

Typification of Six Taxa Described by Dr. Miki from Korea and Japan

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Six taxa described by Miki were lectotypified using the specimens deposited in OSA; *Myriophyllum oguraense*, *Najas oguraensis*, *Najas tenuicaulis*, *Ruppia truncatifolia*, *Utricularia minor* var. *multispinosa* and *U. tenuicaulis*.

Key words: hydrophytes, Miki's new taxa, typification

Many type specimens collected from Korea and Japan were deposited in the Herbarium at the University of Tokyo (TI), and these were put in order as catalogue of the type specimens preserved in the herbarium, Department of Botany, the University Museum, the University of Tokyo. Recently, type specimens for three families collected from Korea have been catalogued from the collections kept at the herbarium of the University of Tokyo (Suh *et al.*, 2006).

Late Miki (1901–1974), an expert on hydrophytes in Japan, had described 26 new hydrophytic taxa. His vouchers were deposited in the Herbarium of the Osaka Museum of Natural History (OSA) (Shin *et al.*, 2006). Among them, many specimens of Miki's collection were confirmed as syntypes by OSA (Seto, 1978), including *Vallisneria asiatica* var. *higoensis* and var. *biwaensis*, *Myriophyllum oguraense* and *Ruppia truncatifolia* Miki. Some Miki's taxa, however, are waited for the lectotypification for the taxonomic clarification.

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Lectotypification of Miki's New Taxa

1. *Myriophyllum oguraense* Miki, Bot. Mag. (Tokyo) 48: 335, 1934. Lectotype (designated here): Japan, Honshu, Prov. Yamashiro (Kyoto Prefecture), Lake Ogura, 5 Dec 1925, *Miki s.n.* (OSA!, isolectotypes OSA! [3 sheets]).

In OSA, there are 3 syntypes consisted of 23 sheets, collected all at Lake Ogura before 1935. Of them, the sheets numbered as 217562 by OSA is selected as lectotype, because this specimen shows the typical characteristics, including long turions and aerial shoots. Three duplicates, numbered as 217559, 217560, and 217561 of lectotype were designated as isolectotype. The remaining 20 sheets are designated as syntypes.

2. *Najas oguraensis* Miki, Bot. Mag. (Tokyo) 49: 775, 1935. Lectotype (designated here): Japan, Honshu, Prov. Yamashiro (Kyoto Prefecture), Lake Ogura, 5 Aug 1934, *Miki s.n.* (OSA!).

There are 7 syntypes consisted of 11 sheets in OSA. According to the figure of Miki's paper, the individual for illustrations was collected from Oguranoike, means Lake Ogura. Therefore, 6 sheets collected from Lake Ogura were selected firstly as candidate of lectotype. Among them, 5 sheets were collected in July, and the other was in August. The latter, numbered as 217459 by OSA, was selected as lectotype, because this showed distinctly the numerous teeth of leaf, and kept as good state, compared to other collections, and the others are designated as syntypes.

3. *Najas tenuicaulis* Miki, Bot. Mag. (Tokyo) 49: 776, 1935. Lectotype (designated here): Japan, Honshu, Prov. Shinano (Nagano Prefecture), Kizakiko, 20 Nov 1934, *Kawajiri s.n.* (OSA!).

Four collections were kept in OSA, and two were collected from Kizakiko, and two were from other sites. Miki (1935b) had illustrated this species using the plants collected from Kizakiko, may be a typo of Kizakiko. The specimen collected on August 1 1934 and numbered as 217525 by OSA was in poor state; three or four fragments of leaf only glued at newspaper. Therefore the specimen collected at November 20, 1934, and numbered as 217526 by OSA is selected as lectotype, and the others are designated as syntypes.

4. *Ruppia truncatifolia* Miki, Bot. Mag. (Tokyo) 49: 687, 1935. Lectotype (designated here): Korea. Keishonando, Choseiho near Urusan, 14 Aug 1931, *Col. s.n.* (OSA!).

Four syntypes were deposited in OSA, and only one was collected from Choseiho near Urusan, from which Miki had used the specimens collected for illustration. Although Miki(1935a) cited two types as if which were collected from Choseiho near Urusan by Shoji in August 1932 and July 1934, these were collected from Urusan without specific locality. Instead, there is one specimen collected from Choseiho near Urusan at 14 August 1931. Therefore, this specimen, numbered as 217448 by OSA, is selected as lectotype, and the others are designated as syntypes.

5. *Utricularia minor* var. *multispinosa* Miki, Bot. Mag. Tokyo 48: 337, 1934. = *U. multispinosa* Miki, Stud. Hist. & Nat. Monuments in Kyotoku, p 109, 1937. Lectotype (designated here): Japan. Honshu. Prov. Yamashiro (Kyoto Prefecture), Kyoto city, Pond Mizoro-ga-ike, 22 Sep 1923, *Miki s.n.* (OSA!).

This taxon was originally described as variety, and later, Miki described as new species. When he described this taxon at species level, he illustrated using the plants collected from Pond Mizoro (whose name was written in Chinese letters). In OSA, two syntypes consisted of 4 sheets were kept, and of them, only one specimen, numbered as 217572 by OSA, was collected from pond Mizoro-ga-ike, same as Pond Mizoro, so this specimen is selected as lectotype, and the others are designated as syntypes. This taxon was considered as conspecific with *U. minor* L. by Taylor (1989).

6. *Utricularia tenuicaulis* Miki, Bot. Mag. Tokyo 49: 847, 1935. Lectotype (designated here): Japan. Honshu. Prov. Yamashiro (Kyoto Prefecture), Kyoto city, Takara-ga-ike, 15 Nov 1934, *Miki s.n.* (OSA!).

Among 15 syntypes in OSA, only one sheet, numbered as 217563 by OSA, was collected from Takaragaike, from which Miki illustrated this taxon using the plants collected. Therefore, this specimen is selected as lectotype, and the others are designated as syntypes. This name was under the synonyms of *U. australis* R. Br. by Taylor (1989).

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한국 및 일본산 수생식물 6종의 기준표본 선정

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Miki에 의해 기재된 6종의 수생식물, *Myriophyllum oguraense*, *Najas oguraensis*, *Najas tenuicaulis*, *Ruppia truncatifolia*, *Utricularia minor* var. *multispinosa*, *U. tenuicaulis*의 기준표본을 선정하였다.

주요어: 기준표본 선정, 수생식물, Miki

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