

***Hymenophyllum pilosissimum* C. Chr. (Hymenophyllaceae) on Iriomote Island, a New Record for Japan**

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Hymenophyllum pilosissimum C. Chr. (Hymenophyllaceae), recently discovered on Iriomote Island, is reported for the first time in Japan.

Keywords: *Hymenophyllum*, Iriomote Island, Okinawa, *Sphaerocionium*

Hymenophyllum Sm. is a genus of the filmy fern family, Hymenophyllaceae. Ebihara *et al.* (2006) proposed a classification of Hymenophyllaceae that recognizes nine genera (*Abrodictyum*, *Callistopteris*, *Cephalomanes*, *Crepidomanes*, *Didymoglossum*, *Hymenophyllum*, *Polyphlebiun*, *Trichomanes* and *Vandenboschia*) and treated *Hymenophyllum* as comprising ten subgenera and ca. 250 species.

During our field surveys from 2021 to 2022 on Iriomote Island, Okinawa Pref., Japan, we found individuals of *Hymenophyllum* subgen. *Sphaerocionium*, that we were unable to identify. Subgen. *Sphaerocionium* is characterized by the stellate hairs on the whole plant body. After detailed investigations, we concluded that our collections matched *Hymenophyllum pilosissimum* C. Chr. This fern species was initially described from Mt. Kinabalu, Borneo (Christensen & Holtum 1934), and Copeland (1938) mentioned that the fern species, as *Sphaerocionium pilosissimum* (C. Chr.) Copel., is distributed also in the Philippines and New Guinea. Recently the species was also reported in Taiwan (Moore *et al.*

2010) and Thailand (Lindsay *et al.* 2014). However, it has yet to be known for the fern flora of Japan (e.g., Ebihara & Kasetani 2018 onwards), and Iwatsuki & Ebihara (2023) also did not mention that the plant is distributed in Japan. Thus, this is the first report of the presence of *H. pilosissimum* in Japan. Our discovery is also the second report of *Hymenophyllum* subgen. *Sphaerocionium* in Japan, the first being of *H. digitatum* (Sw.) Forsberg on Ishigaki Island (Ebihara & Nakasone 2022).

Individuals of *Hymenophyllum pilosissimum* on Iriomote Island were found at two sites ca. 1.1 km apart along a single stream on the southern part of the island. They grew in a few patches ranging from 0.25 m² to 4 m² between 170 and 270 m elevation on rocks and small cliffs ca. 5–10 m from the stream. Other species of ferns [*Angiopteris lygodiifolia* Rosenst., *Abrodictyum obscurum* (Blume) Ebihara & K. Iwats., *Bolbitis appendiculata* (Willd.) K. Iwats., *B. subcordata* (Copel.) Ching, *Dryopteris subexaltata* (Christ) C. Chr., *Polystichum yaeyamense* (Makino) Makino, *Selaginella aristata* Spring, *Thelypteris*

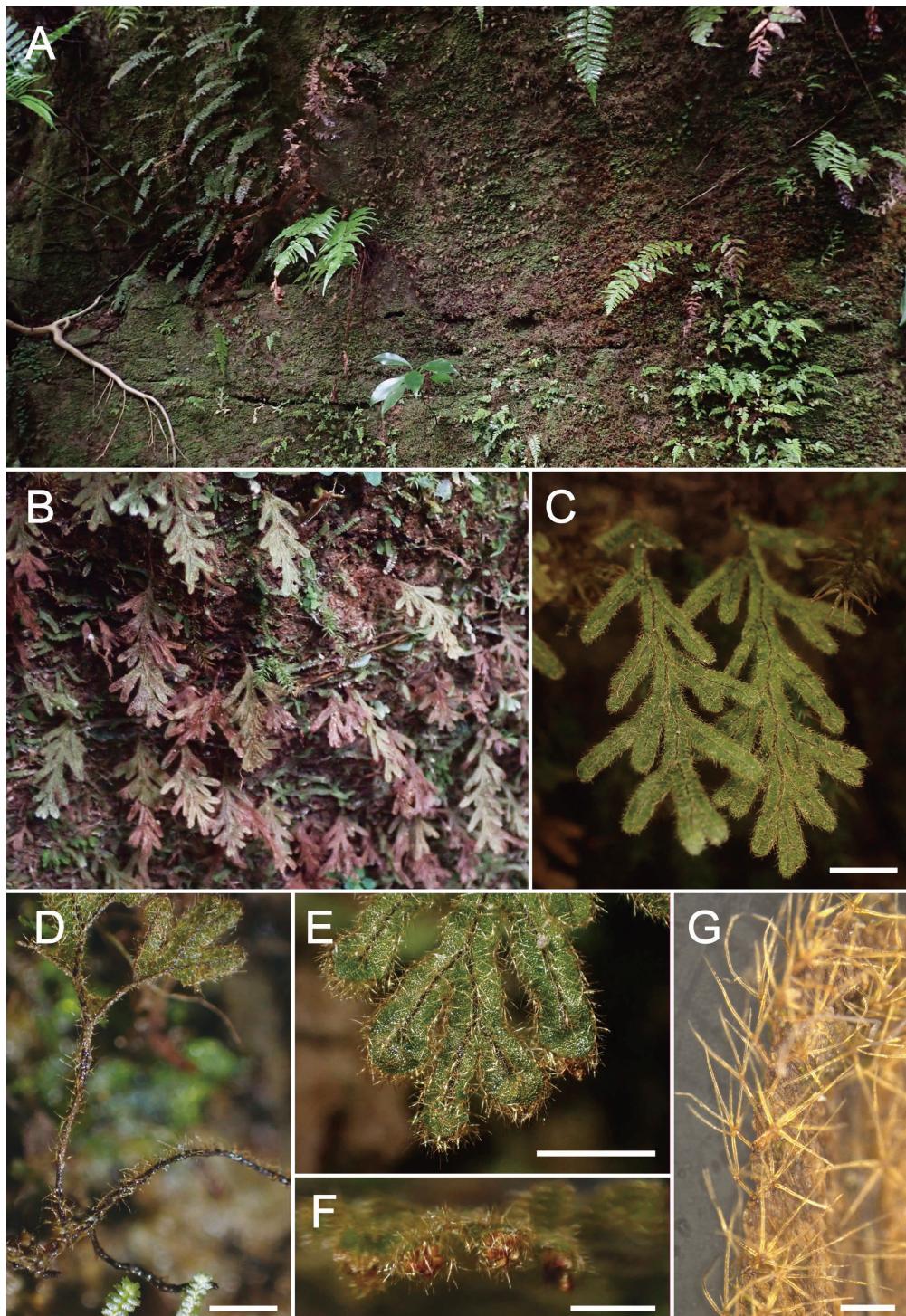


FIG. 1. *Hymenophyllum pilosissimum* on Iriomote Island. A, Habitat. B, Closeup of colony. C, Adaxial view of sterile frond. D, Branching rhizomes and stipes. E, Adaxial view of apex of fertile frond. F, Horizontal view of apex of pinnule and sori. G, Stellate hairs on margin of pinnule. Bars = 5 mm (C, D & E), 2 mm (F), and 200 μm (G). Photo taken by T. Yamamoto on 27 Mar. 2022 (A, D, E & F) and A. Naiki on 15 Dec. 2021 (B & C). G from dried specimen (Naiki 29332).

triphylla (Sw.) K. Iwats., *Vandenboschia auriculata* (Blume) Copel., *V. liukiuensis* (Y. Yabe) Tagawa and juveniles of *Cyathea podophylla* (Hook.) Copel.] grew in proximity to *H. pilosissimum*. The tree layer of the surrounding forest consisted of *Archidendron lucidum* (Benth.) I. C. Nielsen, *Ficus benguetensis* Merr., *Heptapleurum heptaphyllum* (L.) Y. F. Deng, *Turpinia ternata* Nakai and *Wendlandia formosana* Cowan. The shrub layer consisted of *Hydrangea chinensis* Maxim. var. *yayeyamensis* (Koidz.) T. Yamaz., *Lasianthus attenuatus* Jack, and *Psychotria asiatica* L.

Hymenophyllum pilosissimum C. Chr. in C. Chr. and R. E. Holttum, Gardens' Bull. Straits Settlem. 7: 213 (1934). (Fig. 1) — *Sphaerocionium pilosissimum* (C. Chr.) Copel., Philipp. J. Sci. 67: 33 (1938). — Type: BORNEO, Kinabalu, F. W. Burbidge s.n. [holo—K000597912 (image!); iso—BM001044323 (image!)]

Specimens examined. JAPAN. Okinawa Pref. Iriomote Island: 173 m, 6 Dec. 2021, A. Naiki 28794 (RYU, TNS), 15 Dec. 2021, A. Naiki 29332 (RYU, TNS); 269 m, 16 Dec. 2021, A. Naiki 29503 (RYU, TNS), 27 Mar. 2022, *T. Yamamoto TY3334 (RYU, TNS).

*Specimens of individuals bearing a sorus at the apex of the pinnules.

Japanese name. Mukuge-kokeshinobu. This name has been tentatively used in Yonekura & Kajita (2003 onward). We propose the name because the word ‘mukuge’ well describes the soft stellate hairs and ‘kokeshinobu’ is sometimes used as the name of species belonging to the ge-

nus *Hymenophyllum*.

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