

Potentilla sternerii (Rosaceae), a “new” species from Sweden

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Potentilla sternerii T. Gregor & Karlsson *sp. nova* (Rosaceae) from southeastern Sweden is described and illustrated. The morphological characters of *P. sternerii* are compared to those of *P. argentea*, *P. crantzii*, and *P. neumanniana*. For nearly 200 years *P. sternerii* was known under misapplied names, *P. collina*, *P. wimanniana* (often as “*P. Wiemanniana*”), or *P. sordida*. *Potentilla sternerii* is mainly associated with grazed low-productive grassland. On Öland and Gotland it still exists in many populations, but few remain in Blekinge and Småland. Names associated with the *Potentilla collina* group in Sweden are typified. — *Flora Nordica* note no. 33.

Key words: new species, nomenclature, *Potentilla*, Rosaceae, taxonomy

The *Potentilla collina* group in Scandinavia

Taxa of the *Potentilla collina* group appeared early in Swedish botanical literature. Hartman (1820) published *P. canescens*, a homonym of *P. canescens* Besser 1809, based on plants collected by Johan Peter Rosén on Gotland and Elias Magnus Fries on Öland. Wahlenberg (1821) described *P. argentea* var. *virescens* based on plants collected by Johan Peter Rosén on Gotland. Fries (5.VI.1823) reported *P. collina* from Öland (Lundegård) and, citing Aspegren, from Blekinge (Verkö). He gave a detailed description and remarked that his plant corresponds well with Lehmann’s description of *P. collina* (Lehmann 1820) except that the Swed-

ish plants have a slightly pubescent, not glabrous, receptaculum. He described *P. argentea* var. *sordida* from Öland (Borgholm, Resmo), differing from *P. collina* among other characters by shining leaves, whitish tomentum of the leaf underside, more deeply dentate leaflets, and much smaller petals. Aspegren (1823, late in the year according to Stafleu and Cowan 1976) mentioned *P. collina* and *P. sordida* from Verkö in Blekinge. For the latter he stressed the similarity to *P. argentea*. As he cited “*P. sordida* Fries in litt.” and “*P. Gyntheri* Lehm. Monogr. P. 97” as synonyms, *P. sordida* Fr. ex Aspegren is illegitimate. Aspegren obviously adopted the epithet *sordida* from Elias Fries, therefore *P. sordida* is sometimes treated as a combination of the slightly older *P. argentea* var. *sordida*. We prefer

to treat the name *P. sordida* as independent from *P. argentea* var. *sordida* because the descriptions are not identical, Aspegren did not refer to Fries' publication, and Fries did not mention *P. argentea* var. *sordida* from Blekinge.

Fries (1842) distributed *P. collina* from Öland as number 65 in the 4th fascicle of *Herbarium normale*. These plants correspond well with our *P. sternerii* and we use them to typify our name. In his *Summa vegetabilium Scandinaviae* Fries (1845, p. 45) quoted *P. collina* (H.N. 4:65) in a list of Scandinavian plants for the northern part of Gothia, and *P. sordida* s. *stricto* (H.N. 7:49) and *P. sordida* var. *wimanniana* (H.N. 7:50) for Öland and Gotland. He marked *P. sordida* as a species "at meo sensu nondum satis definitas". In the same work (Fries 1845: p. 171) he treated the two forms of *P. sordida* as varieties of *P. collina* (*P. c.* var. *sordida*, *P. c.* var. *humifusa*). *Potentilla collina* is a rather different taxon with incomplete stellate hairs only known from few herbarium vouchers collected at the turn of the 18th to the 19th century. It was probably a local biotype in southern Germany (Wertheim; Baden-Württemberg), not worth taxonomic recognition.

Carl Johan Hartman's treatment of the *P. collina* group in his *Handbok i Skandinaviens Flora* is meandering. In the first edition (Hartman 1820) he mentioned only *P. canescens* from Gotland and Öland. In the second edition (Hartman 1832) he listed *P. argentea* β *sordida* — with *P. canescens* as synonym — from Öland and Gotland and mentioned *P. collina* as a doubtful taxon. In the third edition (Hartman 1838) he recorded three taxa: (1) *Potentilla guentheri* s. *stricto* from Öland, (2) *P. guentheri* α *collina* from Skåne, Öland, and Blekinge, and (3) *P. guentheri* β *sordida* (with *P. canescens* as a synonym) from Öland and Gotland. In the fourth edition (Hartman 1843) he distinguished: (1) *Potentilla argentea* β *sordida* citing *Herbarium normale* 4:64 (in our opinion probably *P. argentea* \times *sternerii*), (2) *P. guentheri* from Öland and Gotland citing *Herbarium normale* 7:49 (in our opinion probably *P. argentea* \times *sternerii*) and 7:50, and (3) *P. collina* from Skåne, Öland, and Blekinge citing *Herbarium normale* 4:65 (*P. sternerii*). The fifth, his final edition (Hartman 1849), brought changes of names for the

three taxa: *P. argentea* β *sordida* to *P. argentea* β *virescens*, *P. guentheri* to *P. collina*, and *P. collina* to *P. collina* * *pallescens*. This concept stayed unaltered during the 6th to 10th editions of his son Carl Hartman; in the 11th edition (Hartman 1879) *P. collina* * *pallescens* received the inappropriate name *P. collina* * *intermedia*.

Sjöstrand (1863) mentioned even four different taxa from Öland, which may belong to the *P. collina* group: *P. argentea* var. *virescens*, *P. collina*, *P. sordida* var. *sordida*, and *P. s.* var. *wimanniana*. Later, *P. collina* was mostly seen as the sole member of the *P. collina* group in Sweden (e.g. Neuman 1901, Hultén 1950, Lid 1963, Mossberg *et al.* 1992). Under the influence of *Flora europaea* (Ball *et al.* 1968), which gave *P. sordida* as the only Scandinavian representative of the *P. collina* group — albeit Su was misprinted as Bu — the long unused name *P. sordida* made a revival in Scandinavian botanical literature (Karlsson 1998, Kurtto & Eriksson 2003, Mossberg & Stenberg 2003). The taxon formerly called *P. collina* still lacked a legitimate name. The publication of the replacement name *P. aspegrenii* for *P. sordida* did not remedy the situation.

Description of *Potentilla sternerii*

To furnish the rather widespread taxon of the *P. collina* group from southeastern Sweden with a legitimate name on species rank we introduce the new name *P. sternerii*.

Potentilla sternerii T. Gregor & Karlsson, *sp. nova* (Figs. 1 and 2)

Potentilla collina Wib. 1799 *auct. scand.* — *P. wimanniana* Spreng. ex Günth. *et* Schummel 1813 *auct. scand.* — *P. aspegrenii* Kurtto in Kurtto & T. Erikss. 2003 *nom. nov. pro P. sordida* Fr. ex Aspegren 1823 *nom. ill., auct.* — *P. argentea* var. *sordida* Fr. 1823 (syn.: *P. collina* var. *sordida* (Fr.) Fr. 1845) *excl. typo.* — *P. collina* * *pallescens* Hartm. 1849. — *P. oelandica* A. Pedersen in *herb. p.p.* — *P. pallescens* A. Pedersen in *herb.*

Perennis. Caudex robustus multiceps, tempore florendi surculis brevibus sterilibus et caulibus florentibus lateralibus praeditus. Caules



Fig. 1. *Potentilla sternerii*. — **A:** Habit ($\times 0.7$; Öland, Mörbylilla: Ventlinge. 1920 R. Sterner, LD 1088517). — **B:** Habit ($\times 0.7$; Öland: Borgbyborg. 1885 S. Murbeck, LD 1054604). — **C:** Upside of a terminal leaflet of a ground leaf ($\times 7.8$). — **D:** Underside of flower ($\times 1.7$).

ascendentes vel suberecti, pauci usque multi, 15–25 cm longi, plerumque a medio ramosi, aliquando rubri si expositi ad lucem, pilis flexuosis obsiti, basi ferrugineis reliquiis stipularum vetustarum cum albis pilis ad marginem. Folia radicalia et caulina inferna 5–7-nata, foliolis plerumque 10–15(–18) mm longis, petiolis 1–6 cm longis, auriculis stipularum infimarum linearis stipularum caulinarum obliquis ovato-acutis. Folia caulina media 5-nata, foliolis mediis cuneatis anguste obovatis ad apicem incisoserratis dentibus 5(–7) margine inferne et ad medium potius recto, stipulis obliquis ovatis conspicuis. Folia caulina supra 3-nata petiolis

brevibus vel nullis, foliolis mediis cuneatis dentibus 3–5 non profundis ad marginem plerumque convexis, stipulis lanceolatis vel ovatis. Folia leviter glauca plana ad marginem incrassata supra modice pilis rectis subta ad nervos marginemque pilis rectis inter nervos varie pilis curtis flexuosibus usque curvatis obsita; pagina inferiora vulgo visibilib; dens terminalis foliorum radicalium aequalis vel leviter longius vel leviter breviter quam dentes vicini, foliorum caulium vulgo leviter exsertus. Pedunculi curvati 1–3 cm longi. Calyx epicalyxque pilis flexuosibus albis dense villosi; sepalis externi acuto-elliptici circa 3.5 mm longi, aliquantum breviores quam

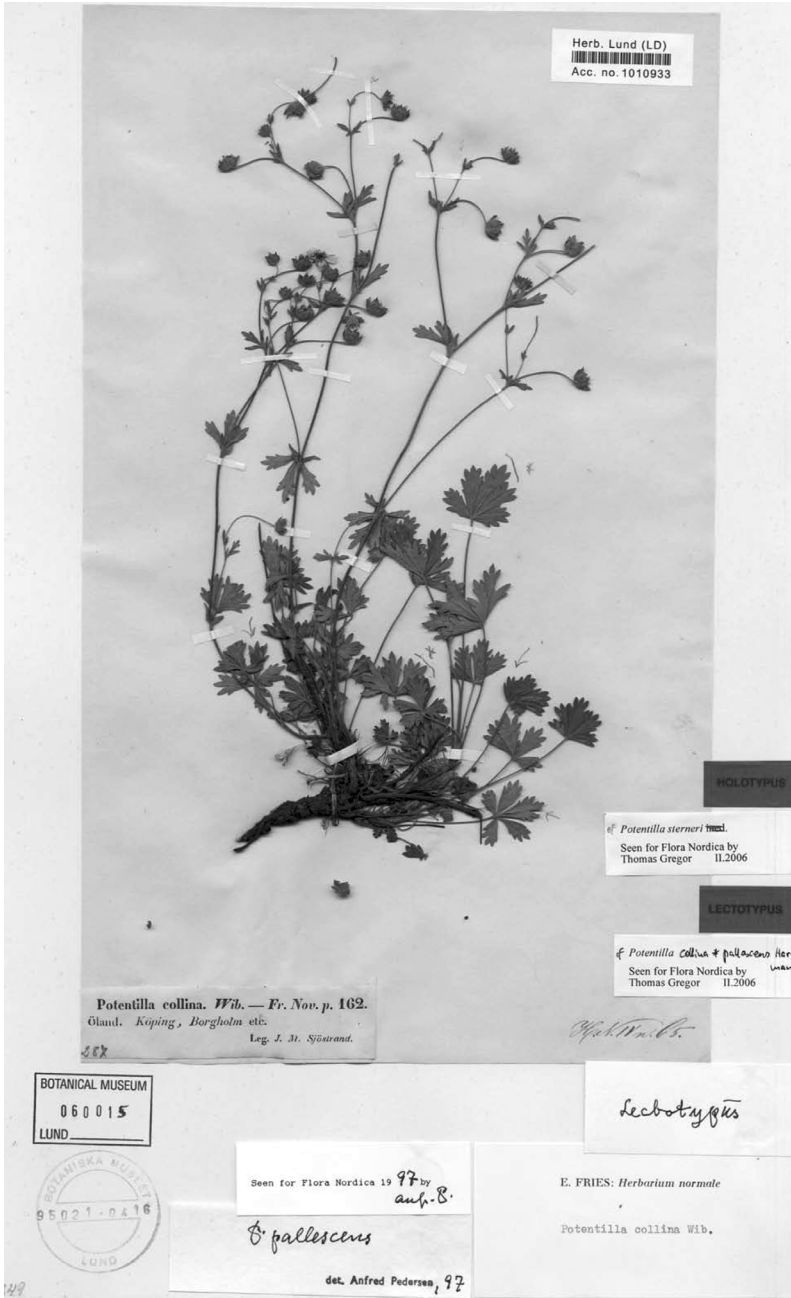


Fig. 2. *Potentilla sterneri* (holotype).

late ovati interni, ambo acuti. Flores numerosi cymosi 5-partiti. Petala luteola, obovata, emarginata, 4–6 mm longa, interdum longitudo varians aliquando in eadem planta; receptaculum copiose pilis translucentibus non albis obsitum; stamina circa 0.5×0.4 mm longa; styli teretes laterales 1,1 mm longi basi parum incrassati sub apicem carpelli inserti; stigmata

brevissima leviter latiora quam stylus circa 0.2 mm lata; carpella circa 1.5 mm longa rugulosa; copiose fructificans. Chromosomatum numerus $2n = 42$. Floret VI–VIII. In honorem Rikardem Sterneri species nominatur. *Potentilla* e sub-grex *Collinae*. Crescit in Suecia in Blekingia, Gotlandia, Oelandia et Smolandia.

HOLOTYPE: Specimen “Herb. Lund (LD). Acc. no. 1010933” of number 65 of the 4th fascicle of the Herbarium normale (Fries 1838). Original label: *Potentilla collina*. Wib. Fr. Nov. p. 162. Öland. Köping, Borgholm etc. Leg. J. M. Sjöstrand. — Seven additional labels: (1) Herb. Lund (LD). Acc. no. 1010933. (2) E. Fries: Herbarium normale. *Potentilla collina* Wib. (3) Seen for Flora Nordica 1997 by Anf. P. (4) *P. pallescens*. det. Anfred Pedersen, 97. (5) Lectotypus [for *Potentilla pallescens*, scr. A. Pedersen]. (6) Holotypus of *Potentilla sternerii*. Seen for Flora Nordica by Thomas Gregor, II.2006. (7) Lectotypus of *Potentilla collina* * *pallescens* Hartman. Seen for Flora Nordica by Thomas Gregor, II.2006. — Three notes on the voucher: (1) He.N.IVn.65. (2) Botanical Museum 060015 Lund. (3) Botaniska Museet 95021 · 0416 Lund. — ISOTYPES: Specimens of number 65 of the 4th fascicle of Herbarium normale of which we have seen (1) LD 1011061, (2–7) S s.n., (8) C s.n., (9) W 1889:323224.

Perennial. Hemicyptophyte with pronounced pleiocorm, during flowering time with non-flowering rosettes; flowering stems lateral. Stems few to many, ascending, (5–)10–25 cm, mostly branched above middle, reddish if exposed to light, with crispate hairs; stem base with persistent, brownish-red leaf bases, their margins with white, up to 3 mm long, non-translucent hairs. Basal and lower stem leaves digitate with 5(–7) leaflets; leaflets mostly 10–15(–18) mm; petiole 1–6 cm; free part of stipules linear at basal leaves, acuminate and obliquely ovate at lower stem leaves. Middle stem leaves with 5 leaflets; middle leaflet cuneiform with 5(–7) not deeply incised teeth in upper third, its margins rather straight for up to 2/3 of its length; stipules obliquely ovate, rather conspicuous. Upper stem leaves almost sessile, with three leaflets; middle leaflet cuneiform with 3–5 deeply incised teeth, its margins often convex; stipules lanceolate or ovate. Leaves slightly bluish green, flat, with thickened margin, on upper side moderately covered with simple straight hairs, on lower side on veins and at margin with straight hairs, between veins with various amounts of flexuous to curved hairs; lower surface generally visible; terminal tooth at basal leaves equalling, slightly shorter, or slightly longer than the surrounding teeth, at stem leaves protruding. Pedicels curved, 1–3 cm. Calyx and epicalyx densely covered with crispate, whitish hairs, epicalyx segments linear-lanceolate, about 3.5 mm, somewhat shorter than the broadly ovate sepals, both pointed. Flowers numerous, in cymes, 5-merous; petals obovate, notched, light yellow, 4–6 mm, length variable

(sometimes even within a single plant). Receptacle with copious translucent (not whitish) hairs. Anthers about 0.5 × 0.4 mm. Style lateral, terete, slightly widened at base, about 1.1 mm, insertion subterminal and adaxial. Stigma very short, slightly broader than style, about 0.2 mm broad. Achenes about 1.5 mm long, slightly rugulose; fruit set good. Chromosome number 2n = 42. Flowers June to August.

We name *Potentilla sternerii* in honour of the Swedish plant geographer Rikard Sterner (12. XII.1891–15. VI.1956), author of the first comprehensive flora of Öland. His doctoral dissertation (Sterner 1922) focused on the continental element in the flora of southern Sweden, and throughout his professional career as a teacher he continued floristical and taxonomic research on vascular plants. He published an accurate map of the distribution of *P. sternerii* for Öland and Småland (Sterner 1933: p. 247, under the name *P. wimanniana*).

Potentilla sternerii differs from *P. argentea*, *P. neumanniana* (syn. *P. tabernaemontani*), and *P. crantzii* by its flexuous intercostal hairs on the lower side of the leaves. *Potentilla argentea* has a dense indumentum of curly hairs on the lower side, *P. neumanniana* and *P. crantzii* have only straight hairs. Furthermore, in *P. neumanniana* the veins on the leaf surface are deeply sunken and the hairs are generally coarser. From *P. incana* (*P. arenaria* nom. inv.) and its hybrids it differs by the lack of stellate hairs. The differentiation from *P. argentea* can pose problems. Apart from the different indumentum, *P. argentea* has generally more deeply dentate leaves with inrolled margins, and the flowering stems are terminal. In late summer and autumn, however, *P. argentea* produces non-flowering rosettes which may have leaves without the typical indumentum on the lower side and only slightly incised teeth. Generally, such plants differ from *P. sternerii* by more acute leaf teeth and straight to concave (not convex) margins of the stem leaves, but specimens collected in late summer may be impossible to determine with certainty. From *P. wismariensis*, an endemic of the Wismar bay in Mecklenburg-Pomerania/Germany (Gregor & Henker 2001), it differs by the non-translucent whitish hairs at the sheaths of basal leaves; in *P. wismariensis*, which is otherwise similar, these

hairs are translucent. At heavily trampled sites *P. sternerii* is decumbent, while plants on ungrazed sites grow rather upright and reach heights of 40 cm. Plants from shaded fallow grassland or garden culture exhibit luxurious growth and are, like in other *Potentilla* species, unrecognizable.

In Blekinge, Småland, and on Gotland *P. sternerii* is rather uniform. On Öland the situation is more complicated. Plants which differ from *P. sternerii* but belong to the *P. collina* group are not rare (see Sterner 1938: p. 114). Several populations have been found in 2006 in northern Öland, e.g. on the historical burial ground near Köpingsvik, at waysides in Alböke and Föra parish east of Egby, and on the alvar near Borgholm castle. The ground leaves of these plants differ from those of *P. sternerii*. Leaf teeth are rather long, asymmetric, and not in one plane. Furthermore, hybrids between *P. sternerii* and *P. argentea* occur as single plants in some populations of *P. sternerii* on Öland.

For plants from Öland one of us (TG) found hexaploid chromosome numbers ($2n = 42$; for the method see Gregor 2004). This corresponds to counts of Müntzing (1958) and Asker and Fröst (1970) for *P. collina* [s. lato] from Öland and Gotland, who also reported predominantly hexaploids. But as the corresponding vouchers have been lost (manuscript of Anfred Pedersen at Stockholm herbarium) these counts possibly do not refer to *P. sternerii*.

PLANTS WITH CHROMOSOME COUNTS of $2n = 42$: Småland, Ekenäs E Voxtorp, sandy wayside near sea; collected 26.VI.2005, *T. Gregor* 3279 (S) — Öland, sandy pasture SE of Åby; collected 27.VI.2005 *T. Gregor* 3308 & 3309 (S). — Öland, sandy pasture near sea E Sandby; in culture since 28.VI.2005 as *T. Gregor* POT 220. — Öland, fallow grassland W Kleva N Mörbylånga near coast; collected 28.VI.2005, *T. Gregor* 3280 (S). — Öland, sandy path on embankment at sea near Beijershamn; collected 28.VI.2005, *T. Gregor* 3278 (S).

Sterner (1938) characterized the distribution of *P. wimanniana* on Öland as “In Trockenwiesen, hauptsächlich auf Triften, an Rainen und Wegen, auf den Alvaren sehr selten [In dry grassland, mainly on low productive pastures, between fields and at waysides, very rare on alvar]”. Herbarium vouchers and own observation confirm this. *P. sternerii* is mainly a plant of gravelly or sandy, not or only slightly calcareous

ground, where slightly mesophilous grassland vegetation is kept low and sparse by grazing or trampling. On Öland it is often found on beach ridges. It also grows on roadsides, here normally as a relic of dry meadow vegetation. Optimal habitats are commons and military training grounds. Large populations occur at the common east of Åby in central Öland, at the Sagholmen peninsula on Gotland’s westcoast, and at the military areas between Tofta and Visby. *P. sternerii* is commonly associated with *Achillea millefolium*, *Agrostis capillaris*, *Androsace septentrionalis*, *Anthoxanthum odoratum*, *Armeria maritima*, *Brachythecium albicans*, *Campanula rotundifolia*, *Cerastium semidecandrum*, *Dianthus deltoides*, *Festuca ovina* subsp. *ovina*, *F. rubra*, *Galium verum* subsp. *verum*, *Helictotrichon pratense*, *Hieracium pilosella*, *Medicago sativa* subsp. *falcata*, *Lolium perenne*, *Plantago lanceolata*, *Poa angustifolia*, *Potentilla argentea*, *P. incana* × *neumanniana*, *Pulsatilla pratensis*, *Rumex acetosella*, *R. thyrsoiflorus*, *Taraxacum* sectio *Erythrosperma*, *Tortula ruralis*, *Trifolium arvense*, *T. campestre*, and *T. striatum*. This type of vegetation can be classified as Diantho-Armerietum elongatae (Dierssen 1995). In Småland *P. sternerii* occurs today in small populations at waysides and other remnants of non-productive grassland.

The following list presents representative herbarium vouchers; only the most recent collection from each parish is cited. A nearly accurate distribution map of *P. sternerii* has been published by Kurtto *et al.* (2004) under the name *P. aspegrenii*. Dots could be added for central and southern Gotland.

Gotland: Lummelunda: Lummelundsbruk, hällmark, 1937 *E. T. Fries* (S). — Väskinde: Brissund, 1942 *E. T. Fries* (S). — Visby: S of Visby near military area, 2006 *T. Gregor* 3035 (S). — Hejdeby: Hejdeby hällar, 1918 *T. Vestergren* (S). — Endre: Ölbäck, sandy path, 2006 *T. Gregor* 3125 (S). — Västerhejde: S of Ygne, military area, 2006 *T. Gregor* 3124 (S). — Träkumla: Träkumla backe, 1946 *E. T. Fries* (UPS). — Stenkumla: Homa, 1934 *E. T. Fries* (LD). — Tofta: near Nasume myr, military area. 2006 *T. Gregor* 3121 (S). — Eskelhem: N of Paviken, roadside in grassland, 2006 *T. Gregor* 3119 (S). — Västergarn: Golf course Kronholmen, roadside, 2006 *T. Gregor* 3118 (S). — Sanda: Sagholmen headland, pasture near sea, 2006 *T. Gregor* 3095 (S). — Östergarn: Katthammarvik, 1934 *E. T. Fries* (S). — Klinte: SW Klintehamn, roadside near coast in pasture, 2006 *T. Gregor*

3094 (S). — Fröjel: Coast SW of Gannarve, path in pasture, 2006 *T. Gregor* 3093 (HEID). — Sproge: Norrgårde, traditionally managed hay-meadow, 1998. *G. Ingmansson* (Herb. G. Ingmansson). — Grötlingbo: above Gansviken, 1913 *E. T. Fries* (S). — Öja: N of Mjölhatteträsk, roadside, 2006 *T. Gregor* 3082 (HEID). — Vamlingbo: Austre, Sand, 1936 *E. T. Fries* (S). — Sundre: Marbadhuvud S, sandy driving road, 1997 *J. Petersson* (Herb. J. Petersson).

Kalmar län/Öland: Borgholm: near harbour, grassland, 2006 *T. Gregor* 3128 (S). — Gärdslösa: E of S. Gärdslösa, beach ridge, 2006 *T. Gregor* 3175 (S). — Högsrum: Halltorp, 1902. *F. Hagström* (LD). — Långlöt: E of Folkeslunda, old beach ridge, 2006 *T. Gregor* 3176 (S). — Glömminge: Röhälla, 1921 *R. Sterner* (S). Runsten: Lerkaka, grassy slope, 2001 *Å. Rühling* (OHN). — Algutsum: headland at golf course Saxnäs, with *P. argentea* × *sternerii*, 2006 *T. Gregor* 3220 (S). — Norra Möckleby: Blåsingehamn, sandy pasture, 2006 *T. Gregor* 3189 (S). — Torslunda: Skogsby, 1885 *S. Murbeck* (LD). — Sandby: E of Sandby, nutrient-poor pasture at the seashore, 2005 *T. Gregor* 2753 (S). — Vickleby: Beijershamn, sandy dam at the seashore, 2005 *T. Gregor* 2785 (S). — Resmo: W of Lilla Frö SW of Stora Frö at the seashore, roadside in unused grassland, 2005 *T. Gregor* 2780 (S). — Stenåsa: E of Stenåsa, beach ridge, 2006 *T. Gregor* 3223 (S). — Mörybylång: Bårbyborg, pasture, with *P. argentea* × *sternerii*, 2006 *T. Gregor* 3265 (HEID). — Hulterstad: near Triberga mossa, sandy pasture, 2006 *T. Gregor* 3224 (S). — Kastlösa: Bjärby, near mill, 2006 *T. Gregor* 3244 (S). — Segerstad: E of Övra Segerstad, beach ridge, at cottage, 2006 *T. Gregor* 3225 (S). — Södra Möckleby: “Alunbruket” S of Degerhamn, roadside at sea cliff, 2006 *T. Gregor* 3243 (S). — Gräsgård: 1850 *s.a.* (S). Ventlinge: historical burial ground SE of Grönhögen, 2006 *T. Gregor* 3232 (S). — Ås: historical burial ground S of Ottenby, 2006 *T. Gregor* 3241 (S).

Småland: Målilla: Östra Årena, 1877 *D. W. Thunberg* (UPS). — Virserum: Ramsebo, dry grassland, 1979 *N. Lundqvist* 12093 (UPS). — Döderhult: Nötö, meadow, 1983 *Å. Rühling* (LD). — Högsby: Frövi, 1891 *A. Mallander* (LD). — Mönsterås: Törneskär, dry meadow at the seashore, 1987 *Å. Rühling* (LD). — Ålem: Väderön, dry meadow, 1989 *Å. Rühling* (LD). — Ryssby: W of Örsudden, sandy plot with sparse vegetation, 1987 *C. Mossberg* (LD). — Åby: Rafshagen ca. 300 m W of the headland, sandy ridge, 1981 *Davidsson* (OHN). — Kläckeberga: Värnsnäs, 1939 *R. Sterner* (GB). — Kalmar: Långviken on the headland, sandy seashore, 1991 *Davidsson* (OHN). — Hossmo: road to Aspö, sandy woodland margin heading seashore meadow, roadside, 1983 *T. Karlsson* 83183 (LD). — Ljungby: 1888 *J. Wickbom* (LD). — Voxtorp: Ekenäs, roadside at the seashore, 2005 *T. Gregor* 2728A (S). — Halltorp: Gransö, 1950 *K. Nyström* (S). — Vissefjärda: W of Björnabyden, old roadside, 1989 *H. Nielsen* & *P. Hartvig* (LD). — Torsås: Oxlehall, 625 m SE of pt 57.2, dry grazed grassland, 1988. *T. Karlsson* 88157 (S). — Söderåkra: Bergkvara, the northern headland of Saltskär, dry grass heath, 1988 *T. Karlsson* 88122 (S).

Blekinge: Kristianopel: 1865 *J. Ankarcrona* (S). — Lösen: Verkö, 1883 *F. Svanlund* (LD). — Karlskrona: Kungshall, 2004. *L. Fröberg* (LD).

Typifications

To clarify the nomenclatural situation we typify names connected with the Scandinavian *P. collina* group. Four names — *P. argentea* var. *sordida* Fr., *P. argentea* var. *subsordida* Fr., *P. collina* * *pallescens* Hartm., and *P. sordida* var. *humifusa* Fr. — are lectotypified. For three names — *P. argentea* var. *virescens* Wahlenb., *P. canescens* Hartm., *P. sordida* Fr. ex Aspegren (*nom. nov. P. aspegrenii*) — we were unable to find unambiguous original material. We consider it improbable that such material exists. Therefore, we choose neotypes for two of these names which hopefully reflect the original intention of the authors. We do not dare to interpret the name *P. argentea* var. *virescens* Wahlenb.

Potentilla argentea var. *sordida* Fr.

Novit. fl. svec. 1(6), 89. [5 Jun] 1823. — *Potentilla guentheri* var. *sordida* Hartm., Handb. Skand. fl. 3, 122. 1838, *nom. syn.* — *P. collina* var. *sordida* (Fr.) Fr., Summa veg. Scand. I, 171. 1845, *nom. syn.* — *P. collina* subvar. *sordida* (Fr.) Nyman, Consp. fl. eur., 225. 1878, *nom. syn.* — *P. collina* subsp. *sordida* (Fr.) Bertsch et Bertsch, Fl. Württ. Hohenzollern, 162. 1933, *nom. syn.* — *P. inaperta* subsp. *sordida* (Fr.) O. Schwarz, Mitt. Thüring. Bot. Ges. 1(1), 105. 1949, *nom. syn.* — LECTOTYPE (designated here): The right of two plants in the upper row of altogether four plants from a specimen in Uppsala herbarium (UPS no. V-115881): Herb. E. Fries [stamp]. *Potentilla argentea sordida*. Ölandia. 1818. — Three additional labels: (1) Forsitan *P. argentea* L. × *Wiemanniana* (Günth. & Schumm.) Uechtr. *determ.* R. Sterner 1923. (2) *Potentilla pallescens* (Hartm.) A. Pedersen *ined.* Seen for Flora Nordica 1997. *rev.* Anfred Pedersen 1997. (3) HERB. UNIV. UPSALIENSIS (V-115881) 216020. Flora of Sweden. *Potentilla sordida* v. *sordida*. (Rosaceae). *Rev.*: 1. *Potentilla argentea* × *wiemanniana* *rev.* R. Sterner 1923. 2. *Potentilla pallescens* *rev.* Anfred Pedersen 1997. Öland. 1818. E. Fries. Herb. E. Fries. (4) Lectotypus of *Potentilla argentea* var. *sordida* Fr. Seen for Flora Nordica by Thomas Gregor II.2006. — Stamp: Herb. UPS Loan 06/008 Specim. n. 87.

The four plants of the lectotype voucher have leaf forms similar to *Potentilla sternerii* but with a tomentum on the leaf undersides like *P. argentea*. The leaf margins are incurved. The plants probably belong to *P. argentea* × *sternerii*, certainly not to *P. sternerii*. Fries distributed *P. sordida* in the Herbarium normale as number 64 in the 4th fascicle (Fries 1838) and as number

49 in the 7th fascicle (Fries 1842). These plants have a closer resemblance to *P. argentea*, but are probably as well *P. argentea* × *sternerii*.

Potentilla argentea var. *subsordida* Fr.

Herb. norm. fasc. IV, No. 64. 1838 (“1837”). — LECTOTYPE (designated here): Specimen “Herb. Lund (LD). Acc. no. 1010997” of number 64 (*P. argentea* v. *subsordida*) of the 4th fascicle of the Herbarium normale (Fries 1838). Original label: *Potentilla argentea* v. *subsordida*. Herb. Norm. IV. *P. arg. subvirescens* Whlnb. Inserentur haec specc. majora fasc. IV, loco excl. specc. sordidae Ölandicis infra seorsim dandis. Primum transitus membrum ad *P. Güntheri*, caulibus humifusis ramosissimis, foliis margini planis subtus canescentibus e. s. p. — Six additional labels: (1) E. Fries: Herbarium normale. *Potentilla argentea* L. (2) Seen for Flora Nordica 1997 by Anf. P. (3) Gigas-form af *P. pallescens*. det. Anfred Pedersen, 97. (4) Registrerad av ArtDatabanken 2001. Nr. 231856. (5) Lectotypus of *Potentilla argentea* var. *subsordida* Fr. Seen for Flora Nordica by Thomas Gregor, II.2006. (6) Herb. Lund (LD). Acc. no. 1010997. — Four notes on the voucher: (1) H.N. 4:64 (2) He.N.IVn.64. (3) Botanical Museum 060014 Lund. (4) Botaniska Museet 95021 0353 Lund. — ISOTYPES: Specimens of number 64 (*Potentilla argentea* v. *subsordida*) of the 4th fascicle of the Herbarium normale of which we have seen (1–2) S s.n., (3) C s.n., (4) PR s.n.

The distributed plants are unusually vigorous and probably derive from garden culture. The determination is difficult. The specimens might belong to *Potentilla argentea*. Number 64 of the 4th fascicle of Herbarium normale consists of 2 editions: *P. sordida* v. *sordida* and *P. sordida* v. *subsordida*. The citation of *P. argentea subvirescens* Whlnb. is difficult to understand as Wahlberg never mentioned such a taxon, instead he described *P. argentea* var. *virescens* (Wahlenberg 1821).

Potentilla aspegrenii Kurtzo

in Kurtzo & T. Erikss., Ann. Bot. Fennici 40, 138. 2003, *nom. nov.* pro *Potentilla sordida* Fr. ex Aspegren, Försök Blekingk fl., 38. 1823 *nom. ill.* — NEOTYPE (designated here): The left of two plants marked “*Pot. argentea* β. *sordida* Fr.” from a voucher in Lund herbarium (LD Acc. no. 1011661) which originally belonged to the herbarium of Georg Casten Aspegren. Another plant is mounted on the same voucher marked “Borgholm Lundegard[,] *Pot. collina* Wib. Fr. Nov. The two plants of “*Pot. argentea* β. *sordida* Fr.” are marked further “1.”, the other plant as “2.” — Five additional labels:

(1) *Potentilla* cf. *argentea* L. × *sternerii* ined. Seen for Flora Nordica by Thomas Gregor. II.2006 [referring to plant “1”]. (2) *Potentilla* cf. *sternerii* ined. Seen for Flora Nordica by Thomas Gregor. II.2006 [referring to plant “2”]. (3) 1.–2. *P. pallescens* det. Anfred Pedersen, 97. (4) Registrerad av ArtDatabanken 2001. Nr. 23/858. (5) ex herb. C. Aspegren [scr. A. Pedersen]. — Three notes on the voucher: (1) LD Acc. no. 1011661. (2) Botaniska Museet Lund 95021 · 0337. (3) Botanical Museum 060053 LUND. (4) Hb. Ag [Aspegren].

The neotype is of rather poor quality. But it reflects the concept of Aspegren, who considered his *Potentilla sordida* as the same taxon as Fries’ *P. argentea* var. *sordida*. In our concept *P. aspegrenii* refers to a hybrid between *Potentilla argentea* and *P. sternerii*. Hybrids of this origin, which we saw as single plants in populations of *P. sternerii* on Öland, are rather variable and span the morphological range between the parent taxa. In the 19th century, when *P. sternerii* was certainly more common, they probably occurred in Aspegren’s investigation area in Blekinge.

Potentilla canescens Hartm.

Handb. Skand. fl. 1, 200. 1820, *nom. inval. non* *Potentilla canescens* Bess. 1809. — NEOTYPE (designated here): Same specimen as the lectotype for *P. argentea* var. *sordida* Fr. (see above).

Hartman synonymized his name in the second and third edition of his flora (Hartman 1832, 1838) with *Potentilla argentea* var. *sordida* Fr.

Potentilla collina * [unranked] *pallescens* Hartm.

Handb. Skand. fl. 5, 163. 1849. — LECTOTYPE (designated here): The same specimen as the holotype of *P. sternerii* (see above).

Hartman (1849) used in the fifth edition of his flora Greek letters and a starlike sign to indicate infraspecific ranks. According to the rules of nomenclature (Greuter *et al.* 2000: §35.4) none of them can be considered to be that of variety. His references to number 65 of the 4th fascicle of the Herbarium normale (Fries 1838) makes it possible to typify this name with the same specimen as *P. sternerii*.

Potentilla sordida (nom. ill.) var. *humifusa* Fr.

Novit. fl. succ. mant. 3, 43. 1842. — *P. collina* var. *humifusa* (Fr.) Fr., Summa veg. Scand. I, 171. 1845, nom. syn. — *P. humifusa* (Fr.) Zimmeter, Eur. Art. *Potentilla*, 12, 1884, nom. ill. non Willd. ex Schlecht., nom. syn. — *P. sordida* (nom. ill.) f. *humifusa* (Fr.) Th. Wolf, Monogr. *Potentilla*, 292. 1908, nom. syn. — LECTOTYPE (designated here): Specimen “Herb. Lund (LD). Acc. no. 1088581” of number 50 of the 7th fascicle of Herbarium normale (Fries 1842). Original label: *Potentilla sordida* var. s. *P. Güntheri*. Auctt. Öland. inter praeced. [no. 49 *P. sordida*] Sjöstrand. Item culta, a priori educata! Filia prioris e solo culto l. pinguiori subhumido. — Five additional labels: (1) E. Fries: Herbarium normale. *Potentilla collina* Wib. (2) Seen for Flora Nordica 1997 by Anf. P. (3) *P. sordida* (Fries) Aspegren cult fra VII: 49 (= typica). det. Anfred Pedersen, 97. (4) = *P. sordida* Fries var. *humifusa* Fries Lectotypus f. navnet 1842:43. (5) Lectotypus of *Potentilla sordida* var. *humifusa* Fr. Seen for Flora Nordica by Thomas Gregor, II.2006. — Three notes on the voucher: (1) He.N. VII n.50. (2) Botanical Museum 060199 Lund. (3) Botaniska Museet 95021 0417 Lund. — ISOTYPES: Specimens of number 50 of the 7th fascicle of Herbarium normale of which we have seen (1) LD 1032325, (2–7) S s.n., (8) W 1889:323224.

According to the label of number 50 of the 7th fascicle of Herbarium normale (Fries 1842) the plants are garden grown descendants of number 49. The plants distributed under number 49 as *P. sordida* probably belong to *P. argentea* × *sternerii*. The plants distributed under number 50 are much more vigorous and show the rather confusing character of, albeit rare, incomplete stellate hairs on the leaf surface. Fries cited in the protologue only number 50 of the 7th fascicle of the Herbarium normale, therefore forcing us to choose a lectotype which does not suit the epithet *humifusum*.

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References

- Asker, S. & Fröst, L. 1970: The “*Potentilla collina* problem” — a chemotaxonomic approach. — *Hereditas (Lund)* 66: 49–69.
- Aspegren, G. C. 1823: *Försök till en Blekingsk Flora*. — P. E. Flygare, Carlskrona.
- Ball, P. W., Pawłowski, B. & Walters, S. M. 1968: 19. *Potentilla*. — In: Tutin, T. G., Heywood, V. H., Burges, N. A., Moore, D. M., Valentine, D. H., Walters, S. M. & Webb, D. A. (eds.), *Flora Europaea*, vol. 2: *Rosaceae to Umbelliferae*: 36–47. Cambridge Univ. Press.
- Bertsch, K. & Bertsch, F. 1933: *Flora von Württemberg und Hohenzollern. Zum Gebrauche auf Wanderungen, in Schulen und beim Selbstunterricht*. — J. F. Lehmann Verlag, München.
- Dierssen, K. 1996: *Vegetation Nordeuropas*. — Verlag Eugen Ulmer, Stuttgart.
- Fries, E. M. 1823: *Novitiae florum svecicae*, VI. — Berling, Lund.
- Fries, E. 1838: *Herbarium normale plantarum rariorum et criticarum Sueciae*. Fasc. III. Continens decadas XXVII–XXXVI. Plantarum alpinarum et Sueciae Mediae. — C. F. Berling, Uppsala.
- Fries, E. 1842: *Herbarium normale plantarum rariorum et criticarum Sueciae*. Fasc. VII. — C. F. Berling, Uppsala.
- Fries, E. 1842, 1843 & 1845: *Novitiae florum svecicae. Mantissa tertia*. — Berling, Lund.
- Fries, E. 1845: *Summa vegetabilium Scandinaviae, seu enumeratio, systematica et critica plantarum tum cotyledonearum, quum nemeorum inter mare occidentale et album, inter Eidoram et Nordkap, hactenus lectarum, una cum singulae distributione geographica*. Sectio prior. — Typographia Academica, Upsalia.
- Gregor, T. 2004: *Potentilla alsatica* T. Gregor, ein Fingerkraut der *Potentilla-collina*-Gruppe aus der südlichen Oberrheinebene. — *Bauhinia* 18: 5–20.
- Gregor, T. & Henker, H. 2001: *Potentilla wisnariensis* T. Gregor & Henker sp. nova, ein Fingerkraut der Wisnariabucht (Mecklenburg-Vorpommern, Deutschland). — *Feddes Repert.* 112: 321–330.
- Greuter, W., McNeill, J., Barrie, F. R., Burdet, H. M., Demoulin, V., Filgueiras, T. S., Nicolson, D. H., Silva, P. C., Skog, J. E., Treharne, P., Turland, N. J. & Hawksworth, D. L. (eds.) 2000: *International Code of Botanical Nomenclature (Saint Louis Code) adopted by the Sixteenth International Botanical Congress St. Louis, Missouri, July–August 1999*. — Koeltz Sci. Books, Königstein.
- Hartman, C. 1879: *C. J. Hartmans Handbok i Skandinavien Flora, innefattande Sveriges och Norrignes växter, till och med mossorna*. Elfte, helt och hållet omarbetade upplagan. — Zacharias Hæggström, Stockholm.

- Hartman, C. J. 1820: *Handbok i Skandinaviens Flora, innefattande Sveriges och Norriges vexter, till och med mossorna*. Med inledning, afhandlande grunderna för Botanikens studium, samt tvänne plancher. — Zacharias Hæggström, Stockholm.
- Hartman, C. J. 1832: *Handbok i Skandinaviens Flora, innefattande Sveriges och Norriges vexter, till och med mossorna*. Med en öfversigt af vextläran och botanikens studium i allmänhet. Andra upplagan, omarbetad och förökad. — Zacharias Hæggström, Stockholm.
- Hartman, C. J. 1838: *Handbok i Skandinaviens Flora, innefattande Sveriges och Norriges vexter, till och med mossorna*. Med ett utkast till botanologien eller vextläran i allmänhet. Tredje upplagan, rättad och förökad. Sednare delen: Floran. Med 2 taflor. — Zacharias Hæggström, Stockholm.
- Hartman, C. J. 1843: *Handbok i Skandinaviens Flora, innefattande Sveriges och Norriges vexter, till och med mossorna*. Fjerde upplagan, rättad och förökad. Med tvänne taflor. — Zacharias Hæggström, Stockholm.
- Hartman, C. J. 1849: *Handbok i Skandinaviens Flora, innefattande Sveriges och Norriges vexter, till och med mossorna*. Ordnade efter Prof. Fries' system. Femte upplagan, rättad och förökad. Med författarens portrait. — Zacharias Hæggström, Stockholm.
- Hultén, E. 1950: *Atlas of the distribution of vascular plants in NW Europe*. — Generalstabens Litografiska Anstalt, Stockholm.
- Karlsson, T. 1998: Förteckning över svenska kärlväxter. — *Svensk Bot. Tidskr.* 91: 241–560.
- Kurtto, A. & Eriksson, T. 2003: Atlas Florae Europaeae notes. 15. Generic delimitation and nomenclatural adjustments in Potentilleae (Rosaceae). — *Ann. Bot. Fennici* 40: 135–141.
- Kurtto, A., Lampinen, R. & Junikka, L. 2004: *Atlas Florae Europaeae. Distribution of Vascular Plants in Europe*. 13. Rosaceae (*Spiraea* to *Fragaria*, excl. *Rubus*). — The Committee for Mapping the Flora of Europe & Soc. Biologica Fennica Vanamo, Helsinki.
- Lehmann, J. G. C. 1820: *Monographia generis Potentillarum*. — (1) Hoffman & Campe, (2) Treuttel & Würtz & (3) J. H. Bohte, (1) Hamburgum, (2) Parisii & (3) Londinum.
- Lid, J. 1963: *Norsk og svensk flora*. — Norske Samlaget, Oslo.
- Mossberg, B., Stenberg, L. & Ericsson, S. 1992: *Den nordiska floran*. — Wahlström & Widstrand, Stockholm.
- Mossberg, B. & Stenberg, L. 2003: *Den nya nordiska floran*. — Wahlström & Widstrand, Stockholm.
- Müntzing, A. 1958: Heteroploidy and polymorphism in some apomictic species of *Potentilla*. — *Hereditas* (Lund) 44: 280–328.
- Neuman, L. M. 1901: *Sveriges Flora (Fanerogamerna)*. — C. W. K. Gleerups, Lund.
- Nyman, C. F. 1878: *Conspectus florum europaeae, seu enumeratio methodica plantarum phanerogamarum europae indigenarum, indicatio distributionis geographicae singularum etc. I*. — Officina Bohliniana, Örebro Suecicae.
- Schwarz, O. 1949: Beiträge zur Nomenklatur und Systematik der mitteleuropäischen Flora. — *Mitt. Thüring. Bot. Ges.* 1: 82–119.
- Sjöstrand, M. G. 1863: *Calmar läns och Ölands flora*. — Almquists förlag, Calmar.
- Stafleu, F. A. & Cowan, R. S. 1976: *Taxonomic literature. A selective guide to botanical publications and collections with dates, commentaries and types*. — Bohn, Scheltema & Holkema, Utrecht.
- Sterner, R. 1922: The continental element in the flora of South Sweden. — *Geogr. Annaler* 4: 221–444.
- Sterner, R. 1933: Vegetation och flora i Kalmarsunds skärgård. — *Acta Horti Gothob.* 8: 189–280.
- Sterner, R. 1938: Flora der Insel Öland. — *Acta Phytogeogr. Suecica* 9: 170 + [66].
- Wahlenberg, G. 1821: Gothlandiæ plantæ rariores annis 1816, 1817 et 1818 detectæ a Joh. Petr. Rosén, et jam conjunctim cum eo recensitæ. — *Nova Acta Regiae Soc. Sci. Upsal.* 8: 203–257.
- Wolf, P. 1908: Monographie der Gattung *Potentilla*. — *Biblioth. Bot.* 71: VI + [1] + 714 + [1] + 2 maps.
- Zimmerer, A. 1884: Die europäischen Arten der Gattung *Potentilla*. Versuch einer systematischen Gruppierung und Aufzählung nebst kurzen Notizen über Synonymik, Literatur und Verbreitung derselben. — *Jahresber. k. k. Staats-Ober-Realschule Steyr* 14: 1–31.