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Title	Morphological and cytological variation of <i>Pilea brevicornuta</i> Hayata in the Ryukyu Islands and Taiwan(Abstract_論文要旨)
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Abstract

Title: Morphological and cytological variation of *Pilea brevicornuta* Hayata in the Ryukyu Islands and Taiwan

Pilea brevicornuta Hayata (Urticaceae) is a taxonomically controversial species because of its extreme morphological variations. The present study describes the morphological and cytological characteristics of this species in the Ryukyu Islands of Japan for contributing taxonomic understanding of this species.

Pilea brevicornuta, which usually has upright stem, large leaves with acute base, and almost no leaf hair, commonly occurs in habitats such as moist forest edge and forest floor. In the preliminary survey, however, this species was first found in some riparian habitats on Amamioshima Island; that is, a riverbed of Sumiyo River and small waterfall in Kinsakubaru. The riparian individuals of *P. brevicornuta* were all dwarfs and possessed creeping stem, extremely small leaves with obtuse or acute base, and dense leaf hair. These kind of phenotypic characteristics have never been reported in the previous study. Since these characteristics were stable throughout the long-time cultivation and distinguishable from others, riparian individuals with dwarf habit were separated as forma of *P. brevicornuta*. In the riparian habitat of Amamioshima, some reophyte species such as *Lysmachia liukiensis* (Primulaceae), *Oxalis amamiana* (Oxalidaceae), *Rubus amamiana* (Rosaceae) and *Viola amamiana* (Violaceae) have been known to have dwarf habit. Like these reophyte species, dwarf and creeping habit of riparian *P. brevicornuta* may be an adaptation to avoid the collision with water current during flash flood and thus ensure less damage.

The somatic chromosome number of dwarf *P. brevicornuta* in Amamioshima was $2n=24$, which was similar to the other individuals growing in forest edge and forest floor. As the basic chromosome number of the genus *Pilea* is $x=12$, $2n=24$ was regarded as diploid. Although the triploid based on $x=12$ was found infrequently in the forest floor of Mt. Nekumachiji (Okinawajima), *P. brevicornuta* was cytologically uniform in spite of morphological fluctuation.

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