

An Undescribed *Nomocharis* from Upper Burma,  
with Notes on some Recent Gatherings  
of Known Species.

BY

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With Plate CCXVIII.

From the horticultural point of view, as from the botanical, the genus *Nomocharis* is of such interest that no apology need be made for giving here a full account of those specimens recently received at the Royal Botanic Garden, Edinburgh, since the date of publication of my revision of the genus in this Journal.\*

The following short paper contains, in the first place, the diagnosis of an undescribed species with solitary, nodding, purple-blue flowers, allied to *N. Souliei*, W. W. Sm. et W. E. Ev., obtained in Upper Burma by Mr. George Forrest in 1924 and again in 1925. Subsidiary to this it gives, in the second place, additional information regarding six known species, collected during the same period by Messrs. Forrest and Kingdon Ward, amongst which is included the remarkable *N. basilissa*, Farrer, referred to by that discriminating observer as a thing of great beauty. Finally, a few identifications of gatherings made by other collectors are appended.

It may be added that seed of most of the known species of *Nomocharis* has now been received and successfully germinated in this and other gardens, encouraging the hope that an increasing number of these attractive plants will, before long, permanently enrich them. Amongst those being raised in the Royal Botanic Garden, Edinburgh, are the following:—*N. lophophora*, Balf. f.; *N. nana*, E. H. Wils.; *N. basilissa*, Farrer; *N. aperta*, W. W. Sm. et W. E. Ev.; *N. Georgei*, W. E. Evans, and *N. Souliei*, W. W. Sm. et W. E. Ev.: as well as re-introductions of others, especially *N. saluenensis*, Balf. f., an undoubted acquisition and likely to prove of much value horticulturally.

\* Notes, Roy. Bot. Gard. Edin., No. LXXI (June 1925), p. 1.

[Notes, R.B.G., Edin., No. LXXIII, August 1926.]

*Nomocharis basilissa*, Farrer ex Evans in Notes, Roy. Bot. Gard. Edin., No. LXXI (June 1925), p. 25.

This fine species, discovered in Upper Burma in 1920 by the late Reginald Farrer when, unfortunately, seed was not secured, has been again met with in the same area by Mr. Forrest during 1924. The data attached to his dried specimens are as follows:—

N.E. UPPER BURMA. "On the margins of thickets, Salween-Kiu Chiang divide. Lat.  $27^{\circ} 5' N$ . Long.  $98^{\circ} 35' E$ . Alt. 13,000 ft. Plant of 2-3 ft. Flowers white, interior base heavily flushed purple-crimson." In flower, July 1924. G. Forrest 25587!

The material now received is extremely like that originally gathered by Mr. Farrer, and shows that the structure of the entire perianth as well as the foliage—distinctly narrow for a member of the Section *Eunomocharis*—may be relied on as characteristic of the species. Mr. Forrest's account of the colouration of the flowers in his specimens, it will be seen, indicates that they were less brilliant than those so enthusiastically described by Mr. Farrer;\* in the dried state, however, no difference can be detected.

Seed was received under the number quoted above and has been successfully germinated.

*Nomocharis euxantha*, W. W. Sm. et W. E. Ev. in Notes, Roy. Bot. Gard. Edin., No. LXXI (June 1925), p. 14.

An additional locality for this diminutive species, extending its known distribution to some distance south-east and onto another divide, can now be given.

CHINA. "N. W. Yunnan; on alpine meadows and on the margins of scrub on same, Mekong-Yangtse divide east of A-wa. Lat.  $27^{\circ} 25' N$ . Long.  $99^{\circ} 18' E$ . Alt. 14,000 ft. Plant of 10-14 inches. Flowers clear soft yellow with a few faint crimson markings." In flower, July 1924. G. Forrest 25699!

It is of interest to record that in the specimens mentioned above, something over a dozen in number, the length of the anthers varies considerably in different flowers. In two they are from 2.25-2.5 mm. in length, in the majority from 3-3.5 mm., and in one flower about 4 mm. long. This confirms the view previously expressed that the Burmese specimens with short anthers, described under the name var. *imberbis*, W. W. Sm. et W. E. Ev.,† should be included within the present species. In the case of the plants with short anthers now received

\* Notes, Roy. Bot. Gard. Edin., No. LXXI (June 1925), p. 25.

† Ibid, p. 15.

from the Mekong-Yangtse divide there is no reduction of the bearding of the inner perianth-segments, so that it may finally be found impossible to maintain this proposed variety.

**Nomocharis Georgei**, W. E. Evans, sp. nov. Plate CCXVIII.

Species ex affinitate *N. Souliei*, W. W. Sm. et W. E. Ev., a qua perianthii purpureo-caerulei haud purpureo-brunnei segmentis basi magis gibbosis extra haud nitentibus, foliis sub anthesi maxime coarctatis imbricantibus facile distinguenda.

Herba bulbosa glaberrima 15-35 cm. alta. Bulbus paucisquamatus in sicco ad 4.5 cm. altus 3.5 cm. latus squamis crassis carnosus. Caulis singularis 3-5 mm. diametro parte inferiore foliis 1-2 reductis sparsis exceptis nudus, superne dense foliatus. Folia 20 vel ultra elliptico-lanceolata integra sparsa vel verticillata sub anthesi inter se valde coarctata imbricantia; foliorum majorum laminae circ. 5 cm. longae 1.8 cm. latae distincte multinervosae apicem obtusum versus paulo attenuatae basi gradatim angustatae. Flos magnus solitarius nutans pedunculo circ. 2 mm. diametro folia vix superante suffultus; perianthii purpureo-caerulei late campanulati segmenta elliptica integra glaberrima, extima 4.5-6 cm. longa 1.25-1.75 cm. lata apice in apiculum brevem obtusum attenuata basi incrassata valde gibbosa, intima aequilonga paulo latiora apice vix apiculata obtusissima basi vix gibbosa; stamina circ. 3 cm. longa filamentis lineari-subulatis circ. 2 cm. longis, antheris 1 cm. longis vel ultra versatilibus; ovarium 1.5-2 cm. longum, stylo paulo longiore, stigmate saepius valde ampliato lobato; capsula matura oblonga magna circ. 4 cm. longa 2.4 cm. lata.

N.E. UPPER BURMA. "On open stony alpine meadows and ledges of cliffs on the western flank of the Chimi-li; N'Maikha-Salween divide. Lat. 26° 23' N. Long. 98° 48' E. Alt. 11-12,000 ft. Plant of 6-14 inches. Flowers soft purplish-blue throughout, deepest on exterior, without markings." In flower, July 1924. G. Forrest 24772. Type!

"On stony alpine meadow slopes, western flank of the N'Maikha-Salween divide. Lat. 26° 23' N. Long. 98° 48' E. Alt. 11-12,000 ft. Plant of 6-18 inches. Flowers rich, soft blue-purple throughout, interior lightest." In flower, June 1925. G. Forrest 26853! In fruit, October 1925. G. Forrest 27328!

This interesting addition to the genus *Nomocharis*, discovered by Mr. George Forrest and now named in his honour, is undoubtedly closely related to *N. Souliei*, W. W. Sm. et W. E. Ev. The relationship is seen in its solitary, nodding flower, the perianth-segments of which are neither crested nor fringed at the base, while those of the outer

whorl are gibbous below. It may at once be distinguished from that species by its less widely opened perianth of a blue-purple colour, not dark brownish or reddish purple, the outer segments being also more markedly gibbous and not at all glossy on the exterior. Again, in *N. Georgei*, the stem is much less elongated at the time of flowering, with the result that the more numerous leaves are very closely crowded together, the lower ones overlapping the upper almost completely.

*N. Henrici*, E. H. Wils., which is also allied to the present plant, differs in its smaller flowers, white within except at the very base and normally borne two or more in each inflorescence, as well as in its relatively longer style, considerably exceeding the ovary in length.

Seed of *N. Georgei*, received under the numbers cited above, has been successfully germinated.

*Nomocharis Henrici*, E. H. Wils., *The Lilies of Eastern Asia* (1925), p. 13.

Further examples of this species, from its habitat on the Shweli-Salween divide, were sent by Mr. Forrest with the following information:—

CHINA. "W. Yunnan; lush meadows on the margins of thickets and scrub, Shweli-Salween divide. Lat.  $25^{\circ} 50'$  N. Long.  $98^{\circ} 48'$  E. Alt. 11,000 ft. Plant of  $2-2\frac{1}{2}$  ft. Flowers white, faintly flushed rosy purple on the exterior and having a few purplish spots on the interior base." In flower, August 1924. G. Forrest 24788!

"Margins of thickets and amongst scrub on rocky slopes, Shweli-Salween divide. Lat.  $25^{\circ} 50'$  N. Long.  $98^{\circ} 48'$  E. Alt. 11,000 ft. Plant of  $2-2\frac{1}{2}$  ft. Flowers satiny-white, flushed purplish on exterior, with a purple-crimson blotch on base interior." In flower, June 1925. G. Forrest 26780!

A critical examination of this additional material and its comparison with the copious specimens now in the Herbarium here show clearly that two forms of *N. Henrici* are distinguishable.

Forma *a typica*. Perianth white within, the segments, especially those of the inner whorl, bearing at the base an evenly distributed wash of deep crimson-purple.\*

Forma  *$\beta$  maculata*. Perianth white within, the segments, especially those of the inner whorl, marked at the base with a few scattered but rather large and well-defined crimson-purple spots.

\* Of the type of his *Lilium Henrici* Franchet writes in *Journ. de Bot.*, xii (1898), p. 220, as follows:—"Perianthium albidum (vel pallide roseum), basi interne fusco-rubrum —." An examination of the actual specimen has confirmed this.

Of these forms the first is apparently peculiar to the Mekong gorge, where the type of the species was obtained by Prince Henri d'Orleans, and to the Mekong-Salween divide, whence Mr. Forrest has twice sent home specimens, under the numbers 18250 and 18282. The form here named *maculata* is, on the other hand, characteristic of the Shweli-Salween divide, where it has been met with by Mr. Forrest no less than six times (Nos. 12024, 15827, 17489, 17590, 24788 and 26780); it also occurs, however, on the Mekong-Salween divide along with the typical form (Forrest 18208).

In forma *maculata*, as compared with forma *typica*, the outer perianth-segments tend to be less gibbous—indeed in some instances they are hardly so at all—with the result that the flowers are frequently less stiff in appearance and tend to open rather more widely, though this is not always the case. For this reason, as well as on account of the basal spotting of the inner segments, which much resembles that characteristic of such species as *N. aperta*, W. W. Sm. et W. E. Ev. and *N. pardanthina* var. *Farreri*, W. E. Ev., this form has a distinctly more nomocharoid look than has the type.

*Nomocharis nana*, E. H. Wils., The Lilies of Eastern Asia (1925), p. 13.

Specimens of this plant from the Sanpo watershed, extending its known distribution eastward, have been received with the following information regarding them:—

CHINA. S. Tibet; "on sheltered earthy banks amongst dwarf Rhododendrons, Nyima La,\* alt. 14-15,000 ft." In flower, June 1924. F. Kingdon Ward 5809!

Attached to the dried material are the following very full notes on the appearance of the species in life. "Perianth segments light plum purple, with a very dark purple mark at the base of each inner segment round the ovary; also a crest of green fleshy processes which can hardly be called hairs. Ovary and filaments green; anthers purplish brown, actually versatile, but erect in the flower. Bulb with linear scales, typically nomocharoid.

"The bulb, dissimilar perianth lobes and flower colour suggest *Nomocharis*. But there is nothing nomocharoid in the habit, petaline glands, or stamens. Probably a *Lilium*, not a *Fritillaria*. Note that the perianth is more or less persistent and that the stamens are slightly adherent to the base of the inner perianth segments. The glandular function seems to belong to the hairs rather than to the sinus between, hence we may have here a transition to the divided glandular area of *Nomocharis*."

\* Nyima La is stated in Notes, Roy. Bot. Gard. Edin., No. LXXII (Feb. 1926), p. 97, to be six miles south of Tumbatse, the position of the latter being given as lat. 29° 40' N., long. 98° 45' E.

These comments, supporting as they do the inclusion of this plant in the Section *Oxypetala* of the genus *Nomocharis*, are of much interest. In several points they corroborate what was written in my recent revision of the genus, particularly in regard to the very lily-like type of nectary which is characteristic of the *Oxypetala*.\*

Seed sent under the above number has germinated well at the Royal Botanic Garden, Edinburgh, and elsewhere.

*Nomocharis pardanthina*, Franch. var. *Farreri*, W. E. Ev. in Notes, Roy. Bot. Gard. Edin., No. LXXI (June 1925), p. 20.

Mr. Forrest has now obtained specimens of this Burmese variety of the species. They agree with those previously received from Messrs. Ward and Farrer, the leaves being narrower than in typical *N. pardanthina*, Franch., and the spotting of the perianth very variable. It is worth recording that in this set of specimens the swollen lower part of the staminal filaments is, in the smaller upper flowers, rather weakly developed. The habitat and appearance of the plant are described in the following terms:—

N.E. UPPER BURMA. "On open rocky grassy slopes, and the margins of thickets, western flank of the Chimi-li; N'Maikha-Salween divide. Lat.  $26^{\circ} 23'$  N. Long.  $98^{\circ} 48'$  E. Alt. 10–11,000 ft. Plant of  $1\frac{1}{2}$ –2 ft. Flowers, satiny-white interior with minute ruddy purple markings merging in a purple-crimson blotch at the base, exterior flushed pale reddish-purple." In flower, June 1924. G. Forrest 24745!

"On open alpine meadows and on hillsides amongst dwarf scrub, western flank of the N'Maikha-Salween divide. Lat.  $26^{\circ} 24'$  N. Long.  $98^{\circ} 48'$  E. Alt. 11,000 ft. Plant of 2–3 ft. Flowers white, flushed pink, without markings." In flower, June 1925. G. Forrest 26888! In fruit, October 1925. G. Forrest 27330!

"On open lush meadows and amongst dwarf scrub, western flank of the N'Maikha-Salween divide. Lat.  $26^{\circ} 20'$  N. Long.  $98^{\circ} 48'$  E. Alt. 11–12,000 ft. Plant of  $2$ – $2\frac{1}{2}$  ft. Flowers white with few spots, base deep crimson." In flower, July 1925. G. Forrest 27010! In fruit, October 1925. G. Forrest 27321!

Seed sent home under the first of these numbers has germinated at the Royal Botanic Garden here.

\* Notes, Roy. Bot. Gard. Edin., No. LXXI (June 1925), p. 2.

*Nomocharis Souliei*, W. W. Sm. et W. E. Ev. in Notes, Roy. Bot. Gard. Edin., No. LXIX-LXX (Feb. 1925), p. 102.

Typical examples of this very distinct *Nomocharis* were again obtained by Mr. Forrest, the data accompanying them being as follows:—

CHINA. "N.W. Yunnan; on moist open stony alpine meadows and on the margins of alpine scrub, Mekong-Yangtse divide east of A-wa. Lat.  $27^{\circ} 25'$  N. Long.  $99^{\circ} 18'$  E. Alt. 13-14,000 ft. Plant of 8-14 inches. Flowers nodding, strongly fragrant, deep brownish-crimson on exterior, interior slightly lighter, shading to a yellow base." In flower, August 1924. G. Forrest 25696! In mature fruit, October 1924. G. Forrest 25956!

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The undernoted material, in fruit and for this reason not identifiable, has also been received.

UPPER BURMA. "On open rocky grassy slopes, Salween-Kiu Chiang divide. Lat.  $27^{\circ}$  N. Long.  $98^{\circ} 35'$  E. Alt. 12,000 ft. Plant of 2 ft." In mature fruit, October 1924. G. Forrest 25769.

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The following specimens, distributed from other herbaria, have also been examined:—

HANDEL-MAZZETTI, H. F. VON —

No. 3184 *N. Mairei*, Lévl.

6904 *N. aperta*, W. W. Sm. et W. E. Ev.

8966 *N. Souliei*, W. W. Sm. et W. E. Ev.

9145 *N. meleagrina*, Franch.

ROCK, J. F. —

No. 4340 *N. lophophora*, Balf. f.



*N. Georgei*  
N. W. YUNNAN.

COLL. GEORGE FORREST

No.

24772

July. 1914.

Alt. 11-12,000 ft.

Locally mountain plant of the  
Chuni - E. of Moulun - Salween  
divide. Lat. 26° 22' N. Long. 98°  
48' E.

*Nomocharis Georgei*, W. E. Evans  
Types!

Plant 2-3 1/2 inches. Leaves  
soft pubescent, blue throughout  
except on exterior, without  
mottling. Panicle very often  
nodding. and edges of leaves.

*Nomocharis Georgei*, W. E. Evans.

Type  $\times \frac{1}{2}$