

On a New Variety of *Aegagropila Sauteri* Found in Lake Yamanaka

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In Japan, four species of *Aegagropila* have so far been reported from 5 localities in Hokkaidô and the northern part of Honshû; and besides 2 species are known from the southern Kuriles and Saghalien. (see the key annexed hereto)

A new small species of the genus has recently been found in Lake Yamanaka, in the central part of the main island of Japan, on April 16 by Mr. T. SUGIURA, Principal of Yamanaka primary school.

Lake Yamanaka, one of the so-called "Five Lakes of Mt. Fuji", lies 982 meters above the sea-level, at the eastern foot of Mt. Fuji, and covers an area about 6.49 square kilometers, measuring 13.5 kilometers in circumference. The maximum depth of the lake is sounded 15 meters and the bottom is rather flat and shallow, composed mostly of volcanic sand and pebbles.

This alga is known to grow at 6 stations in the lake. (see the map)

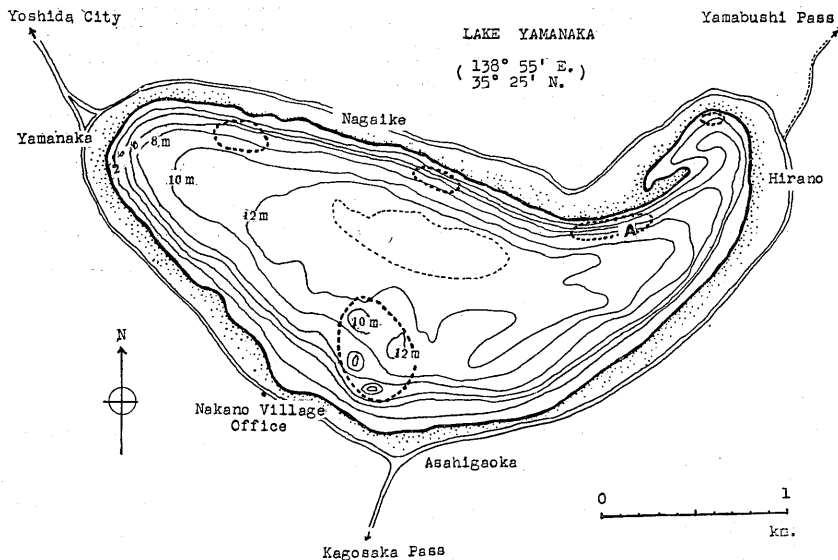


Fig. 1. Map showing Lake Yamanaka and the stations where the new *Aegagropila* was found. (denoted by dotted lines)

The ball-shaped fronds are only found at "A" station, where the water temperature, in 5 meters depth, was measured 18.64° C., pH 8.1 and O₂ cc/l 2.82 on Aug. 6, 1956.

At these stations, there are some springs at the bottom of the lake and the alga is found in a shape something like a ball under the influence of rotation caused by the current of the springs. This ball-shaped type of alga is found at rather shallow places, 1-5 meters in depth and rare; and most of the alga is found in the type of an entangled mass of the filaments

and grows in the deeper places than that of the ball-shaped ones where the current of the springs has no influence.

The ball-shaped type appears green colored, and the diameter is measured 1.3 cm., 5cm. in maximum, and usually one pebble, rarely two, enclosed in the center of the frond; and this ball-shaped frond is soft, consisting of radiating and loosely intertwined branched filaments.

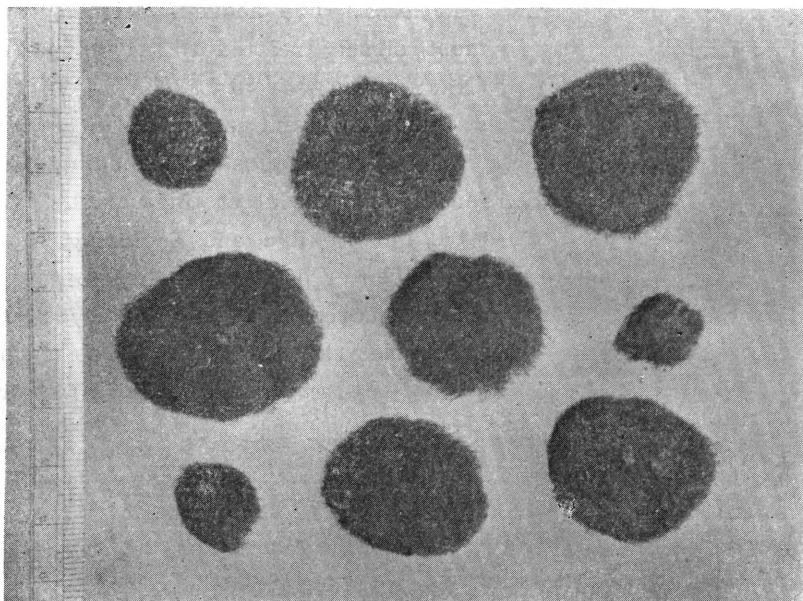


Fig. 2. *Aegagropila Sauteri* (NEES) KÜTZ. var. *yamanakaensis* OKADA.
(ball-shaped fronds)

As far as I know, this species of *Aegagropila*, described as follows, has many characteristics which have not been found in other known species of the genus, and the writer named and described it as a new variety of *Aegagropila Sauteri* (NESS) KÜTZ. to commemorate the first locality where it was discovered.

Recently, the second locality has been discovered in Lake Kawaguchi, which also lies at the foot of Mt. Fuji, near Lake Yamanaka, as one of the so-called "Five Lakes of Mt. Fuji", but no precise report has been heard of before the writer wrote this report.

Aegagropila Sauteri (NEES) KÜTZ. var. *yamanakaensis* OKADA var. nov.

Planta laetevirens, pulchra, sphaerica vel paullo irregularis; frondibus minoribus, ellipsoideis vel fusiformibus, 1-3 cm. diam. (maximis usqua ad 5 cm.), in centro nidulantibus lapillum 0.5-2 mm. diam., densissime radiatim ramosis, mollibus; cellulae rami cylindricae, 60-80 μ diam., 5-9-plo longiores quam latae; cellulae laterales elongato-cylindricae 50-70 μ diam., 6-10-plo longiores quam latae; cellulae ramuli inferiores oppositi vel alterni, superiores secundi, sub angulo 20°-30° egressae; ramis rhizoideis paucissimis.

Japanese name: Fuji-marimo (n. n.)

Locality: Lake Yamanaka, Minami-tsuru-gun, Yamanashi Prefecture. (Discovered by T. SUGIURA, April 6, 1956; Type in Herb. Yoshikazu OKADA, no. c-56-1. Collected by Yoshikazu OKADA, Sept. 9, 1956)

Habitat: Growing at a depth of about 1—5 meters, lying on the sandy bottom of the lake.

Distribution: Endemic.

Remarks: The above-mentioned variety is most closely related to *Aegagropila Sauteri* (NESS) KÜTZ. from Lake Akan in Hokkaidô in the shape and measurement of the cell, and also the angles of branching but it differs from the latter this variety is not so rigid but flexible and enclosing the pebble in the center of the ball-shaped frond.

And, moreover, the ball-shaped frond of this variety the maximum size is not so large as that of *Aegagropila Sauteri* (NESS) KÜTZ.

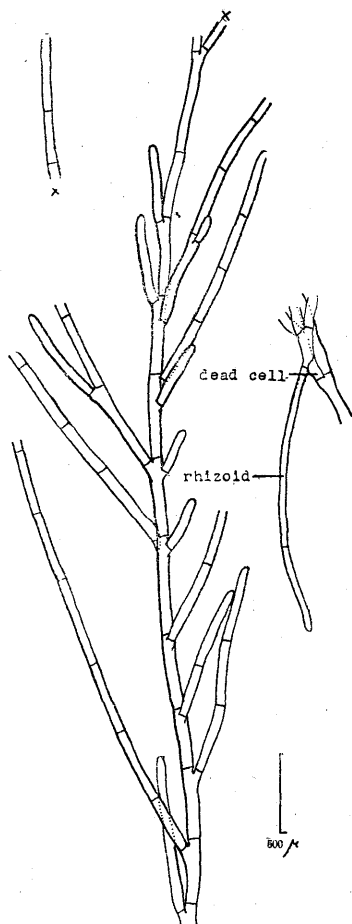


Fig. 3. Upper part of a filament of *Ae. Sauteri* (NESS) KÜTZ. var. *yamanakaensis* OKADA. showing the branching mode, cells and a rhizoid.

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Key to the species of *Aegagropila* hitherto be known from Japan and its surrounding areas.

- 1 { Frond ball-shaped.....2
 { Frond not ball-shaped.....**Ae. Sauteri form. profunda** HEERING
 (Kimomatô and Tôro-numa in Hokkaidô)
- 2 { Cells cylindrical.....3
 { Cells not cylindrical.....4
- 3 { Frond with pebble.....**Ae. Sauteri var. yamanakaensis** OKADA
 (Lake yamanaka and Lake Kawaguchi in C. Honshû)
 { Frond without pebble.....**Ae. Sauteri (NESS) KÛTZ**
 (Lake Akan in Hokkaidô)
- 4 { Frond compact.....5
 { Frond hollowed.....6
- 5 { Cells clavate.....**Ae. minima (OKADA) OKADA***
 (Sakyô-numa in N. Honshû)
 { Cells swollen.....**Ae. Kannoï TOK DA**
 (Lake Tôba in S. Saghalien)
- 6 { Frond with pebble.....**Ae. Kurilensis** NAGAI
 (Naebo-numa in S. Kuriles)
 { Frond without pebble.....**Ae. Sauteri Borgeana** NORDSTEDT
 (Chimikeppu in Hokkaidô)

* This species was previously described under the name as follows, but emended here as an independent species because of the specific characters were cleared afterwards.

syn. *Aegagropila Sauteri* (NEES) KÛTZ. var. *minima* OKADA, in *Bull. Nat. Sc. Mus.* **32**, 99-103 (1953).

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