Two New Species of *Ramalina* (*Ascomycotina: Ramalinaceae*) from the Nansei Islands, Japan

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Two new species, *Ramalina ryukyuensis* Kashiw. & K. H. Moon and *R. yokotae* Kashiw. & K. H. Moon, from the Nansei Islands, southern Japan, are described. *Ramalina ryukyuensis*, a corticolous or epiphytic species on the creeping stems of *Zoysia*, has predominantly dichotomous branches with wide angles throughout the thallus; solid branches without soredia; round or ellipsoid pseudocyphellae; long fusiform spores of 10–12.5 × 2.3–2.5 µm in size; and norstictic acid or sekikaic acid. *Ramalina yokotae*, an epiphytic species on *Zoysia* over calcareous rocks, has a hollow thallus with clearly dichotomous branches without soredia, separated perforations, and norstictic acid and sekikaic acid (±). They are only known from the Nansei Islands in Japan.

**Key words**: Japan, lichens, Nansei Islands, new species, *Ramalina ryukyuensis*, *Ramalina yokotae*.


In 1991, 2007, and 2008, we had opportunities to visit the Sakishima Islands, the southernmost part of the Nansei Islands and took good samples of the genus. Specimens were also provided by Dr. M. Yokota, the University of the Ryukyus, and his colleague. As a result of our taxonomic study for these specimens, we found the two following new species, *R. ryukyuensis* Kashiw. & K. H. Moon and *R. yokotae* Kashiw. & K. H. Moon, and provide their descriptions and taxonomic notes herein. It is noteworthy that they both have norstictic acid which has not been reported for any Japanese species of *Ramalina*.

**Methods**

The specimens used for this study were based on the specimens preserved in the herbarium of the National Museum of Nature and Science (TNS) unless otherwise stated. The secondary products of the specimens examined were determined by thin layer chromatography (TLC) using the amended procedures of Culberson and Johnson (1982). To evaluate anatomical variation
Zoysia pacifica, elevation 3 m, 5 May 2014, M. Yokota s.n. (hb. H. Kashiwadani 51600, TNS, NIBR); the same locality with the same habitat, elevation 31 m, M. Yokota 227 (TNS, NIBR).

Etymology: The specific epithet is dedicated to Dr. Masatsugu Yokota, who is the discoverer of this new species.

We warmly thank Dr. M. Yokota of the University of the Ryukyus in Okinawa, Japan, Dr. G. Kokubukata of the National Museum of Nature and Science in Tsukuba, Japan, and Dr. T. Kanemoto of the Botanic Gardens of Toyama in Toyama, Japan, for their kind support for the collection of Ramalina in the Nansei Islands.

Thanks are also to Dr. M. Yokota who provided for us the ecological pictures of R. ryukyuensis and R. yokotae. Thanks are extended to Prof. S. Y. Yoon, Baekseok University in Cheonan city, Korea, for her corrections of our English manuscript.

References
の枝は中空で穿孔があり、偽盃点を欠くので容易に区別ができる。地衣成分はノルスチクチン酸とセッカ酸である。本種はこれまでに徳之島の二カ所で生育が確認されているだけで、南西諸島を含む日本の他の地域からは見つかっていない。種小名の *yokotae* は本種を発見された琉球大学の横田昌嗣博士への献名である。

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