flowers white? Plants reach a height of 6-9 ins. with several scapes each with a large head of flowers, perhaps 20 or 30. Leaves rounded also on long stems. Adung Valley, 10,000 ft."

KW 13,311. *Iris*.

"A rhizomatous plant, 1-2 ft. high, bearing one or two 2-flowered spathes. Often gregarious, on steep open slopes, or under bushes, in the Conifer-Rhododendron zone. Not inside the forest. Adung Valley, 9,000-10,000 ft."

KW 13,312. *Corylus ferox*.

"A small tree with hazel-like leaves, and clusters of nuts whose cupules are armed with ferocious spines. In thickets along the river bank or on the cliffs. Adung Valley, 9,000 ft."

KW 13,315. *Lactuca*.

"A meadow plant 6-8 ft. tall, with large drooping bluish flowers. Might do either for the herbaceous border or rock garden. Adung Valley, 10,000 ft."

KW 13,317. *Euonymus*.

"A dwarf undershrub, 6 ins. to 1 ft. high, scattered in the Silver Fir forest. A perfect rock garden plant, handsome in fruit. Adung Valley, 10,000-11,000 ft."

KW 13,318. *Allium*.

"A stout perennial with large heads of purple flowers. In open meadow. Adung Valley, 11,000 ft."

KW 13,320. *Primula geranioides*.

"A fine robust-looking *Primula*, the flowering stems nearly a foot high, bearing two whorls of flowers. Leaves large, on long stalks. It makes small colonies in the forest shade. Adung Valley, 10,000-11,000 ft."

KW. 13,323. *Nomocharis pardanthina* var.

"A variable plant 3 to 4 ft. high bearing from six to eight large flowers, of a uniform pinkish purple finely peppered with darker spots in the centre. In colonies on steep earth banks and screes amongst shrubs and meadow herbs. Plants near melting snow beds were in full bloom at the beginning of October, while those on exposed slopes were in ripe seed. Adung Valley, 9,000-10,000 ft."

KW 13,324. *Rhododendron chaetomallum* var. ?

"A bushy shrub growing on a boulder in the middle of the torrent. The leaves match *R. chaetomallum*, the fruit does not. Possibly a natural hybrid, growing in complete isolation. Adung Valley, 10,000 ft."

KW 13,327. *Rhododendron* sp. nov. ? § *Barbatum*.

"A big arborescent shrub isolated on a huge boulder in the torrent. Truss many flowered, the calyx large and leafy. The capsule closely resembles that of *R. vesiculiferum*, but the leaf bears no resemblance at all. Another possible—or probable—hybrid. Adung Valley, 10,000 ft."

KW 13,328. *Iris*.

"A small-sized plant with 2-flowered spathes. Scattered under bushes on exposed slopes within the Silver Fir forest zone. Adung valley, 10,000 ft."

KW 13,329. *Geranium*.

"A dwarf rosette plant with large bright purple flowers in clenched heads. The small rounded leaves turn vivid scarlet in October. On open rock and earth slopes, growing as an alpine within the forest zone. Adung Valley, 10,000 ft."

KW 13,331. Allium.

"A broad-leafed plant with short erect flowering stem ending in a massed head of purple flowers. On earth banks and chutes, in fruit and also in full bloom where delayed by unmelted snow. Adung Valley, 11,000-12,000 ft."

KW 13,333. Primula sikkimensis var. ?

"Height 6-9 ins. Flowers pale primrose, deliciously fragrant. Leaves with rounded blade and distinct petiole, not the typical *P. sikkimensis* leaf. It forms large colonies on the exposed earth banks above the torrent. Adung Valley, 11,000-13,000 ft."

KW 13,335. Geranium.

"Flowers very pale pink, the petals reflexed. Habit diffuse, height 9-12 ins. A meadow plant, seeking the light and air of rather forbidding slopes. Adung Valley, 11,000-12,000 ft."

KW 13,336. *Sorbus foliolosa* ?

"A very variable and adaptable species, small tree, shrub, or dwarf undershrub according to altitude. Most handsome at intermediate levels (12,000 ft.) in the open windswept pastures, where it is a gnarled shrub. The stunted cliff plant is also attractive. Leaflets 10-12 pairs. Berries large, crystalline white on long black pedicels, hanging in closely aggregated clusters. Adung Valley, 10,000-14,000 ft."

KW 13,337. *Meconopsis betonicifolia* var. *pratensis*.

"The best form of this plant. Perennial. Height 3-4 ft. In light soil, wet alpine pastures. Adung Valley, 13,000 ft."

KW 13,345. *Panax*.

"A woodland plant, handsome in fruit, the numerous fruits—black with a large scarlet spot—in an ivy-like head. Height 1-2 ft. In shady places. Adung Valley, 10,000-12,000 ft."

- KW 13,355. *Rhododendron* sp. § *Haematodes*.
"An undershrub with flowers in trusses of four, probably blood red. More or less gregarious along the banks of alpine streams in open pastures. Adung Valley, 12,000-13,000 ft."
- KW 13,356. *Lobelia* or *Campanula*.
"An herbaceous perennial 12-15 ins. high ending in a spike of flowers which I did not see. On steep alpine slopes at the base of the cliffs. Adung Valley, 12,000 ft."
- KW 13,357. *Codonopsis*.
"A semi-erect semi-scandent perennial herb, 1-2 ft. high. Flowers probably lavender. Alpine pastures amongst boulders and scrub. Adung Valley, 12,000-13,000 ft."
- KW 13,360. *Primula* sp. § *Muscarioides*.
"A dwarf plant about 6 ins. tall. Flowers few, apparently large. A single colony found growing amongst large boulders in alpine scrub. Adung Valley, 12,000 ft."

KW 13,361. *Rhododendron pruniflorum* ?

"A variable shrub, sometimes an undershrub, very aromatic. Flowers plum-purple, small, in trusses of five or six. On cliffs and in alpine pastures and thickets. Adung Valley, 12,000 ft."

KW 13,363. *Berberis*.

"A thorny shrub with long branches. Deciduous, the leaves scarlet in November. Berries translucent, deep red, almost sessile in small fascicles. Flowers yellow. In alpine and sub-alpine thickets. Adung Valley, 11,000 ft."

KW 13,364. *Berberis*.

"A dwarf undershrub with large pear-shaped scarlet fruits solitary and dangling from long pedicels. In open alpine meadow. Adung Valley, 12,000 ft."

KW 13,365. *Rhododendron* sp. § *Lapponicum*.

"A large bushy undershrub with heavily plated leaves. Flowers in tight heads 4-6 flowered. Probably *R. luridum*. Adung Valley, 13,000 ft."

KW 13,366. *Omphalogramma*.

“In fruit a foot tall, scattered in moist alpine pastures in the most boggy places. No clue to its identity. Not the place for *O. Souliei*, and it is certainly not the same species as No. 13,215. Adung Valley, 12,000 ft.”

KW 13,367. *Rhododendron riparium* ?

“An alpine gregarious undershrub. Young leaves glaucous above, bristly round the margin. Scales of under leaf surface pale at first, later turning buff. Calyx fringed with long hairs. Truss 2-3 flowered. In alpine meads. Adung Valley, 12,000-13,000 ft.”

KW 13,368. *Nomocharis Souliei*.

“A dwarf single-flowered species, scattered in alpine pastures amongst dwarf *Rhododendron* scrub. Adung Valley, 12,000 ft.

KW 13,369. *Rhododendron* sp. § Grande.

"A small tree, or large shrub forming impenetrable thickets in the highest patches of Silver Fir, never coming out into the open. The highest tree *Rhododendron*, outlasting even *R. Beesianum*. Leaves lacquered beneath with a dull pewter gleam. Flowers some shade of crimson, in very large compact trusses. Adung Valley, 12,000-13,000 ft."

KW 13,370. *Rhododendron* sp. § Lapponicum.

"A dwarf intricate undershrub with tiny leaves and numerous heads of small purple flowers, of no particular distinction. In marshy alpine pastures. Adung Valley, 12,000-13,000 ft."

KW 13,371. *Rhododendron saluenense*.

"A dwarf undershrub, similar in appearance to *R. riparium*, but the leaves are much more glaucous, the leaves and calyx not bristly. Under leaf surface densely scaly, brown on mature leaves. In alpine pastures, growing with *R. riparium*. There is no difficulty in distinguishing them when growing side by side, but herbarium specimens look much alike. Adung Valley, 12,000-13,000 ft."

KW 13,373. *Vaccinium*.

"An undershrub, with small leathery leaves. Fruits black in large closely packed clusters. Gregarious in sandy or gravelly pastures. Adung Valley, 12,000-13,000 ft."

KW 13,374. *Prunus*.

"Tree or shrub, according to altitude. In the alpine meadow, a small flat-topped shrub, about 4 ft. high. Flowers probably white, hanging on long stiff stalks. Fruits deep red at first ripening to the colour of dried blood. In October the leaves turn brilliant scarlet. Will probably grow anywhere. Adung Valley, 10,000-13,000 ft."

KW 13,375. *Primula* sp. § *Muscarioides*.

"A much more robust plant than No. 13,360, with more flowers in a bullrush-like inflorescence. (Not seen in bloom.) Height 10-15 ins. Grows scattered in boggy alpine pastures, sometimes in small colonies. Adung Valley, 12,000-13,000 ft."

KW 13,376. *Vaccinium modestum*.

"A creeping plant, the numerous erect leafy shoots forming a loosely woven carpet. Flowering stems an inch or two high each ending in a large nodding solitary flower of luminous pink, exactly like a Japanese lantern. In October the leaves turn wine red, but remain on the plant and show up the large grape-blue berries. Grows on steep alpine rocky and rubble slopes, where there is a top spit of sand and fine gravel ; manifestly a highly acid soil. Adung Valley, 12,000-14,000 ft."

KW 13,378. *Meconopsis horridula* var. ?

"This form has a single main stem, bearing several axillary flowers on short pedicels towards the upper half. Biennial. The flowers are probably Cambridge blue. Amongst boulders, on the treads of the old glacier valley ; not abundant, and widely scattered. Ka Karpo Razi, Adung Valley, 14,000 ft."

KW 13,385. *Lonicera*.

“Frequently collected. A sprawling undershrub in knee-high *Rhododendron* thickets in the wide alpine pastures. Leaves turn purple in autumn, berries large in fused pairs, like red hot glass beads. Ka Karpo Razi, Adung Valley, 12,000-13,000 ft.”

KW 13,386. *Lonicera*.

“Frequently collected. An undershrub in thickets, throughout the high alpine region from near the last belts of Silver Fir to the limit of shrubs. Berries grape blue, ovoid, enclosed in large paper collars, the pairs not fused. Flowers probably yellow, improbably amethyst purple. Ka Karpo Razi, Adung Valley, 12,000-13,000 ft.

KW 13,387. *Cotoneaster*.

“A wayward undershrub, not above 4 ft. high, with large pillar box scarlet barrel-shaped berries; the leaves also turn before falling. The berries seem to be distasteful to birds—Burmese birds. In alpine thickets, rarely gregarious, but quite common. Collected before. Ka Karpo Razi, Adung Valley, 12,000-13,000 ft.”

KW 13,388. *Gentiana*.

" Frequently collected. Flowers hyacinth blue ; height in bloom, 1 in., in fruit 2-3 ins. In large colonies in the high alpine valley, where a patch of turf is sheltered by a cottage-sized boulder ; often on boulders ; or on sandy flats. It likes grit and sand, would probably do best growing up through a carpet plant. Adung Valley, 13,000-14,000 ft."

KW 13,395. *Gaultheria*.

" Frequently collected. A creeping mat-weaving species with hair-like stems and minute rounded bristly leaves. Flowers pinkish, fruits ice blue. Always on open patches of fine gravelly soil, in the high glaciated valleys, where the ground is shunned by most plants. Not on steep slopes. Adung Valley, 14,000 ft."

KW 13,396. *Gaultheria*.

" Collected in 1931. Stems erect, 1-2 ins. high, with minute leaves and axillary flowers on thread-like stalks. Often on ridges, or amongst boulders in the valley, seeking more shelter than No. 13,395. Fruits deep violet. Adung Valley, 10,000-13,000 ft."

KW 13,399. *Rhododendron campylogynum* ?

"A solitary specimen, growing on a barren boulder fan at the head of the valley. A gawky undershrub, only a few inches high, the fruits borne on solitary erect pedicels. The leaves resemble those of *R. campylogynum* ; but if this is true *R. campylogynum* No. 13,210 is not. Ka Karpo Razi, Adung Valley, 14,000 ft."

KW 13,400. *Ilex Hookeri* ?

"A prostrate undershrub, creeping and ascending at the tips of the branches. Leaves very closely set, berries small, bright vermilion, numerous and conspicuous ; the growth suggests green coral picked out and intertwined with red. It grows amongst jumbled boulders, covered with scrub, in the alpine region. Ka Karpo Razi, Adung Valley, 13,000 ft."

KW 13,405. *Rhododendron* sp. § *Anthopogon*.

"An aromatic small-leaved bushy undershrub, 1 ft. or less high. Flowers (not seen) in dense heads. This may be *R. crebreflorum*. Adung Valley, 13,000-15,000 ft."

KW 13,409. *Corydalis*.

"An alpine rock plant of the moraines and screes. Foliage fern like, flowers pale blue. Attractive but probably intractable. Adung Valley, 14,000-15,000 ft."

KW 13,410. *Gaultheria*.

"A creeping rock plant, the short flowering shoots erect. Berries large and bulging, dark purple but plastered with milk-white bloom; borne two or three together, conspicuously. In open rocky ground, well drained gritty soil, amongst taller scrub. Adung Valley, 13,000 ft."

KW 13,416. *Rhododendron* sp. § *Sanguineum*.

"A shrub some 3 ft. high growing on the shady side of an immense rock in the bed of the torrent, and looking as though it did not rightly belong there. Leaves dark green above, buff below with a flocculent hairy covering. Flowers crimson or deep vermillion in trusses of 4-6 ft. Adung Valley, 10,000 ft."

KW 13,418. *Euonymus*.

“The grass-leaved *Euonymus*, a graceful shrub of the mixed forest zone where it grows on the steep heavily timbered slopes, shaded by enormous pine, hemlock, spruce, oak and other temperate trees. It does not exceed 5 ft. in height (or rarely). Scattered, not common. Fruit typical. Adung Valley, 8,000-9,000 ft.”

KW 13,419. *Rhododendron* sp. nov. ?

“I suspect this of being a hybrid, with something—not much—of *R. Martinianum* about it. Almost a dwarf shrub. Truss 4-flowered, the flowers spotted, and having a good deal of red in them, though they are not crimson. I did not see the flowers. The plant shared the great boulder already alluded to under No. 13,416. Adung Valley, 10,000 ft.”

KW 13,420. *Rhododendron* sp.

"Another fugitive seeking sanctuary on the great boulder, possibly also a half caste with a dash of *barbatum* in it—or *R. crinigerum* or *R. vesiculiferum*, it would be here. It is a large shrub with well filled out trusses of 4-6 flowers, not seen. Adung Valley, 10,000 ft."

KW 13,421. *Berberis*.

"A large heavily armed bush, filling up any vacancy in the forest. Quite impenetrable. Flowers probably yellow, berries deep violet, almost black, leaves silvered beneath. The flowers are borne in large fascicles on short shoots, and droop. This plant would make a very live barbed wire hedge. Adung Valley, 7,000-8,000 ft."

KW 13,422. *Euonymus*.

"A small forest shrub with the usual dangling fruits. Leaves very pale, almost white, beneath. Adung Valley, 8,000-9,000 ft."

KW 13,424. *Rhododendron* sp. nov.? § *Barbatum*?

"Another fugitive on the big crowded boulder in the river bed; perhaps also a hybrid, surviving here, suppressed elsewhere. A large shrub, crowded with ample trusses so should be a fine sight in bloom. The capsule suggests *R. vesiculiferum*; the leaves contradict this. Adung Valley, 10,000 ft."

KW 13,426. *Gaultheria*.

"A dwarf undershrub, the flowering shoots erect, an inch or two tall. Berries fat, plastered with milk-white bloom, in twos and threes. Grows on gravel patches in the midst of dense scrub. Adung Valley, 12,000-14,000 ft."

KW 13,427. *Gaultheria*.

"A prostrate creeping plant, weaving mats over the high and steep rubble cones where the debris is small size. Berries large glistening snow white, far more conspicuous than the flowers. Adung Valley, 13,000-14,000 ft."

KW 13,429. Eriobotrya Wardii.

“A small tree with big leaves, almost evergreen, sometimes bare for a month. It renews its foliage about October, flowering at the same time, the flowers in large bunches of heads, creamy-white smelling exactly like strong hawthorn. It bears great bunches of fruit, as big as walnuts, at the same time. A beautiful tree in foliage and flower. Nam Tamai Valley, 7,000-8,000 ft.”

KW 13,435. Vaccinium.

“Hanging in long festoons from the trees in the moss forest. Also from rocks, but generally epiphytic. Berries polished jet black. An unusual looking Vaccinium. Nam Tamai Valley, 7,000-9,000 ft.”

KW 13,444. Camellia ?

"Judged by its leaves, which are entire, this is not a *Camellia*, but is closely allied. A small tree with glabrous leaves crowded at the ends of the shoots. Fruits large, axillary and solitary, but having the appearance of bunches. If the fruits are a guide to the size of the flowers, these are large, and like all *Ternstroemia-ceae* showy. Perhaps a little tender. Low forest on an exposed rocky ridge. Nam Tamai Valley, 7,000 ft."

KW 13,447. Berberis insignis var. or sp. nov.

"A rather gawky shrub, like *B. insignis* but with longer leaves and flowers (yellow) in immense fascicles. One plant bore 153 ripe grape-purple fruits on 4 ins. of stem. In thickets on the open rocky ridges above the Tamai River at 7,000 ft."

KW 13,448. Crataegus.

"A shrub, 2-3 ft. high, evergreen. Ripe berries in erect bunches, scarlet. More or less gregarious in the rocky river bed just above high water. Nam Tamai Valley, 4,000 ft."

KW 13,451. Abies.

"The common silver fir of the Tamai Valley. Found from 9,000 to 13,000 ft. A short sturdy tree with short bristle-like needles, very white beneath. Cones blue, stout ; trees 5 ft. high on the ridge may bear a score or more. Big trees are rare. The normal height is about 50 ft."

KW 13,454. Ilex.

"A small tree with shining leaves and red berries. In thickets along the exposed ridges. Nam Tamai Valley, 7,000 ft."

KW 13,459. Vaccinium ?

"An epiphytic shrub, the long branches pendent from trees in the moss forest. Fruits amethyst, in twos and threes ; bud scales persistent. Leaves with long drip tips. (Probably this is not a Vaccinium.) Nam Tamai Valley, 5,000-6,000 ft."

KW 13,475. Michelia doltsopa ?

"A tall tree of the middle forest. Fruits long, generally twisted ; seeds scarlet. Nam Tamai Valley, 7,000-8,000 ft."

KW 13,478. *Gaultheria* sp. nov. ?

"The large solitary flowers, white or pink, are like bell heather. Hanging from trees in the moss forest, or more commonly growing on open cliff faces. Berries purple black. A beautiful plant for the rock garden, to drape bare escarpments. Will stand snow, but wants abundant moisture in summer. Nam Tamai Valley, 8,000-9,000 ft."

KW 13,479. *Berberis hypokerina*.

"First introduced in 1926 and not since. A large many stemmed shrub, 2-4 ft. tall, with holly-like leaves, silvered beneath, which turn scarlet at the end of the second year. Flowers yellow, fascicled as in *B. insignis*, fruits grape purple. It grows well on open granite cliffs. Nam Tamai Valley, 9,000-10,000 ft."

KW 13,480. *Rhododendron* sp. nov. ?

"Like No. 13,194 but the leaves have a much thinner cinnamon-red indumentum, of finer texture than that species. A shrub of 2-5 ft. growing under dwarf *Arundinaria* on the precipitous granite cliffs. Nam Tamai Valley, 9,000-10,000 ft."

KW 13,489. *Gaultheria*.

"A shrub or undershrub, 1-2 ft. high, of drooping habit. Leaves large. Fruits in close-fisted heads, small, purplish with white bloom. In the deep shade of the moss forest. Nam Tamai Valley, 9,000 ft."

KW 13,492. *Arisaema*.

"Leaf 3-lobed. Flower (spathe) mottled. Height 1 ft. or under. A curiosity. In moss forest. Nam Tamai Valley, 9,000-10,000 ft."

KW 13,494. *Rhododendron* sp. § *Maddeni*.

"An epiphytic shrub with the general characters of No. 13,486, except that the leaves are twice as big, the style lepidote instead of glabrous and I picked eight unopened capsules off it, whereas the seeds of No. 13,486 (growing alongside it) are long since scattered. For the present best regarded as a variety of that species. Nam Tamai Valley, 8,000-9,000 ft."

KW 13,496. Polygonatum.

"A handsome looking plant with whorled leaves and orange berries on long stalks. Generally epiphytic. In moss forest. Nam Tamai Valley, 7,000-8,000 ft."

KW 13,499. Pyrus.

"In the forest a big spreading tree, on the ridge a small stunted tree. Flowers in large open heads. Leaves scarlet in November, one of the few finely coloured trees. Fruits small. hard, yellowish, in great panicles. Nam Tamai Valley, 7,000-9,000 ft."

KW 13,500. Rhododendron sp. § Maddenii.

"A large bushy shrub, always epiphytic and generally high up in the canopy of the moss forest, out of sight. Flowers bright yellow, of moderate size, in trusses of three or four. Leaves large (for an epiphyte), pale beneath and distantly lepidote beneath. Flowers August-September and probably also in the spring. Nam Tamai Valley, 7,000-8,000 ft."

KW 13,505. Ilex.

"A big forest tree with small entire leaves, drawn out to a point, and every branch and twig clustered with crimson or scarlet berries. A magnificent sight in November. In temperate forest with Magnolias, Michelia, Oaks. Nam Tamai Valley, 7,000-8,000 ft."

KW 13,509. Pyrus ("Goldbeam").

"A small tree with a large crown. Very free flowering. The flowers follow the leaves, opening in April or May. Foliage enveloped in a beautiful gauze veil of gilded hair. Adung Valley, 6,000 ft."

KW 13,511. Sorbus.

"A small tree, sometimes epiphytic. The leaves turn scarlet in autumn, showing up the large bunches of small creamy-white berries. Nam Tamai Valley, 8,000 ft."

KW 13,520. Hibiscus ?

"A greenhouse plant, about 2 ft. high, with large crimson flowers. In swampy ground, along the edge of the evergreen jungle, tropical forest region. Myitkyina district. On the plain."

KW 13,550. *Rhododendron magnificum*.

"A big tree with very large leaves and huge tight heads of rose-purple flowers. Will require shelter. It grows along the river bank in mixed forest, and ascends the mountain slopes immediately above to 8,000 ft. Flowers February-March. Adung Valley."

KW 13,555. *Begonia hymenophylloides*.

"A greenhouse plant, requiring a very humid atmosphere and probably special treatment. It is always epiphytic, growing in moss on the tree trunks low down, along an open ridge. Flowers large white, but the chief attraction is the foliage of great delicacy and strange shape. Nam Tisang Valley, 6,000 ft."

KW 13,576. *Ilex nothofagacifolia*.

"A small tree with flattened branches. Leaves tiny, very bright green, polished. Berries scarlet, not numerous. A highly ornamental tree of the temperate rain forest. Nam Tamai Valley, 7,000-8,000 ft."

KW 13,577. *Magnolia rostrata*.

"A fine deciduous tree, with small, almost insignificant whitish flowers quite hidden by the splendid leaves. The big erect fruits remain on the tree, looking like miniature pine-apples after the leaves have fallen in October or November, Nam Tamai Valley, 7,000-9,000 ft."

KW 13,578. *Dicentra scandens*.

"A yellow-flowered annual climber from a perennial rootstock. Fruits crimson, pear shaped, in dangling bunches. In thickets along the edge of the forest. Nam Tamai Valley, 3,000-4,000 ft."

