Study of native *Hosta* species on Shikoku Island, Japan©

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Hostas are perennial herbs native to eastern Asia including Japan, Korea, and China. About 20 species are recorded in Japan now. There are about 12 *Hosta* species on Shikoku Island. Eleven species are recorded just for Kochi Prefecture, among 13 species on Shikoku Island, including: *H. alismifolia* (baran-giboushi), *H. capitata* [syn. *H. nakaiana* (kanzashi giboushi)], *H. sieboldiana* var. *montana* [syn. *H. montana* (ohba giboushi)], *H. sieboldii* (koba giboushi), *H. longissima* (mizu giboushi), *H. longipes* [syn. *H. longipes* var. *caduca* (saikoku iwa giboushi)], *H. gracillima* [syn. *H. longipes* var. gracillima (hime iwa giboushi)], *H. kikutii* var. polyneuron (sudare giboushi), *H. kikutii* var. *caput-avis* (unazuki giboushi), *H. kikutii* var. *tosana* (tosano giboushi), and *H. tardiva* (nankai giboushi). Hostas are used as garden plants, materials for flower arrangements, and for vegetables. Hosta plants are known as a vitamin C rich vegetable in Japan with *H. tardiva* a popular vegetable with slight bitterness in Kochi, Shikoku. However, in Europe and America hostas are used as garden plants with very high popularity for a long time. Philipp F. B. von Siebold introduced Japanese hosta cultivars to Europa at the end of 17th century.

In this study, we investigated the ecology of *Hosta* taxa native to Shikoku Island, Japan. Among four 1A (CR) ranked endangered species in Kochi, we confirmed four sites of native populations of *H. alismifolia* including central Kochi area (three sites), one site in the eastern area (Figures 1 and 2). There are three sites for *H. sieboldii*, and two sites for *H. longissima*, respectively. There was only one site for *H. longipes*. *Hosta sieboldiana* var. *montana* is an important species for horticultural points of view. We confirmed native population in Shikoku Island including three sites for Ehime and Tokushima, and two sites for Kochi. We confirmed wide range of distribution of *H. kikutii* var. *caput-avis* around central and eastern Shikoku area at Tokushu and Kochi. There were sites for native populations for *H. capitata* in Kochi and Tokushima, respectively. There was a wide population range for *H. kikutii* var. *polyneuron* in Kochi and Tokushuma. This species showed much morphological variation in native habit. *Hosta tardiva* was cultivated near farmer's houses, however, this species in Shikoku is rare except for Kochi. We confirmed native population of *H. gracillima* along Shimanto river (western part of Kochi), Ehime. However,we never confirmed population of Kagawa. Classification of *Hosta* species is considered difficult, because there are many variations in native *Hosta* species, which shows large gene flow. We are checking characteristics of *Hosta* by application of DNA analysis. *Hosta alismifolia* which is distributed in Kochi showed strong relationship with *H. longissima*. We will try system analysis of Shikoku hostas.

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Figure 1. *Hosta alismifolia*.

Figure 2. Habitat of *Hosta alismifolia* in Kochi Prefecture.