

# THE GENUS *HELIOPSIS*: DEVELOPMENT OF VARIETIES AND THEIR USE IN THE EUROPEAN GARDENS AFTER THE MID 19<sup>TH</sup> CENTURY

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## Abstract

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This review summarizes data on the development of varieties in historic gardens of the once very popular Ox-eyes (*Heliopsis* Pers., Asteraceae: Zinniinae) after the mid 19<sup>th</sup> century, with regard to the development of varietal assortments in the periods corresponding to the most important architectural styles and to their fluctuating popularity. Old varietal assortments, usually derived from large-flowered *H. helianthoides* var. *scabra*, now rapidly disappear and the oldest varieties, including the once famous Lemoine's selections, are virtually inaccessible. Until recently the most propagated Götz's and Förster's varieties also disappear and are replaced by modern, relatively small-flowered selections delivered from *H. helianthoides* var. *helianthoides* or patent protected variegated varieties. Neither of these groups, however, is applicable to the restoration of historic gardens. Tables show data on the origin of about eighty both still cultivated and vanished varieties.

Keywords: Ox eye, *Heliopsis*, cultivated taxa, varieties, historical overview

## INTRODUCTION

The genus *Heliopsis*, cultivated at least in its smooth-leaves variety since late Baroque era, seems to be inextricably linked with old gardens but its present rich varietal selections, however, are not nearly as old – the first varieties appear at the late nineteenth century and varieties offered today even half a century later. It must be based not only in the restoration and maintenance of the classical historic gardens before 1900 but also the relatively modern gardens which were established or rebuilt during the interwar and even post-war period, if they subject to the Act on Stage Heritage Preservation. In cases when it is not possible to implicitly specify the original composition of plant inventory, we have no choice but to detailed inventory the records of composition of period varieties and to adapt the choice of plants to this inventory. To facilitate the selection of suitable varieties for historical

periods, roughly equivalent to the most important architectural styles, the data on development and composition of period perennial varieties are now concentrated and evaluated within the project “Landscape architecture's methods and tools for spatial development” and the genus *Heliopsis* varieties here represent another theme in a series of such reports.

## Introduction to the Botanical Issue of the Cultivated Taxon

The genus *Heliopsis*, falling in subtribe Zinniinae also including some other genera which are popular in gardens (Urbatsch *et al.*, 2000), contains thirteen (Fisher, 1957) to fifteen (García-Chávez *et al.*, 2004) species, both perennial and annual; yet other species add Ramirez-Noya *et al.* (2011). Only three species, however, grow north of the Mexican border (García-Chávez *et al.*, 2004) and the only

coincidentally type species of the genus penetrates far north to southeastern Canadian provinces and is reliably winter-hardy in central European climatic conditions.

*Heliopsis helianthoides* (L.) Sweet shoots from short procumbent rhizomes clumps of height up to 1.5 m, straw-yellow or reddish-brown stems with lanceolate to ovate peaked leaves with irregularly dentate margins. Composite flowerheads of the size of children's hand consist of 10–18 (in case of garden varieties usually more) golden-yellow ray florets and dozens of greenish yellow (sometime chestnut-coloured) disk florets with ovaries maturing to the square, smooth and often pappus-free achenes. It grows on the prairies, wet grasslands, in light forests, but often also on anthropogenic habitats across the North American continent with the exception of countries of the Pacific region and northern Canadian territories. Besides the type subsp. *helianthoides* (former *Heliopsis laevis* Pers.), relatively small-flowered taxon with smooth leaves, growing in lowlands and uplands of the eastern part of the mentioned area, Fisher (1957, 1959) recognizes even subsp. *occidentalis* and subsp. *scabra* (*Heliopsis scabra* Dunal), both large-flowered, with cone disks of composite flowerheads and with rougher and asperous leaves, more drought resistant and protruding into the mountains of the U. S. Midwest to altitude of almost 2,400 m. Boivin (1972) ascribes status of variety even to narrow-leaved, southwestern populations of the latter subspecies. Recent authors (Brown, 2000; Smith, 2006; Yatskiewych, 2006), however, reduce the status of the all former subspecies to a mere varieties and all asperifoliate subtaxa unite under the name var. *scabra* (Dunal) Fernald. Just to this variety, introduced to the gardens of Paris in 1819, is attributed the vast majority of garden varieties. From the type subtaxon with orbicular gibbous disks of composite flowerheads and smooth leaves (Small, 1903) were still delimited var. *solidaginoides*

(L.) Fernald, upright with composite flowerheads yet noticeably smaller, and similar, but overall slender and procumbent var. *minor* (Hook.) Farw. (Fernald, 1937). The latter was once ascribed status of peculiar species (Small, 1903), while today is connected with similarly slender and in our climatic conditions probably not quite winter-hardy *Heliopsis gracilis* (Gray) Nuttall of the Mexican-American border (Fisher, 1957; Smith, 2006) – but even this had been attributed to the nominotypical species (Torrey & Gray, 1841). All recognized subtaxa readily cross themselves wherever their regions overlap (Fisher, 1958), hybrids retain their unimpaired fertility and produce a number of plants with a wide range of temporary characters. Aftermaths of complex taxonomic relationships have long persisted in older horticultural literature where we can find *H. helianthoides* cultivated not only under the names *H. scabra* or *H. laevis* (Robinson, 1878; Fletcher, 1900; Arnott, 1903) but also *H. major* (as opposed to only rarely propagated *H. minor*). Large-flowered selections with almost orange composite flowerheads used to be also offered as *H. pitcheriana* (Dreer, 1894; Jekyll, 1899; Arnott, 1905; Molyneux, 1905), *H. superba* or *H. patula* (Jekyll, 1898 and 1899; Schmidt, 1909; Kelway, 1913; Koon, 1940) and also under other names spread by nurserymen themselves. Others (Abel, 1899; Fletcher, 1900; Keeler, 1910; Kelway, 1913, etc.), however, similar derivations soon again reduced to a mere garden varieties and the status of cultivars is largely ascribed to them also currently.

### Varieties in the Years 1890–1920

Although both cultivated varieties were verifiably cultivated before 1824 – and the smooth-leaves type variety (at that time as *Silphium solidaginoides* L. or *Buphthalmum helianthoides* L'Hér.) perhaps even a century earlier (Loudon, 1832; Curtis, 1834) – variations were not long detected from reseeds. The first garden varieties were offered only during

### Historical overview of *Heliopsis* varieties

I: *Heliopsis helianthoides* agg. varieties in 1890–1920

Variety	Origin/the earliest mention*	Characteristics
'B. Ladhams'	Ladhams/Molyneux*	1.2, large heads, soft orange
'Compacta Floribunda' ♦	Jancke*	0.8, large heads, dark yellow
'Ernest Ladhams'	Elwanger & Barry	1.0, golden yellow
'Excelsa'	Lemoine/Wallis*	1.4, semidouble, dark yellow
'Flore Pleno'	Lemoine	nearly double, golden yellow
'Major' <sup>1)</sup>	Ladhams/Marshall*	1.0, yellow-orange, late
'Patula'	Paul & Son	1.0, large heads, orange-yellow
'Pitcheriana' ♦	Pitcher & Manda	1.0, large heads, bright orange
'Pitcheriana Semiplena' ♦	Dreer*	semidouble, orange-yellow
'Soleil d'Or' <sup>2)</sup> ♦	Gerbeaux/Kelway*	1.4, semidouble, golden yellow
'Superba' ♦	Wolley-Dod /Arnott*	deep orange
'Tom Thumb' ♦	Barr/Reid*	dwarf, deep orange
'Zinniaeflora'	Lemoine/Grignan*	1.2, nearly double, orange-yellow

the year 1893: while Burrell & Co. was still awarded at the London exhibitions for old *H. scabra*, overseas already in spring of that year Pitcher and Manda offered their “*H. Pitcheriana*“, distributed afterwards also by other nurseries (Stiles, 1893; Dreer, 1894). Fourteen weeks later Dysart exhibits in the Chiswick garden “*H. patula*“ (Sage, 1893) and in autumn Ladhams introduces “*H. scabra major*“ in Westminster, which was awarded the Award of Merit in the same year (Barr, 1893). New varieties, distributed mainly in English gardens by Prichard, Wolley-Dod and Ladhams, provoked numerous discussions in the press (Egan, 1895; Jordan, 1895; Anderson, 1896; Marron, 1896; Hatfield, 1897; Keller, 1897; Watson, 1897; Abel, 1899; Fletcher, 1900; Arnott,

1898, 1899, 1903 and 1905; Reid, 1905; Molyneux, 1905, etc.), which led to a revival of interest in this culture and to the efforts on the selection of new varieties. Even in 1896 were introduced equally discussed ‘B. Ladhams’ (Bedford, 1896; Masters 1896; Cook, 1901; Arnott, 1903; Molyneux, 1901 and 1903; Tallack, 1903), within the next ten years Wolley-Dod registered bright orange *H. scabra* ‘Superba’ (Arnott, 1905; Molyneux, 1905) and Barr registered compact growing ‘Tom Thumb’ (Reid, 1905). Overseas is approximately in the same time introduced to the market ‘Pitcheriana Semiplena’, the first variety with half-full, though not so large composite flowerheads (Dreer, 1905; Greensmith, 1905); however, it ceased to be offered relatively soon

## II: *Heliopsis helianthoides* agg. varieties in 1920–1950

Variety	Origin/the earliest mention*	Characteristics
‘Aurata’♦	Domin* 1938	1.0, golden yellow
‘Compacta Grandiflora’♦	Moser 1921	1.0, bright yellow
‘Dauergold’	Foerster* 1942	large heads, dark yellow
‘Decora’♦	Lemoine ?	name only
‘Elegans’	Stome* 1929	1.0, nearly double, yellow
‘Eminens’♦	Lemoine/Stome* 1929	1.0, semidouble, chrome yellow
‘Formosa’	Lemoine/Domin* 1928	1.2, semidouble, pale yellow
‘Gigantea’♦	Lemoine/Hensen* 1929	1.5, semidouble yellow
‘Golden Dream’ <sup>3)</sup>	Turner 1920	invalid name (‘Orange King’)
‘Goldgefieder’ <sup>4)</sup>	Foerster 1949	1.2, double, dark golden
‘Goldgrünherz’	Foerster 1937	0.8, double, pale yellow, late
‘Golden Ray’	Conard-Pyle 1943	yellow, crimped rays
‘Goldene Sonne’ <sup>2)</sup>	Heinemann 1930	1.2, golden yellow, late
‘Grandiflora’	Silva-Tarouca* 1922	large heads, deep orange
‘Gratissima’	Lemoine/Foerster* 1920	0.8, floriferous, pale yellow
‘Hercules’ <sup>1)</sup>	Olmsted* 1923	identical to ‘Major’
‘Hohlspiegel’ <sup>5)</sup>	Foerster 1947	1.2, semidouble, golden yellow
‘Imbricata’	Lemoine/Foerster* 1920	1.0, nearly double, dark golden
‘Incomparabilis’	Lemoine 1923	1.0, nearly double, orange-yellow
‘Laetiflora’♦	Lemoine/Foerster* 1920	golden yellow, late
‘Ligulosa’♦	Gerbeaux ?	semidouble/nearly double
‘Magnifica’♦	Boom & Ruys* 1950	1.5, golden yellow, late
‘Neue Hybriden’	Foerster 1938	1.0, variable, yellow-orange
‘Orange King’ <sup>3)</sup>	Turner 1920	deep orange-yellow
‘Plenissima’♦	Lemoine/Armitage* 1961	golden yellow, late
‘Praestans’	Silva Tarouca* 1928	1.6, semidouble, chrome yellow
‘Primaballerina’ <sup>6)?</sup>	Gebr. Schütz 1948	1.0, dark golden-yellow
‘Slunce’ <sup>2)?</sup> ♦	Gebr. Schütz 1948	1.4, semidouble, dark golden
‘Sommersonne’ (‘Zomerzon’)	Foerster 1938	1.2, poloplňá temně žlutá
‘Sonnenschild’	Foerster 1947	1.4, double, orange-yellow
‘Spectabilis’♦	Lemoine	1.0, double, chrome yellow
‘Spitzentänzerin’ <sup>6)</sup>	Foerster 1940	1.4, semidouble, dark yellow, late
‘Věčné zlato’♦	Gebr. Schütz 1948	1.4, golden yellow, remontant
‘Variegata’	Slottsskog 1926	yellow, creamy-variegated foliage
‘Vitellina’	Lemoine ?	1.0, double, golden yellow

III: *Heliopsis helianthoides* agg. varieties in 1950–1980

Variety	Origin/the earliest mention*		Characteristics
'Ballerina' <sup>6)</sup>	Clausen*	1969	identical to 'Spitzentänzerin'
'Ballet Dancer' <sup>6)</sup>	RHS*	1964	identical to 'Spitzentänzerin'
'Concave Mirror' <sup>5)</sup>	Bloom	1971	identical to 'Hohlspiegel'
'Desert King' <sup>7)</sup>	Clausen*	1969	identical to 'Wüstenkönig'
'Goldenkandelaber' ♦	Foerster	?	name only
'Golden Plume' <sup>4)</sup>	Armitage*	1989	identical to 'Goldgefieder'
'Goldklumpen' ♦	Foerster	?	name only
'Goldranunkel'	Lintner	1959	1.0, semidouble yellow, late
'Gold Everhart' ♦	Fisher*	1958	semidouble yellow
'Jupiter'	Götz/Hensen*	1972	1.6, large heads, orange, late
'Karat'	Götz	1956	1.4, large heads, deep yellow
'Lenhoff'	Litomyšl	1974	corrupted 'Lohfelden'?
'Light of Loddon'	Carlile/Armitage*	1961	1.4, semidouble, rich yellow
'Lohfelden'	Klose	1971	1.4, semidouble, orange-yellow
'Mars'	Götz/Hensen*	1972	1.4, semidouble, orange-yellow
'Orion'	Götz/Hensen*	1972	1.4, orange-yellow
'Venus'	Fuss	1979	1.4, large heads, orange-yellow
'Wüstenkönig' <sup>7)</sup>	Foerster	1964	1.2, semidouble, golden-yellow

IV: *Heliopsis helianthoides* agg. varieties after 1980

Variety	Origin/the earliest mention*		Characteristics
'Asahi'	Hoffman*	2005	0.8, small pompon-flowered, gold
'Benzinggold'	Benzing/Laar*	1995	1.6, semidouble, orange-yellow
'Bressingham Dubloon'	Bloom	1989/1997	1.4, semidouble, golden-yellow +
'Double Sunstruck'	Ball	2014	0.6, double, yellow, variegated
'Goldball'	Götz/Hensen*	1983	0.8, double, golden-yellow
'Goldspitze'	Armitage*	1989	1.0, small golden-yellow heads
'Golden Double Hybrids'	Thomp.& Morgan		1.2, semidouble, double, from seed
'Kevin's Joy'	Bidwell/Marsh	2008	0.8, double, gold margined leaves
'Kokarde' ♦	Bengtsson*	1989	1.0, semidouble, golden-yellow
'Lorraine Sunshine' ('Helhan')	Hanson	1997	0.8, yellow, leaves varieg. cream
'Midwest Dreams'	Hoffman*	2000	small heads, deep yellow
'Prairie Sunset'	Diboll	1994/2002	1.4, reddish yellow, disc maroon +
'Sommerzwerg'	Foerster/Näser	1987	0.6, golden-yellow, compact
'Sonnenglut'	Klose/Laar*	1995	1.4, semidouble yellow, large heads
'Sonnenstrahl'	Klose/Laar*	1995	1.5, yellow-orange
'Sonnenzwerg'	RHS	1998	corrupted 'Sommerzwerg'
'Sunstruck'	Knosher	2013	0.6, gold-yellow, white variegated
'Summer Green'	Übelhart/Jelitto	2007/2011	1.2, yellow, red disc, variegated
'Summer Nights'	North Creek	2002	1.4, orange yellow, red disc
'Summer Pink'	Übelhart/Jelitto	2007/2011	1.2, yellow, rose/white variegated
'Summer Stripe'	Übelhart/Jelitto	2007/2011	1.2, yellow, rose/white variegated
'Sunburst'	Pilon*	2014	0.8, gold-yellow, white variegated
'Teheran' ♦	Sieber*	1983	name only
'Tuscan Sun'	Hanson	1998/2006	0.6, golden yellow, early. compact
'Waterperry Gold'	Havergal/RHS*	1998	1.2, semidouble, lemon-yellow
'Winter Sun'	Hishtil	2012	1.0, gold-yellow, white variegated

## V: Origin of varieties from Bornim by Danish, Dutch and German literature sources

	Clausen	Hensen	Sieber	Götz
'Goldgefieder'	Foerster 1949	Foerster 1949	Foerster 1949	Foerster 1949
'Goldgrünherz'	Foerster 1939	Foerster 1937	Foerster 1937	Foerster 1934
'Goldranunkel'	?	Lintner 1959	-	Foerster 1951
'Hohlspiegel'	Foerster 1956	Foerster 1956	-	Foerster 1947
'Karat'	Götz 1969	Götz ± 1962	Götz 1955/60	Götz 1956
'Sonnenschild'	Foerster 1956	Foerster 1956	Foerster 1951/54	Foerster 1947
'Spitzentanzerin'	Foerster 1950	Foerster 1949	Foerster 1949	Foerster 1934

without catching on in European gardens. Famous Lorraine plant breeder Lemoine underpinned clones with strikingly multiplied ray florets among large-flowered asperifoliate genotypes: he introduced them as "*H. scabra zinniaeflora*" (Grignan, 1908) and "*H. scabra flore pleno*" (Stewart, 1909) and immediately took them to the series of excellent double-flowered varieties (Tab. I). His new varieties proved successful only in the twenties of the 20<sup>th</sup> century (Foerster, 1922; Bergmans, 1924; Fulín, 1925; Vaněk, 1925) – of them just 'Zinniaeflora' together with 'Incomparabilis', 'Gratissima' and 'Excelsa' belonged to the most propagated varieties still in the fifties of the 20<sup>th</sup> century.

## Varieties in the Years 1920–1950

In gardens, softening the plain contours of functionalist architecture, are still very popular especially above mentioned double-flowered cultivars of Lemoine, whose nurseries offered since 1927 reportedly 23 varieties (Hensen, 1982); the most commonly grown varieties at that time mentioned Foerster (1920), Silva-Tarouca & Schneider (1922), Bonstedt (1932) and exceptionally wide offerings of leading perennial nurseries such as Goos & Koenemann in Niederwalluf, Karl Foerster Gärtnerei in Potsdam-Bornim, Göteborgs Trädgårdsförening, in the Czechoslovakia particularly Koniferové školky in Žehušice, Bratří Schützové in Olomučany or Spolková zahrada Dendrologické společnosti in Průhonice (Appendix 2). The advantages of shortly forgotten "*H. scabra major*" were rediscovered, but this time erroneously ascribed to Nonne & Hoepker nursery in Ahrensburg (Hahn, 1929). The first variegated variety was registered in already mentioned nurseries in Göteborg in 1926, but it soon disappeared from offerings (Oskarsson, 2003). At the end of thirties, the plant breeder Foerster (1938, 1940, 1942) from Bornim introduced the first of his famous varieties and his 'Sommersonne', 'Spitzentanzerin' or 'Goldgrünherz' (like 'Neue Hybriden' cultivated from reseeds) later successfully competed to the Lemoines' varieties (see also offerings of nurseries of Foerster, 1938; Kidery & Preissner, 1942) – despite the number of remarkable new varieties, registered in subsequent periods, these cultivars belong to the most propagated cultivars even by today's growers. Probably in the same

time, old varieties 'Pitcheriana' and 'Grandiflora' disappeared from offerings and with them for a long time also all genotypes derived from smooth-leaves variety cultivated at that time. Old varieties of Lemoine still dominated in perennial nursery offerings for a long time in the war and postwar years (see offerings of nursery catalogues at that time in the appendix – Dreer, 1934 and 1940; Gilbert, 1942; Vejtasa, 1936 and 1942; Frikart, 1944; Koniferové školky in Žehušice, 1936, 1940, 1946, 1948 and 1966; Wackernagel, 1952, etc.).

## Varieties in the Years 1950–1980

Although in many perennial nurseries' offerings still prevailed old varieties of Lemoine (Koniferové školky in Žehušice still in 1968), probably from the mid-sixties in gardens of socialist realism and postmodernism were increasingly applied new Foerster's varieties, now introduced by nurseries in Bornim (Machala *et al.*, 1964; Clausen, 1974; Plömacher & Hagemann, 1975). In gardens of the Western Bloc are these varieties distributed particularly by Klose, Arends and Pagels together with newly registered varieties of plant breeder Götz from Schiltach. Varieties 'Goldgrünherz' and 'Karat' (Clausen, 1974), 'Sonnenschild' and 'Mars' (Hensen, 1982 and 1983), but also 'Spitzentanzerin', 'Hohlspiegel', 'Goldranunkel' and old 'Patula' belonged to the best evaluated in this period. However, as of the date of their introduction, as with many other varieties of both plant breeders, authors' views are often different (Tab. V). It seems to be better adhere to the earlier data from German overviews (Sieber, 1990; Götz, 2011) – i.e. Foerster's 'Spitzentanzerin' is offered by Kidery & Preissner nursery in Žatec since 1942 and by Foerster himself already since 1940 (but not in 1938). Similarly, 'Sonnenschild' and 'Goldgrünherz' varieties were offered by nurseries in Bornim significantly earlier than were dated in overviews from Virum (Clausen, 1974 and 1975) or Wageningen (Hensen, 1982 and 1983), based probably on the later Foerster's overview of new cultivars from Bornim in 1949.

## Varieties After 1980

Until the end of the century prevailed in offerings of nurseries Foerster's and Götz's varieties mentioned above, upright growing, large-flowered and mostly derived from var. *scabra*: not



overseas newly emerging 'Ballet Dancer', 'Toe Dancer', 'Ballerina', 'Golden Plume', 'Desert King' or 'Concave Mirror' (Bloom, 1971; Phillips & Rix, 1991; Armitage, 1997) were more than invalid new names for older Foerster's 'Spitzentanzerin', 'Goldgefieder', 'Wüstenkönig' and 'Hohlspiegel'. Newer German 'Benzinggold', 'Sonnenglut' and 'Sonnenstrahl', or English 'Watterperry Gold' and 'Light of Loddon' competed with varieties from Bornim only tentatively (see catalogue offerings of perennial nurseries in appendix) – but besides proved varieties 'Spitzentanzerin' and 'Goldgefieder', British Royal Horticultural Society awarded prestigious Award of Garden Merit to just this new clones (Cubey & Grant, 2004). These include markedly squeezed 'Tuscan Sun' (Hanson & Zlesak, 2008; Zlesak & Hanson, 2008, Ernest, 2009) and 'Sunstruck' (Klopmeier, 2014), comparable perhaps only with rediscovered 'Sommerzwerg' from plant breeders in Bornim. With introduction of more patulous 'Prairie Sunset' (Diboll, 2003), 'Summer Nights', or Anemone-like 'Asahi' grew unstopably popularity of relatively small-flowered varieties, derived from populations of almost forgotten var. *helianthoides*: they seemed to be less long-lived, but they developed faster and varieties grew up from reseeds often flowered already in the year of sowing (Pilon, 2013) and newly are available in a range of variegated clones (Hanson, 1998; Uebelhart, 2013 A-C).

## CONCLUSION

Pre-war varieties besides old 'Pitcheriana' and 'E. Ladhams' definitely dominated Lemoine's varieties 'Zinniaeflora', 'Gratissima', 'Imbricata' and 'Excelsa', supplemented in post-war years long just rediscovered (and then to Lemoine often wrongly attributed) 'Patula'. But under the strong competition of later varieties from Bornim and Schiltach, all the varieties disappeared from offerings of perennial catalogues in the last quarter century; rare exception is still achievable 'Patula', however by Dutch authors mistaken for strikingly similar 'Spitzentanzerin', which can in case of emergency replace the former variety. Of the oldest varieties from Bornim, just 'Spitzentanzerin' together with 'Sommersonne' and 'Goldgrünherz' till now rank among the most frequently propagated, and thus readily available cultivars. These can be well applied when restoring of historic gardens from war and post-war years, although they were only rarely offered at that time. Regarding the varieties of gardens from postmodernism period, besides till now highly appreciated 'Venus' is quite easily available also the range of later varieties from Bornim and Schiltach, such as 'Goldgefieder', 'Hohlspiegel', 'Karat' or 'Mars'. Besides 'Venus', the most widely offered 'Summer Nights' may perhaps in need replace lost 'Pitcheriana'. On the other side, small pompon-flowered 'Asahi' and variegated 'Lorraine Sunshine' (as well as other variegated varieties) are quite a different character and could not be recommended for use in historic gardens.

## SUMMARY

This review summarizes data on the development of garden varieties of the genus *Heliopsis*, a perennial species that was popular in historical gardens after the mid 19<sup>th</sup> century, with regards to the development of varieties in the periods corresponding to the most important architectural styles and to their fluctuating popularity.

Before the end of the 19<sup>th</sup> century there were varieties 'Pitcheriana', 'Patula', 'B. Ladhams' a 'Scabra Major', which led to an increased interest in this perennial and efforts to further breeding. V. Lemoine presents a number of semi-double varieties until 1920, from which 'Zinniaeflora', 'Incomparabilis', 'Excelsa' a 'Grandiflora' predominate in catalogues until the 50<sup>th</sup> of the last century. Before 1950, however, presents Foerster his first varieties: 'Sommersone', 'Spitzentänzerin', or 'Goldgrünherz' are highly valued to this time. In the 60<sup>th</sup>, Foerster gives other varieties, e.g. 'Sonnenschild', and 'Hohlspiegel'. Until the end of the last century Foerster's varieties predominate still in gardens, beside the new Götz's varieties 'Jupiter', 'Mars', 'Orion', 'Karat', and a large-flowered 'Venus'. Today, new varieties such as 'Benzinggold', 'Sonnenstrahl', 'Light of Loddon' are still a little cultivated, however, the small-flowered varieties 'Prairie Sunset' and 'Summer Nights' grow rapidly in popularity, as well as the variegated 'Lorraine Sunshine', 'Sunstruck', 'Sunburst'. Neither of these groups, however, is applicable to the restoration of historic gardens.

Old large-flowered varieties now rapidly disappear and the oldest varieties, including the once famous Lemoine's selections, are virtually inaccessible.

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## Appendix 1: *Heliopsis* Offered by Perennial Nurseries in the Years 1890–1920

### 1890–1905

Wm. C. Beckert (Allegheny): 'Pitcheriana'  
 Cottage Gardens (Queens, New York): 'Pitcheriana'  
 Henry A. Dreer (Philadelphia): 'Pitcheriana', 'Major'  
 Johnson & Stokes (Philadelphia): 'Pitcheriana'  
 Peter Henderson & Co. (New York): 'Pitcheriana'  
 W. W. Rawson & Co. (Boston): 'Pitcheriana'

### 1905–1920

Currie Brothers Co. (Milwaukee): 'Pitcheriana', 'Pitcheriana Semiplena'  
 Edward J. Taylor (Southport): 'Major'  
 Ellsworth Brown & Co. (Seabrook): 'Pitcheriana'  
 Elwanger & Barry, Mt Hope Nurseries (Rochester): 'Pitcheriana', 'Major', 'Ernest Ladhams'  
 Henry A. Dreer (Philadelphia): 'Pitcheriana', 'Pitcheriana Semiplena', 'Major', 'Excelsa', 'Zinniaeflora'  
 J. C. Vaughan Inc. (Chicago & New York): 'Pitcheriana', 'Gratissima'  
 J. Kelway & Son (Langport): compacta 'Floribunda', 'B. Ladhams', 'Pitcheriana', 'Soleil d'Or', 'Patula'  
 Karl Foerster Gärtnerei (Postdam-Bornim): 'Gratissima', 'Imbricata', 'Laetiflora', 'Excelsa'  
 Lemoine et Fils (Nancy): 'Flore Pleno', 'Excelsa', 'Imbricata', 'Gratissima', 'Zinniaeflora'  
 Lovett's Nursery (Little Silver): 'Pitcheriana', 'Pitcheriana Semiplena', 'Excelsa'  
 Martin Fulín (Královské Vinohrady u Prahy): 'Pitcheriana', 'Tracheliaefolia'  
 Palisades Nursery (Sparkill): 'Pitcheriana', 'Semiplena', 'Major'  
 Pierson (Cromwell): 'Pitcheriana'  
 R. & J. Farquhar Co. (Boston): 'Pitcheriana', 'Major'  
 W. W. Barnard Co. (Madison): 'Zinniaeflora'

## Appendix 2: *Heliopsis* Offered by Perennial Nurseries in the Years 1920–1950

### 1920–1935

Dendrologická společnost (Průhonice): 'Formosa', 'Gratissima', 'Imbricata', 'Major', 'E. Ladhams', 'Pitcheriana', 'Praestans', 'Zinniaeflora'  
 F. H. Horsford (Charlotte, Vermont): 'Pitcheriana'  
 Gebr. Schützové (Olomučany): floribunda 'Compacta', 'Formosa', 'Imbricata', 'Gratissima', 'Major', 'Zinniaeflora', 'Excelsa', 'E. Ladhams', 'Goldsonne', 'Slunce', 'Věčné Zlato'  
 George D. Aiken (Putney-Vermont): 'Zinniaeflora'  
 Goos & Koenemann (Niederwalluf): 'E. Ladhams', 'Gratissima', 'Imbricata', 'Zinniaeflora'  
 Göteborgs Trädgårdsförening: 'Excelsa', 'Gratissima', 'Imbricata', 'Zinniaeflora', 'Soleil d'Or', 'G. Ladham', 'Formosa', 'Incomparabilis', 'Patula'  
 Henry A. Dreer Inc. (Philadelphia): 'Pitcheriana', 'Pitcheriana Semiplena', 'Zinniaeflora', 'Excelsa'  
 Hovey & Co., (Boston): 'Pitcheriana'  
 J. C. Vaughan Inc. (Chicago & New York): 'Gratissima'  
 Kidery & Preissner (Žatec): fl.pl. 'Excelsa'  
 Koniferové školky Žehušice: 'Elegans', 'Eminens', 'Pitcheriana', 'Zinniaeflora', 'Praestans', 'Formosa', 'Gratissima'  
 Lovett's Nursery (Little Silver): 'Pitcheriana', 'Excelsa'  
 Moser et Fils (Versailles): 'Grandiflora Compacta', 'Gratissima', 'Zinniaeflora',  
 R. & J. Farquhar Co. (Boston): 'Pitcheriana', 'Zinniaeflora'  
 Vejtasa/Trvalky (Jaroměřice): 'Zinniaeflora', 'Excelsa'  
 Walter sro (Praha-Chuchle): 'Major', 'Goldsonne', 'Zinniaeflora',  
 Tingle Nursery (Pittsville): 'Pitcheriana', 'Zinniaeflora'

### 1935–1950

Carl Frikart Gross-Staudenkulturen (Stäfa): 'Eminens', 'Patula'  
 Conard-Pyle Co. (West Grove): 'Imbricata', 'Golden Rays'  
 Dendrologická společnost (Průhonice): 'Aurata', 'Formosa', 'Gratissima', 'Imbricata', 'E. Ladhams', 'Patula', 'Praestans', 'Zinniaeflora'  
 Ernst Benary Samenhandlung (Erfurt): 'Compacta Floribunda', 'Pitcheriana', 'Major', 'Ernst Ladhams', 'Goldene Sonne', 'Zinniaeflora Semiplena'  
 Gebr. Schützové (Olomučany): 'Slunce', 'Věčné Zlato'  
 Henry A. Dreer Inc.: 'Pitcheriana', 'Excelsa', 'Zinniaeflora', 'Incomparabilis'

J. Mann & Co. (Baltimore): 'Lemoine Strain'  
 Karl Foerster Gärtnerei (Postdam-Bornim): 'Excelsa', 'Goldgrünherz', 'Neue Hybriden', 'Patula',  
 'Sommersonne'  
 Kidery & Preissner (Žatec): 'Patula', 'Sommersonne', 'Spitzentänzerin'  
 Koniferové školky Žehušice: 'Formosa', 'Gratissima', 'Elegans', 'Eminens', 'Zinniaeflora', 'Praestans'  
 Lovett's Nursery (Little Silver): 'Pitcheriana', 'Excelsa'  
 Mellan (Göteborg): 'G. Ladham', 'Formosa', 'Golden Sonne', 'Incomparabilis', 'Patula'  
 Mitchell Nurseries (Barre, Vermont): 'Incomparabilis', 'Pitcheriana', 'Pitcheriana fl.pl.'  
 Vejtasa/Trvalky (Jaroměřice nad Rokytinou): floribunda 'Compacta', 'Major', 'Excelsa', 'Zinniaeflora'

### Appendix 3: *Heliopsis* Offered by Perennial Nurseries in the Years 1850–1980

#### 1950–1965

Feber (Boskoop): 'Goldgrünherz', 'Gigantea', 'Patula'  
 Georg Arends Staudengärtnerei, (Wuppertal-Ronsdorf): 'Goldgefieder', 'Goldgrünherz', 'Sommersonne',  
 'Sonnenschild', 'Spitzentänzerin'  
 Koniferové školky Žehušice: 'Formosa', 'Eminens'  
 R. Wackernagel Staudengärtnerei (Riehen bei Basel): 'Gratissima', 'Patula', 'Zinniaeflora'  
 J. C. Vaughan Inc. (Chicago & New York): 'Gratissima'

#### 1965–1980

Bornimer Stauden (Erfurt): 'Goldspitze', 'Goldgefieder', 'Goldgrünherz', 'Sommersonne', 'Sonnenschild',  
 'Spitzentänzerin', 'Wüstenkönig'  
 Georg Arends Staudengärtnerei, (Wuppertal-Ronsdorf): 'Goldgefieder', 'Goldgrünherz', 'Hohlspiegel',  
 'Sommersonne', 'Sonnenschild', 'Spitzentänzerin'  
 Koniferové školky Žehušice: 'Formosa', 'Eminens'  
 Okrasné školky ŠS VŠZ Brno (Lednice, Olomučany): 'Goldgefieder', 'Goldgrünherz', 'Hohlspiegel',  
 'Sonnenschild', 'Spitzentänzerin', 'Formosa'  
 Staudengärtnerei Klose: 'Lohfelden', 'Mars', 'Jupiter', 'Orion', 'Sonnenstern', 'Zinnia'

### Appendix 4: *Heliopsis* Offered by Perennial Nurseries After 1980

#### 1980–1995

Bremermann Staudenkulturen (Wiefelstede): 'Sommersonne'  
 WC. Th. van Bergenhenegouwen BV (Huis ter Heide): 'Hohlspiegel', 'Patula', 'Spitzentänzerin'  
 E. Pagels (Leer): 'Goldgrünherz', 'Goldgefieder', 'Karat', 'Spitzentänzerin'  
 E. Schimana Staudenkulturen (Deiningen): 'Goldgefieder', 'Karat', 'Lohfelden', 'Mars', 'Sonnenschild',  
 'Spitzentänzerin'  
 Friesland Staudengarten (Jever/Rahrdum): 'Benzinggold', 'Goldgefieder', 'Goldgrünherz', 'Goldspitze',  
 'Hohlspiegel', 'Jupiter', 'Karat', 'Lohfelden', 'Mars', 'Orion',  
 'Sommersonne', 'Sonnenglut', 'Sonnenschild', 'Sonnenstrahl',  
 'Spitzentänzerin', 'Venus'  
 Gräfin von Zeppelin (Sulzburg-Laufen): 'Goldgrünherz', 'Hohlspiel', 'Mars', 'Sonnenschild',  
 'Spitzentänzerin', 'Venus'  
 Jens Schachtschneider (Neerstedt/Oldb.): 'Goldgrünherz', 'Mars', 'Sonnenschild', 'Sommersonne',  
 'Spitzentänzerin', 'Venus'  
 Okrasné školky Lednice: 'Hohlspiegel', 'Goldgrünherz',  
 Praskac Baumschulen, Tulln: 'Pitcheriana', 'Spitzentänzerin', 'Wüstenkönig'  
 Stauden IHM (Gohlis): 'Goldgefieder', 'Goldspitze', 'Sonnenschild'  
 Sunny Border Nurseries (Kensington): 'Sommersonne', 'Neue Hybriden'

#### 1995–2010+

Allgäustauden (Leutkirch): 'Asahi', 'Goldgrünherz', 'Summer Nights', 'Venus'  
 Ambergate Gardens (Chaska): 'Midwest Dreams', 'Summer Nights', 'Tuscan Sun'  
 A. Verschoor Horticulture (Haarlem): 'Asahi', 'Lorraine Sunshine', 'Summer Nights', 'Venus'  
 Beth Chatto Gardens (Colchester): 'Hohlspiegel'  
 Busse Gardens (Big Lake): 'Asahi', 'Summer Nights', 'Summer Sun', 'Venus'  
 Country Arbor Nursery (Urbana): 'Sommersonne', 'Venus'  
 Cottswold Garden (Evesham): 'Summer Pink', 'Lorraine Sunshine'  
 Darwin Plants (Hillegom): 'Asahi', 'Prairie Sunset'  
 Dayton Nurseries (Norton, Ohio): 'Lorraine Sunshine', 'Summer Sun', 'Sunburst', 'Venus'

- De Vroomen (Russell): 'Asahi', 'Venus'
- E. Koch Staudenkulturen (Erfurt): 'Sommersonne', 'Venus'
- Florensis B. V. (Zwijndrecht): 'Sommersonne'
- Friesland Staudengarten (Jever/Rahrdum): 'Asahi', 'Goldgefieder', 'Goldgrünherz', 'Mars', 'Hohlspiegel',  
'Lorraine Sunshine', 'Sommersonne', 'Sommerzwerg',  
'Spitzentänzerin', 'Summer Nights', 'Prairie Sunset', 'Karat',  
'Venus'
- Gärtnerei Simon (Marktheidenfeld): 'Karat'
- Georg Arends Staudengärtnerei, (Wuppertal-Ronsdorf): 'Karat', 'Summer Nights'
- Hagemann Staudenkulturen (Langenhagen): 'Karat', 'Sommersonne', 'Spitzentänzerin'
- Hogendoorn BV (Vijk en Aalburg): 'Lorraine Sunshine', 'Asahi', 'Summer Nights', 'Venus', 'Bressingham  
Dubloon', 'Prairie Sunset'
- Jan Spruyt Vasteplant (Buggenhout): 'Asahi', 'Goldgefieder', 'Lorraine Sunshine', 'Mars', 'Summer Nights',  
'Sonnenschild'
- Jelitto Stauden (Schwarmstedt): 'Neue Hybriden', 'Summer Nights', 'Sommersonne'
- E. Jantzen Stauden & Kräuter (Tübingen): 'Venus', 'Summer Nights'
- Fürther Freilandstauden, I. Goldmann (Fürth): 'Goldgrünherz', 'Karat', 'Sommersonne', 'Spitzentänzerin',  
'Summer Nights', 'Venus'
- Lautrejardin, X. Allemann (Cormérod): 'Spitzentänzerin', 'Patula'
- Lost Horizons (Acton, Ontario): 'Sommersonne', 'Goldgrünherz'
- Marni's Kwekerij (Schimmert): 'Asahi', 'Summer Nights', 'Mars', 'Venus'
- N. Dubrule-Clemente – Natureworks (Northford): 'Lorraine Sunshine', 'Summer Nights', 'Asahi', 'Tuscan  
Sun'
- Kurt Bluemel Inc. (Baldwin): 'Karat', 'Summer Sun'
- Gräfin von Zeppelin (Sulzburg-Laufen): 'Asahi', 'Summer Nights', 'Venus'
- Osnabücker Staudenkulturen, P. & B. zur Linden (Bissendorf-Linne): 'Venus'
- Okrasné školký Litomyšl: 'Lenhof', 'Orion'
- Pereny, R. Pešíčková (Hlavenec): 'Mars', 'Sommersonne'
- Praskac Baumschulen, Tulln: 'Pitcheriana', 'Goldgefieder', 'Mars', 'Sonnenschild'
- Sarastro, C. Kress (Ort/Innkreis): 'Asahi', 'Lorraine Sunshine', 'Sommerzwerg', 'Summer Nights'
- Stauden Junge, M. Grossmann (Hameln): 'Asahi', 'Goldgrünherz', 'Sommersonne', 'Spitzentänzerin', 'Venus'
- Staudengärtnerei Bargest (Hamburg): 'Sommersonne', 'Summer Nights', 'Venus', 'Mars', 'Goldgefieder'
- Staudengärtnerei E. & T. Kopf (Sulz): 'Sonnenschild', 'Spitzentänzerin', 'Summer Nights', 'Venus'
- Staudengärtnerei Klose (Lohfelden): 'Orion', 'Jupiter', 'Sommersonne', 'Sommerzwerg', 'Sonnenglut',  
'Sonnestrah', 'Wüstenkönig'
- Staudengärtnerei R. Goldmann (Wilhermsdorf): 'Goldgrünherz', 'Sommersonne', 'Summer Nights', 'Venus'
- Staudenkulturen H. Stade (Borken-Marbeck): 'Asahi', 'Goldgefieder', 'Goldgrünherz', 'Karat', 'Venus',  
'Lorraine Sunshine', 'Mars', 'Prairie Sunset', 'Sommersonne',  
'Spitzentänzerin', 'Summer Nights'
- Stonyford Cottage Nursery, Cuddington: 'Lorraine Sunshine', 'Prairie Sunset'
- Sunny Border Nurseries (Kensington): 'Bressingham Dubloon', 'Sommersonne', 'Summer Nights',  
'Summer Pink', 'Neue Hybriden'
- Valleybrook Gardens (Abbotsford): 'Hohlspiegel', 'Asahi', 'Midwest Dreams', 'Sunstruck', 'Summer Nights',  
'Summer Sun', 'Summer Green', 'Bressingham Dubloon', 'Hohlspiegel',  
'Lorraine Sunshine', 'Prairie Sunset'
- Vogt Stauden (Erlenbach): 'Goldgrünherz', 'Karat', 'Spitzentänzerin'
- White Flower Farm (Litchfield): 'Summer Sun', 'Venus'
- Zillmer Jungpflanzen (Uchte): 'Summer Nights', 'Goldgefieder', 'Goldgrünherz', 'Venus', 'Hohlspiegel',  
'Karat', 'Mars', 'Sonnenschild'
- Zahradnictví Flos s. r. o. (Řež u Prahy): 'Goldgefieder', 'Goldgrünherz', 'Hohlspiegel', 'Mars', 'Karat',  
'Sommersonne', 'Summer Nights', 'Venus'
- Zahradnictví Krulichovi (Praha): 'Asahi', 'Lorraine Sunshine', 'Spitzentänzerin', 'Summer Nights', 'Venus',  
'Patula'
- Zámecké zahradnictví, O. Fous (Čtěníce): 'Asahi', 'Goldgefieder', 'Goldgrünherz', 'Lorraine Sunshine', 'Mars',  
'Prairie Sunset', 'Spitzentänzerin', 'Venus'





1: *Heliopsis* 'Asahi'



2: *Heliopsis* 'Bressingham Doubloon'



3: *Heliopsis* 'Goldgefieder'



4: *Heliopsis* 'Goldgrünherz'



5: *Helianthus* 'Goldranunkel'



6: *Helianthus* 'Hohlspiegel'



7: *Helianthus* 'Karat'



8: *Helianthus* 'Lohfelden'





9: *Heliopsis* 'Orion'



10: *Heliopsis* 'Patula'



11: *Heliopsis* 'Prairie Sunset'



12: *Heliopsis* 'Sommersonne'

13: *Helianthus* 'Spitzentänzerin'14: *Helianthus* 'Summer Nights'15: *Helianthus* 'Venus'16: *Helianthus* 'Wüstenkönig'

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