

H. clausa var. *ensata* (F. Maekawa) W.G. Schmid 1991

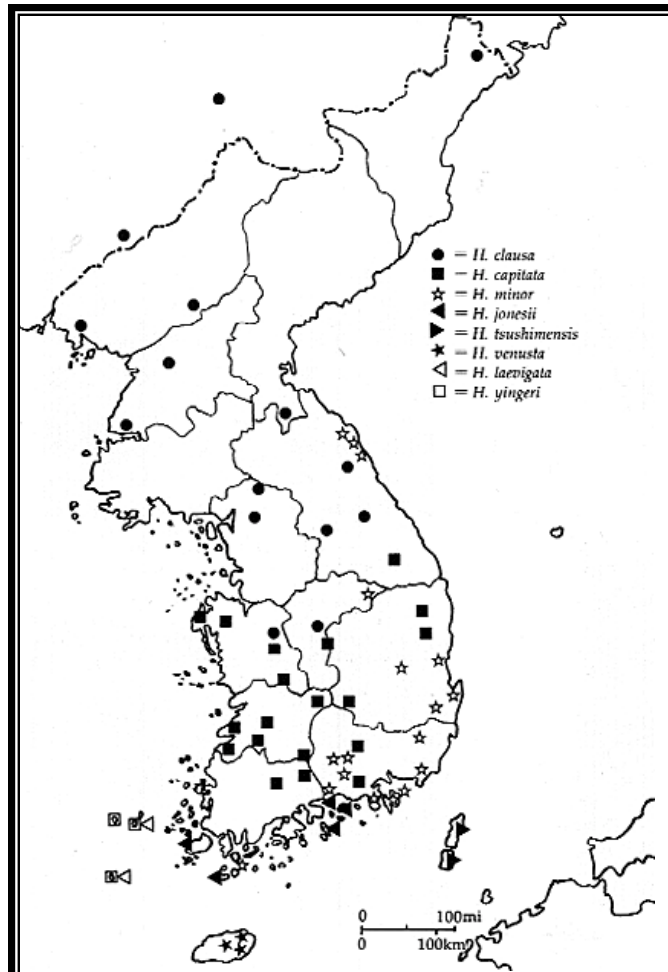
东北玉簪 = dong bei yu zan (Chinese) = Northeast *Hosta*

이삭비비추 = I-sak-bi-bi-chu (Korean)

ツルギギボウシ = Tsurugi Gibōshi (Maekawa 1937) = sword-shaped *hosta*

H. ensata F. Maekawa 1937

Habitat and Nomenclature: In 1937, F. Maekawa noticed and differentiated a morph of the *H. clausa* group. The variant was characterized by upright, “sword-shaped,” narrower leaves, shorter scapes and smaller habit. He gave this taxon the Japanese name ツルギギボウシ = Tsurugi Gibōshi, which means “sword-shaped *hosta*.” Maekawa wrote his determinavit on herbarium specimens at TI, calling this *H. clausa* morph *H. clausa* var. *ensata*. Maekawa (1940) elected to give this taxon specific rank and gave a full diagnosis under the name *H. ensata*. It should be pointed out that these taxonomic decisions were made on the basis of herbarium specimens. C.H. and C.Y. Chung (1982) followed this placement. In 1985, 1987 and 1988, M.G. Chung undertook several field studies of Korean taxa, including the morph *H. clausa* var. *ensata*. He found that this variant occurs among natural, allopatric populations on the Korean Peninsula. (M.G. Chung, 1989; personal communication). This establishes that it not only occurs in northeast China in Liaoning (辽宁 or 遼寧) and Jilin (吉林) Provinces along the Yalu River,



Habitat of *H. clausa* T. Nakai

The border of Korea and China is indicated with - - - - - The full circles shown north of this line are in Liaoning and Jilin provinces, China, and are considered *H. ensata* by Chinese taxonomists



H. clausa var. *ensata*
 (F. Maek.) W.G. Schmid 1991
 (Cultivated Voucher ex UGA)
 Hosta Hill R.G. • Photo © W.G. Schmid 1987

but also in Korea. Although Maekawa (1940) validly published this taxon as a species, on his own herbarium sheets (in TI) he considered it a variety of *H. clausa*, i.e., his 1937 determinavit was *H. clausa* var. *ensata*. Based on M.G. Chung (1990), the latter placement better reflects the distribution observed by M.G. Chung, and for this reason W.G. Schmid (1991) reduced this taxon to varietal rank (stat. nov.) An examination of herbarium specimens from Korean and Japanese academic sources reveals that some of the exsiccate are in fact *H. clausa* var. *ensata*. M. Chung (1990, 1994) also postulated that *H. clausa* occupies habitat along streams only. He found several morphs endemic within the same population in Korea. The morph identified as *H. clausa* var. *ensata* with narrow, lanceolate leaves grows only in

higher elevations on rock outcrops away from the streamside habitat of the other forms of *H. clausa*. This sword-leaved variant migrated from the riverbanks to rock outcrops away from the river beds and in time was modified by different growing conditions. The modifications imparted by a new environment resulted in smaller size, a rhizome, which is not as wide-ranging as *H. clausa*. Also, narrow, sword-shaped leaves (*ensata* = sword-like) on shorter, purple-dotted petioles. Due to its similarity to small forms of the all-green *H. sieboldii* other authors have misidentified it (Komarov, 1901; Mori, 1922).



H. clausa var. *ensata* ►►►
 Showing Shorter Scape and Raceme
 (Cultivated Voucher)
 Hosta Hill R.G. • Photo by W.G. Schmid 1988

Nomenclaturally, this taxon is called 东北玉簪 = dong bei yu zan in China, which stands for “northeast hosta,” being endemic in the northeastern provinces of China (辽宁 or 遼寧 and 吉林). Chinese botanists have examined the populations in China along of the Yalu River in Liaoning (辽宁 or 遼寧) and Jilin (吉林) Provinces and assigned the synonymous scientific names *H. ensata* var. *foliata* P. Y. Fu & Q. S. Sun (1995) and *H. ensata* var. *normalis* (F. Maekawa) Q. S. Sun. (1992). In Korea it is called 이삭비비추 = I-sak-bi-bi-chu. As mentioned earlier, Maekawa assigned the Japanese name ツルギギボウシ = Tsurugi Gibōshi = sword-shaped hosta.

***H. clausa* in Cultivation:** This variant of *H. clausa* is rarely seen in cultivation. Although a good horticultural subject, it remains a plant for collectors. Quite frequently, plants cultivated under this name in the United States with yellow anthers are not this species but belong to *H. sieboldii*. In Korea and China it is better known and used in gardens in much the same way as *H. ‘Lanci-foia’* is in Europe and North America. The leaves are rather plain, very similar to *H. ‘Lanci-foia’*, but it is a smaller, slower growing plant with more substance.



H. clausa var. *ensata*
 Showing Glossy Leaf Surface and Short Petioles
 (Source Unknown)
 Hosta Hill R.G. • Photo by W.G. Schmid 1987

Plant Morphology:

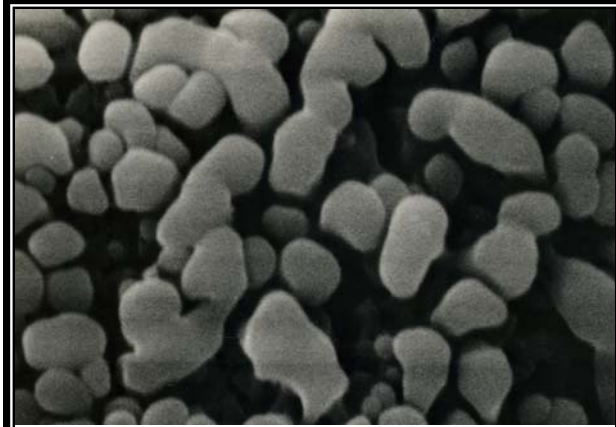
Plant size 25–30 cm dia., 25 cm high (10–12 by 10 in.). Rootstock stoloniferous, wide-ranging. Petiole 2.5–5 by 0.4 cm (1–2

by 0.20 in. wide), at leaf broadly winged, purple-spotted on back, green. Leaf 7.5–12.5 by 2.5–4 cm (3–5 by 1–1.5 in.), erect and in line with petiole, oblong-lanceolate, petiole transition very gradual, non-angular, acuminate tip, generally “flat” surface, no waves in margin, erect, rigid, leathery, shiny dark green above, glossy lighter green below. Venation 4–5, sunken above, very projected, smooth, below. Scape 30–55 cm (12–22 in.), straight and erect, +/- perpendicular, green, slightly purplish red tinted at the base. Fertile bracts short, navicular, grooved, green or whitish green, imbricated, not persistent at anthesis. Raceme long, 25 cm (10 in.) 15–25 flowers. Flowers purple, held erect in horizontal position on strong pedicels, 5 by 2 cm (2 by 1 in.) broad, funnel-shaped, rapidly expanding, at tips @+perpendicular to axis of perianth; stamens even with lobes. Anthers purple. August/September. Fertile.

Karyotype-Chromosomes:

Sporophytic Count = 60; 12 large, 48 small.

Pollen: (Pollen shape after Erdtman, 1966): *H. clausa* has unique rugulate-baculate pollen grains (Subtype RB). This taxon is the only one in the genus with this type of pollen grain and this supports placement in the separate section *Stoloniferae* (Maekawa 1940). Pollen shape is SO (sub-oblate-spheroidal); size in the range of P 78.9 ± 2.0 × E 68.2 ± 4.0 (Sizes given in μm polar axis (P) × equatorial axis (E)).



H. clausa: Pollen Type RB,
Grain Surface Detail
SEM × 4000 (M.G. Chung)

Taxonomic Type and Synonymy:

H. clausa var. *ensata* (F. Maekawa) W. G. Schmid 1991

Type: In TI, No. 366; coll. V. Kamarov, Yalu River, Manchuria. Hab. in provinces Liaoning and Jilin in northeastern China (Yalu Basin); and far eastern USSR. Part of allopatric populations in Korea.

Botanical Synonyms:

Funkia lancifolia Sprengel in Komarov: *Flora Manch.*, 1:441 1901 pp.

H. clausa var. *ensata* Maekawa (in schedula): *Annot. on herbarium sheet, in TI, 1937.*

H. ensata Maekawa: *J. Japanese Botany*, 13:900 1938 (basionym); and *J. of the Faculty of Science, Imperial University of Tokyo, Section 3 Botany, Vol. 5:393, 394 ic. 70 1940.*

H. japonica var. *lancifolia* Nakai apud Mori: *Enumer. Korean. Plant.*, p. 89 1922 pp.

H. lancifolia Engler in Nakai: *J. of the Faculty of Science*, 31:250 1911.

Hosta ensata var. *normalis* (F. Maek.) Q.S. Sun, *Flora Liaoningica* 2: 682.1992

Hosta ensata var. *foliata* P.Y. Fu and Q.Y. Sun, *Fl Liaoningica* 2, 1158. 1992; P.Y. Fu & Sun, *Q.S. Bulletin of Botanical Research* 15(3): 333. 1995.

Chinese Language Synonyms:

H. ensata = 东北玉簪 = dong bei yu zan = Northeast hosta

Korean Language Synonyms:

H. clausa var. *ensata* = 이삭비비추 = I-sak-bi-bi-chu = Spike hosta

Japanese Language Synonyms:

H. clausa var. *ensata* = ツルギギボウシ = Tsurugi Giboshi

Horticultural Names:

Sword-leaved Plantain Lily Maekawa 1969.

Horticultural Progeny:

Hosta clausa in all of its forms was rarely used to produce hybrids and no direct sports have been reported:

References:

- Chung, M.G. and Jones, S.B. 1989. Pollen morphology of *Hosta* Tratt. (Funkiaceae) and related genera. *Bulletin of the Torrey Botanical Club*, Vol. 116, 1:31–44.
- Chung, M.G. 1990. A Biosystematic Study on the genus *Hosta* (Liliaceae/Funkiaceae) in Korea and Tsushima Island of Japan. U. of Georgia, Athens; including: *Morphometric and isoenzyme analysis of the genus Hosta Tratt.* (with S.B. Jones and J.L. Hamrick) and *Isoenzyme variation within and among populations of Hosta in Korea.*
- Chung, M.G. and J.W. Kim. 1991. The genus *Hosta* Tratt. (Liliaceae) in Korea. *Sida* 14: 411–420.
- Chung, Y. H. and Chung, Y. C., 1982. A Taxonomic Study of the Genus *Hosta* in Korea. *Proc. Coll. Nat. Sciences*, Seoul National University, Korea, 7/1:87–122.
- Erdtman, G. 1966. *Pollen morphology and plant taxonomy*. Angiosperms. Hafner NY.
- Fu, P.Y. and Q.Y. Sun, *Hosta ensata* var. *foliate*. *Fl Liaoningica* 2, 1158. 1992; and *Q.S. Bulletin of Botanical Research* 15(3): 333. 1995.
- Fujita, N. 1976. The genus *Hosta* (Liliaceae) in Japan. *Acta Phytotaxonomica et Geobotanica*, Vol. 27, (3–4) pp. 66–96
- International Code of Nomenclature for Cultivated Plants* (2004), by the Horticultural Taxonomy Group, ISHS Comm. for Nomenclature and Registration.
- Koidzumi, G., 1916. *Hosta caerulea* var. *capitata*. *Botanical Magazine*, Tokyo, 30:326.
- Komarov, V. L., 1935. *Funkia lancifolia* Spreng. *Flora USSR*, Leningrad, 4:55, T. 5/2.
- Lee, T. B., 1980. *Illustrated Flora of Korea*. Hyangmunsa, Seoul, Korea; pp. 199–200.
- Lee, Y. N., 1973. A Taxonomic Study on Two Taxa *H. clausa* Nakai and *H. clausa* Nakai var. *normalis* Maekawa. *J. K.R.I.B.L.*, 10:37–41.
- Léveillé, A. A. H., 1911. *Funkia subcordata* var. *taquetii*; in Fedde: *Repertorium specierum novarum regni vegetabilis*, Beih., 9:322
- Maekawa, F., 1935. *Studia monocotyledonearum Japonicarum* (1 and 5) *H. kiyosumiensis*, *H. venusta*, *H. nakaiana*. *J. Jap. Botany*, 11:244–248, 687–689.
- Maekawa, F. 1937. Divisiones et plantae novae generis *Hostae* (1). *J. Japanese Botany*, 13, No. 12:893–905. Maekawa, F., 1938. Divisiones et Plantae Novae Generis *Hostae* (2). *J. Japanese Botany*, 14, No. 1:45–49.
- Maekawa, F. 1940. The genus *Hosta*. *J. of the Faculty of Science*, Imperial University Tokyo, Section 3 Botany, Vol. 5:317–425.
- Maekawa, F., 1969. *Hosta* Trattinnick. In *New Encyclopedia of Horticulture*, Seibundoshinkosha, Tokyo, Vol. 3:1105–1109.
- Nakai, T. 1911. *Flora Koreana, pars secunda (H. caerulea)* *J. of the College of Science*, Imperial University Tokyo, 31:250–251.
- Nakai, T., 1918. *Report Veg. Diamond Mountains, Corea*. Government of Chosen, Seoul, Korea; p. 167.
- Sauve, R.J., S. Zhou, Y. Yu, and W.G. Schmid. 2005. Random amplified polymorphic DNA (RAPD) analysis in the genus *Hosta*. *HortScience* 40(4).
- Schmid, W.G. 1991. *The genus Hosta: Giboshi Zoku*. (ギボウシ属). London and Portland: Timber Press.
- Schmid, W.G. 1991. The Korean species. (in *The genus Hosta: Giboshi Zoku*. London : B.T. Batsford; Portland: Timber Press.) Pp. 297–298.

- Schmid, W.G. 2004. *Hosta* species and DNA fingerprinting. *Bull. Brit. Hosta Hemerocallis Soc.* 2004: 50, 59-66.
- Schmid, W.G. 2005. *Hosta* DNA fingerprinting. *The Hosta Journal*, Vol. 36 2005 (3): 69-74.
- Summers, A.J., 1972. Numbered Acquisition List, Hortus Summers, A. J. 1964 through 1972 (Unpublished; contributed to author by A. J. Summers).
- Sun, Q.S. *Hosta ensata* var. *normalis* (F. Maek.), *Flora Liaoningica* 2: 682.1992
- Zonneveld, B.J.M. and F.Van Iren. 2001. Genome size and pollen viability as a taxonomic criteria: Application to the genus *Hosta*. *Plant Biology*, 3, pp. 176-185. G. Thieme Verlag: Stuttgart

Herbarium specimen with
H. clausa var. *ensata* morphology



© W.George Schmid 2010: The text and illustrations are copyrighted and are available for personal reference only. Other contributors retain their copyright of featured photographs as noted in captions. The content may not be published in printed form without the author's written permission.

Web quote reference: W. George Schmid,
HostaLibrary.org/species/.