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On the archegonia of *Takakia lepidizioioides*

A quantity of fresh material of *Takakia lepidizioioides* were collected on Mt. Shirouma, middle Honshu, the type locality, by Inoue in August, 1958. We examined the material and found quite a number of archegonia which were exactly the same as those found in Dr. H. Persson's collection made on the Queen Charlotte Islands (Hattori, 1958; Hattori and Mizutani, 1958), as shown in fig. 2.

Most of the shoots bearing archegonia can be distinguished with a hand-lens. They are not slender, and the leaves are dense, particularly so and crowded at the shoot-tip. One to three archegonia were found on each shoot-tip among crowded leaves, but they were occasionally found only singly below the tip or even near the middle portion of the shoot. In no cases either perichaetia or similar protective organs were seen. No leaves were differentiated into bracts. No archegonia seem to be fertilized. No antheridia were found.

In a fresh condition archegonia are green with chloroplasts. Archegonia are naked, solitary, flask-shaped, and 300-350μ long. The neck is 11-12 cells long, occupying about 2/5 of the total length of archegonium, and is composed of 4 series of neck cells. The wall of venter is 2 cells

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thick, the wall-cells are smaller, usually about 10μ in diameter. The foot is about 1/4 of the total length, composed of longer cells, about 30×20μ.

The archegonium arises close to a leaf, often appearing to be located in the axil of it, and seems to be the same as the leaf in its origin. After fertilization it is considered to develop into calyptra as seen in *Haplomitrum hookeri*.

From what has been stated above, it is clear that *Takakia* belongs to *Bryophyta*, and may be regarded as a most primitive form ever known, with the exception of class *Anthocerotae*. We believe this interesting plant is a key to the phylogenetical problem concerning the ancestor of bryophytes. It may be probable that *Takakia* represents a new class or subclass. To settle the problem it is much desired that the sporophytes and antheridia be found in the near future.

References
