

A FURTHER NOTE ON *GENTIANOPSIS YABEI*
(SYMBOLA GENTIANOLOGICA 4*)

By

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(With 1 Plate 1 Table and 1 Text-figure)

Abstract

The author carried out further observations on *Gentianopsis yabei* and its purple flowered form, f. *violacea* on Mt. Hakuba-yari, the Shirouma Mountains in the North Japanese Alps, Central Honshu, in September, 1988.

The typical phase and violaceous flowered phase are quite separated in different localities, the latter occupying lower localities. The violaceous flowered form flowers about a week or ten days later than the typical phase does. Some morphological variations of the two phases are compared with each other.

Key Words: *Gentianopsis yabei*— Mt. Hakuba-yari —morphology—variation

I. Introduction

As members of the genus *Gentianopsis* in Japan, only two species are met with: they are *G. contorta* with rather restricted two narrow distributional areas and *G. yabei* that is an endemic of Japan comprising wider geographical areas in Central Honshu.

In 1987, the writer published a new form of *G. yabei* with reddish purple flowers basing it on the specimens collected on August 31, 1986 near Yari-onsen, the Shirouma Mountains during the course of preparing "Alpine Flowers of Japan" published by YAMA-KEI Publishers Co. Ltd., Tokyo in 1988. At that time, populations of both the typical phase and the violaceous flowered phase were not so abundant for morphological variation analyses.

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On September 13, 1988, the author again visited the very localities where *G. yabei* var. *yabei* f. *yabei* and var. *yabei* f. *violacea* are met with near Yari-onsen, a hot spring that is famous for the highest spa in Japan. The present paper deals with the results obtained from field observations carried out at the localities mentioned above.

II. Materials and Methods

Two stations near Yari-onsen (Yari Spa), Mt. Hakuba-yari, the Shirouma Mts. were selected for measuring some morphological variations in *Gentianopsis yabei* var. *yabei* f. *yabei* and var. *yabei* f. *violacea*: the one was at 1,970m above sea-level where 21 individuals of the typical phase, f. *yabei* were at anthesis (seemingly about a week late and capsules were rather swollen), and the other was at 1,890m above sea-level where 33 individuals of the violet flowered phase, f. *violacea* were at full anthesis. The following points were measured: (1) total height (including flowers), (2) number of internodes, (3) length of the longest peduncle, (4) ratio of the longest peduncle against total height (1), using percentage, and (5) types of ramification. Types of ramification were in accordance with the system proposed by the author (TOYOKUNI 1963) which are schematically illustrated in Figure 1. These measurements were carried out in the above two stations, and were readjusted at the author's laboratory in the Faculty of Liberal Arts, Shinshu University in Matsumoto.



Fig. 1. Ramification types: 1. typus fasciculatus, 2. typus basiramifer, 3. typus inferioriramifer, 4. typus medioramifer, 5. typus superioriramifer, and 6. typus simplex (TOYOKUNI 1963)

III. Results and Discussion

The *Gentianopsis yabei* var. *yabei* f. *yabei* population at 1,970m above sea-level was composed of 21 individuals as described above, the highest one was 38.7cm in height, including flower at the top, and an average of the longest peduncle was 28.6% against full height including flowers. On the other hand, the *violacea* population at 1,890m above sea-level, was composed of 33 individuals, of which the tallest one was 54.8cm in height including flowers, and an average of the longest peduncle was 23.3% against full height. In this population, the lowest one was 11.2cm in height. Main data of measurement obtained from the two populations are summarised in Table 1.

Table 1. Main data of measurement

1,970m Station (<i>G. yabei</i> var. <i>yabei</i> f. <i>yabei</i>)	
21	individuals
(1)	Average height 30.8cm
(2)	Average nos. of internodes 4
(3)	Ramification type: (1) 1, (2) 2, (3) 6, (4) 4, (5) 2, (6) 6
(4)	Average length of the longest peduncle 28.6% against total height 100%
1,890m Station (<i>G. yabei</i> var. <i>yabei</i> f. <i>violacea</i>)	
33	individuals
(1)	Average height 28.3cm
(2)	Average nos. of internodes 4.2
(3)	Ramification type: (1) 0, (2) 2, (3) 2, (4) 6, (5) 8, (6) 15
(4)	Average length of the longest peduncle 23.3% against total height 100%

Learning from this Table, it appears to be evident that *G. yabei* var. *furusei*, originally described as species by H. TAKAHASHI (TAKAHASHI 1971) is distinguishable from var. *yabei* f. *violacea* by virtue of having shorter peduncles and less violaceous colour of the corollae, although the distinction between var. *furusei* and var. *yabei*, especially in the case of poor nutrient low plants of the two varieties is not clear occasionally.

PLATE I



Fig. 1. *Gentianopsis yabei* var. *yabei*
f. *yabei* (habit)



Fig. 2. *G. yabei* var. *yabei* f. *violacea*
(flower)



Fig. 3. the same as above (Fig.2) (a part of population)

IV. References

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