

Notes on the Distribution of Certain Chinese and Himalayan Species of *Ilex* with Descriptions of New Species.

BY

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Since Loesener's Monograph of the Genus *Ilex* was published in 1901 and supplemented in 1908, a large number of specimens of *Ilex* have become available from Western China, Tibet and Upper Burma. This is in great part due to the labours of the late Mr. George Forrest.

When going through his collection it was found to contain five new species, six new varieties, and one new form of *Ilex* in addition to those already described from his material. Several other species also were found to have a far wider distribution than had hitherto been recorded. The present paper deals with the new plants and the new records available among the material in the Edinburgh Herbarium, and also deals with some material on loan from Kew.

The genus is far from simple, as many of the species exhibit considerable variation in the leaf shape, consequent upon the age or advanced or retarded development of the shrub or tree, as well as between individuals. Again, specimens are most frequently collected in fruit, as they are then most attractive, and when flowering specimens are collected it is usually from the more profuse and conspicuous male plants; comparatively rarely are the female flowers obtained. As the male and female inflorescences often differ considerably from one another, when only one is available the systematist is apt to be seriously handicapped.

Every character seems to be subject to a certain amount of fluctuation in different groups, and even the number of loculi in an ovary may be important in one group and quite unreliable in the next. Hence, unless plenty of material has been available, or a plant has shown very wide differences, a moderate policy has been followed, and some plants have been described as varieties which further material may show to be good species.

A few of the numbers quoted have been published previously in the Notes of the Royal Botanic Garden, Edinburgh, but are now included for the sake of completeness. On the other hand no attempt has been made to add to the record of distribution of any species in a province from which it has already been reported.

Most surprising has been the frequency with which the widely distributed *Xylosma longifolium* has occurred masquerading as *Ilex odorata* in various herbaria. It is easily distinguished, even when not in flower or fruit, from *Ilex pseudo-odorata*—which it otherwise much resembles and which was mistaken for *Ilex odorata* by Hooker and others—by the raised midrib of the leaf.

I have seen all the specimens quoted with the exception of K. Ward 6240 and 8269, which Mr. C. E. C. Fischer has very kindly identified with other specimens from Kew which I had previously named. For the loan of these and others I am much indebted to Sir Arthur W. Hill, Director of the Royal Gardens, Kew.

With regard to the distribution, the most interesting new facts are that *Ilex insignis*, hitherto recorded only from Sikkim, and *I. Hookeri* from Sikkim and Assam have been found on the Shweli-Salwin divide in Yunnan, some six hundred miles to the East. of Sikkim.

Ilex fragilis forma *Kingii*, long since known in Sikkim and more recently from West Szechuan, has now been collected in the intermediate areas of Yunnan, Eastern Tibet and Upper Burma. *Ilex intricata* from Sikkim and Nepal reappears in a larger leaved form, *Ilex intricata* forma *macrophylla*, in Eastern Tibet.

Five other species, *Ilex excelsa*, *Ilex hypotricha*, *Ilex venulosa*, *Ilex Wattii* and *Ilex sikkimensis* with a wide distribution in India and Burma also occur in Yunnan, the last named in a new variety. *Ilex oblata* from Burma and Assam has now been collected in Yunnan, and *Ilex embelioides* from Khasia, Assam, has been collected in Burma.

On the other hand, *Ilex Delavayi*, up to the present recorded only from Yunnan, extends to Szechuan and Tibet; while a minor variety of it found on the Shweli-Salwin divide and also *Ilex atrata* from Yunnan occur also in Burma. *Ilex macrocarpa* from Kwangtung, Hupeh and Szechuan, and *Ilex Aquifolium* var. *chinensis* and *Ilex dipyrena* var. *paucispinosa* from Hupeh only, are now recorded from Yunnan, the last mentioned extending also to Szechuan and Burma. *Ilex triflora* var. *viridis* from Khasia, Assam, Yunnan, Tonkin and Canton, has been collected in Burma. *Ilex yunnanensis* from Shensi, Hupeh, Szechuan and Yunnan has been found in Tibet. *Ilex Franchetiana* from Hupeh and Szechuan occurs also in Yunnan, Tibet and Burma. *Ilex bioriisensis* from Formosa occurs plentifully in Szechuan and Yunnan, a jump of over one thousand miles, a distance considerably exceeded in the case of *Ilex micrococca*, known to occur in Japan itself, Yunnan and Szechuan in China, and is now recorded from Tibet and Burma.

The accompanying diagram shows the old and new distributions of these species.

	Kumaon	Nepal	Sikkim	Bhutan	Assam	Khasia	Manipur	Burma	Tibet	Yunnan	Szechuan	Kansu	Shensi	Hupeh	Kwantung	Anhui	Japan
<i>I. Aquifolium</i> var. <i>chinensis</i>																	
<i>atrata</i> - - -								..		..				
<i>bioritsensis</i> - - -										..							
" var. <i>ciliospinosa</i>										..	1						
" var. <i>integra</i> - -										..							
<i>Delavayi</i> - - -										..							
" var. <i>exalata</i> - -								..	..	..				
<i>diphyrena</i> - - -	1	1	1	..			1	..	..	..	..		
" var. <i>paucispinosa</i>								..	..	..				
<i>embelioides</i> - - -					1	1		..	..	..				
<i>excelsa</i> - - -								..	..	..				
<i>Forrestii</i> - - -								..	..	..				
" var. <i>multiflora</i>								..	..	..				
<i>fragilis</i> f. <i>Kingii</i> - -								..	..	..				
<i>Franchetiana</i> - - -								..	..	..	1						
<i>Georgei</i> - - -								..	..	..				
" var. <i>rugosa</i> - -					..			..	..	..	
<i>Hookeri</i> - - -				..				..	..	..
<i>hypotricha</i> - - -	1				1			..	..	..				
<i>insignis</i> - - -			1					..	..	..				
<i>intricata</i> - - -		1						..	..	..				
" f. <i>macrophylla</i> -								..	..	..				
<i>longicaudata</i> - - -								..	..	..				
<i>macrocarpa</i> - - -								..	..	..				
<i>micrococca</i> - - -								..	..	..	1						
<i>oblata</i> - - -					2			2	..	..	1						1
<i>Pernyi</i> - - -								..	..	..		..
<i>shweliensis</i> - - -								..	..	..		..
<i>sikkimensis</i> - - -			1				1	..	..	..				
" var. <i>coccinea</i> - -								..	..	..				
<i>triflora</i> var. <i>viridis</i> -					..	1	..	..	..	..			
<i>venulosa</i> - - -				..	1	1	..	..	..	..			
<i>Wattii</i> - - -							1	..	..	..				
<i>yunnanensis</i> - - -								..	..	..				

- Previously recorded distribution.

.. New records of distribution.

1 as *I. ciliospinosa* Loes.

2 as *I. intricata* Hook. f. var. *oblata* W. E. Ev.

No fewer than the following twenty-six species and varieties were collected on the watersheds immediately to the west of the Salwin River, between latitude 29° N. and 25° N. These watersheds are the Salwin-Kiu-chiang, N'Maikha-Salwin and the Shweli-Salwin, and twenty species and varieties were collected on the latter alone; many of them being definite links with the Sikkim flora. The species are:

Ilex atrata, *I. corallina*, *I. diphyrena* var. *connexiva*, and var. *paucispinosa*, *I. Delavayi* and var. *exalata*, *I. excelsa*, *I. fragilis* forma *Kingii*, *I. Forrestii*, *I. Franchetiana*, *I. Georgei* and var. *rugosa*, *I. Hookeri*, *I. hypotricha*, *I. insignis*, *I. intricata* forma *macrophylla*, *I. longicaudata*, *I. malabarica*, var. *sinica*, *I. micrococca*, *I. oblata*, *I. shweliensis*, *I. triflora* var. *viridis*, *I. sikkimensis* var. *coccinea*, *I. venulosa*, *I. Wattii*, and *I. yunnanensis*.

THE SMALL-LEAVED SPINY TWO-SEEDED HOLLIES OF THE
SUB-SECTION OXYDONTAE LOES.

Since much confusion has existed amongst certain members of the sub-section Oxydontae Loes., and particularly amongst those plants resembling and allied to *Ilex Pernyi* and *Ilex dipyrena*, a short account of their history is given as well as a key to them and the new species and varieties of the sub-section.

The first species of this group described was *Ilex dipyrena* Wall. in Roxb. Fl. Ind. 1 (1820) p. 473, based on Himalayan specimens though since collected in Yunnan. It is easily distinguished by its large leaves and fruits with only two pyrenes.

Ilex Pernyi Franch. Pl. David. 1 (1884) 69, from Szechuan, has much smaller, fewer-spined, more angular leaves than the preceding species and was described as having four pyrenes. This last character is evident in Wilson's 119, from Western Hupeh and in material from the same source cultivated in Britain.

In 1901 Loesener described *Ilex Pernyi* Franch. var. *manipurensis* from Watt's 6483, a barren specimen, collected in Manipur. This he suggested might be a good species.

Hayata in "Material for a Flora of Formosa (1911)" p. 53, describes *Ilex bioritsensis*, the first known small-leaved species with two pyrenes. After assuming that Loesener had seen the fruits of *Ilex Pernyi* var. *manipurensis*, Hayata distinguishes his species from it by its having only two pyrenes, hitherto an exclusive character of *Ilex dipyrena*. Very shortly afterwards Loesener in Pl. Wils. 1 (1911) p. 79, described a very similar plant as *Ilex ciliospinosa* from Wilson's 996, collected in Western Szechuan. This likewise approaches *Ilex dipyrena* in having a largish fruit with two pyrenes, but has pubescent stems and much smaller leaves on which the numerous spines are comparatively slender and directed towards the apex. It appears to be an uncommon plant, and the specimen, as regards its foliage and pubescence, is in a more or less juvenile state though fruiting. Similar long slender crowded spines may be seen on many seedling Hollies and also occur on the Formosan specimen of *Ilex bioritsensis* (Wilson 10058) which I have seen. In the Edinburgh Herbarium are numerous sheets collected in Szechuan, Yunnan and Upper Burma by George Forrest and others, some of which agree absolutely with the description of *Ilex bioritsensis* and Wilson's specimen quoted above. These sheets fall into four groups, two of which may be best considered as *Ilex bioritsensis* by reason of the large fruit with two thick walled pyrenes. One of these has subglabrous or papillose stems and entire leaves, and the name *Ilex bioritsensis* Hayata var. *integra* is proposed for it. This comes from N.E. Yunnan.

The typical plant has usually stout-spined leaves much resembling *I. Pernyi*, though generally longer and with more spines. It seems to be fairly common, rather variable and widely distributed in Szechuan

and N.E. Yunnan. Quite probably *I. Pernyi* var. *Veitchii* Rehd. will be included here when authentic fruiting material becomes available. A fruiting specimen (Fang 976) so named, has consistently two pyrenes and the leaves are of the same shape though rather broader. In 1905 Forrest collected in the Mingkwong Valley some barren specimens of a Holly bearing very acute leaves with many small spines confined to the basal third or half of the leaf. In the absence of flowers or fruits this was determined as *I. Pernyi* by Loesener but now that more material is at hand from the vicinity of Tengyueh, a short distance to the south, it is seen to differ in many respects. As in *I. bioritsensis* only two pyrenes are present, though frequently there may be only one. The ♀ flowers and fruits are several together thus differing from that species and taken with the leaf shape, much smaller fruits and seeds afford sufficient grounds for distinguishing it as *I. Georgei*. This is var. *typica*.

A fourth group of specimens from Upper Burma and Yunnan lean towards this species in having one pyrene and many ♀ flowers together but in habitat, smaller stature and leaf shape recede from it. The proposed name is *Ilex Georgei* var. *rugosa*. This may possibly be *I. Pernyi* var. *manipurensis* of Loesener, but it cannot be positively identified with it as the type of the latter is barren.

These plants seem to be most definitely separated by the characters given in the following key :—

Leaves large, the majority more than 5.5 cm. long - DIPYRENA

Leaves small, the majority less than 5.5 cm. long.

Pyrenes normally 4, mature leaves usually 5-spined - PERNYI

Pyrenes normally 1 or 2, mature leaves usually either many spined or 1-spined.

Pyrenes thick-walled, 2, rarely 1 or 4*, ♀ fls. or frts. solitary or in pairs.

Leaves with a terminal spine only, very rarely more - - - BIORITSSENSIS var. INTEGRAL

Leaves many spined.

Spines more or less parallel to leaf margin, slender - - - BIORITSSENSIS var. CILIOSPINOSA

Spines divergent, robust - - - BIORITSSENSIS

Pyrenes thin-walled, 1 or 2, ♀ fls. or frts. normally several together.

Leaves triangular, acute, spines more or less confined to basal half. Tallish shrub -

GEORGEI var. TYPICA

Leaves ovate oblong, not triangular, spines

evenly distributed, low shrub - GEORGEI var. RUGOSA

* Very rarely does *I. bioritsensis* produce more than 2 pyrenes or *I. Pernyi* less than 4 except by abortion. This must be allowed for, however.

DISTRIBUTION NOTES AND NEW SPECIES.

Ilex Aquifolium Linn. var. *chinensis* Loes.

I. dipyrena Wall. vel. aff. Notes R.B.G. Edin. vii (1930), 259.

Previously recorded from Hupeh only.

W. CHINA.—Yunnan. Shrub of 4 to 8 feet. Amongst scrub in the side valleys on the eastern flank of the Tali Range. Lat. 25° 40' N. Alt. 7-8,000 feet. Foliage only, July 1906. G. Forrest 4682. Spinous-leaved shrub of 20 ft. In open thickets. On the Tong Shan. Lat. 27° 20' N. Alt. 9,000 ft. Foliage only, June 1914. G. Forrest 12616.

Ilex atrata W. W. Sm. in Notes R.B.G. Edin. x (1917), 40.

Previously recorded from Yunnan only.

N.E. UPPER BURMA. Shrub of 7-8 ft. In open thickets and side valleys on the lower slopes. W. flank of the N'Maikha-Salwin divide. Lat. 26° 17' N. Long. 98° 46' E. Alt. 7-8,000 ft. In immature fruit, July 1925. G. Forrest 27100.

Ilex bioritsensis Hayata in Journ. Coll. Sc. Tokyo, xxx (June 20, 1911), 53.

Ilex Pernyi Notes R.B.G. Edin., xiv (1924), 191, non Franch.

Previously recorded from Formosa only.

W. CHINA.—Szechuan. Spinous-leaved shrub of 10 to 18 ft. Fruits crimson. In open mixed forests on slopes. Mountains east of Yungning. Lat. 27° 50' N. Long. 100° 56' E. Alt. 11,000 ft. In fruit, September 1921. G. Forrest 20644.

Arbuseula. In montium Daliang-schan (territorio Lolo) ad orientum urbis Ningyuen regione temperata, in silva elata mixta tergi Sosoliangdse. Substr. arenaceo. Alt. s.m. ca. 2600-2800 m. In (♀) flower, 25-4-1914. Handel-Mazzetti 1667.

Small tree, 5 m. high. Leaves very thick with strong spines. Fruit a small long drupe. In thickets. Nanchuan-hsien. Alt. 6-7,000 ft. In very young fruit. May 18th, 1928. W. P. Fang 976.

Shrub 4 m. Leaves thick, spiny. Fruits long, drupaceous. In thickets. Mount Omei. Alt. 5,000 to 5,500 ft. In fruit, August 17th, 1928. W. P. Fang 3097.

Small spreading tree or a compact bush. Berries scarlet. In shady limestone ravines, down by the torrent, with oak, maple, and broad-leaved trees. Litang-Yalung divide. W. flank. (Tatsienlu Road.) Alt. 9-10,000 ft. In ripe fruit, 4-7-1921. F. K. Ward 4356.

Arbuse. ad 4 m. in silvis inter Kalapa et Liukiu. Alt. 3,200 m. In (♀) flower, May 1917. C. Schneider 1523.

Yunnan. Arbuste buissonnant haut 1-m. 20 cm. Feuilles persistentes épineuses. Fls. blanches, baies rouges. Crousse du mont Io-chan. Alt. 3,200 m. In (♂) flower, May. E. E. Maire (820-1914 Herb. Edin.).

Petit arbre toujours vert, feuilles épineuses, fls. blanches. Crous-sailles de Eul-te-Ka. Alt. 3,000 m. In (♂) flower, May. E. E. Maire (302-1913 Herb. Edin.).

Plante cueillie par le père S. Ten. Yen Tetsang region de Kiao Kia. In (♂) flower, May 1909. F. Ducloux 1308.

Ward's No. 4356 is rather anomalous, by reason of the drupe with only one pyrene, but in all other respects is best placed here. It may possibly be a link with *I. Georgei* var. *rugosa* if not merely an abortion.

I. bioritsensis Hayata var. **ciliospinosa** (Loes.) Comber. Comb. nov.

I. ciliospinosa Loes. in Sarg. Pl. Wils. i, p. ii (July 31, 1911), 78.

Loesener's plant (Wilson 996) though in fruit, has foliage of a decidedly juvenile character, but of very distinct appearance. It seems best regarded as a variety of Hayata's species.

Ilex bioritsensis Hayata var. **integra** Comber. Var. nov.

Ilex sp. Notes R.B.G. Edin. xiv (1924), 220.

A typo foliis integris differt.

W. CHINA.—Yunnan. Shrub of 10-20 feet. Fruits bright scarlet. In and on the margins of pine and mixed forests. Yangtse-Yungning divide. Lat. 27° 48' N. Long. 100° 56' E. Alt. 11,000 ft. In fruit, November 1921. G. Forrest 21023 (type of var.).

Without precise locality. Foliage only, October 1917. G. Forrest 16061 p.p. (the specimens with entire leaves).

This variety differs from the type and from var. *ciliospinosa* in its entire leaves, very rarely with an odd lateral spine. Though of quite distinct appearance, it may be only a state of the former.

Ilex Delavayi Franch. in Journ. de Bot. xii (1898), 255.

Myrsine sp. Notes R.B.G. Edinb. vii (1912), 261.

Previously recorded from Yunnan only.

E. TIBET.—Tsarong. Shrub of 2-4 ft. Fruits scarlet, crimson. Shady rocky situations amongst scrub and boulders in side valleys. Salwin-Kiu-chiang divide. Lat. 28° 24' N. Long. 98° 24' E. Alt. 10-11,000 ft. In fruit, September 1921. G. Forrest 20340.

W. CHINA.—S.W. Szechuan. Shrub of 3-4 ft. Fruits crimson. Openings in mixed forests. Muli mountains. Lat. 28° 12' N. Alt. 11-12,000 ft. In fruit, October 1918. G. Forrest 17039.

Shrub of 2-3 ft. Flowers green. In thickets in side valleys. Mountains east of Yungning. Lat. 27° 45' N. Long. 101° E. Alt. 10-11,000 ft. In flower, June 1922. G. Forrest 21235.

Duplicate of F. 21235. In fruit, October 1922. G. Forrest 22959.

Shrub. Height 10-15 ft. In valley by stream, Muli. Alt. 9-10,000 ft. In immature fruit, 12-8-21. F. Kingdon Ward 4833.

Ilex Delavayi Franch. var. **exalata** Comber. Var. nov.

Ilex Delavayi Notes R.B.G. Edin. xvii (1930), 285 et 311.

A typo foliis latioribus, petiolo non alato, ramulorum juniorum cortice plus minusve laevi differt.

W. CHINA.—Yunnan. Shrub of 4 to 6 feet. Fruits crimson. Shady situations in side valleys. Shweli-Salwin divide. Lat. 25° 30' N. Alt. 10,000 ft. In fruit, October 1918. G. Forrest 17768.

Shrub of 4 to 5 feet. Flowers olive green. Amongst scrub. N'Maikha-Salwin divide. Lat. 26° 10' N. Alt. 8,000 ft. In flower (♀), June 1919. G. Forrest 18093 (type of var.).

Shrub of 8 to 9 feet on rocky scrub-covered slopes in side valleys. Shweli-Salwin divide. Lat. 25° 45' N. Long. 98° 58' E. Alt. 8-9,000 ft. In fruit, September 1924. G. Forrest 25248.

Shrub of 4 to 6 feet. Fruits crimson. In open thickets. Shweli-Salwin divide. Lat. 25° 50' N. Long. 98° 58' E. Alt. 10,000 ft. In fruit, November 1924. G. Forrest 25365.

Mid West Yunnan. No precise locality. In fruit, 1929. G. Forrest 28171.

N.E. UPPER BURMA. Small shrub of 8 to 12 feet in forest at bottom of valley, growing on the slaty cliffs. Flowers green. Valley of the Chawng maw hka. Alt. 8,000 ft. In flower, 4-6-1919. F. Kingdon Ward 3176.

Slender shrub of about 10 feet, but not erect, being tall and thin. Flowers white. On the granite ridge amongst bamboos, Rhododendrons and Abies (Rhodo. or Conifer forest). Western slope of Imaw Bum. Alt. 9-10,000 ft. In flower, 2-7-1919. F. Kingdon Ward 3298.

This variety differs from the type in the broader leaves, which are abruptly narrowed into the petiole, and in the smooth bark of the young shoots. It is intermediate between the type and *I. Hookeri* King, differing from the latter in the leaves not being acuminate at the apex and usually smaller.

Ilex dipyrena Wall. in Roxb. Fl. Ind. ed. Carey. i (1820), 473.

Previously recorded from Sikkim, Kumaon, Nepal, Manipur, Upper Burma, and Yunnan.

BHUTAN. Bush, 20 feet. Dotena Thimbu. Alt. 8,000 ft. In fruit, 15-7-17. R. E. Cooper 1533.

Tree, 40 feet. Cheri Gompa Thimbu. Alt. 8,500 ft. In fruit, 16-7-14. R. E. Cooper 1576.

Shrub, 10 feet. Berry red. Domjit Djong Paro. Alt. 8,000 ft. In fruit, 13-11-14. R. E. Cooper 3582.

Ilex dipyrena Wall. var. **paucispinosa** Loes. in Nov. Act. Nat. Cur. lxxxix (1908), 283.

Ilex sp. aff. *dipyrena* Wall. Notes, R.B.G. Edin. xiv. (1924), 141.

Ilex sp. Notes R.B.G. Edin. xiv (1924), 206.

Previously recorded from Hupeh only.

E. TIBET.—Tsarong. Shrub of 20 to 25 feet. In open forests and thickets. Salwin-Kiu-chiang divide. Lat. 28° 24' N. Long. 98° 24' E. Alt. 10,000 ft. In fruit, August 1921. G. Forrest 20101.

W. CHINA.—Yunnan. Spinous-leaved shrub of 6-12 feet. Shady ravines in mixed forests. Lichiang Range. Lat. 27° 40' N. Alt. 11,000 ft. Foliage only, June 1913. G. Forrest 10171.

Spinous-leaved shrub of 6 to 8 feet. Flowers green. In thickets. Mountains of the Chungtien plateau. S.E. of Chungtien. Lat. 27° 55' N. Alt. 11,000 ft. In flower, July 1913. G. Forrest 10426.

Shrub of 8 to 10 feet. Open shady situations. Yungpeh mountains. Lat. 26° 45' N. Alt. 10,000 ft. Foliage only, September 1913. G. Forrest 11071.

Chungtien plateau. Lat. 27° 30' N. In flower and fruit, April 1914. G. Forrest 12415.

Spinous-leaved shrub of 20 feet. Open situations among rocks. Chungtien plateau. Lat. 27° 30' N. Alt. 10,000 ft. In fruit, June 1914. G. Forrest 12527.

Spinous-leaved shrub of 20-30 feet. Fruits scarlet. In open thickets. Mekong-Salwin divide. Lat. 28° 12' N. Alt. 9-10,000 ft. In fruit, Sept. 1917. G. Forrest 14896.

Spinous-leaved shrub of 12-25 feet. In open thickets on rocky slopes. Mountains N.E. of Atuntze. Lat. 28° 35' N. Long. 98° 56' E. Alt. 11,000 ft. In fruit, July 1921. G. Forrest 19817.

Spinous-leaved shrub of 20 feet. Fruits red. In thickets and mixed forests. Mekong-Salwin divide. Lat. 27° 30' N. Long. 98° 56' E. Alt. 10-11,000 ft. In fruit, August 1921. Fruits red. G. Forrest 20096.

Shrub of 10 to 20 feet. Fruits scarlet. In open thickets. Londre Pass, Mekong-Salwin divide. Lat. 28° 18' N. Long. 98° 40' E. Alt. 11,000 ft. In fruit, Sept. 1921. G. Forrest 20799.

Big tree, 40 to 50 feet. Mixed forest. No precise locality. Alt. 10-11,000 ft. Foliage only, 4-7-13. F. Kingdon Ward 666.

Ilex embelioides Hook. f. Fl. Brit. Ind. i (1875), 601.

Previously known from Khasia, Assam.

N.E. UPPER BURMA. A tree or bush with bright berries. Hpawte Valley. Alt. 5,000 ft. In fruit, October 19, 1919. R. Farrer 1405.

Ilex excelsa Wall. ex Hook. f. Fl. Brit. Ind. i (1875), 603.

Ilex excelsa vel. aff. Notes R.B.G. Edin. xvii (1930), 163.

Ilex rotunda Notes R.B.G. Edin. xvii (1930), 173, non Thunb.

Previously known from India—Kumaon, Bhutan, Assam, Nepal and Khasia only.

W. CHINA.—Yunnan. Tree of 20-25 ft. Flowers green. Open situations in thickets. Outskirts of the lava bed west of Tengyueh. Lat. 25° N. Alt. 5,000 ft. In flower, May 1912. G. Forrest 7677.

Shrub of 10-20 ft. Flowers pale yellow. Open thickets. Shweli-Salwin divide. Lat. 25° 30' N. Alt. 10,000 ft. In flower, August 1917. G. Forrest 15865.

Shrub of 9-16 ft. In open thickets. Shweli-Salwin divide. Lat. 25° 20' N. Alt. 9,000 ft. In fruit, October 1917. G. Forrest 16062.

Shrub or tree of 20-50 ft. Fruits brilliant scarlet-crimson. In open thickets. Hills N.W. of Tengyueh. Lat. 25° 20' N. Alt. 6,000 ft. In fruit, December 1924. G. Forrest 26103.

Ilex Forrestii Comber. Sp. nov.

Ilex corallina Notes R.B.G. Edin. xiv (1924), 117, 141 et xvii (1929), 114, non Franch.

Ilex sp. Notes R.B.G. Edin. xvii (1930), 256, 271, 285 et 314.

Ilex sp. aff. *odorata* Buch.-Ham. Notes R.B.G. Edin. xvii (1930), 149.

Species floribus heteromeris atque pyrenis quinque parvis ad subgenus *Byroniam* Loes. probabiliter ascribenda sed foliis semper-virentibus valde distincta.

Frutex 1-6 m. altus, sempervirens. Ramuli patentes vel erecti; hornotini 1.5-3 mm. triennes 5 mm. diam. cortice sub initio brunneo-demum griseo-cinereo, in sicco striato vel longitudinaliter ruguloso. Folia plerumque duos annos persistentia coriacea, glabra, oblongo-elliptica, vel ovata vel oblanceolata, 4.5-13 cm. longa, 1.7-4 cm. lata, apice acuminata, acumine ipso laminae partem $\frac{1}{2}$ - $\frac{1}{3}$ aequante basi rotundata vel cuneata, margine remote serrulata, paulo recurva, supra opaca vel subnitida, atro-olivacea vel brunnescentia, subtus opaca multo pallidiora; costa supra insculpta subtus prominens nervis lateralibus circ. 6-12-paribus sub angulo 60° abeuntibus; petiolus canaliculatus 8-12 mm. longus. Inflorescentiae complures subpuberulae, virgula axillari brevi circ. 8 mm. longa vel subnulla suffultae, ♂ 3- raro 7-florae, pedunculo 3-5 mm. longo, pedicellis 2-3 mm. longis; ♀ 1- raro 3- florae, pedunculo subnullo, pedicellis 2.5-3.5 mm. longis. Flores heteromeri 5-7 mm. diam., albi vel viridi-lutei, in sicco brunnei. Calyx glaber vel subpuberulus 3 mm. diam., sepalis 5 vel 6 ovatis circ. 1 mm. longis acutis ciliolatis. Petala sepalis plerumque heteromera, 4-6 raro 7, oblonga, 2-3 mm. longa, 2 mm. lata, apice rotundata. Floris ♂ stamina petalis breviora; pistillodium 5-8-lobum, truncatum. Floris ♀ staminodia petalis multo

breviora; ovarium 5- raro 6-7-merum. globosum vel subconicum, stigmatē depresso-lobato coronatum. Drupa 5- raro 6-7-pyrena, parva, subglobosa, 5 mm. diam., maturitate carnosa coccinea. Pyrenae vix 2 mm. longae, 1 mm. diam., laevissimae, in sectione transversali circulares vel subcirculares. Endocarpia submembranacea brunnea.

W. CHINA.—Yunnan. Shrub of 3 to 5 feet. Open scrub. Ghi Shan, East of Tali Lake. Lat. $25^{\circ} 48' N.$ Alt. 8,000 ft. In fruit, August 1914. G. Forrest 13478.

Shrub of 10 to 20 feet. Fruits bright scarlet. Open mixed forests. Mekong-Salwin divide. Salwin Valley. Lat. $28^{\circ} 12' N.$ Alt. 11-12,000 ft. In fruit, Nov. 1917. G. Forrest 15047 (type).

Shrub of 4 to 6 feet. Flowers olive yellow, fragrant. In open scrub. Western flank of the Tali Range. Lat. $25^{\circ} 40' N.$ Alt. 10,000 ft. In (♀) flower, July 1917. G. Forrest 15624.

Mekong-Salwin divide, Salwin valley. Lat. $28^{\circ} 12' N.$ Alt. 9,000 ft. In fruit, Oct. 1918. G. Forrest 17289.

Shweli-Salwin divide. Lat. $25^{\circ} 30' N.$ Alt. 7-8,000 ft. In (♂) flower, June 1918. G. Forrest 17547.

Without precise locality. In fruit, Oct. 1918. G. Forrest 17756.

Shrub of 12 to 20 feet. Flowers yellowish green, fragrant. In thickets in side valleys. Shweli-Salwin divide. Lat. $25^{\circ} 40' N.$ Alt. 8,000 ft. In (♂) flower, July 1919. G. Forrest 18133.

Shrub of 20 feet. In thickets and open mixed forests. Mekong-Salwin divide. Lat. $27^{\circ} 30' N.$ Long. $98^{\circ} 56' E.$ Alt. 10-11,000 ft. In immature fruit, July 1921. G. Forrest 19808.

Non-spinous shrub of 15 to 20 feet. Flowers white. On open rocky slopes amongst scrub. Shweli-Salwin divide. Lat. $25^{\circ} 25' N.$ Long. $98^{\circ} 58' E.$ Alt. 9-10,000 ft. In young (♂) flower, June 1924. G. Forrest 24449.

Shrub of 10 to 20 feet. Flowers greenish yellow. In thickets in side valleys. Shweli-Salwin divide. Lat. $25^{\circ} 40' N.$ Long. $98^{\circ} 45' E.$ Alt. 9,000 ft. In (♂) flower, June 1924. G. Forrest 24520.

Shrub of 10 to 12 feet. Fruits scarlet-crimson. In open thickets in side valleys, Salwin-Kiu-chiang divide. Lat. $27^{\circ} N.$ Long. $98^{\circ} 35' E.$ Alt. 10,000 ft. In fruit, Sept. 1924. G. Forrest 25871.

E. TIBET.—Tsarong. Shrub of 12 to 20 feet. In mixed thickets in side valleys. Salwin-Kiu-chiang divide. Lat. $28^{\circ} 24' N.$ Long. $98^{\circ} 24' E.$ Alt. 10-11,000 ft. In fruit, Sept. 1921. G. Forrest 20093.

Without locality. In fruit. 1931. G. Forrest 30561.

The heteromerous flowers (6 sepals and 5 petals often in the same flower) 5-seeded fruits and small seeds suggest the subgenus *Byronia* but the inflorescence is totally unlike any described thereunder in Loesener's Monograph.

Ilex Forrestii Comber var. **multiflora** Comber. Var. nov.

A typo inflorescentia ♂ saepius plus quam 7-flora (haud 3-4-flora) differt.

Yunnan? S.E. Tibet? or N.E. Upper Burma? Without precise locality. In (♂) flower. G. Forrest 30479 (type of var.).

This variety differs from the type in that the ♂ inflorescences invariably bear more than seven flowers. In the typical form the male inflorescences never bear more than 7 flowers and even that number only very exceptionally.

Ilex fragilis Hook. f. forma **Kingii** Loes. in Nov. Act. Nat. Cur. lxxxviii (1901), 493.

Ilex sp. aff. *corallina* Franch. Notes R.B.G. Edin. xiv (1924) 160, 209, 286, et 363.

Previously known from India (Sikkim) and from Western Szechuan.

E. TIBET.—Tsarong. Shrub of 6-9 feet. In thickets by streams and on cliffs in side valleys. Salwin-Kiu-chiang divide. Lat. 28° 24' N. Long. 98° 24' E. Alt. 10-11,000 ft. In fruit, September 1921. G. Forrest 20298.

Shrub of 6 to 10 feet. In fruit. In open thickets in side valleys. Salwin-Kiu-chiang divide. Lat. 28° 24' N. Long. 98° 24' E. Alt. 11,000 ft. In fruit, Oct. 1921. G. Forrest 20838.

Shrub of 7 to 12 feet. Flowers light olive-green, almost white. In thickets by streams. Salwin-Kiu-chiang divide. West of Chama-tong. Lat. 28° 18' N. Long. 98° 27' E. Alt. 9-10,000 ft. In flower, June 1922. G. Forrest 21808.

Duplicate of F. 21808. In fruit, October 1922. G. Forrest 22873.

W. CHINA.—Yunnan. Shrub of 15 feet. On the margins of thickets. Mekong-Yangtze divide, North of Pien-tien-go. Lat. 27° 30' N. Long. 99° 25' E. Alt. 10,000 ft. In immature fruit, July 1924. G. Forrest 25525.

Shrub of 10 feet. Flowers green. In thickets by streams. Salwin-Kiu-chiang divide. Lat. 27° N. Long. 98° 35' E. Alt. 11,000 ft. In flower, August 1924. G. Forrest 25689.

Same as 25525. In fruit, October 1924. G. Forrest 25824.

N.E. UPPER BURMA. Shrub of 6 to 10 feet. In thickets. W. flank of the N'Maikha-Salwin divide. Lat. 26° 30' N. Long. 98° 46' E. Alt. 11,000 ft. In fruit, October 1925. G. Forrest 27504.

Ilex Franchetiana Loes. in Sarg. Pl. Wils. i (1911), 77.

Ilex sp. Notes R.B.G. Edin. xvii (1930), 173, 269 et 285.

Ilex sp. aff. *micrococca* l.c., 268.

Ilex odorata var. l.c., 283.

Ilex Franchetiana Loes. vel. aff. l.c. xiv (1924), 362.

Previously recorded from Hupeh and Szechuan.

W. CHINA.—Yunnan. Shrub of 6 to 10 feet. Open situations. Shweli valley. Lat. 25° N. Alt. 6,000 ft. In fruit, June 1912. G. Forrest 8207.

Shrub of 6 to 8 feet. Amongst scrub. Mingkwong valley. Lat. $25^{\circ} 15'$ N. Alt. 6-7,000 ft. In fruit, June 1912. G. Forrest 8238.

Tree or shrub of 30 to 40 feet. In thickets. Shweli valley. Lat. 25° N. In fruit, July 1912. G. Forrest 8741.

Tree of 30 to 40 feet. In thickets. Western flank of the Shweli-Salwin divide. Lat. $25^{\circ} 20'$ N. Alt. 9,000 ft. In fruit, August 1912. G. Forrest 9046.

Without precise locality. In fruit, November 1917. G. Forrest 16074.

Shrub of 30 to 40 feet. Flowers yellow. In mixed forests. Shweli-Salwin divide. Lat. $25^{\circ} 20'$ N. Alt. 8,000 ft. In (♂) flower, July 1918. G. Forrest 17504.

Shrub of 16 to 20 feet. Flowers greenish yellow. In open thickets. Shweli-Salwin divide. Lat. $25^{\circ} 20'$ N. Alt. 8,000 ft. In flower, July 1918. G. Forrest 17517.

Tree of 40 to 50 feet. Fruits red. In open mixed forests. Shweli-Salwin divide. Lat. $25^{\circ} 20'$ N. Alt. 9-10,000 ft. In fruit, September 1918. G. Forrest 17716.

Without precise locality. In fruit, October 1918. G. Forrest 17762.

Shrub of 10 to 15 feet. Flowers fragrant, olive-yellow. In open thickets by streams. Shweli-Salwin divide. Lat. $25^{\circ} 20'$ N. Long. $98^{\circ} 58'$ E. Alt. 8,000 ft. In (♂) flower, April 1924. G. Forrest 24048.

Shrub of 4 to 6 feet. Fruits crimson. Amongst scrub, on rocky hillsides. Shweli-Salwin divide. Lat. $25^{\circ} 45'$ N. Long. $98^{\circ} 58'$ E. Alt. 9,000 ft. In fruit, September 1924. G. Forrest 25238.

Evergreen shrub of 20-30 feet. Leaves slightly spinous. Fruits dull crimson. In thickets and forests. Shweli-Salwin divide. Lat. $25^{\circ} 36'$ N. Long. $98^{\circ} 58'$ E. Alt. 8-9,000 ft. In fruit, November 1924. G. Forrest 25335.

Shrub of 20 to 25 feet. Fruits crimson. In thickets. Hills N. of Tengyueh. Lat. $25^{\circ} 30'$ N. Long. $98^{\circ} 30'$ E. Alt. 8,000 ft. In fruit, October 1924. G. Forrest 25995.

Shrub of 12 to 20 feet. Leaves heavy, slightly spinous. Fruits dull crimson. In thickets and mixed forests. Shweli-Salwin divide. Lat. $25^{\circ} 40'$ N. Long. $98^{\circ} 50'$ E. Alt. 9-10,000 ft. In fruit, December 1924. G. Forrest 26057.

Shrub of 10 to 18 feet. Fruits dull crimson. In open thickets by streams. Shweli-Salwin divide. Lat. $25^{\circ} 40'$ N. Long. $98^{\circ} 30'$ E. Alt. 10,000 feet. In fruit. G. Forrest 26070.

Shrub or tree of 20 to 40 feet. Fruits bright scarlet. In mixed forests. Shweli-Salwin divide. Lat. $25^{\circ} 20'$ N. Long. $98^{\circ} 50'$ E. Alt. 9,000 ft. In fruit, November 1925. G. Forrest 27726.

S.E. TIBET.—Tsarong. Shrub of 20 to 35 feet. Fruits black-blue. In mixed thickets in side valleys. Salwin-Kiu-chiang divide, N.W. of Si-chi-to. Lat. $28^{\circ} 48'$ N. Long. $98^{\circ} 15'$ E. Alt. 10-11,000 ft. In fruit, October 1922. G. Forrest 22868.

N.E. UPPER BURMA. Shrub of 12 to 20 feet. Foliage non-spinous. Fruits crimson. In open thickets. Hpimaw pass, N'Maikha-Salwin divide. Lat. 26° N. Long. $98^{\circ} 42'$ E. Alt. 10-11,000 ft. In immature fruit, September 1924. G. Forrest 25069.

The plants included here are variable, none exactly matching Loesener's type, but I am unable to find any satisfactory characters on which to separate them. Most have more or less puberulous pedicels of varying length, leaves which are often very coriaceous, and frequently much broader, but on the whole seem best placed here.

Ilex Georgei Comber. Sp. nov.

Ilex Pernyi Notes R.B.G. Edin. vii (1912), 76 et xvii (1930), 173 p.p. non Franch.

Species valde affinis *Ilici bioritsensi* Hayata a qua foliorum forma, floribus ♀ 5- ad 8-aggregatis nec solitariis nec binis, drupis minoribus saepissime 1-pyrenis, pyrenis minus induratis differt.

Frutex confertus 1-10 mm. altus. Ramuli erecti vel patentes, rigidi, pubescentes, in sicco longitudinaliter rugosi, hornotini pallido-brunnei 2-2.5 mm. diam., annotini cinerei circ. 4 mm. diam. Folia sempervirentia 3-4 annos persistentia triangulari-lanceolata, basi rotundata vel subcordata, 2.5-4.5 cm. longa, 1.5 cm. lata, rigide coriacea, glabra, sessilia vel subsessilia, supra nitida brunneo-olivacea nunc viridescencia, subtus opaca pallidiora, apice in spinam longam rigidam attenuata, basim versus spinis 4-14 minoribus instructa, ceterum inermia; costa leviter impressa. Inflorescentiae ramulis annotinis suffultae, in axillis foliorum inferiorum fasciculatae, bracteis ovatis acuminatis ciliatis. Flores ♂ 4-meri, 4.5 mm. diam.; pedunculi 6-20 enati, 1-rarius 3-flori, in bractearum axillis conferti; pedicelli subglabri 3-5 mm. longi, bracteolis minutis acutis praediti. Sepala suborbicularia .5 mm. longa basi .8 mm. lata, minute ciliolata. Petala olivaceo-lutea, oblonga, 1.5 mm. longa et lata, apice rotundata. Stamina petala paulo superantia. Flores ♀ ignoti. Drupae 1-2-pyrenae, 5-8-aggregatae, elliptico-obovoideae, 7 mm. longae, 5 mm. latae, mesocarpio carnosio, exocarpio membranaceo, stigmatibus discoideo coronatae. Pyrenae oblongae vel subovoideae, 4 mm. longae, 2.5 mm. latae, 3-4-striatae, in sectione transversaria ovals vel leviter compressae, endocarpio lignoso sed tenuiore quam in speciebus consanguineis.

This species is closely allied to *I. bioritsensis* Hayata from which it differs chiefly in the ♀ flowers several together, the smaller, frequently 1-seeded fruits and thin-walled pyrenes. The leaves are also very distinct.

W. CHINA.—Yunnan. Compact shrub of 10 to 30 feet, forming thickets on the lava beds in the Mingkwong valley north of Ma-chang. Lat. 25° 25' N. Alt. 6-7,000 ft. Foliage only, December 1905. G. Forrest 1072.

Spinous-leaved shrub of 3 to 15 feet. Flowers green. Fruit red. In side valleys amongst scrub. Hills around Tengyueh. Lat. 25° N. Alt. 5,600 to 6,000 ft. In fruit (immature), May 1912. G. Forrest 7577.

Without precise locality. In (♂) flower, February 1913. G. Forrest 9608.

Shrub of 4 to 8 feet. Flowers green. Amongst scrub. Lava bed to west of Tengyueh. Lat. 25°. Alt. 5,000 ft. In (♂) flower, March 1913. G. Forrest 9712.

Without precise locality. In fruit (ripe), October 1917. G. Forrest 16061 p.p. The specimen with spiny leaves (type of fruit).

Spinous-leaved shrub of 12 to 24 feet. Fruits crimson. In dense thickets by streams in side valleys. Hills N.W. of Tengyueh. Lat. 25° 12' N. Long. 98° 36' E. Alt. 7,000 ft. In fruit (immature), August 1924. G. Forrest 24826.

Shrub of 6 to 15 feet. In open scrub on dry slopes and in side valleys. Hills east of Tengyueh. Lat. 25° N. Long. 98° 36' E. Alt. 6,000 ft. In (♂) flower, March 1925. G. Forrest 26254 (type of ♂ flower).

Ilex Georgei Comber var. **rugosa** Comber. Var. nov.

Ilex Pernyi Franch. forma Notes R.B.G. Edin. xvii (1930), 270.

Ilex Pernyi Franch. var. l.c. 304.

Ilex Pernyi Marquand et Shaw in Journ. Linn. Soc. xlviii (1929), 168, non Franch.

Ilex Pernyi F. K. Ward in Gard. Chron. ser. 3, xcii (1932), 232, non Franch.

A typo habitu minore, foliis rugosioribus minus acutis pro rata latioribus spinis usque ad apicem munitis differt. An species propria?

N.E. UPPER BURMA. Dwarf spinous leaved shrub of 2-3 feet. Fruit scarlet. Amongst alpine scrub on rocky slopes. Western flank of the Chimili, N'Maikha-Salwin divide. Lat. 26° 23' N. Long. 98° 48' E. Alt. 10-11,000 ft. In fruit, August 1924. G. Forrest 24860 (type).

Spinous-leaved shrub of 3-4 feet. Fruits scarlet. On open stony slopes. Western flank of the Chimili, N'Maikha-Salwin divide. Lat. 26° 23' N. Long. 98° 48' E. Alt. 10,000 ft. In fruit, November 1924. G. Forrest 25429.

A low growth about a foot or 18 inches high forming small drifts in the shade of woods or bamboo-scrub on the Hpimaw and Chimili

passes. Chimili woods. Alt. 10-11,000 ft. In (♂) flower, May 18th, 1919. R. Farrer 939.

Compact dwarf shrub rising scarcely a foot above the ground. Flowers cream, apparently ♀. On steep open grass-covered south-facing slope. Ridge above Laktang (Kangfang route). Alt. 9-10,000 ft. In (♀ and ♂) flower, 26-5-1919. F. Kingdon Ward 3074.

Dwarf spreading shrub, much branched, forming thickets a foot deep; the branches growing out more or less horizontally. Flowers cream, scarcely open. On steep sheltered slopes, growing beneath the *Rhododendron* bushes in dense thickets. Berries scarlet. Seinghku Wang. 28° 8' N., 97° 24' E. Alt. 11-12,000 ft. In bud (♂), 14-6-26. F. Kingdon Ward 6925.

A small spreading shrub, the branches growing out more or less horizontally, and the whole forming thickets 1 to 2 feet deep. On mossy banks in the *Abies* forest. Berries scarlet. Valley of the Di Chu. Alt. 10-11,000 ft. Foliage only, 6-11-26. F. Kingdon Ward 7635.

ASSAM. A small compact spreading shrub, the stems ascending to a height of 12 to 18 inches. In Bamboo and *Rhododendron* thickets on steep slopes below the cliffs. Delei Valley. Alt. 11,000 ft. Foliage only, 31-5-1928. F. Kingdon Ward 8269.

W. CHINA.—Yunnan. Shrub of 1 to 2 feet, on open stony slopes. Shweli-Salwin divide. Lat. 25° 30' N. Alt. 10,000 ft. Foliage only, August 1918. G. Forrest 17538.

Shrub of 1 to 1½ feet. Flowers green. Amongst rocks. Summit of Shweli-Salwin divide. Lat. 25° 40' N. Alt. 11-12,000 ft. In (♂) flower, June 1919. G. Forrest 18006.

Spinous-leaved shrub of 1½ feet. Dry open situations on rocky slopes. Shweli-Salwin divide. Lat. 25° 40' N. Long. 98° 45' E. Alt. 8,000 ft. Foliage only, July 1924. G. Forrest 24689.

Without precise locality (N.W. Yunnan?). In (♀) flower, 1907. Père Monbeig 13.

S.E. TIBET. Berries scarlet. Forming compact cushions on ledges of gneiss cliffs. Doshong La (Pemako). Alt. 3,400 to 3,600 m. In fruit, October 1924. F. Kingdon Ward 6240.

This variety differs markedly in the shorter habit of growth, the leaves much broader in proportion to their length, much less acute, more rugose, and with lateral spines near the apex. The pyrenes are broader and more distinctly ribbed. The pedicels of the ♀ flowers are short, and if it were not for the constantly 1-celled ovary and distinct habit and distribution, it might be considered as a variety of *I. boriatsensis* Hayata. In its vegetative parts it is very close to *I. Pernyi* var. *manipurensis*, and if fruits of the latter become available, may be found to be identical with it.

Ilex Hookeri King in Journ. As. Soc. Beng. Iv. ii. n. 3 (1886), 266.

Ilex sp. Notes, R.B.G. Edin. xvii (1930), 302 et 323.

Previously recorded only from Sikkim and Assam.

W. CHINA.—Yunnan. Shrub of 7 to 9 feet. Flowers olive-green. Amongst scrub in side valleys. N'Maikha-Salwin divide. Lat. $26^{\circ} 10' N$. Alt. 7,000 ft. In (♀) flower, June 1919. G. Forrest 17987.

Shrub of 12 to 20 feet. Open thickets in side valleys. Shweli-Salwin divide. Lat. $25^{\circ} 40' N$. Alt. 8-9,000 ft. In fruit, August 1919. G. Forrest 18251.

BHUTAN. Phajudin Thimbu. Alt. 9,000 ft. In young fruit, 6-8-14. R. E. Cooper 2920.

Ilex hypotricha Loes. in Nov. Act. Nat. Cur. lxxxviii (1901), 102.

Ilex excelsa Hook. f. vel aff. Notes, R.B.G. Edin. xvii (1930), 298, 304.

Previously known from Assam and Kumaon.

W. CHINA.—Yunnan. Shrub of 10 to 18 feet. Flowers green. In thickets. N'Maikha-Salwin divide. Lat. $26^{\circ} 20' N$. Alt. 8,000 ft. In flower, May 1919. G. Forrest 17938.

Shrub of 6 to 9 feet. Flowers green. In scrub by streams. N'Maikha-Salwin divide. Lat. $26^{\circ} 20' N$. Alt. 8-9,000 ft. In flower, June 1919. G. Forrest 18014.

Shrub of 30 feet. Fruits scarlet. In mixed thickets. Shweli-Salwin divide. Lat. $25^{\circ} 40' N$. Long. $98^{\circ} 50' E$. Alt. 9,000 ft. In fruit, November 1924. G. Forrest 26015.

Shrub of 4 to 8 feet. In thickets and amongst scrub on rocky slopes. Hills N.W. of Tengyueh. Lat. $25^{\circ} 30' N$. Long. $98^{\circ} 15' E$. Alt. 6-7,000 ft. In fruit, August 1925. G. Forrest 27200.

Ilex insignis Hook. f. Fl. Brit. Ind. i (1875), 599.

Previously known only from Sikkim and Darjeeling.

W. CHINA.—Yunnan. Evergreen shrub of 10 to 20 feet. Foliage heavy, stiff, very slightly spinous. Fruits crimson. In dense thickets. Hills around Lo-fah, East of Ta-chu-pa. Lat. $25^{\circ} 50' N$. Long. $98^{\circ} 40' E$. Alt. 9,000 ft. In fruit, November 1924. G. Forrest 25400.

Evergreen shrub of 10 to 20 feet. Fruits dull crimson. In thickets. Hills around Lung-fan. Lat. $25^{\circ} 50' N$. Long. $98^{\circ} 33' E$. Alt. 8,000 ft. In fruit, November 1925. G. Forrest 27767.

Ilex intricata Hook. f. Fl. Brit. Ind. i (1875), 602.

Nepal and Sikkim only.

Ilex intricata Hook. f. forma **macrophylla** Comber. Forma nova.

Ilex intricata Hook. f. vel v. aff. Notes, R.B.G. Edin. xvii (1930), 359.

A typo foliis subduplo majoribus manifeste differt.

S.E. TIBET.—Tsarong. Shrub of 1 to 1½ feet. Fruits scarlet. On rocky slopes and moorland. Salwin-Kiu-chiang divide. N.W. of Si-chi-to. Lat. 28° 48' N. Long. 98° 15' E. Alt. 13,000 ft. In fruit, October 1922. G. Forrest 22811.

Ilex longecaudata Comber. Sp. nov.

Ilex sp. aff. *embelioides* Hook. f. Notes R.B.G. Edin. xvii (1930), 151.

Species *I. embelioides* Hook. f. simulans, sed foliis punctatis facile distinguenda; inter species punctato-foliatas, foliis longissime acuminatis bene distincta.

Frutex 2-3 m. altus, ramulis gracilibus glabris plus minusve striatis sub initio atro-brunneis demum cinereis, hornotinis 1 mm. diam., triennibus 3 mm. diam. Folia persistentia, lanceolata vel elliptica, 6-10 cm. longa, 1.3-2.6 cm. lata, tenuiter coriacea, integra, glabra, supra in sicco nitida olivacea, subtus punctata pallidiora, apice manifeste et longissime acuminata, acumine 1.5-2 cm. longo, 2 mm. lato, basi late cuneata, margine paulo recurva, costa supra insculpta, subtus prominente, nervis lateralibus utrinque 9-12, supra obscuris, subtus prominulis rectis vel subcurvatis sub angulo 45°-60° abeuntibus juxta margines anastomosantibus; petiolus canaliculatus 7-12 mm. longus. Inflorescentiae ♂ pedunculatae confertae, 3- raro 4- florum, virgula axillari normaliter brevi 3-7 mm. longa vel plerumque subnulla, rarissime prolongata ad apicem foliata (inflorescentiis igitur basim versus laxe dispersis); pedunculi 2-5 mm. longi, graciles, glabri, pedicellis circ. 2 mm. longis. Flores ♂ 4-5- raro 6-meri, 5-7 mm. diam. viridi-lutei. Calyx 3 mm. diam. sepalis suborbicularibus glabris. Petala ovata, 2.5 mm. longa, 2 mm. lata. Stamina petalis paulo breviora. Pistillodium sublobatum truncatum. Flores ♀ atque fructus ignoti.

W. CHINA.—Yunnan. Shrub of 6-7 feet. Flowers greenish-yellow. Open scrub. Shweli-Salwin divide. Lat. 25° 20' N. Alt. 10,000 ft. In (♂) flower, July 1917. G. Forrest 15657 (type).

This species is very similar in general appearance to *I. embelioides* Hook. f. but is easily distinguished by its punctate leaves. Among all Eastern species exhibiting this character it is rendered unique by its very long acuminate leaf tips.

Ilex macrocarpa Oliver in Hook. Ic. Pl. xviii (1888), tab. 1787.

Previously recorded from Anhwei, Kwantung, Hupeh and Szechuan.

Ilex macrocarpa Oliver, var. **genuina** Loes. in Nov. Act. Nat. Cur. lxxxviii (1901), 491.

W. CHINA.—Yunnan. Fls. blanches. Vallons boisés à S. O. de la ville. Yunnan-sen. In flower, 22 April, 1908. F. Ducloux 1014.

Gros arbre—feuilles oblongues, caduques. From the vicinity of Yunnan-sen. In fruit. E. E. Maire 581.

From the vicinity of Yunnan-sen. In fruit, E.E. Maire 2271.

Ilex micrococca Maxim. in Mém. Acad. Petersb. Sér. VII. xxix. n. iii. (1881), 39.

Previously known from Japan, China (Szechuan and Yunnan).

S.E. TIBET.—Tsarong. Shrub of 15 to 25 feet. Fruits crimson. Open thickets and mixed forests. Salwin-Kiu-chiang divide. Lat. 28° 40' N. Long. 98° 15' E. In fruit, October 1919. G. Forrest 19308.

Shrub of 12 to 16 feet. In thickets in side valleys. Salwin-Kiu-chiang divide. Lat. 28° 20' N. Long. 98° 27' E. Alt. 9-10,000 ft. In fruit, July 1921. G. Forrest 19904.

Shrub of 20 feet. Fruits very dark crimson. In open thickets in side valleys. Salwin-Kiu-chiang divide. Lat. 28° 24' N. Long. 98° 24' E. Alt. 10,000 ft. In fruit, October 1921. G. Forrest 20823.

Shrub of 20 feet. Flowers creamy yellow. In thickets by streams in side valleys. Salwin-Kiu-chiang divide, West of Chamatong. Lat. 28° 18' N. Long. 98° 27' E. Alt. 10,000 ft. In flower, June 1922. G. Forrest 21663.

Same as 21663. Fruits scarlet crimson. In fruit, October 1922. G. Forrest 22845.

N.E. UPPER BURMA. Shrub of 20 to 25 feet. In mixed thickets by streams. Hills around Hpimaw. Lat. 26° N. Long. 98° 40' E. Alt. 9,000 ft. In fruit, September 1924. G. Forrest 24998.

Bhamo. Alt. 5,000 ft. In flower, 22-4-10. G. E. S. Cubitt 507.

Ilex oblata (W. E. Ev.) Comber. Sp. nov.

Ilex intricata Hook. f. var. *oblata* W. E. Ev. in Notes R.B.G. Edin. xiii (1921), 163.

Ilex intricata Hook. f. var. Notes R.B.G. Edinb. xvii (1930), 291.

Ilex nothofagifolia Kingdon Ward (nomen nudum) in Plant Hunting on the Edge of the World, 71, 101, 215, 223 (1930), et in Gard. Chron. ser. 3, xcii (1932), p. 232.

Species *I. intricatae* Hook. f. valde affinis a qua statura majore, ramulorum cortice verrucosissimo foliis, tenuioribus differt.

Frutex (vel arbor parva) 2-9 m. altus, glaber, sempervirens; rami horizontaliter patentes, juniores verrucis suberosis in lineas circ. 8 longitudinaliter dispositis induti; ramuli numerosi dense foliati horizontaliter patentes. Folia tenuiter coriacea eglandulosa, 1-2.5 cm. longa, supra atro-viridia, opaca, subtus pallidiora; lamina elliptica, suborbicularis vel oblata, 5-1.7 cm. longa, 5-1.2 cm. lata, apice acutiuscula vel rotundata vel truncata margine plerumque obscure serrata; costa nervique supra impressi, subtus prominuli;

petiolus 3-6 mm. longus, canaliculatus. Inflorescentiae ♂ pedunculatae, 1-florae, in axillis foliorum 1-4-aggregatae; pedunculi graciles, bibracteolati, 2-4 mm. longi, pedicellis circa 2 mm. longis. Flores ♂ 4-meri, virides, 4-5 mm. diam.; sepala late ovata, 5 mm. longa; petala oblongo-ovata 1.5-2 mm. longa, 1.5 mm. lata; stamina ad duas partes petalorum attingentia; pistillodium subglobosum. Inflorescentiae ♀ brevissime pedunculatae, 1-florae, solitariae vel binae; pedunculi bibracteolati, bracteolis minutis ovatis acutis; pedicelli 1.5-2 mm. longi (fructiferi 2-4 mm. longi) quam ii inflorescentiarum ♂ crassiores. Flores ♀ usque 5 mm. diam.; sepala petalaeque ut in flore ♂; staminodia dimidium petalorum vix aequantia; ovarium 4-merum, conico-globosum, stigmate sub-capitato coronatum. Drupa 4-pyrena, parva, depresso-globosa, 3-5 mm. diam., maturitate carnea coccinea; pyrenae fertiles 1-2 vel raro 3-4, forma variabiles, ellipsoideae, 3-5 mm. longae, in sectione transversaria circulares, 2.5 mm. diam., dorso 3-5-striatae, castaneae; pyrenae infertiles multo minores, compressae.

This species is to be distinguished from *Ilex intricata* Hook. f., to which it is closely allied, by its greater height, flat branches, the more numerous and persistent warty ridges of its branchlets, and by the thinner texture of its rounder, long-petioled leaves.

UPPER BURMA. Small tree of 20-30 feet, with branches in flat moss-hung tiers, from a distance suggesting a *Cedrus*. Flower unknown. An uncommon occurrence in the upper rain forest, in its opener reaches, below the divide at the top of the Lai Kam valley. Lai Kam valley head. Alt. 8,500 ft. In fruit, September 19th, 1919. R. Farrer 1299 (type).

This queer flat-tiered tree is F. 1299, collected in the limestone woodlands of the Yeng Shin Ling. In the present specimen the spectacular white blossoms may be admired through a microscope. Chawchi woods. Alt. 10,000 ft. In flower, July 21st, 1920. R. Farrer 1744.

Small tree of 20 feet; the branches all flattened out in one plane, as in *Cotoneaster horizontalis*. Not yet in flower. Scattered in the moss-bound tanglewood forest, often growing on the huge boulders or when young, epiphytically. Base Camp, Seinghku Wang. Alt. 9,000 ft. In bud, 24-5-26. F. Kingdon Ward 6750.

Flowers very small, green. Berries scarlet, borne in great numbers. Same as No. 6750. Fairly common, scattered in temperate rain-forest with *Quercus* spp. *Rhododendron* spp. (§ Grande) *Magnolia mollicomata*, etc., etc. Advance Base, Seinghku Wang. Alt. 9,000 ft. In (♀) flower and ripe fruit, 8-6-26. F. Kingdon Ward 6878.

ASSAM. A small moss-covered tree scattered in the upper temperate rain forest. Rather uncommon. 22-5-28. A few seeds collected from a good sized specimen just within the forest on the sheltered flank of a ridge. The small scarlet berries rarely contain more than one

fertile seed, occasionally 2, 3, or even 4. 14-6-28. Now in full bloom. Quite common in the tanglewood forest under *Rhododendron sinogrande*, trees, etc. Moss-bound, but flowering well and with some of last year's berries remaining. Flowers hermaphrodite, K4 C4 A4 G (4). Delei valley, 28° 20' N. 96° 37' E. Alt. 8-9,000 ft. In (♂) flower, 5-5-28. F. Kingdon Ward 8167 (sheet 1).

W. CHINA.—Yunnan. Shrub of 6 to 7 feet. Fruits scarlet. In shady thickets and amongst rocks. Eastern flank of the N'Maikha-Salwin divide. Lat. 26° N. Alt. 7-8,000 ft. In fruit, May 1919. G. Forrest 17847.

Evergreen shrub of 6 to 10 feet. Flowers green, immature. In open shady thickets by streams. Shweli-Salwin divide. Lat. 25° 30' N. Long. 98° 58' E. Alt. 7-8,000 ft. In bud, May 1924. G. Forrest 24227.

Ilex Pernyi Franch. Pl. David. i (1884), 69.

Previously recorded from Szechuan, Hupeh and Shensi.

W. CHINA.—Kansu. General in alpine scrub. Above Foo-er-Gai : on Fing-Shang-Ling. Foliage only. April 28th, 1914. R. Farrer 16.

Ilex shweliensis Comber. Sp. nov.

Ilex atrata W. W. Sm. vel aff. Notes R.B.G. Edin. xvii (1930), 167.

Species *I. atratae* W. W. Sm. affinis a qua indumento pubescente, inflorescentiis ♀ axibus secundariis bene notatis, pyrenis dorso profunde concavis nec convexis differt.

Frutex 6-14 m. attingens, ramulis longitudinaliter rugosis pilis albis brevissimis dense vestitis, hornotinis 2.5 mm. diam. atrobrunneis, annotinis 4 mm. diam. pallidioribus parce lenticellatis, lenticellis orbiculatis pallido-brunneis. Folia oblongo-elliptica, 9-12 cm. longa, 3-4 cm. lata, subcoriacea, in sicco brunnea, apice manifeste acuminata, basi subrotundata vel cuneata, margine remote serrulata, paulo recurvata, supra pubescentia vel subglabra, subtus subglabra, costa subimpressa vel prominula dense pubescente, nervis subtus prominentibus dense pubescentibus rectis sub angulo 60° abeuntibus apice curvatis juxta marginem anastomosantibus; petiolus 8-10 mm. longus pubescens, subcanaliculatus. Inflorescentiae ♀, 3-7-florae solitariae axillares ramulis hornotinis suffultae. Pedunculi pubescentes 9-10 mm. longi, fructiferi compressi 1.5 mm. lati; axes secundarii 2-4 mm. longi; pedicelli 4-7 mm. longi pubescentes. Flores ignoti. Drupa 4-pyrena, subglobosa, circ. 8 mm. diam., mesocarpio carnoso maturitate rubro, calyce 4-mero 6 mm. diam., sepalis late triangularibus apiculatis pubescentibus, lobis circ. 1.5 mm. longis. Pyrenae laeves, dorso profunde concavae, a latere planae.

W. CHINA.—Yunnan. Shrub of 20-40 feet. Fruits red. In open thickets. Shweli valley. Lat. 25° 20' N. Alt. 6,000 ft. In ripe fruit, October 1917. G. Forrest 15947 (type).

This species is allied to *I. atrata* W. W. Sm. from which it differs by being more or less pubescent all over, and having the secondary axes of the ♀ inflorescence well developed, the pyrenes concave on the dorsal surface, not convex, and the bud scales small and poorly developed.

It is also near to *I. purpurea* Hassk. especially in these latter characters, but differs in being pubescent.

Ilex sikkimensis Kurz in Journ. As. Soc. Beng. xlv. ii. (1875) 202.

Sikkim and Manipur only.

Ilex sikkimensis Kurz var. ***coccinea*** Comber. Var. nov.

Ilex sp. Notes R.B.G. Edin. xvii (1930), 273.

A typo *drupis coccineis nec flavis* differt.

W. CHINA.—Yunnan. Shrub of 30 feet. In open thickets. Shweli-Salwin divide. Lat. 25° 20' N. Alt. 8-9,000 ft. In immature fruit, August 1918. G. Forrest 17573.

Evergreen shrub of 20 to 30 feet. Fruits brilliant scarlet. In forests, Shweli-Salwin divide. Lat. 25° 40' N. Long. 98° 30' E. Alt. 10,000 ft. In ripe fruit, December 1924. G. Forrest 26058 (type of var.).

This variety differs from the type in its bright scarlet, not yellow, fruits, thus approaching *I. pseudo-odorata* Loes. which, however, does not produce the large bud scales present on these two specimens. Though F. 17573 has no ripe fruits it is included here as almost certainly identical, especially as it comes from the same locality.

Ilex triflora Blume var. ***viridis*** (Champ.) Loes. in Nov. Act. Nat. Cur. lxxviii (1901), 345.

Ilex crenata var. *scoriarum* W. W. Sm. in Notes R.B.G. x (1917), 41, et xvii (1930), 278, 285, 305.

Previously recorded from India: Khasia, Assam. China: Hong-kong, Tonkin, Yunnan.

N.E. UPPER BURMA. Shrub of 8 to 10 feet. Fruits black. In thickets by streams. W. flank of the N'Maikha-Salwin divide. Lat. 26° 17' N. Long. 98° 47' E. Alt. 11,000 ft. In fruit, October 1925. G. Forrest 27557.

With the exception of the distinct *I. yunnanensis* Franch., the Himalayan and Chinese plants of this group, comprising the varieties of *I. triflora*, *I. szechuanensis* Loes. and *I. crenata* var. *Thomsonii*, appear to me to merge into one another to an extent which makes it probable that they all belong to one species. This, however, I have not been able to substantiate.

Ilex venulosa Hook. f. Fl. Brit. Ind. i (1875), 602.

Previously known from Khasia, Assam and Burma.

W. CHINA.—Yunnan. Shrub of 4 to 10 feet. Flowers brownish green. On lava bed west of Tengyueh. Lat. 25° N. Alt. 5,300 ft. In flower, May 1912. G. Forrest 7530.

Shrub of 6 to 12 feet. Amongst scrub. Divide between the Shweli and Tengyueh valleys. Lat. 25° N. Alt. 6-7,000 ft. In fruit, June 1912. G. Forrest 8146.

Shrub of 8 to 12 feet. Flowers greenish white. Dry open situations amongst scrub. Hills to the north-east of Tengyueh. Lat. $25^{\circ} 20'$ N. Alt. 8,000 ft. In flower, December 1912. G. Forrest 9433.

Shrub of 6 to 18 feet. Flowers dull olive brown. In thickets. Hills to the south of Tengyueh. Lat. 25° N. Alt. 6,000 ft. In flower, March 1913. G. Forrest 9800.

Shrub of 20 feet. Flowers dull greenish-white. Open situations. Ma-chang-kai, north of Tengyueh. Lat. $25^{\circ} 20'$ N. Alt. 6-7,000 ft. In flower, March 1913. G. Forrest 9801.

Shrub of 10 to 12 feet. In open thickets in side valleys. Shweli-Salwin divide. Lat. $25^{\circ} 30'$ N. Alt. 8,000 ft. In fruit, December 1913. G. Forrest 12105.

Shrub of 10 to 20 feet. Flowers dull yellow. Amongst scrub. Salwin-Yungchang divide. Lat. $25^{\circ} 10'$ N. Alt. 6,000 ft. In flower, April 1917. G. Forrest 13672.

Shweli-Salwin divide. Lat. $25^{\circ} 30'$ N. Alt. 9,000 ft. In flower, July 1917. G. Forrest 15725.

Without precise locality. In fruit, October 1917. G. Forrest 16063.

Shrub of 10 to 20 feet. Flowers greenish white. In open thickets by streams. Salwin valley. Lat. $25^{\circ} 3'$ N. Long. $98^{\circ} 57'$ E. Alt. 3,000 to 3,500 ft. In flower, February 1922. G. Forrest 21085.

Shrub of 20 feet. Fruits deep crimson. In thickets in open situations. Shweli-Salwin divide. Lat. $25^{\circ} 45'$ N. Long. $98^{\circ} 58'$ E. Alt. 9,000 ft. In fruit, October 1924. G. Forrest 25306.

Shrub or tree of 20 to 40 feet. Fruits bright crimson. In thickets in side valleys. Hills N.W. of Tengyueh. Lat. $25^{\circ} 20'$ N. Long. $98^{\circ} 35'$ E. Alt. 8,000 ft. In fruit, December 1914. G. Forrest 26156.

Shrub of 20-35 feet. Flowers immature, greenish white. In thickets in side valleys. Hills N.W. of Tengyueh. Lat. $25^{\circ} 20'$ N. Long. $98^{\circ} 30'$ E. Alt. 6-7,000 ft. In bud, December 1924. G. Forrest 26168.

Shrub of 20 to 30 feet. Flowers greeny white, immature. In dense thickets in side valleys. Hills South of Tengyueh. Lat. 25° N. Long. $98^{\circ} 36'$ E. Alt. 6,000 ft. In bud, February 1925. G. Forrest 26216.

Shrub of 30 feet. Flowers greeny-white. In thickets. Hills N.W. of Tengyueh. Lat. $25^{\circ} 20'$ N. Long. $98^{\circ} 30'$ E. Alt. 7,000 ft. In flower, February 1925. G. Forrest 26218.

BHUTAN. Tree 25 feet. Kaucham Punakha. Alt. 6,000 ft. In bud, 28-8-1914. R. E. Cooper 3063.

Ilex Wattii Loes. in Nov. Act. Nat. Cur. lxxviii (1901), 332.

Ilex odorata Buch.-Ham. var. Notes R.B.G. Edin. xvii (1930), 275.

Previously known from Manipur only.

W. CHINA.—Yunnan. Shrub of 20 feet. Flowers greenish white. In open thickets. Ma-chang-kai valley, north of Tengyueh. Lat. $25^{\circ} 20'$ N. In flower, February 1913. G. Forrest 9660.

Shrub of 10 feet. In open thickets. Shweli-Salwin divide. Lat. $25^{\circ} 30'$ N. Alt. 7-8,000 ft. In fruit, July-August 1918. G. Forrest 17604.

Non-spinous shrub of 12 to 18 feet. Old fruit only. In mixed thickets. Shweli-Salwin divide. Lat. $25^{\circ} 20'$ N. Long. $98^{\circ} 58'$ E. Alt. 10,000 ft. In fruit, April 1924. G. Forrest 24095.

Ilex yunnanensis Franch. Pl. Delav. i (1889), 128.

Previously known from Yunnan, Szechuan, Hupeh and Shensi.

S.E. TIBET.—Tsarong. Shrub of 3 to 5 feet. Flowers green. In shady thickets by streams. Salwin-Kiu-chiang divide. Lat. $28^{\circ} 40'$ N. Long. $98^{\circ} 15'$ E. In flower, July 1919. G. Forrest 19074.

LIST OF IDENTIFICATIONS OF HERBARIUM MATERIAL AND ALL SPECIMENS CITED.

The following is a complete list of G. Forrest's specimens of *Ilex*, including many not otherwise mentioned in this paper, which otherwise deals only with the new species and records of distribution.

G. Forrest	G. Forrest—continued
859 corallina Franch.	9608 Georgei Comber var. typica
1072 Georgei Comber var. typica	Comber
Comber	9660 Wattii Loes.
4682 Aquifolium Linn. var. chinensis	9712 Georgei Comber var. typica
Loes.	Comber
4703 Delavayi Franch.	9800 venulosa Hook. f.
7530 venulosa Hook. f.	9801 " "
7577 Georgei Comber var. typica	10087 Delavayi Franch.
Comber	10171 dipyrrena Wall. var. paucispin-
7677 excelsa Hook. f.	osa Loes.
7867 triflora Bl. var. viridis Loes.	10224 corallina Franch.
8003 micrococca Maxim.	10237 Delavayi Franch.
8113 triflora Bl. var. viridis Loes.	10247 yunnanensis Franch.
8146 venulosa Hook. f.	10394 Delavayi Franch.
8207 Franchetiana Loes.	10426 dipyrrena Wall. var. paucispin-
8238 " "	osa Loes.
8338 triflora Bl. var. viridis Loes.	10513 corallina Franch.
8601 micrococca Maxim.	11071 dipyrrena Wall. var. paucispin-
8651 " "	osa Loes.
8741 Franchetiana Loes.	11232 corallina Franch.
9046 Franchetiana Loes.	11886 micrococca Maxim.
9414 atrata W. W. Sm.	12088 " "
9433 venulosa Hook. f.	12105 venulosa Hook. f.

G. Forrest—continued

- 12415 *dipyrena* Wall. var. *paucispinosa* Loes.
 12510 *Delavayi* Franch.
 12527 *dipyrena* Wall. var. *paucispinosa* Loes.
 12528 *dipyrena* Wall. var. *connexiva* W. W. Sm.
 12616 *Aquifolium* Linn. var. *chinensis* Loes.
 12929 *yunnanensis* Franch.
 12959 *Delavayi* Franch.
 13478 *Forrestii* Comber
 13559 *yunnanensis* Franch.
 13672 *venulosa* Hook. f.
 13731 *corallina* Franch.
 13932 *yunnanensis* Franch.
 14051 " "
 14173 *odorata* Buch.-Ham. var. *tephrophylla* Loes.
 14174 *yunnanensis* Franch.
 14896 *dipyrena* Wall. var. *paucispinosa* Loes.
 15047 *Forrestii* Comber
 15061 *micrococca* Maxim.
 15378 *corallina* Franch.
 15437 " "
 15598 *Delavayi* Franch.
 15624 *Forrestii* Comber
 15657 *longicaudata* Comber
 15725 *venulosa* Hook. f.
 15749 *micrococca* Maxim.
 15865 *excelsa* Hook. f.
 15947 *shweliensis* Comber
 16009 *atrata* W. W. Sm.
 16058 *micrococca* Maxim.
 16061p. *biortensis* Hayata var. *integra* Comber
 16061p.p. *Georgei* Comber var. *typica* Comber
 16062 *excelsa* Hook. f.
 16063 *venulosa* Hook. f.
 16074 *Franchetiana* Loes.
 16156 *yunnanensis* Franch.
 16244 *Delavayi* Franch.
 16601 *corallina* Franch.
 16914 " "
 17039 *Delavayi* Franch.
 17289 *Forrestii* Comber
 17385 *yunnanensis* Franch.
 17504 *Franchetiana* Loes.
 17517 " "
 17538 *Georgei* Comber var. *rugosa* Comber
 17547 *Forrestii* Comber
 17573 *sikkimensis* Kurz. var. *coccinea* Comber
 17604 *Wattii* Loes.
 17642 *triflora* Bl. var. *viridis* Loes.
 17716 *Franchetiana* Loes.
 17747 *micrococca* Maxim.
 17755 *triflora* Bl. var. *viridis* Loes.
 17756 *Forrestii* Comber
 17762 *Franchetiana* Loes.
 17768 *Delavayi* Franch. var. *exalata* Comber
 17847 *oblata* Comber
 17938 *hypotricta* Loes.
 17981 *micrococca* Maxim.
 17987 *Hookeri* King

G. Forrest—continued

- 18006 *Georgei* Comber var. *rugosa* Comber
 18014 *hypotricta* Loes.
 18016 *triflora* Bl. var. *viridis* Loes.
 18093 *Delavayi* Franch. var. *exalata* Comber
 18133 *Forrestii* Comber
 18251 *Hookeri* King
 18758 *micrococca* Maxim.
 19074 *yunnanensis* Franch.
 19308 *micrococca* Maxim.
 19459 *yunnanensis* Franch.
 19808 *Forrestii* Comber
 19817 *dipyrena* Wall. var. *paucispinosa* Loes.
 19904 *micrococca* Maxim.
 20093 *Forrestii* Comber
 20096 *dipyrena* Wall. var. *paucispinosa* Loes.
 20101 " "
 20298 *fragilis* Hook. f. forma *Kingii* Loes.
 20340 *Delavayi* Franch.
 20644 *biortensis* Hayata
 20676 *corallina* Franch.
 20680 " "
 20799 *dipyrena* Wall. var. *paucispinosa* Loes.
 20823 *micrococca* Maxim.
 20838 *fragilis* Hook. f. forma *Kingii* Loes.
 21023 *biortensis* Hayata var. *integra* Comber
 21085 *venulosa* Hook. f.
 21235 *Delavayi* Franch.
 21663 *micrococca* Maxim.
 21808 *fragilis* Hook. f. forma *Kingii* Loes.
 22811 *intricata* Hook. f. forma *macrophylla* Comber
 22845 *micrococca* Maxim.
 22868 *Franchetiana* Loes.
 22873 *fragilis* Hook. f. forma *Kingii* Loes.
 22959 *Delavayi* Franch.
 23524 *yunnanensis* Franch.
 23553 " "
 24048 *Franchetiana* Loes.
 24095 *Wattii* Loes.
 24159 *malabarica* Bedd. var. *sinica* Loes.
 24227 *oblata* Comber
 24449 *Forrestii* Comber
 24520 " "
 24689 *Georgei* Comber var. *rugosa* Comber
 24826 *Georgei* Comber var. *typica* Comber
 24860 *Georgei* Comber var. *rugosa* Comber
 24998 *micrococca* Maxim.
 25069 *Franchetiana* Loes.
 25170 *micrococca* Maxim.
 25238 *Franchetiana* Loes.
 25248 *Delavayi* Franch. var. *exalata* Comber
 25306 *venulosa* Hook. f.
 25335 *Franchetiana* Loes.
 25360 *triflora* Bl. var. *viridis* Loes.

G. Forrest—continued

- 25362 *dipyrena* Wall. var. *connexiva*
W. W. Sm.
25365 *Delavayi* Franch. var. *exalata*
Comber
25400 *insignis* Hook. f.
25424 *dipyrena* Wall. var. *paucispin-*
osa Loes.
25429 *Georgei* Comber var. *rugosa*
Comber
25525 *fragilis* Hook. f. forma *Kingii*
Loes.
25662 *micrococca* Maxim.
25689 *fragilis* Hook. f. forma *Kingii*
Loes.
25824 " " "
25871 *Forrestii* Comber
25995 *Franchetiana* Loes.
26015 *hypotricta* Loes.
26057 *Franchetiana* Loes.
26058 *sikkimensis* Kurz var. *coccinea*
Comber
26070 *Franchetiana* Loes.
26103 *excelsa* Hook. f.
26156 *venulosa* Hook. f.
26159 *micrococca* Maxim.
26168 *venulosa* Hook. f.
26216 " " "
26218 " " "
26254 *Georgei* Comber var. *typica*
Comber

G. Forrest—continued

- 26627 *micrococca* Maxim.
26644 *malabarica* Bedd. var. *sinica*
Loes.
26652 *micrococca* Maxim.
27100 *atrata* W. W. Sm.
27200 *hypotricta* Loes.
27391 *triflora* Bl. var. *viridis* Loes.
27417 *micrococca* Maxim.
27504 *fragilis* Hook. f. forma *Kingii*
Loes.
27557 *triflora* Bl. var. *viridis* Loes.
27726 *Franchetiana* Loes.
27764 *triflora* Bl. var. *viridis* Loes.
27767 *insignis* Hook. f.
28171 *Delavayi* Franch. var. *exalata*
Comber
28997 *corallina* Franch.
29020 *yunnanensis* Franch.
29054 *Delavayi* Franch.
29419 *dipyrena* Wall. var. *paucispin-*
osa Loes.
29908 *micrococca* Maxim.
30382 " " "
30399 " " "
30479 *Forrestii* Comber var. *multi-*
flora Comber
30487 *Delavayi* Franch.
30561 *Forrestii* Comber

The following specimens of other collectors are also mentioned:—

Cooper, R. E.

- 1533 *dipyrena* Wall.
1576 " " "
2920 *Hookeri* King
3063 *venulosa* Hook. f.
3582 *dipyrena* Wall.

Cubitt, G. E. S.

- 507 *micrococca* Maxim.

Ducloux, F.

- 1014 *macrocarpa* Oliv. var. *genuina*
Loes.
1308 *bioritsensis* Hayata

Fang, W. P.

- 976 *bioritsensis* Hayata
3079 " " "

Farrer, R.

- 16 *Pernyi* Franch.
939 *Georgei* Comber var. *rugosa*
Comber
1299 *oblata* Comber
1405 *embelioides* Hook. f.
1744 *oblata* Comber

Handel-Mazzetti, H. F.

- 1667 *bioritsensis* Hayata

Maire, E. E.

- 581 *macrocarpa* Oliv. var. *genuina*
Loes.
2271 " " "

Maire E. E.—continued.

- 302-1913 Herb. Edin. *bioritsensis*
Hayata
820-1914 " " "

Monbeig, C.

- 13 *Georgei* Comber var. *rugosa*
Comber

Schneider, C. K.

- 1523 *bioritsensis* Hayata

Ward, F. K.

- 666 *dipyrena* Wall. var. *paucispin-*
osa Loes.
3074 *Georgei* Comber var. *rugosa*
Comber
3176 *Delavayi* Franch. var. *exalata*
Comber
3298 " " "
4356 *bioritsensis* Hayata
4833 *Delavayi* Franch.
6240 *Georgei* Comber var. *rugosa*
Comber
6750 *oblata* Comber
6878 " " "
6925 *Georgei* Comber var. *rugosa*
Comber
7635 " " "
8167 *oblata* " " "
8269 *Georgei* Comber var. *rugosa*
Comber

Wilson, E. H.

- 996 *bioritsensis* Hayata var. *cili-*
pinosa Comber