菌寄生性ラン科植物アキザキヤツシロランの新品種

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Kenji Suetsugu: **A new form of *Gastrodia confusa* (Orchidaceae)**

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The green color is a defining feature of the plant kingdom and plants are mostly assumed as autotrophs (Taylor 2004). However, several lineages of land plants have evolved total dependence on fungal-derived energy sources and thus are termed mycoheterotrophs (Leake 1994). Due to lack of chlorophyll, fully mycoheterotrophic plants have a wide variety of pigmentation of vegetative parts as well as floral parts. In some species, distinct color varieties such as *Gastrodia javanica* (Blume) Lindl. f. *thalassina* Yokota and *Eulophia zollingeri* (Rchb.f.) J.J.Sm. f. *viridis* Yokota have been recognized (Yokota 1998, 1999), and such varieties confirm that pigmentation is not essential to the survival of mycoheterotrophic plants (Leake 1994). I here describe a new form of *Gastrodia confusa* Honda et Tuyama (Fig. 1A) as an additional case of mycoheterotrophic orchid which shows distinct color difference from the typical form (Fig. 1B).

Gastrodia confusa Honda et Tuyama f. ***viridis*** Suetsugu, f. nov. (Fig. 1A)
Differt a typo floribus, bracteis et scapis fere viridibus, cetera ut in typo.

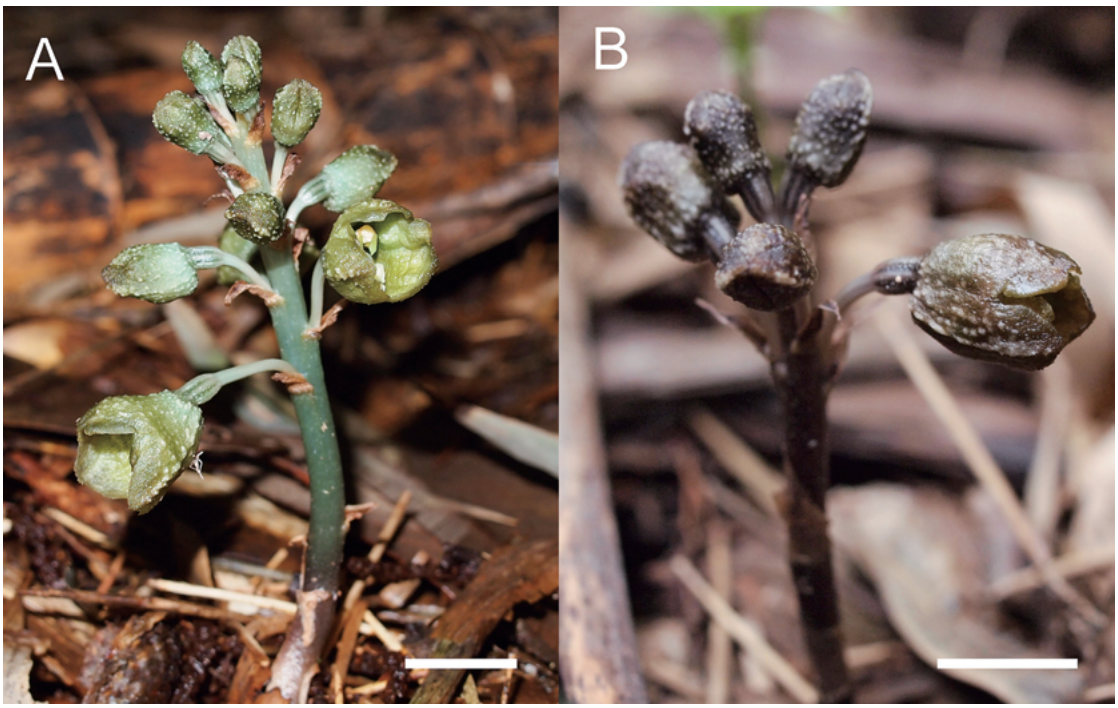

Fig. 1. (A) *Gastrodia confusa* f. *viridis* in Yukuhashi City (type locality), October 10, 2010; bar: 1cm. (B) The type form of *Gastrodia confua* in Munakata City, September 30, 2010; bar: 1cm. Both pictures were photographed by Miwako Usui.

Japanese name: Hisui-akizaki-yatsushiroran, nov.

Type: Yukuhashi City, Fukuoka Prefecture, Kyushu Island, Japan. (Miwako Usui s.n., October 10, 2010, Holotype in KYO).

Note: Currently, type locality is the only population of *Gastrodia confusa* f. *viridis*. In this habitat, approximately 100 individuals of *Gastrodia confusa* f. *viridis* were found growing on the floor of a bamboo forest dominated by *Phyllostachys bambusoides* (Carrière) Matsum., which has been widely naturalized in Japan, with sparse herbaceous understories.

The ecological significance of pigmentation in mycoheterotrophs remains unclear. Since some mycoheterotrophs are pollinated by insects (Kato et al. 2006; Klooster and Culley 2009), pigmentation may be adaptation to attract their own pollinators. In addition, some pigments in mycoheterotrophs play an important role in preventing grazing of shoots (Leake 1994). Both of the forms do not grow sympatrically at the type locality. If any sympatric populations are found, it is worth testing whether frequency of pollinator visits, species assemblage of pollinators and rates of herbivory of the new form are different from *Gastrodia confusa* f. *confusa*.

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末次健司：菌寄生性ラン科植物アキザキヤツシロランの新品種

アキザキヤツシロランは，通常，植物体全体が褐色を呈するが，緑色を強く帯びた個体が新たに見つかったので，新品種ヒスイアキザキヤツシロラン *Gastrodia confusa* Honda et Tuyama forma *viridis* Suetsugu として記載した。タイプ産地では，およそ 100 個体すべてが緑色を強く帯びる個体で，通常の個体とは混生していなかった。

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