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THE GENUS PILOSELLA IN NORTH AMERICA

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PILOSELLA (Thal) Kostel. Enum. Hort. Prag. 104. 1844.
Arabidopsis (DC.) Schur. Enum. Pl. Trans. 55. 1866.
Stenophragma Celak. [Fl. Prager Umgeg. 1870] Flora 55: 438. 1872.

Prantl in Engler & Prantl, Pflanzenfamilien, adopted Celakowsky's genus *Stenophragma* for *Arabis Thaliana* L. and its relatives. There are, however, two older generic names available. Neither of these has been included in Harms's list of *genera excludenda* and they must be considered, whether one follows the American or the Vienna Code. The first of these was published by Kosteletsky in 1844. Kosteletsky not only gives the binomial *Pilosella Thaliana* but states in a footnote that it has been included in *Arabis* and *Sisymbrium* by authors. Furthermore, he credits the name *Pilosella* to Thal, by placing the name of the latter in parenthesis after the name *Pilosella*. *Pilosella siliquata minor* was described and figured by Thal in 1588 and it was the plant on which Linnaeus based his *Arabis Thaliana*. There is therefore no uncertainty about the identity of Kosteletsky's genus *Pilosella*. Some botanists require that a diagnosis (some even insist that this should be in Latin) should accompany a generic name in order to constitute publication, but such a requirement is always at least pedantic and in many cases simply ridiculous. In this case the identity of the genus *Pilosella* (then a monotype) is well established, and the plant was described and figured by Thal and described by Linnaeus.

It is true that the name *Pilosella* has been used for a part of genus *Hieracium*, but according to the American and the Vienna

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codes it was not published as a genus in this sense until 1862, when it was published by the two brothers, Schultz of Zweibrücken.* Twelve years before that time (in 1850), F. W. Schultz had published a few binomials under the generic name *Pilosella*, but only as synonyms under species which he still retained in *Hieracium*. The earliest use of the name *Pilosella* for a group of *Hieracium* seems to be in 1542 by Fuchs. It was used in that sense by Dodoens, Camerarius, Caspar Bauhin, etc., and by Ruppius as late as 1745, but I have been unable to find it used as a genus after 1753 and before 1844. Should this, however, be the case, *Arabidopsis* Schur should be used for *Arabis Thaliana* instead of *Stenophragma*. When Schur established *Arabidopsis*, he not only cited *Arabis Thaliana* L., *Conringia Thaliana* Reich. and *Sisymbrium Thalianum* Gay, but stated that the genus was equivalent to De Candolle's *Sisymbrium* sect. VII., *Arabidopsis*. The writer cannot see why these two names should be ignored and the later *Stenophragma* be adopted. The following species of PILOSELLA are found in North America :

PILOSELLA THALIANA (L.) Kostel. Enum. Hort. Prag. 104. 1844.
Arabis Thaliana L. Sp. Pl. **2** : 665. 1753.
Conringia Thaliana Reichenb. Ic. Fl. Germ. **2** : *pl. 60.*
Stenophragma Thalianum Celak. Flora **55** : 442. 1872.
Arabis parviflora Raf. Am. Mo. Mag. 1 : 43. 1817.

A species introduced from Europe, and sparingly established from Massachusetts to Georgia and Kansas ; collected also in Utah.

Pilosella Novae-Angliae Rydb.

Arabis petraea Hook. Fl. Bor.-Am. **1** : 42, in small part. 1829. T. & G. Flora 1 : 80, mainly. 1838. Not *Arabis petraea* (L.) Lam. 1783.

Sisymbrium humile Wats. & Coult. ; A. Gray, Man. Ed. 6 : 71. 1890. Not *Sisymbrium humile* Ledeb. 1830.

Braya humilis Robinson, Syn. Fl. **1**[1] : 141, in part. 1895.

This plant seems to have been included in Hooker's *Arabis petraea*, but here evidently confused with *Arabis lyrata* Nutt. and

* Flora **45** : 417. 1862.

A. ambigua DC. The first time it was really distinguished was in Torrey & Gray's Flora ; but here the range is faulty, probably because these authors followed Hooker in this respect, and Dr. Pitcher's specimen belongs to *Arabis lyrata.* A somewhat better description we find in Gray's Manual, sixth edition, and in the Synoptical Flora; but in both it is confused with the Rocky Mountain plant, *i. e.*, the species which we next discuss. The first adequate description we find in Britton & Brown's Illustrated Flora,* where it is also figured. This description, as well as that in Britton's Manual, refers wholly to the eastern plant, but Alaska and Oregon should be excluded from the range.

Pilosella Novae-Angliae differs from *Sisymbrium humile* Ledeb. (Icon. Pl. Fl. Ross. 2 : 16. *pl. 147.* 1830) in the more compact habit, the scant pubescence, the smaller flowers, the more slender pod, and the longer style, which is about 1 mm. long.

Dr. Robinson refers the plant to *Braya,* but the type of that genus is so unlike this species both in habit and structure that the present writer can not follow him in his views. *Pilosella Novae-Angliae* has such a resemblance to *P. Thaliana* in many respects that it would be hard to deny the relationship. The structure of the pod is the same, the only difference being that the minute reticulation of the septum in *P. Novae-Angliae* is shorter and therefore approaches that of *Braya.* In habit, the main difference between the two species is that *P. Thaliana* is an annual, while the present species is a perennial.

The specimens at hand of *P. Novae-Angliae* are the following from Willoughby Mountain, Vt. : July, 1887, *Edwin Faxon* † ; 1894, *A. J. Grout, W. W. Eggleston, & H. S. Jesup ;* 1892, *H. H. Rusby ;* 1866, *H. Mann ;* 1881, *C. G. Pringle.*

Pilosella Richardsonii Rydb.

Sisymbrium humile (especially var. *β*) Hook. Fl. Bor.-Am. 1 : 62. 1830. Not *Sisymbrium humile* Ledeb. 1830.

Braya humilis Robinson, Syn. Fl. 1[1] : 141, in part. 1895.

This also has been confused with *Sisymbrium humile* Ledeb.

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* 2 : 116. *f. 1698.* 1897.

† As no type has been designated under any of the synonyms given above, this may be regarded as the type ; it is preserved in the Columbia University herbarium.

and is nearer to it in general habit, but differs in the thicker leaves (usually deeply dentate), dense and very short pubescence, thicker and more torulose pod. These characters, together with the larger flowers, very short style, which is scarcely more than 0.5 mm. long, and the stems, decumbent at the base, distinguish it from the preceding species. The following specimens are at hand: Sandy Plains, Lower Bow Park, vicinity of Banff, Alberta, 1890, *McCalla 2272;* Banff, 1887, *J. Fowler;* about Mackenzie River, from lat. 60° to 68°, *Richardson.* Emerald Lake, Alberta, 1904, *J. Macoun 64433* and *C. H. Shaw 109.*

Pilosella virgata (Nutt.) Rydb.

Sisymbrium virgatum Nutt.; T. & G. Fl. **1**: 93. 1838.
Stenophragma virgatum Greene, Pittonia **3**: 138. 1896.
Arabis Brebneriana A. Nelson, Bull. Torrey Club **25**: 373. 1898.

The first one to transfer this species to a genus with *Arabis Thaliana* L. as the type was Dr. Greene. He was not, however, the first one who saw the relationship between these two species, for in Torrey & Gray's Flora they are associated with *S. humile*, *S. glaucum* Nutt. and *S. pauciflorum* Nutt. in a section Arabidopsis. Except the last one, which is doubtful and unknown to the writer, the group comprises just those species which the writer here regards as constituting in North America the genus *Pilosella.* The more he studies the work of Thomas Nuttall, who contributed most to the knowledge of these species as well as numerous others to Torrey & Gray's Flora, the more he admires that old botanist's acuteness. In ability to recognize relationships, he surpassed even Dr. Torrey and Dr. Gray.

The most extended description of this species was made by Professor Aven Nelson under the name of *Arabis Brebneriana.* The only discrepancy we find is that the valves of the pod are said to be "obscurely few-nerved," for besides the few obscure nerves there is in each a prominent midrib, making the pod angular just as in *Pilosella Thaliana.* The only difference in the structure of the pod is that the septum of the pod has a faint midrib, which is obsolete in *P. Thaliana*, *P. Novae-Angliae*, and

P. Richardsonii. Professor Nelson has later recognized the fact that *Arabis Brebneriana* is not an *Arabis.* He then distributed it as *Stenophragma.* Professor Nelson is easily excusable for having redescribed *Sisymbrium virgatum* under another name, for the more common plant known under that name is not Nuttall's plant, but an undescribed closely related species, which is diagnosed below. The only specimens of the true *P. virgata* seen by the writer are the following : Rocky Mountains, near the sources of Sweet Water, *Nuttall ;* Colorado, *Hall & Harbour ;* Wyoming, Fort Steele, 1897, *Aven Nelson 3135 ;* Laramie, 1899, *Aven & Elias Nelson 6827.**

Pilosella stenocarpa Rydb.

Biennial or perhaps a short-lived perennial; stem hirsute with branched hairs, usually simple up to the inflorescence; basal leaves oblanceolate, 2–3 cm. long, sinuate-dentate, short-petioled, hirsute-stellate; stem-leaves sagittate, sessile, about 2 cm. long; sepals oblong, about 2 mm. long; petals spatulate, 3 mm. long; fruiting pedicels 5–10 mm. long, ascending; pod 2.5–4 cm. long, glabrous, scarcely 1 mm. wide; beak about 0.5 mm. long.

This closely resembles the preceding in habit, but differs in the smaller flowers, narrower pod, and more distinct style. It is usually also more simple. In *P. virgata* the petals are usually 4 mm. long, the pod 2 mm. thick, and the style obsolete. A duplicate of Nuttall's *Sisymbrium virgatum* is in the Columbia University herbarium and it matches closely *Arabis Brebneriana* Nelson. The following specimens of *P. stenocarpa* have been seen : Wood Mountain, Assiniboia, 1895, *John Macoun 10007* (type, in Columbia University herbarium); Pole Creek, Wyoming, 1895, *Aven Nelson 1334 ;* Tie Siding, Wyo., 1896, *Osterhout ;* Leucite, Wyo., 1901, *Merrill & Wilcox 480 ;* McCoys, Colo., 1903, *Osterhout 2763.*

Pilosella glauca (Nutt.) Rydb.

Sisymbrium glaucum Nutt.; T. & G. Fl. 1 : 93. 1838.
(?) *Turrites diffusa* Hook. Fl. Bor.-Am. 1 : 41. 1829.

* *Aven Nelson 1299* and *1902* may also belong here, but the fruit is too little developed for determination.

Sisymbrium salsugineum S. Wats. Bibl. Ind. 70. 1878. Not *Sisymbrium salsugineum* Pall. 1773.

Thelypodium salsugineum Robinson, Syn. Fl. 1[1]: 175. 1895.

Dr. Robinson referred this species to *Thelypodium*, but it lacks the most characteristic feature of that genus, *i. e.*, the sagittate and curved anthers. The flower and pod are almost exactly like those of *P. Thaliana*. Prantl * refers the closely related *Sisymbrium salsugineum* Pall. to *Stenophragma* and the writer thinks rightly so. He thinks, however, that the American plant is distinct from the Siberian, having smaller flowers and entire instead of coarsely toothed basal leaves. The only characters in which they do not agree with the typical *Pilosellae* are but trifling ones, viz: the lack of pubescence and the clasping stem-leaves.

A key to these species may here be added:

Stem-leaves not auriculate-clasping or sagittate at the base.
- Annual. — *P. Thaliana.*
- Perennial.
  - Stems erect; leaves thin, sparingly pubescent; style about 1 mm. long. — *P. Novae-Angliae.*
  - Stems decumbent at the base; leaves thick, densely stellate; style about 0.5 mm. long. — *P. Richardsonii.*

Stem-leaves auriculate-clasping or sagittate at the base.
- Plants pubescent, biennial or perennial.
  - Pod 2 mm. thick; style obsolete. — *P. virgata.*
  - Pod about 1 mm. thick; style 0.5 mm. long. — *P. stenocarpa.*
- Plant glabrous, annual. — *P. glauca.*

New York Botanical Garden.

THE MUSEUM AND LIBRARY OF THE STATEN ISLAND ASSOCIATION OF ARTS AND SCIENCES

By Charles Louis Pollard, *Curator*

The books and collections belonging to the Staten Island Association of Arts and Sciences were moved on July 9 from the Staten Island Academy, where they had been stored for the last ten years, to Room 309 in the Richmond Borough Building, which was assigned to the Association last November by the Commissioners of the Sinking Fund. This room, occupying

* Engl. & Prantl, Nat. Pflanzenfam. 3[2]: 192. 1891.