<Original Article>

A LIST OF HEPATICAE COLLECTED IN THE CRATER OF MT. HANLA, WITH 6 NEW ADDITIONS TO THE KOREAN FLORA

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洪元植·金炳卓: 未記錄種을 包含한 漢拏山火口壁의 苔類

ABSTRACT

Hong Won Shic & Kim Byong Tak (Catholic Medical College, Seoul, Korea): List of Hepaticae collected in the crater of Mt. Hanla, with 6 new additions to the Korean flora—Kor. Jour. Bot. 4(1) 13—15, 1961.

1. This study was made on the flora of Hepaticae in the crater of Mt. Hanla (33°20′ N. Lat. 126°4′ E. Long), Isl. Quelpart.

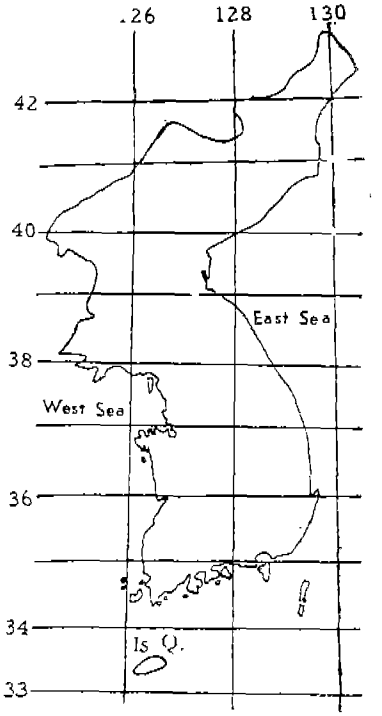
2. The total of the occurring species of the crater are twelve, out of which the following 6 species are new to the Korean flora. (1) *Bazzania tricrenata* (Wahlenb.) Trev. (2) *Plagiochila satoi* Hatt. (3) *Scapania ampliata* St. (4) *Radula boryana* (Web.) Nees. (5) *Cololejeunea kodamae* Kamimura. (6) *C. macounii* (Spruce) Evans.

3. The hepaticae flora of the crater consists of the following elements: Holarctic element. 4 species (33%), East Asiatic element. 2 species (16%), Korean-Japan element. 5 species (41%), North-Pacific element. 1 species (8%).

INTRODUCTION

At the top of Mt. Hanla, Isl. Quelpart, there is a huge crater, Paikrockdam, and the north wall of the crater is lower. The inside of the west wall of the crater is a steep slope, and the circumference of Paikrockdam is about 4 kilometers. Viewed from the point of a vegetational succession stage, the vegetation of crater belongs to the needle leaved tree stage of climax. So the vegetation of the crater has already passed the xerosere, such as lichen stage, bryophytic stage and herb stage.

The vegetation of crater consists of such trees, as *Taxus cuspitata*, *Abies koreana*, *Sabina sargentii*, *Salix hallaisaensis*, *Betula eirmanii*, *Vaccinum ulginosum*, *Lonicera caerulea* var. *emphyllocalyx*. These plants are well adapted to such cold and hard environmental conditions, that they survive in such hard conditions. *Salix hallaisanensis*, *Berberis amurensis* var. *quelpaertensis* are original plants of the crater. The number of the species of the herbs growing in the crater is listed to be over 130. Among them the following plants are original ones of the island Quelpart, such as *Aconitum napiforme*, *Thalictrum taquetii*. *T. punctatum*, *Ranunculus crucilobus* var. *hallaisanensis*, *Aruncus aethusifolius*, *Astragalus membranacens* var. *alpina*, *Trifolium lupinaster*, *Geranium shikokianum* var. *qulpaertense*, *Euphorbia fauriei*, *Angelica fallax*, *Anaphalis mori*, *Chrysanthemum coseanum*, *Cirsium rhinoceros*. When seeing from the view point of the distribution of Hepaticae, the crater is very interesting in that,



Map showing the locality of Isl. Quelpart (Che Ju)

here the number of the species of liverwort has increased faster than in the shrub zone or herb zone of this mountain, and the growing form is also very vigorous. The authors think that such scene of vigorous growing form of various kinds of bryophytes is mainly due to the stability of the soil ground of the crater and the moist conditions of rocks and trees attributable to the large lake and much clouds.

Many hepaticae grow well side by side with mosses on rocks or the lower parts of branches under the canopy of shrubby trees. The genera of *Blepharostoma*, *Scapania*, *Radula* are good examples. On the trunks of *Abies koreana* and *Betula ermanii*, genera of *Bazzania* and *Lophocolea* occurred. These hepaticae belong to epiphytic form.

The present paper is based mainly on the collection made by the present writers during the summer of 1955, 56, 57, 58 and 60. The writers should like to acknowledge the help and criticism by Father. K. Yang and Dr. D. Yoon of Catholic Medical College, Korea and Dr. M. Numata of Chiba University, Japan. They also wish to express their thanks to Dr. S. Hattori (Hattori Botanical Laboratory), Dr. H. Ando (Hiroshima University) and Prof. H. Inoue (Tokyo Education University), Japan for identification of many species.

ENUMERATION OF SPECIES

Fam. *Ptilidiacese*

Ptilidium pulcherrimum (Web.) Hampe. Habit. spec. exam. on trees (No. 1822), on trees, with *Radula boryana*, *Pedinophyllum truncatum* (No. 1816), on rocks (No. 1831), on trees (No. 11371). Distr. Korea (Mt. Hanla, Mt. Pakktu), Japan, China, Siberia, Eur., N.-Am.

Fam. *Blepharostomaceae*

Blepharostoma trichophyllum (L.) Dum. Habit. spec. exam. on rocks, with *Radula boryana* (Nos. 1835, 1836), on rocks, with *Scapania ampliata* (No. 1819), on trees, with *Bazzania tricrenata* (No. 1818). Distr. Korea (Mt. Hanla, Mt. Pakktu), Form., Japan, China, India, Siberia, Eur., N.-Am.

Fam. *Lepidoziaceae*

Bazzania tricrenata (Whalenb.) Trev. Habit. spec. exam. on rocks, with *Blepharostoma trichophyllum*, *Plagiochila* sp., *Metzgeria* sp., (No. 1818). on trees with *Radula boryana*, *Scapania ampliata*, *B. bidentula*, *Cololejeunea kodamae*, *Blepharostoma trichophyllum* (No. 1817), *Blepharostoma trichophyllum* (No. 1825). This species is new to the flora of Korea. Distr. Korea, Japan, Form., China, Himalaya, Eur., N.-Am.

B. bidentula (St.) St. Habit. spec. exam. on trees, with *B. tricrenata* (No. 1817). Distr. (Mt. Diamond), Japan, Form., China.

Fam. *Harpanthaceae*

Lophocolea minor Nees. Habit. spec. exam. on trees, with *Scapania ampliata*, *Jamesoniella autumnalis* (No. 1824). Distr. Korea, Japan, China, Siberia, Eur., N.-Am.

Fam. *Jungermanniaceae*

Jamesoniella autumnalis (DC.) St. Habit. spec. exam. on trees, with *Radula boryana* (Nos. 1824, 1827). on trees, with *Scapania ampliata* (No. 1824). Distr. Korea (Mt. Diamond), Japan, China, Sib., Cauc., Eur., N.-Am.

Fam. *Plagiochilaceae*

Pedinophyllum truncatum (Steph.) Inoue. Habit. spec. exam. on rocks, with *Radula boryana*, *Pla-*

giochila satoi, *Blepharostoma trichophyllum* (No. 1835), on trees, with *Ptilidium pulcherrimum*, *Radula boryana* (No. 1816). Distr. Korea, Japan. This species is new to the flora of Korea.

Plagiochila satoi Hatt. Habit. spec. exam. on rocks, with *Cololejeunea macounii* (No. 1820). on *Betula ermanii*, with *Scapania ampliata* (No. 1821). on rocks, with *Radula boryana* (No. 1835). Distr. Korea, Japan. This species is new to the flora of Korea.

Fam. *Scapaniaceae*

Scapania ampliata St. Habit. spec. exam. on trees, with *Lophocolea minor*, *Jamesoniella autumnalis* (No. 1824), on rocks, with *Cololejeunea macounii*, *Blepharostoma trichophyllum*, *Radula boryana* (No. 1819), on *Betula ermanii*, with *Plagiochila satoi* (No. 1821), on trees (No. 11375), on rocks, with *Plagiochila* sp., (aff. *P. ovalifolia* or *satoi*) (No. 1826). Distr. Korea, Japan. This species is new to the flora of Korea.

Fam. *Radulaceae*

Radula boryana (Web.) Nees. Habit. spec. exam. on rocks, with *Pedinophyllum truncatum*, *Plagiochila satoi*, *Blepharostoma trichophyllum*, *R.* sp., (aff. *R. obtusiloba*) (No. 1835). on trees, with *Jamesoniella autumnalis* (No. 1827). Distr. Korea, Japan, China, Mexico, W.-Indies, Central & S.-Am., Central Africa, Madagascar. This species is new to the flora of Korea.

Fam. *Lejeuneaceae*

Cololejeunea kodamae Kamimura. Habit. spec. exam. on trees, with *Bazzania tricrenata*, *B. bidentula*, *Scapania ampliata*, *Radula boryana*, *Blepharostoma trichophyllum* (No. 1817). Distr. Korea, Japan. This species is new to the flora of Korea.

C. macounii (Spruce) Evans. Habit. spec. exam. on rocks, with *Plagiochila satoi*, (No. 1820), on rocks with *Scapania ampliata*, *Blepharostoma trichophyllum*, *Radula boryana* (No. 1819). Distr. Korea, Japan, China, Formosa, N.-Am. This species is new to the flora of Korea.

摘　　要

白鹿潭은 漢拏山의 中央部 高度 約 2000米에 자리잡고 있는 巨大한 古火口인데 이 火口壁에 나는 苔類의 總出現種數 12種(9科)中 다음의 6種은 韓國未記錄種이다. (洪은 總 6回 頂上登攀함)

(1) *Bazzania tricrenata* (Wahlenb.) Trev. (2) *Plagiochila satoi* Hatt. (3) *Scapania ampliata* St. (4) *Radula boryana* (Web.) Nees. (5) *Cololejeunea Kodamae* Kamimura. (6) *C. macounii* (Spruce) Evans.

한편 産出苔類를 植物地理學的으로 따져 보면 北周極要素가 4種(33%), 東南亞要素가 2種(16%), 韓國日本要素가 5種(41%), 北太平洋要素가 1種(8%)으로 되어 있어 寒地性의 苔類가 壓倒的이다.

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