Summary: I found *Gastrodia fontinalis* T. P. Lin (*Orchidaceae*) in bamboo forests on Kuroshima Island, the northernmost island of the Ryukyu Islands in Japan. This habitat represents the northernmost locality of the species.

The genus *Gastrodia* (*Orchidaceae*) is a group of mycoheterotrophic orchids distributed in temperate and tropical areas of Madagascar, Asia, and Oceania (Chung and Hsu 2006). The genus, which contains approximately 80 species, is characterized by a fleshy tuber or coralloid underground stem, an absence of leaves, the union of sepals and petals, and two mealy pollinia without caudicles (Chen et al. 2009, Govaerts et al. 2016).

*Gastrodia* shows extraordinary morphological diversity. Some species of sect. *Gastrodia* (sensu Schlechter 1911), such as *G. elata*, reach 60–100 cm in height during the anthesis period. In contrast, many species of sect. *Codonanthus* (Schlechter 1911, Tuyama 1967) represented by *G. verrucosa* (*G. verrucosa* group) have inflorescences of only 3–15 cm in flower but 30–40 cm in fruit, with elongated pedicels (Chung and Hsu 2006). Plants belonging to the latter group are rarely found during the flowering season, and thus have not been studied intensively (Tuyama 1982). Therefore, our recent botanical surveys have resulted in discoveries of additional members of sect. *Codonanthus* in Japan, including new distribution records and new taxa (Suetsugu 2012, 2013, 2014, 2015, 2016, Suetsugu et al. 2012, 2013, 2014).

*Gastrodia fontinalis* T. P. Lin was described based on a collection from Mt. Pataoerh in Taipei County, Taiwan (Lin 1987). This species was previously considered as an endemic Taiwanese species. Recently, Suetsugu et al. (2014) found the species in a bamboo forest on Takeshima Island in Kagoshima Prefecture, Japan. During the recent field survey on Kuroshima Island, I found additional populations of *G. fontinalis* in bamboo forests from the Island. This habitat represents the northernmost locality of the species. Here I report the new locality with a description of the specimens from the Island.

Terrestrial, mycoheterotrophic herb. Root short, densely branching, mostly extending from the apex center of the rhizome system. Rhizome tuberous, fusiform or cylindrical, 3–13 cm long, 4–11 mm in diameter, dark brown, covered with numerous scales. Inflorescence erect, dark greenish brown, 10–21 cm long, 3–7 mm in diameter. Bracts ovate, up to 10 mm. Pedicel and ovary up to 15 mm long. Flowers 1–17, bell-shaped, slightly nodding, resupinate, 16–21 mm long, 10–11 mm in diameter. Sepals and petals united forming a 5-lobed perianth tube. Sepals subsimilar, fleshy, 17–21 mm long, connate ca. 2/3 the length of the petals, lateral ones connate ca. 3/5 their length with each other, outer surface pale brown, verrucose, margins entire; free portion of dorsal sepal straight, ovate-triangular, retuse, ca. 7 mm long, 8–9 mm wide; free portions of lateral sepals spreading, obtuse at apex. Free portions of petals ovate or ellipse, ca. 4.5 mm long, 4 mm wide. Lip adnate...
to column foot, ca. 8 mm long, hypochile with 2 red, globose calli; epichile red-brownish, ovate-triangular, base contracted, with 6–8 ridges elevated on upper portion, with 2 ridges extending to the ligulate apex. Column straight, terete, 8–9 mm long, 2.5 mm wide, white tinged with pale green at base; column foot (basal extension of the column) well-developed; lateral wings (stelidia) narrow, brown, edges parallel to column, apex acute; rostellum small; stigma located at base. Anther hemispheric, 1.2 mm in diameter, pollinia 2. Capsule cylindrical, ca. 3 cm long, pedicel elongating to ca. 30 cm long in fruit. Seeds fusiform, ca. 2.0 mm long.

Specimen examined: JAPAN. Kyushu. Kagoshima Pref., Kuroshima Island, Katadomori, 14 April 2016, K. Suetsugu s.n. (OSA); Kuroshima Island, Osato, 16 April 2016, K. Suetsugu s.n. (OSA).

Note: Several hundred flowering individuals were found in bamboo forests dominated by *Pleioblastus linearis* (Hack.) Nakai throughout Kuroshima Island. Flowering was observed from late March to late April, and fruiting from late April to late May. As stated in the above description, *G. fontinalis* of both Takeshima and Kuroshima populations (hereafter Japanese populations) tended to be bigger than Taiwanese populations (Lin 1987, Leou 2000, Suetsugu et al. 2014). In addition, the population of *G. fontinalis* in Japanese populations was often
characterized by having a large rhizome network consisting of many rhizomes that have never before been found in any Gastrodia species inhabiting Japan or the surrounding areas (Umata and Yokota 2006, Suetsugu et al. 2014). Furthermore, the specimens in Takeshima Island were often found to produce a tight root mass complex beneath the rhizome network, just like the root mycorrhizal root ball produced by Monotropastrum globosum H. Andres (Matsuda and Yamada 2003). Given that most species belonging to sect. Codonanthus produce a small number of straight, slender roots, mostly extending from the apex of the rhizome (e.g., Hsu and Kuo 2010, 2011, Hsu et al. 2012), the root morphology of the G. fontinalis specimens found in Japanese populations can be considered unique, and it is worth investigating the Taiwanese population of G. fontinalis also shares the same root morphology for the future study.

This work was supported by a Grant-in-Aid from the Japan Society for the Promotion of Science (15K18470 to K.S.).

References
末次健司：トカラヤツシロラン（ラン科）を鹿児島県三島村黒島から記録する

鹿児島県三島村黒島でトカラヤツシロラン（ラン科）の開花個体を発見した。これは、台湾、鹿児島県三島村竹島に次ぐ産地であり、分布の北限となる。オニノヤガラ属のCodonanthus節に属する種は、開花期間が短く結実個体では同定困難なものが多いため、琉球列島のCodonanthus節に属する種の分布状況の詳細な検討が望まれる。

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