

OXYTROPIS DC.—NAMES, BASIONYMS, TYPES, AND SYNONYMS—
FLORA NORTH AMERICA PROJECT

Stanley L. Welsh¹

ABSTRACT.—All names known to apply to the genus *Oxytropis* de Candolle in North America are listed with place of publication, type information (where known), type specimen repositories, and notations pertinent to understanding the nomenclatural aspects of the genus. Nomenclatural combinations proposed are: *Oxytropis arctica* R. Brown var. *murrayi* (Jurtzev) Welsh and *O. campestris* (L.) de Candolle var. *roaldii* (Ostenfeld) Welsh.

Key words: *Oxytropis*, North America, names, types, synonyms.

Preparation of a revisionary summary of the genus *Oxytropis* de Candolle for the Flora North America Project necessitates that nomenclatural changes and type information be presented prior to publication in that project. The following list consists of synonyms, names, nomenclatural types, and new combinations of names involved with this interesting and complex genus as it occurs in North America. Each name involved with the genus is listed with its bibliographical citation, type information, places of deposit of the types, and other pertinent information as necessary.

All names cited in the literature are included. In some few of them the place of deposition of the type is unknown, and the space for that information is left blank. *Oxytropis* consists of some 57 taxa in 22 species in its North American complement. The taxonomic problems are disproportionate with the size of the genus, however. The large number of synonyms reflects the problematic nature of the taxa within the genus. Further complicating the number of names have been the nomenclatural transfers to earlier published genera *Aragallus* Neck. and *Spiesia* Neck. The conservation of *Oxytropis* DC. forestalled ultimate adoption of either of those generic names. Some authors, Tidestrom for example, discerned the close relationship of *Oxytropis* with *Astragalus* L., and he subsequently made wholesale transfers of the names to that genus. While having considerable merit from a phylogenetic standpoint,

the inclusion would have further burdened an already huge genus and overlooked the divergence of the oxytropes from most of the astragalus complexes. In North America only the introduced *O. riparia* and the indigenous *O. deflexa* are caulescent or have caulescent phases. The porrect beak of the keel is diagnostic for the genus, even though some species of *Astragalus* have extended keel apices; none are truly porrect.

Aside from the problem of nomenclatural transfers, which have added to the list of synonyms, the main difficulties are morphological; there are few consistent morphological features to serve as taxonomic criteria. The pods, with some exceptions, are mainly alike, especially in those taxa that are most alike otherwise. The flowers are similar through the genus, the main differences being in size (and that varies greatly within some species) and color (which also varies within a species and often within the infraspecific categories). The taxonomist has had to rely on features of stipules, leaves, inflorescence, pubescence, and calyx or pod inflation to arrive at a treatment that still lacks absolute consistency. Morphological intermediates, resulting from hybridization or from overlap of widely varying characteristics, tend to cloud the picture. Chromosome number is helpful, to an extent, but plants with differing ploidy levels are known within species and some of the varieties; and chromosome number is not always associated with other morphological features.

¹Life Science Museum and Department of Botany and Range Science, Brigham Young University, Provo, Utah 84602.

Some workers have looked at the genus as if the taxa were clear and distinctive, resulting in the proliferation of specific and infraspecific names. Each new morphological variant was considered worthy of a name by some students of the genus. Adding to the difficulties of interpretation of taxonomic and nomenclatural problems was the circumboreal nature of the genus. In Alaska and other northern regions of North America, some species were clearly allied closely to Siberian or Eurasian taxa. A paucity of critical materials from Siberia for comparison with the American counterparts made interpretation difficult. Specimens from Siberia in American herbaria are still the exception. In the *campestris* and *borealis* complexes the need for such comparisons is critical. Both species were named prior to any of the North American counterparts, and it was not until the critical review of *Oxytropis* by Barneby (1952) that clarification of many of the problems became a possibility, although the equivalence was discerned earlier by Gray (1884) and others. Much additional work and refinement of the infraspecific taxa in the complexes with circumboreal representation is necessary.

The present writer has examined all but a few of the taxa in the field and has spent almost three decades in their pursuit. It is hoped that this summary of names will be helpful. Works of special importance to this paper include those by Barneby (1952), Boivin (1962, 1967), Bunge (1874), Elisens and Packer (1980, 1982), Gray (1884), Jurtsev (1986), Porsild and Cody (1980), Vasilchenko et al. (1948), and Welsh (1967, 1974, 1977, and 1987).

Aragallus abbreviatus Greene, Proc. Biol. Soc. Wash. 18: 12. 1905.

Type: Texas, near Dallas, Limestone prairie, Dallas County, J. Reverchon 603, May 1876; holotype NDG!; isotype NY!; dry calcareous soil near Dallas, Texas, Curtis 603, April, May; cotype GH!, NDG!, NY!

= *Oxytropis lambertii* Pursh var. *articulata* (Greene) Barneby

Aragallus aboriginum Greene, Proc. Biol. Soc. Wash. 18: 12. 1905.

Type: Oklahoma, Cimarron Valley, Cherokee Outlet, M. N. Carleton 217, June 1891; holotype US!, photo BRY!

= *Oxytropis sericea* Nuttall var. *sericea*

Aragallus albertinus Greene, Proc. Biol. Soc. Wash. 18: 15. 1905.

Type: Saskatchewan, Prince Albert, Lat. 53°, J. M. Macoun 12535 and 12540, July 1896; cotypes NDG!

= *Oxytropis campestris* (L.) de Candolle var. *gracilis* (A. Nelson) Barneby

Aragallus albiflorus A. Nelson, Erythra 7: 62. 1899, nom. nov.

Basionym: *Oxytropis lambertii* Pursh var. *ochroleuca* A. Nelson

= *Oxytropis sericea* Nuttall var. *sericea*

var. *condensatus* A. Nelson, Erythra 7: 62. 1899.

Type: Wyoming, Bitter Creek, Red Desert, Sweetwater County, A. Nelson 4773, 16 June 1898; holotype RM!; isotypes NY!, US!

= *Oxytropis sericea* Nuttall var. *sericea*

Aragallus alpicola Rydberg, Mem. N. Y. Bot. Gard. 1: 252. 1900.

Type: Montana, Old Hollowtop near Pony [South Boulder Range, Madison County], P. A. Rydberg & E. Bessey 4503, 9 July 1897; holotype NY!, isotypes GH!, NDG!, US!, NY!

= *Oxytropis campestris* (L.) de Candolle var. *cusickii* (Greenman) Barneby

Aragallus angustatus Rydberg, Bull. Torrey Bot. Club 34: 422. 1907.

Type: Nebraska, Rush Creek, Deuel County, P. A. Rydberg 82c, 2 July 1891; holotype NY!; isotypes MIN!, NEB!

= *Oxytropis lambertii* Pursh var. *lambertii*

Aragallus arcticus (R. Brown) Greene, Pittonia 3: 211. 1897.

Basionym: *Oxytropis arctica* R. Brown

= *Oxytropis arctica* R. Brown

Aragallus argophyllus Rydberg, Mem. N. Y. Bot. Gard. 1: 255. 1900.

Type: Little Blackfoot River, Montana, J. G. Cooper s.n., 1860; holotype NY!; isotype GH! (frag), US!

= *Oxytropis besseyi* (Rydberg) Blankinship var. *argophylla* (Rydberg) Barneby

Aragallus articulatus Greene, Proc. Biol. Soc. Wash. 18: 13. 1905.

Type: Between Fort Smith and the Rio Grande [Oklahoma or western Texas], J. M. Bigelow s.n., 1853; holotype US!

= *Oxytropis lambertii* Pursh var. *lambertii*

Aragallus atropurpureus Rydberg, Bull. Torrey Bot. Club 34: 424. 1907.

Type: Headwaters of the Tongue River, Big Horn Mountains, Wyoming, F. Tweedy 125, 126, 1898; cotypes NY!

= *Oxytropis lagopus* Nuttall var. *atropurpureus* (Rydberg) Barneby

Aragallus aven-nelsonii Lamell, Bull. Leeds Herb. 2: 6. 1908.

Type: North Dakota, Butte, Benson County, J. Lamell s.n., 14, 21 June, 2 July 1908; isotypes NY!, US!, WTC, MIN!, NDA!

= *Oxytropis lambertii* Pursh var. *lambertii*

Aragallus bellii (Britton) Greene, Pittonia 3: 212. 1897.

Basionym: *Spiesia Oxytropis bellii* Britton

= *Oxytropis arctica* R. Brown var. *bellii* (Britton) Boivin

Aragallus besseyi Rydberg, Mem. N. Y. Bot. Gard. 1: 250. 1900.

- Type: Montana, Spanish Basin, Gallatin County, 6,500 ft., P. A. Rydberg & E. A. Bessey 4501, 23 June 1897; holotype NY!; isotypes GH!, NDG!, US!
 = *Oxytropis besseyi* (Rydberg) Blankinship var. *besseyi*
- Aragallus bigelovii* (A. Gray) Greene, Pittonia 3: 212. 1897.**
 Basionym: *Oxytropis lambertii* Pursh var. *bigelovii* A. Gray
 = *Oxytropis lambertii* Pursh var. *lambertii*
- Aragallus blankinshipii* A. Nelson, Erythea 7: 58. 1899.**
 Type: Montana, dry rocky hillsides along Middle Creek, 15 mi SW of Bozeman, Gallatin County, J. W. Blankinship s.n., 4 July 1898; holotype RM!; isotypes GH!, NY!
 = *Oxytropis lagopus* Nuttall var. *lagopus*
- Aragallus bryophilus* Greene, Proc. Biol. Soc. Wash. 18: 17. 1905.**
 Type: Alaska, St. Matthew Island, J. M. Macoun 18510, 10 July 1891; holotype NDG!
 = *Oxytropis nigrescens* (Pallas) Fischer var. *nigrescens*
- Aragallus campestris* (L.) de Candolle var. *johannensis* Fernald ex Macoun, Ottawa Nat. 13: 163. 1899, nomen.**
 Basionym: *Oxytropis campestris* (L.) de Candolle var. *johannensis* Fernald
 = *Oxytropis campestris* (L.) de Candolle var. *johannensis* Fernald
- Aragallus caudatus* Greene, Pittonia 4: 69. 1899.**
 Type: Saskatchewan, Moose Jaw, J. M. Macoun 13957, 26 June 1896; holotype NDG!; isotype CAN!
 = *Oxytropis splendens* Douglas
- Aragallus cervinus* Greene, Proc. Biol. Soc. Wash. 18: 16. 1905.**
 Type: British Columbia, Deer Park, Lower Arrow Lake, J. M. Macoun 5358, 8 June 1890; holotype NDG!
 = *Oxytropis campestris* (L.) de Candolle var. *gracilis* (A. Nelson) Barneby
- Aragallus collinus* A. Nelson, Erythea 7: 57. 1899.**
 Type: Wyoming, Seminoe Mts., Carbon County, E. Nelson 4925, 21 July 1898; holotype RM!; isotypes GH!, NY!, US!
 = *Oxytropis nana* Nutt.
- Aragallus deflexus* (Pallas) A. A. Heller, Cat. N. Amer. Pl., 4. 1898.**
 Basionym: *Astragalus deflexus* Pallas
 = *Oxytropis deflexa* (Pallas) de Candolle
- Aragallus dispar* A. Nelson, Erythea 7: 61. 1899.**
 Type: North Dakota, Dickinson, Stark County, Mrs. Cook s.n., 1896; holotype RM!; photo BRY!
 = *Oxytropis campestris* (L.) de Candolle var. *dispar* (A. Nelson) Barneby
- Aragallus falcatus* Greene, Proc. Biol. Soc. Wash. 18: 13. 1905.**
 Type: Missouri, Watson, Atchison County, B. F. Bush 204, 1 June 1894; holotype NDG!; isotypes GH!, NY!, US!, ISC!, MIN!, MO!, DAO! (Note: The same collection is also the type of *Oxytropis bushii* Gandoger.)
 = *Oxytropis lambertii* Pursh var. *lambertii*
- Aragallus foliolosus* (Hooker) Macoun, Ottawa Naturalist 13: 163. 1899.**
 Basionym: *Oxytropis foliolosa* Hooker
 = *Oxytropis deflexa* var. *foliolosa* (Hooker) Barneby
- Aragallus formosus* Greene, Proc. Biol. Soc. Wash. 18: 13. 1905.**
 Type: South Dakota, Fort Meade, Meade County, W. H. Forwood 95, 7 June 1887; holotype US!, photo BRY!
 = *Oxytropis lambertii* Pursh var. *lambertii*
- Aragallus galioides* Greene, Proc. Biol. Soc. Wash. 18: 16. 1905.**
 Type: Alberta, Bow River near Banff, McCalla s.n., 10 July, 18 September 1899; holotype US!
 = *Oxytropis splendens* Douglas
- Aragallus gracilis* A. Nelson, Erythea 7: 60. 1899.**
 Type: Wyoming, Limestone Range, Newcastle, Weston County, A. Nelson 2545, 30 July 1896; holotype RM!; isotypes GH!, NY!, US!
 = *Oxytropis campestris* (L.) de Candolle var. *gracilis* (A. Nelson) Barneby
- Aragallus hallii* (Bunge) Rydberg, Bull. Torrey Bot. Club 33: 144. 1906.**
 Basionym: *Oxytropis hallii* Bunge
 = *O. podocarpa* A. Gray
- Aragallus hudsonicus* Greene, Proc. Biol. Soc. Wash. 18: 17. 1905.**
 Type: Canada, Whale River, Hudson Bay; A. P. Low 14272, 24 June 1896; holotype NDG!; isotype GH!, S!
 = *Oxytropis borealis* de Candolle var. *hudsonica* (Greene) Welsh
 The specimen at Stockholm has information identical to that at GH, except that the collection is attributed to Spreadborough.
- Aragallus inflatus* (Hooker) A. Nelson, Erythea 7: 59. 1899.**
 Basionym: *Oxytropis arctica* ♂ *inflata* Hooker
 = *Oxytropis podocarpa* A. Gray
- Aragallus invenustus* Greene, Proc. Biol. Soc., Wash. 18: 12. 1905.**
 Type: South Dakota, about Fort Meade, Meade County, W. H. Forwood 96a, 96b, 3 June 1887, 96b, 7 June 1887; cotypes US!, photo BRY!
 = *Oxytropis sericea* Nuttall var. *sericea*
- Aragallus involutus* A. Nelson, Erythea 7: 64. 1899.**
 Type: Minnesota, Acton, Meecker County, W. D. Frost s.n., June 1892; holotype RM!; isotypes MIN!, MO!, US!
 = *Oxytropis lambertii* Pursh var. *lambertii*
- Aragallus johannensis* (Fern.) A. Heller, Cat. N. Amer. Pl., ed 2: 7. 1900.**
 Basionym: *Oxytropis campestris* (L.) de Candolle var. *johannensis* Fernald
 = *Oxytropis campestris* (L.) de Candolle var. *johannensis* Fernald
- Aragallus knowltonii* Greene, Proc. Biol. Soc. Wash. 18: 12. 1905.**
 Type: Arizona, San Francisco Mountains, Coconino County, F. H. Knowlton 44, 20 August 1889; holotype US!
 = *Oxytropis lambertii* Pursh var. *bigelovii* A. Gray

- Aragallus lagopus* (Nuttall) Greene, Pittonia 3: 212. 1897.
Basionym: *Oxytropis lagopus* Nuttall
- Aragallus lambertii* (Pursh) Greene, Pittonia 3: 212. 1897.
Basionym: *Oxytropis lambertii* Pursh
var. *sericeus* (Nuttall) A. Gray, Proc. Amer. Acad. 20: 7. 1884.
Basionym: *Oxytropis sericea* Nuttall
- Aragallus luteolus* Greene, Proc. Biol. Soc. Wash. 18: 17. 1905.
Type: Washington, Olympic Mts., Clallam County, A. D. Elmer 2532, July 1900; holotype US!; isotypes NE, NY!, NDG!, MIN!, MO!, WTC, CAS!, DS!
= *Oxytropis campestris* (L.) de Candolle var. *gracilis* (A. Nelson) Barneby
- Aragallus majusculus* Greene, Proc. Biol. Soc. Wash. 18: 12. 1905.
Type: Utah, Henry Mts., Garfield County, Utah, M. E. Jones 5674, July 1894; holotype US!; isotype NY!, MO!, photo BRY!
= *Oxytropis sericea* Nuttall var. *sericea*
- Aragallus macounii* Greene, Proc. Biol. Soc. Wash. 18: 16. 1905.
Type: Alberta, Elbow River, Rocky Mountains, Lat. 49°40', J. M. Macoun 18517, June–July 1897; holotype NDC!
= *Oxytropis campestris* (L.) de Candolle var. *gracilis* (A. Nelson) Barneby
Two specimens, J. M. Macoun 18516 and 18517, were cited as type of *Aragallus macounii* Greene. Barneby (1952) designated 18517 as the type of the taxon; the other specimen belongs to *O. sericea* Nuttall var. *spicata* (Hooker) Barneby.
- Aragallus melanodontus* Greene, Proc. Biol. Soc. Wash. 18: 15. 1905.
Type: Alberta, Elbow River, Rocky Mountains, Lat. 49°40', J. M. Macoun 18513, June–July 1897; holotype NDC!
= *Oxytropis sericea* Nuttall var. *spicata* (Hooker) Barneby
- Aragallus mertensianus* (Turczaninow) Greene, Pittonia 3: 211. 1897.
Basionym: *Oxytropis mertensiana* Turczaninow
= *Oxytropis mertensiana* Turczaninow
- Aragallus metcalfei* Greene, Proc. Biol. Soc. Wash. 18: 12. 1905.
Type: New Mexico, Sawyer's Peak, Grant County, open glade, ca 10,000 ft., O. B. Metcalf 1079, 7 July 1904; holotype US!; isotypes NY!, CAS!, GH!, POM, WTC.
= *Oxytropis lambertii* Pursh var. *bigelovii* A. Gray
- Aragallus minor* (A. Gray) Cockerell ex Daniels, Univ. Missouri Sci. Stud. II, 2: 158. 1911.
Basionym: *Oxytropis multiceps* var. *minor* A. Gray
= *Oxytropis multiceps* Torrey & Gray
- Aragallus monticola* (A. Gray) Greene, Pittonia 3: 212. 1897.
Basionym: *Oxytropis monticola* A. Gray
= *Oxytropis campestris* (L.) de Candolle var. *gracilis* (A. Nelson) Barneby
- Aragallus multiceps* (Torrey & Gray) A. Heller, Cat. N. Amer. Pl., 4. 1898.
Basionym: *Oxytropis multiceps* Torrey & Gray
= *Oxytropis multiceps* Torrey & Gray
var. *minor* (A. Gray) A. Nelson, Erythra 7: 57. 1899.
Basionym: *Oxytropis multiceps* var. *minor* A. Gray
= *Oxytropis multiceps* Torrey & Gray
- Aragallus nanus* (Nuttall) Greene, Pittonia 3: 212. 1897.
Basionym: *Oxytropis nana* Nuttall
= *Oxytropis nana* Nuttall
- Aragallus oreophilus* (A. Gray) A. Nelson, Erythra 7: 59. 1899.
Basionym: *Oxytropis oreophila* A. Gray
= *Oxytropis oreophila* A. Gray
- Aragallus parryi* (A. Gray) Greene, Pittonia 3: 211. 1897.
Basionym: *Oxytropis parryi* A. Gray
= *Oxytropis parryi* A. Gray
- Aragallus patens* Rydberg, Bull. Torrey Bot. Club 34: 421. 1907.
Type: Colorado, plains and foothills near Boulder, Boulder County, F. Tweedy 5164, 1902; holotype NY!
= *Oxytropis lambertii* Pursh var. *bigelovii* A. Gray
- Aragallus pinetorum* A. Heller, Bull. Torrey Bot. Club 26: 548. 1899.
Type: New Mexico, 11 mi SE of Santa Fe, Santa Fe County, A. A. & E. G. Heller 3751, 23 June 1897; holotype US! (?); isotypes MO!, IA!, MU!, GH!, NDG!, NY!, POM, WTC, BRY!, DS!
= *Oxytropis sericea* Nuttall var. *sericea*
var. *veganus* Cockerell, Torreya 2: 155. 1902.
Type: New Mexico, top of Las Vegas Range, on end of ridge, T. D. A. Cockerell 20, end of June 1901; holotype NY!; isotype GH!
= *Oxytropis sericea* Nuttall var. *sericea*
- Aragallus plattensis* Nuttall ex Torrey & Gray, Fl. N. Amer. 1: 340. 1838
Type: ?
= *Oxytropis lambertii* Pursh var. *lambertii*
- Aragallus podocarpus* (A. Gray) A. Nelson, Coulter & Nelson, New Man., 294. 1909.
Basionym: *Oxytropis podocarpa* A. Gray
= *Oxytropis podocarpa* A. Gray
- Aragallus richardsonii* (Hooker) Greene, Pittonia 4: 69. 1899.
Basionym: *Oxytropis splendens* β *richardsonii* Hooker
= *Oxytropis splendens* Douglas
- Aragallus rigens* Greene, Proc. Biol. Soc. Wash. 18: 14. 1905.
Type: Montana, Cedar Creek, 12 mi above Glendive, Dawson County, L. F. Ward s.n., 15 July 1884; holotype US!, photo BRY!
= *Oxytropis lambertii* Pursh var. *lambertii*
- Aragallus saxinontanus* A. Nelson, Erythra 7: 190. 1899, nom. nov.
Basionym: *Oxytropis lambertii* Pursh var. *ochroleuca* A. Nels.
= *Oxytropis sericea* Nuttall var. *sericea*
var. *condensatus* (A. Nelson) A. Nelson, Erythra 7: 190. 1900.

- Basionym: *Aragallus albiflorus* var. *condensatus* A. Nelson
 = *Oxytropis sericea* Nuttall var. *sericea*
- Aragallus sericeus* (Nuttall) Greene, Pittonia 3: 212. 1897.
 Basionym: *Oxytropis sericea* Nuttall
 = *Oxytropis sericea* Nuttall
- Aragallus spicatus* (Hooker) Rydberg, Mem. N. Y. Bot. Gard. 1: 251. 1900.
 Basionym: *Oxytropis campestris* δ *spicata* Hooker
 = *Oxytropis sericea* Nuttall var. *spicata* (Hooker) Barneby
- Aragallus splendens* (Douglas) Greene, Pittonia 3: 211. 1897.
 Basionym: *Oxytropis splendens* Douglas
 = *Oxytropis splendens* Douglas
- Aragallus varians* Rydberg, Bull. N. Y. Bot. Gard. 2: 176. 1901.
 Type: Yukon, Lewes River, J. B. Tarleton 33b, 28 June 1899; holotype US!; isotypes S!, NY!
 = *Oxytropis campestris* (L.) de Candolle var. *varians* (Rydberg) Barneby
- Aragallus veganus* (Cockerell) Wootton & Standley, Contr. U. S. Nat. Herb. 16: 136. 1913.
 Basionym: *Aragallus pinetorum* *veganus* Cockerell
 = *Oxytropis sericea* Nuttall var. *sericea*
- Aragallus ventosus* Greene, Proc. Biol. Soc. Wash. 18: 15. 1905.
 Type: Dry ground in the valley of the North Fork of Wind River, Wyoming, W. H. Forwood 65, 12 July 1884; holotype US!; isotype GH!
 = *Oxytropis besseyi* (Rydberg) Blankinship var. *ventosa* (Greene) Barneby
- Aragallus villosus* Rydberg, Bull. Torrey. Bot. Club 28: 36. 1901.
 Type: Montana, Craig, Lewis and Clark County, E. N. Wilcox 378, 20 June 1900; holotype US!; isotype NY!
 = *Oxytropis campestris* (L.) de Candolle var. *gracilis* (A. Nelson) Barneby
- Aragallus viscidulus* Rydberg, Mem. N. Y. Bot. Gard. 1: 253. 1900.
 Type: Montana, Melrose, Silver Bow County, P. A. Rydberg 2716, 6 July 1895; holotype NY!
 = *Oxytropis borealis* de Candolle var. *viscida* (Nuttall) Welsh
 var. *depressus* Rydberg, Mem. N. Y. Bot. Gard. 1: 253. 1900.
 Type: Haystack Mt., Stillwater County, Montana, F. Tweedy 120; holotype NY!
 = *Oxytropis borealis* de Candolle var. *viscida* (Nuttall) Welsh
- Aragallus viscidus* (Nuttall) Greene, Pittonia 3: 211. 1897.
 Basionym: *Oxytropis viscida* Nuttall
 = *Oxytropis borealis* de Candolle var. *viscida* (Nuttall) Welsh
- Aragallus albertinus* (Greene) Tidestrom, Proc. Biol. Soc. Wash. 50: 19. 1937.
 Basionym: *Aragallus albertinus* Greene
 = *Oxytropis campestris* (L.) de Candolle var. *gracilis* (A. Nelson) Barneby
- Aragallus albiflorus* (A. Nelson) Gandoger, Bull. Soc. Bot. France 45: xiv. 1901.
 Basionym: *Aragallus albiflorus* A. Nelson
 = *Oxytropis sericea* Nuttall var. *sericea*
- Aragallus alpicola* (Rydberg) Tidestrom, Proc. Biol. Soc. Wash. 50: 19. 1937.
 Basionym: *Aragallus alpicola* Rydberg
 = *Oxytropis campestris* (L.) de Candolle var. *cusickii* (Greenman) Barneby
- Aragallus arcticus* (R. Brown) Sprengel, Syst. 4: 258. 1827.
 Basionym: *Oxytropis arctica* R. Brown
 = *Oxytropis arctica* R. Brown
- Aragallus bellii* (Britton) Tidestrom, Proc. Biol. Soc. Wash. 50: 18. 1937.
 Basionym: *Spiesia bellii* Britton
 = *Oxytropis arctica* R. Brown var. *bellii* (Britton) Boivin
- Aragallus biflorus* Schweinitz ex Gray, Proc. Amer. Acad. 6: 234. 1864, synonym.
 = *Oxytropis podocarpa* A. Gray
- Aragallus bisontum* Tidestrom, Proc. Biol. Soc. Wash. 50: 18. 1937.
 = *Oxytropis multiceps* Torrey & Gray
 var. *minor* (A. Gray) Tidestrom, Proc. Biol. Soc. Wash. 50: 18. 1937.
 Basionym: *Oxytropis multiceps* var. *minor* A. Gray
 = *Oxytropis multiceps* Torrey & Gray
- Aragallus blankinshipii* (A. Nelson) Tidestrom, Proc. Biol. Soc. Wash. 50: 18. 1937.
 Basionym: *Aragallus blankinshipii* A. Nelson
 = *Oxytropis lagopus* Nuttall
- Aragallus campestris* L., Sp. Pl., 761. 1753.
 Type: "in Oelandia, Germania, Helvetia"; holotype LINN 926/51!
 = *Oxytropis campestris* (L.) de Candolle
- Aragallus coronaminis* (Fernald) Tidestrom, Proc. Biol. Soc. Wash. 50: 19. 1947.
 Basionym: *Oxytropis coronaminis* (Fernald) Tidestrom
 = *Oxytropis arctica* R. Brown var. *arctica*
- Aragallus deflexus* Pallas, Acta Acad. Sci. Imp. Petrop. 2: 268. 1779.
 Type: "ad nivalia Dauriae . . . circa Balyra rivum aliosque Ononem influentibus" [Siberia], P. S. Pallas s.n.; holotype BM.
 = *Oxytropis deflexa* (Pallas) de Candolle var. *deflexa*
 var. *foliolosus* (Hooker) Tidestrom, Proc. Biol. Soc. Wash. 50: 18. 1937.
 Basionym: *Oxytropis foliolosa* Hooker
 = *Oxytropis deflexa* (Pallas) de Candolle var. *foliolosa* (Hooker) Barneby
- Aragallus gaspensis* (Fernald & Kelsey) Tidestrom, Proc. Biol. Soc. Wash. 50: 19. 1937.
 Basionym: *Oxytropis gaspensis* Fernald & Kelsey
 = *Oxytropis borealis* de Candolle var. *viscida* (Nuttall) Welsh
- Aragallus grayanus* Tidestrom, in Tidestrom & Kittell, Fl. Ariz. & New Mex., 216. 1941, nom. nov.
 = *Oxytropis campestris* (L.) de Candolle var. *gracilis* (A. Nelson) Barneby

- Astragalus lagopus* (Nuttall) Tidestrom, Proc. Biol. Soc. Wash. 50: 19. 1937.
 Basionym: *Oxytropis lagopus* Nuttall
 = *Oxytropis lagopus* Nuttall
- Astragalus lambertii* (Pursh) Sprengel, Syst. 3: 308. 1826.
 Basionym: *Oxytropis lambertii* Pursh
 = *Oxytropis lambertii* Pursh var. *lambertii*
 var. *bigelovii* (A. Gray) Tidestrom, Proc. Biol. Soc. Wash. 50: 19. 1937.
 Basionym: *Oxytropis lambertii* Pursh var. *bigelovii* A. Gray
 = *Oxytropis lambertii* Pursh var. *bigelovii* A. Gray
- Astragalus mazama* (St. John) G. N. Jones, Univ. Wash. Pub. Bot. 7: 175. 1938.
 Basionym: *Oxytropis mazama* St. John.
 = *Oxytropis campestris* (L.) de Candolle var. *gracilis* (A. Nelson) Barneby
- Astragalus munzii* Wheeler, Leaff. W. Bot. 2: 209. 1939, nom. nov.
 = *Oxytropis oreophila* A. Gray
- Astragalus nigrescens* Pallas, Astragalogia, 65, tab. 53. 1800.
 Type: "inter Aldanum fl[umen] et orientalem Oceanum" [between Aldan River and the Sea of Okhotsk, Siberia], D. D. Merk; type LE.
 = *Oxytropis nigrescens* (Pallas) de Candolle
 var. *arctobia* (Pallas) Tidestrom, Proc. Biol. Soc. Wash. 50: 19. 1937.
 Basionym: *Oxytropis arctobia* Pallas
 = *Oxytropis nigrescens* var. *uniflora* (Hooker) Barneby
- Astragalus oreophilus* (A. Gray) Tidestrom, Proc. Biol. Soc. Wash. 50: 19. 1937.
 Basionym: *Oxytropis oreophila* A. Gray
 = *Oxytropis oreophila* A. Gray
- Astragalus parryanus* Tidestrom, Proc. Biol. Soc. Wash. 50: 19. 1941.
 nom. nov. pro *Oxytropis parryi* A. Gray
 = *Oxytropis parryi* A. Gray
- Astragalus pygmaeus* Pallas, Astragalogia, 66, tab. 54. 1800.
 Type: ?
 = *Oxytropis nigrescens* (Pallas) Fischer var. *nigrescens*
- Astragalus retroflexus* Pallas, Astragalogia, 33, tab. 27. 1800.
 Type: ?
 = *Oxytropis deflexa* var. *deflexa*
- Astragalus rusbyi* Green & Morris, J. Amer. Soc. Agron. 27: 546, 549, figs. 1, 2. 1935, prov. nom.
 = *Oxytropis riparia* Litvinov
- Astragalus rydbergianus* Tidestrom, Proc. Biol. Soc. Wash. 50: 19. 1937, nom. nov.
 = *Oxytropis campestris* (L.) de Candolle var. *gracilis* (A. Nelson) Barneby
- Astragalus saximontanus* (A. Nelson) Tidestrom, in Tidestrom & Kittell, Fl. Ariz. New Mex., 216. 1941.
 Basionym: *Aragallus saximontanus* A. Nelson, nom. nov. *Oxytropis lambertii* Pursh var. *ochroleuca* A. Nelson
 = *Oxytropis sericea* Nuttall var. *sericea*
- Astragalus septentrionalis* Tidestrom, Proc. Biol. Soc. Wash. 50: 19. 1937, substitute name.
 = *Oxytropis podocarpa* A. Gray
- Astragalus splendens* (Douglas) Tidestrom, Proc. Biol. Soc. Wash. 50: 18. 1937.
 Basionym: *Oxytropis splendens* Douglas
 = *Oxytropis splendens* Douglas
 var. *richardsonii* (Hooker) Tidestrom, Proc. Biol. Soc. Wash. 50: 128. 1937.
 Basionym: *Oxytropis splendens* β *richardsonii* Hooker
 = *Oxytropis splendens* Douglas
- Astragalus tomae* Tidestrom, Proc. Biol. Soc. Wash. 50: 18. 1937, nom. nov.
 = *Oxytropis nana* Nuttall
- Astragalus viscidus* (Nuttall) Tidestrom, Proc. Biol. Soc. Wash. 50: 19. 1937.
 Basionym: *Oxytropis viscida* Nuttall
 = *O. borealis* de Candolle var. *viscida* (Nuttall) Welsh
- Oxytropis alaskana* A. Nelson, Univ. Wyo. Pub. Bot. 1: 120. 1926.
 Type: Kachemak Bay, Cook Inlet, M. W. Gorman 1560; holotype RM!; isotype WTU.
 = *O. campestris* (L.) de Candolle var. *varians* (Rydberg) Barneby
- Oxytropis albertina* (Greene) Rydberg, Fl. Prair. & Pl., 484. 1932.
 Basionym: *Aragallus albertinus* Greene
 = *O. campestris* (L.) de Candolle var. *gracilis* (A. Nelson) Barneby
- Oxytropis albiflora* (A. Nelson) K. Schumann, Just's Bot. Jahresb. 27: 496. 1901.
 Basionym: *Aragallus albiflorus* A. Nelson, nom. nov.
Oxytropis lambertii Pursh var. *ochroleuca* A. Nelson
 = *O. sericea* Nuttall var. *sericea*
- Oxytropis alpicola* (Rydberg) M. E. Jones, Mont. Bot. Notes, 34. 1910.
 Basionym: *Aragallus alpicola* Rydberg
 = *O. campestris* (L.) de Candolle var. *cusickii* (Greenman) Barneby
- Oxytropis angustata* (Rydberg) A. Nelson, Univ. Wyo. Pub. Bot. 1: 116. 1926.
 Basionym: *Aragallus angustatus* Rydberg
 = *O. lambertii* var. *lambertii*
- Oxytropis arctica* R. Brown, Parry's First Voy., Append. 9: 278. 1824.
 Type: Canada, Melville Island, Parry's First Voyage, Sabine, Edwards, Ross, and others, 1819–1820; holotype (?) S!; isotype GH!
 var. *arctica*
 Distribution: Alaska, Yukon, Canadian Arctic Archipelago, N.W.T. east to north of Hudson Bay, and less commonly in the interior.
 The var. *arctica* is recognizable by its racemes of mainly fewer than 8 large purple or lavender flowers on plants mainly less than 15 cm tall and leaflets not or seldom fasciculate. Mainly they occur in or near coastal Alaska and Canada; less commonly they are montane plants of the interior or occur in other interior situations.

var. *barnebyana* Welsh, Great Basin Nat. 28: 152, fig. 4. 1968.

Type: Alaska, Kotzebue, 66°55'N, 162°40'W, S.L. Welsh 5729, 1966; holotype BRY!; isotype NY!, UC!

Distribution: Coastal northwestern Alaska; endemic. Flower size, pilose stipules, and calyx features indicate an alliance to the sympatric *O. arctica*. The racemes vary from subcapitate to somewhat expanded. In the expanded form the plants are a close match for much of *O. arctica* in a strict sense. The placement of *O. arctica* var. *barnebyana* with *O. sordida*, a taxonomic entity considered by European authors (see Flora Europaea) at infraspecific level within *O. campestris*, has considerable merit. However, the treatment of var. *barnebyana* at infraspecific level within *O. sordida*, a highly variable taxonomic entity with both pale and colored flowers, by Jurtsev (1986), does not solve the basic problem of the similarity of *barnebyana* to *O. arctica*, however well that placement indicates the similarity of this North American phase with the protean *campestris* complex. The calyx teeth of var. *barnebyana* vary from short, as in some phases of *O. campestris*, to almost as long as in some phases of *O. arctica*. The sympatry of *O. arctica* and the allopatry of *O. campestris*, while not conclusive, weigh in the decision to keep the Kotzebue materials of var. *barnebyana* with *O. arctica*. And, the lack of a stopping place for additional inclusions of North American taxa within expanded versions of *campestris* or *sordida* is likewise a consideration.

ssp. *bellii* (Macoun) Love & Love, Taxon 31: 347. 1982.

Basionym: *Spiesia bellii* Britton ex Macoun = *O. arctica* R. Brown var. *bellii* (Britt.) Boivin

var. *bellii* (Britton) Boivin, Naturaliste Canad. 94: 73. 1967.

Basionym: *Spiesia bellii* Britton ex Macoun

Distribution: Kewatin, vicinity of Hudson Bay, Canada; endemic.

The similarity of this large-flowered low plant of coastal or near coastal Hudson Bay and vicinity to specimens designated as var. *murrayi* is readily apparent. They also simulate closely plants from Armatkchene Island off the coast of Siberia. The latter are evidently included by Jurtsev (1986) as portions of an expanded *O. sordida*. The alliance of var. *bellii* to *O. arctica* has long been recognized. Any expansion of *O. sordida* to include it would also, logically, include the remainder of the *arctica* complex. Such a proposal is herein considered as both illogical and unnecessary.

♂ *inflata* Hooker, Fl. Bor.-Amer., 1: 146. 1834.

Type: "Without locality, '*O. arctica* comm. Hooker"; holotype ?; isotypes GH!, NY!, PH!

= *O. podocarpa* A. Gray

The specimen at GH! is accompanied by a small label bearing the notation, "*O. arctica* ♂ *inflata*." Below it in Asa Gray's handwriting is the note, "*O. podocarpa*. Plenty and same with the rather inflated legume in Hb. Kew." Below that, in the writing of a person not identified, is the notation, "Highest

summits of the Rocky Mts., Drummond." The plant is almost certainly typical material of var. *inflata*.

var. *koyukukensis* (Porsild) Welsh, Iowa State J. Sci. 41: 280. 1967.

Basionym: *O. koyukukensis* Porsild

Distribution: Umiat, Wiseman, Anaktuvuk, Koyukuk, Shatolik, and Northway vicinities, Alaska; endemic.

The specimens upon which this variety are based vary considerably. They tend to be tall plants with several flowered racemes, but they approach if not actually pass into var. *arctica* (specimens from Anaktuvuk). Leaflet arrangement ranges from entire to fasciculate to merely scattered. To the south they simulate specimens of var. *murrayi*, described by Jurtsev (1986) in *O. sordida*.

var. *murrayi* (Jurtsev) Welsh comb. nov.

Basionym: *O. sordida* var. *murrayi* Jurtsev Arctic Fl. U.S.S.R. 9(2): 179. 1986.

Distribution: St. Elias Mts., SW Yukon, Canada; endemic.

This taxon is the portion of the *arctica* complex most similar to var. *bellii*, from which it is distantly isolated, but is probably most nearly allied to the nearer disjunct, var. *koyukukensis*. Robust materials of var. *murrayi* closely simulate some of var. *koyukukensis*. The differences between vars. *murrayi* and *bellii* rest on such intangibles as the apparently larger flowers, broader calyces with mixed shaggy villous vesture, and tendency to larger leaflets of var. *murrayi*.

α *subumbellata* Hooker, Parry's Second Voy., Append. 4: 396. 1825.

Type: ?

= *O. arctica* R. Brown var. *arctica*

β *uniflora* Hooker, Parry's Second Voy., Append. 4: 396. 1825.

Type: Barrow River, E coast Melville Peninsula, lat. 67°21'N, on Parry's Second Voyage; isotypes GH!, NY!

= *O. nigrescens* (Pallas) Fischer var. *uniflora* (Hooker) Barneby

varietas *notabilis*, R. Brown, Chlor. Melvill., 254. 1823.

= *O. nigrescens* (Pallas) Fischer var. *uniflora* (Hooker) Barneby

Oxytropis arctobia Bunge, Gen. Oxytropis, 114. 1874.

Type: ?

= *O. nigrescens* (Pallas) Fischer var. *uniflora* (Hooker) Barneby

var. *hyperarctica* Polunin, Bot. Canad. E. Arctic, 293, pl. 8. 1940.

Type: Franklin district, Baffin Island, Arctic Bay, N. Polunin 2583, 8–11 Sept. 1936; holotype CAN; isotypes GH!, BM, OXF.

= *O. nigrescens* (Pallas) Fischer var. *uniflora* (Hooker) Barneby

Oxytropis atropurpurea (Rydberg) A. Nelson, Univ. Wyo. Pub. Bot. 1: 117. 1928.

Basionym: *Aragallus atropurpureus* Rydberg

= *Oxytropis lagopus* Nuttall var. *atropurpurea* (Rydberg) Barneby

Oxytropis aven-nelsonii (Lunell) A. Nelson, Univ. Wyo. Pub. Bot. 1: 116. 1926

Basionym: *Aragallus aven-nelsonii* Lunell
= *Oxytropis lambertii* Pursh var. *lambertii*

Oxytropis bellii (Britton) Palibin, Bull. Soc. Bot. Geneve II, 2: 19. 1910.

Basionym: *Spiesia bellii* Britton
= *O. arctica* R. Brown var. *bellii* (Britton) Boivin

Oxytropis besseyi (Rydberg) Blankinship, Mont. Agric. Coll. Sci. Stud. Bot. 1: 80. 1904.

Basionym: *Aragallus besseyi* Rydberg

var. *argophylla* (Rydberg) Barneby, Leaf. W. Bot. 5: 111. 1951.

Basionym: *Aragallus argophyllus* Rydberg
Distribution: W Montana, adjacent Idaho, and NE Nevada.

var. *besseyi*

Distribution: Idaho, Montana, Wyoming, and Saskatchewan.

var. *fallax* Barneby, Proc. Calif. Acad. Sci. IV, 27: 235. 1952.

Type: Clay slope among boulders, 4350 ft., mouth of Shell Creek, Big Horn Mountains, Big Horn County, Wyoming, 4,350 ft., H. D. Ripley & R. C. Barneby 8010, 16 June 1946; holotype CAS!; isotypes GH!, US!, RM!

Distribution: West of the Bighorn River, Wyoming.

var. *obnapiformis* (C. L. Porter) Welsh, Great Basin Nat. 38: 337. 1978.

Basionym: *O. obnapiformis* C. L. Porter
Distribution: NW Colorado, NE Utah, and SW Wyoming.

The pod of this variety is strictly sessile or nearly so, not stipitate as in other phases of the species with inflated pods. Plants from the type locality near Mayfield, Colorado, have 13–25 leaflets and inflorescences about equaling the leaves. Those from Daggett County, Utah, have 5–9 leaflets and inflorescences surpassing the leaves. Plants from elsewhere bridge the two phases.

var. *salmonensis* Barneby, Proc. Calif. Acad. Sci. IV, 24: 234. 1952.

Type: Salmon River Canyon, 12 mi below Clayton, Custer County, Idaho, alt. 5,400 ft., H. D. Ripley & R. C. Barneby 8829, 22 June 1947; holotype CAS!; isotypes NY!, IDS.

Distribution: Custer Co., Idaho; endemic.

var. *ventosa* (Greene) Barneby, Leaf. W. Bot. 5: 111. 1951.

Basionym: *Aragallus ventosus* Greene
Distribution: S Montana, W Wyoming, and NE Utah.

Oxytropis bilocularis A. Nelson, Univ. Wyo. Pub. Bot. 1: 114. 1926

Type: Arizona, high moist slopes, Miller Peak, Huachuca Mts., Cochise County, L. N. Goodding 2411, 22 August 1907, holotype RM!; isotypes GH!, NY!, UCL!, POM.

= *O. lambertii* var. *bigelovii* A. Gray

Oxytropis blankinshipii (A. Nelson) K. Schumann, Just's Bot. Jahreshb. 27: 496. 1901.

Basionym: *Aragallus blankinshipii* A. Nelson
= *O. lagopus* Nuttall var. *lagopus*

Oxytropis borealis de Candolle, Prodrum 2: 275. 1825.

Type locality: "In terra Tschuktschorum ad sinum Sancti-Laurentii," collector not stated. Type: "e sinu S. Laurentii in terra Tschuktschorum (pays des Tchouktschi) septentrionem versus a fretus Beringii. Legumina divisa a leg. ox. montana. m. Fischer 1825"; G-DC.!

= *O. borealis* de Candolle var. *borealis*

var. *australis* Welsh, Great Basin Nat. 50: 359. 1991. This southern phase of *O. borealis* is mainly montane in distribution, but occurs mostly on xeric sites in sagebrush, black sagebrush, grass, ponderosa pine, and aspen parkland communities, often on exposed ridges or outcrops. Main substrate types are of igneous origin, either granitic or basaltic derived soils, but limestone also serves as a substrate. Elevational range varies from 2135 to 3355 m.

Distribution: Inyo and Mono counties, California, Nevada, and S Utah.

β Hooker & Arnott, Bot. Beechey Boy., 122. 1832.
Type: ?

= *Oxytropis borealis* de Candolle var. *borealis*

var. *borealis*

Distribution: N.W.T., Yukon, and Alaska; Chukotsk. The relatively few leaflets, ample flowers, and condensed, copiously hirsute inflorescence in combination allow this entity to be rather readily identified. It consists, at least in part, of what has passed under the name of *O. glutinosa* Porsild, who excluded the type of "subsucculenta" from consideration in treatment of the genus in "Vascular Plants of Continental Northwest Territories Canada" (Porsild & Cody 1979). Included within the concept of var. *borealis* is the *O. uralensis* β *subsucculenta* Hooker, the basis of *O. viscida* var. *subsucculenta* (Hooker) Barneby.

var. *hudsonica* (E. Greene) Welsh, Great Basin Nat. 50: 357. 1991.

Basionym: *Aragallus hudsonicus* E. Greene, Proc. Biol. Soc. Wash. 18: 17. 1905.

Distribution: Yukon east to Hudson Bay.

This is the phase of the species that occurs in North America mainly east of the Yukon, but with some representation in that province, where it is transitional with both var. *viscida* and var. *sulphurea*.

var. *sulphurea* (Porsild) Welsh, Great Basin Nat. 50: 358. 1991

Basionym: *Oxytropis viscidula* ssp. *sulphurea* Porsild, Bull. Nat. Mus. Can. 121: 247. 1951. Includes: *O. verruculosa* Porsild.

Distribution: British Columbia, Yukon, and E Alaska. These are the pallid-flowered plants of the Yukon and Alaska. In their most typical condition the racemes are compactly and uniformly small flowered. They vary from that norm to elongate racemes with small to large flowers. The bracts are mainly small, but in some they are very long and conspicuous in the inflorescence. On the one side the plants seem to grade with var. *hudsonica* and on the other with both var. *viscida* and var. *borealis*.

var. *viscida* (Nuttall) Welsh, Great Basin Nat. 50: 359. 1991.

Basionym: *O. viscida* Nuttall, ex Torrey & Gray, Flora N. Amer. 1:341. 1838.

Distribution: Alaska, Yukon, N.W.T., Caspe, British Columbia, Alberta, Minnesota, Oregon, Idaho, Wyoming, Nevada, Utah, Colorado, and California.

This variety includes almost as much diversity as the species as a whole. The numerous subunits are held together by tenuous characteristics that are difficult to define or place in a key. Variation is often great in populations from adjacent hillsides or on a single gravel bar, especially in the Arctic. One is reminded of the conditions of morphological variation occurring in the boreal *O. nigrescens* var. *nigrescens*, as treated by this author. Unless one is willing to support a taxonomy wherein the purported taxa are largely sympatric and consist of morphological subunits whose genetic continuity is questionable, made up of a series of similar plants held together by that similarity and not by genetic linkage, there does not seem to be a reasonable way to segregate the morphological variation as taxa. The rather large number of synonyms, often at specific or varietal level, reflects the attempts at segregation.

Oxytropis bushii Gandoger, Bull. Soc. Bot. France 48: xvii. 1901.

Type: Missouri, Watson, Atchison County, B. F. Bush 204, 7 June 1894; isotypes GH!, NDG, ISC! NY!, US!, MN!, MO!

= *O. lambertii* var. *lambertii*

Oxytropis campestris (L.) de Candolle, Astragalologia, 59. 1802.

Basionym: *Astragalus campestris* L.

var. *americana* Brumet, Cat. Pl. Canad., 39. 1865, nomen.

= *O. campestris* (L.) de Candolle var. *johannensis* Fernald

var. *cervinus* (Greene) Boivin, Naturaliste Canad. 94: 75. 1967.

Basionym: *Aragallus cervinus* Greene

= *O. campestris* (L.) de Candolle var. *gracilis* (A. Nelson) Barneby

var. *chartacca* (Fassett) Barneby, Proc. Calif. Acad. IV, 27: 269. 1952.

Basionym: *O. chartacca* Fassett

Distribution: Known only from lake shores in central and NW Wisconsin; endemic.

Plants with other of the syndrome of characteristics of var. *johannensis* in Ontario (Farm River area) also have short pods as in var. *chartacca*. These have not been examined in the field, and it seems best not to relegate this otherwise Wisconsin endemic to synonymy until more study has been completed.

var. *columbiana* (St. John) Barneby, Leaf. W. Bot. 5: 111. 1951.

Basionym: *O. columbiana* St. John

Distribution: Columbia River above the mouth of the Spokane River, NE Washington (where possibly extirpated), and forested margin of Flathead Lake, Montana.

This variety is characterized by its white to ochroleucous flowers with maculate keel tips and soft pubescence. It is still extant at Flathead Lake.

var. *cusickii* (Greenman) Barneby, Leaf. W. Bot. 5: 111. 1951.

Basionym: *O. cusickii* Greenman

Distribution: British Columbia, Alberta, Washington, Oregon, Idaho, Montana, Wyoming, Utah, and Colorado.

This taxon is highly variable in flower size, especially where the large-flowered *O. sericea* var. *spicata* occurs nearby. Transitionally apparent populations again demonstrate the lack of consistent diagnostic features to separate what are otherwise distinctive populations. The same problem is apparent where var. *gracilis* occurs nearby at lower elevations than these montane phases of the *campestris* complex (see also var. *varians*).

var. *darisii* Welsh, Leaf. W. Bot. 10: 25. 1963.

Type: British Columbia, mi 403.4, Alaska Hwy., R. J. Davis 6076, 19 July 1962; holotype BRY!, isotype IDS!

Distribution: SW Alberta, NE British Columbia.

This plant is readily distinguished by its colorful flowers, fasciculate leaflets or tendency to fasciculate leaflets, and elongate inflorescences. Specimens have been known in collections from early times, but have been regarded as occasional intermediates between portions of the *campestris* complex and *O. borealis* var. *viscida*, or, they have been identified, because of the fasciculate leaflets, as *O. splendens*. The plants are locally abundant on stream gravels and adjacent slopes in the foothills mainly of the Alberta Rockies and in northeast British Columbia. The plants form apparent intermediates with var. *gracilis*.

var. *dispar* (A. Nelson) Barneby, Leaf. W. Bot. 5: 111. 1951.

Basionym: *Aragallus dispar* A. Nelson

Distribution: North Dakota and Manitoba.

Plants of this variety are closely allied to var. *gracilis*, from which they differ in the flowers being polychrome in populations, and in the somewhat firmer texture of the pods. It may well be that var. *dispar* is the somewhat stabilized product of previous hybridization involving the mainly disjunct pale-flowered var. *gracilis* and the now far disjunct purple-flowered vars. *davisii* and *johannensis*. Purple-flowered or polychrome populations or entire taxa within the *campestris* complex are now known to be at least as important as are the pale-flowered phases. Indeed, pink-purple flowers show up here and there throughout North America, even in otherwise white or ochroleucous populations.

var. *glabrata* Hooker, Fl. Bor.-Amer. 1: 147. 1834.

Type: Bear Lake to the Arctic Shores and Islands [possibly Richardson]; isotype (?) GH!

= *O. maydelliana* Trautvetter

ssp. *gracilis* (A. Nelson) Boivin, Naturaliste Canad. 94: 74. 1967

Basionym: *Aragallus gracilis* A. Nelson

= *O. campestris* (L.) de Candolle var. *gracilis* (A. Nelson) Barneby

var. *gracilis* (A. Nelson) Barneby, Leaf. W. Bot. 5: 111. 1951.

Basionym: *Aragallus gracilis* A. Nelson

Distribution: Mainly south of the 65th parallel in British Columbia, Alberta, Saskatchewan, Manitoba, Washington, Montana, Wyoming, South Dakota, North Dakota, and Colorado.

This is a highly variable taxon whose morphological subunits have been regarded by some previous workers as belonging to several specific or infra-specific taxa. A portion of the problem revolves around the inclusion of materials with two different base chromosome numbers, 32 and 48. At least some portion of it is the southern counterpart of var. *varians*, which is reported to have the base chromosome number of 48. The variety is transitional to var. *davisii* in southwestern Alberta, to var. *dispar* in North Dakota, and more especially to the montane var. *cusickii*, which often occurs at the tops of the same mountains whose bases bear var. *gracilis*.

var. *johannensis* Fernald, *Rhodora* 1: 88. 1899.

Type: Maine, gravelly shores, valley of St. John River, Fort Kent, Aroostook County, M. L. Fernald 2259, 15 June 1898; holotype GH!; isotype CAN!, US!, NY!

Distribution: Newfoundland, New Brunswick, Nova Scotia, Quebec, Ontario, and Maine.

Plants of this variety from the Farm River area, south of James Bay, Ontario, have fasciculate leaflets and short pods. In the latter feature they simulate the var. *chartacea*, which might best be regarded as only a disjunct phase of this variety.

ssp. *jordalii* (Porsild) Hulten, *Ark. Bot.* 7: 79. 1967.

Basionym: *O. jordalii* Porsild
= *O. campestris* (L.) de Candolle var. *jordalii* (Porsild) Welsh

var. *jordalii* (Porsild) Welsh, *Leaf. W. Bot.* 10: 25. 1963.

Basionym: *O. jordalii* Porsild
Distribution: N Alaska, N Yukon, and N.W.T. Mackenzie District.

This is a dwarf boreal variety of ridge tops, gravel bars, and arctic tundra with small white to ochroleucous flowers. It is easily recognizable in its typical phases, but it passes by degree, especially in lower elevation and more mesic sites into var. *varians*. On some gravel bars, especially, the plants are transitional with the other dwarf boreal var. *roaldii*. It is with the latter variety, with pink-purple flowers, that it seems to be most closely allied.

var. ξ *melanocephala* Hooker, *Fl. Bor.-Amer.* 1: 147. 1834.

Type: Bear Lake to the Arctic Shores and Islands [possibly Richardson]; isotype (?) GH.
= *O. maydelliana* Trautvetter

var. *roaldii* (Ostenfeld) Welsh, *comb. et stat. nov.*
Basionym: *O. roaldii* Ostenfeld, *Vasc. pl. Arct. N. Amer. Gjoa Exped.*, 54, pl. 3, fig. 16. 1910.

Distribution: N Alaska, N Yukon, and adjacent N.W.T.

The type of this variety was included in the synonymy of *O. arctica* by Barneby (1952), whose experience with boreal representatives was limited by the few specimens available to him. The type specimen was taken on Herschell Island on the Amundsen Gjoa Expedition and is clearly the same as plants

that occur inland in northern Yukon Territory and west in Alaska to Prudhoe Bay and beyond. The variety is characterized by its small pink-purple flowers and other features that simulate and pass into the partially sympatric var. *jordalii*. The var. *roaldii* further simulates and is probably allied to the eastern var. *terrae-novae*.

var. *rydbergii* (A. Nelson) R. J. Davis, *Madrone* 11: 144. 1951.

Basionym: *O. rydbergii* A. Nelson
= *O. campestris* (L.) de Candolle var. *cusickii* (Greenman) Barneby

β *speciosa* Torrey & Gray, *Fl. N. Amer.* 1: 341. 1838.
Type: "Dr. Hooker" NY! See *Flora Boreali-Americana* 1: 147. 1833. "Carleton House Saskatchewan to Rocky Mts. [T.] Drummond." The sheet at NY bears the notation quoted above and the initials E. P. S[heldon].
= *O. sericca* Nuttall var. *spicata* (Hooker) Barneby

δ *spicata* Hooker, *Fl. Bor.-Amer.* 1: 174. 1834.

Type: Between Carlton House on the Saskatchewan and the Rocky Mountains [Alberta], T. Drummond s. n.; holotype ?; ρ isotypes GH, NY!
= *O. sericca* Nuttall var. *spicata* (Hooker) Barneby

var. *terrae-novae* (Fernald) Barneby, *Proc. Calif. Acad.* IV, 27: 266. 1952.

Basionym: *O. terrae-novae* Fernald
Distribution: Hudson Bay, Baffin Island, Ungava Peninsula, Labrador, and coastal Newfoundland.

Reports of this taxon from the Mackenzie Mountains are probably of the purple-flowered var. *roaldii*, which is a western vicariat of var. *terrae-novae* that differs in minor but consistent ways. At Churchill, Manitoba, there is a mixture of specimens variously assigned to vars. *varians*, *terrae-novae*, or *johannensis*. They should be viewed in the field prior to an attempt to resolve their relationships.

var. *varians* (Rydberg) Barneby, *Proc. Calif. Acad.* IV, 27: 253. 1952.

Basionym: *Aragallus varians* Rydberg
Distribution: Alaska, Yukon, N.W.T., N Manitoba, and N British Columbia, mainly north of the 65th parallel.

Plants of this variety are highly variable, with numerous differing morphological phases often growing together on the same gravel bar in portions of Alaska and the Yukon. Alpine portions of the variety, especially in SW Yukon, N British Columbia, and adjacent SE Alaska, closely simulate high-altitude materials of *O. campestris* var. *cusickii* at its northern limits in S British Columbia and Alberta. Indeed, there are specimens of *O. campestris* var. *gracilis*, the so called "cerrius" phase in southern British Columbia, that almost match the "alaskana" materials of var. *varians* from southern Alaska. The maintenance of var. *varians* as separate from var. *gracilis* rests mainly on allopatry and historical perspective. Specimens of var. *varians* appear to intergrade with those of var. *jordalii* in montane sites near Juneau, Alaska.

var. *verrucosa* Ledebour, *Fl. Ross.* 1: 591. 1842.
Type: "in terra Tschuktschorum ad sinum Sancti-Laurentii," collector not stated, but probably

- based on the type of *O. borealis* (q.v.).
 = *O. borealis* de Candolle var. *borealis*
- var. *riscida* (Nuttall) S. Watson, U.S. Geol. Expl. 40th Parallel, Bot. 5: 55, 1871.
 Basionym: *O. riscida* Nuttall
 = *O. borealis* de Candolle var. *riscida* (Nuttall) Welsh
- var. *wauapum* Joyal, Great Basin Naturalist 50: 373, 1991.
 Type: Washington, Saddle Mt. above Lower Carb Creek, E. Joyal 12643, 25 May 1987; holotype US!; isotypes BRY!, ISC!, OSU!
 Distribution: Known only from the type locality.
 This is a plant of xeric, basaltic talus; the flowers suffused with purple are diagnostic, since no other phases of the genus in the Pacific Northwest typically have colored flowers. The narrow leaflets tend to be involute and to vary in number from 20 to 25. These vegetative features are unlike any of the other several varieties of *O. campestris* that occur elsewhere in North America having lavender to purplish flowers.
- Oxytropis caseadensis* St. John, Proc. Biol. Soc. Wash. 41: 105, 1928.
 Type: Washington, Grouse Creek, Mt. Baker, Whatcom County, St. John 5513; holotype WTC!; photo BRY!
 = *O. campestris* (L.) de Candolle var. *gracilis* (A. Nelson) Barneby
- Oxytropis caudata* (Greene) K. Schumann, Just's Bot. Jahrb. 27: 496, 1901.
 Basionym: *Aragallus caudatus* Greene
 = *O. splendens* Douglas
- Oxytropis chartacea* Fassett, Rhodora 38: 95, 1936.
 Type: Wisconsin, sandy shore of Lake Huron, Plainfield, Waushara County, N. C. Fassett 16704, 15 Sept. 1936; holotype WIS!; isotypes GH!, ISC!, MO!, LA!, GH!, NY, MU!, NY!, PH!, US!, UC!, DAO!
 = *O. campestris* (L.) de Candolle var. *chartacea* (Fassett) Barneby
- Oxytropis collina* (A. Nelson) K. Schumann, Just's Bot. Jahrb. 27: 496, 1901.
 Basionym: *Aragallus collinus* A. Nelson
 = *O. nana* Nuttall
- Oxytropis columbiana* St. John, Proc. Biol. Soc. Wash. 41: 100, 1928.
 Type: Gravelly beach of the Columbia River, Marcus, Stevens County, H. St. John 6482, 27 June 1924; holotype WTC; isotype GH!
 = *O. campestris* (L.) de Candolle var. *columbiana* (St. John) Barneby
- Oxytropis condensata* (A. Nelson) A. Nelson, Univ. Wyo. Pub. Bot. 1: 115, 1926.
 Basionym: *Aragallus albiflorus* var. *condensatus* A. Nelson
 = *O. sericea* Nuttall var. *sericea*
- Oxytropis coronaminis* Fernald, Rhodora 30: 151, pl. 175, 1928.
 Type: Mackenzie, Arctic sea-coast, Dr. Richardson s.n.; holotype GH!
 = *Oxytropis arctica* R. Brown var. *arctica*
- Oxytropis cusickii* Greenman, Erythca 7: 116, 1899.
 Type: Oregon, alpine summits of the Willowa Mountains, W. C. Cusick 1365, 2095, 23 August 1886; lectotype (Elisens & Packer, Canad. J. Bot. 58: 1827, 1980) GH!; Cusick 2095, Aug. 1898, syntypes GH!, NY!, NDC!, UC, US!
 = *O. campestris* (L.) de Candolle var. *cusickii* (Greenman) Barneby
- Oxytropis czukotica* Jurtsev, Bull. Mosk. Ohtz. Iep. Prir., Otd. Biol. 85. 6: 102, 1980.
 nom. nov. pro *O. tschuktschorum* Jurtsev
 = *O. nigrescens* (Pallas) Fischer var. *nigrescens*
- Oxytropis deflexa* (Pallas) de Candolle, Astragalologia, 33, tab. 27, 1802.
 Type: "ad nivalia juga Dauria . . . in excelsis montibus circa balyra rivum aliosque Ononem influentibus" [Siberia], S. P. Pallas s.n.; holotype BM.
- var. *capitata* Boivin, Svensk Bot. Tidskr. 56: 499, 1962.
 Type: Ontario, cordon gazonnant le long d'une riviere, 34 mi au sud du cap Henriette, 44°54'N, A. Dutilly & E. Lepage 34367, 17 Aout 1953; holotype DAO!
 = *O. deflexa* var. *foliolosa* (Hooker) Barneby
- var. *culminis* Jepson, Fl. Calif. 2: 381, 1936.
 Type: Cottonwood Creek, White Mts., Mono Co., California, V. Duran 1650, 29 June 1926; holotype UC!
 = *O. deflexa* var. *sericea* Torrey & Gray
- var. *deflexa*
 Distribution: Colorado, Utah, and reported (Barneby 1952) less commonly elsewhere in North America; Asia.
 As interpreted by me and by Barneby (1952), plants similar to the typical Siberian material of the species occur disjunctly in America, mainly in the mountains of Colorado and Utah. The combination of racemes with 10 to 20 large flowers on plants that are mainly acaulescent or short caulescent forms a distinctive morphology. They differ from var. *foliolosa* in about the same manner that that variety differs from var. *sericea*.
- var. *dezhevii* Jurtsev, Bot. Journ. 57: 6, 647, 1972.
 Type: ?
 = *O. deflexa* var. *foliolosa* (Hooker) Barneby
 The placement of this plant with var. *foliolosa* is based on examination of authentic material of the proposed entity in the herbarium at BRY. The specimens examined from western Alaska are somewhat more apparently black hairy than materials from farther east. Otherwise they seem to fit within the broad concept of var. *foliolosa*.
- ssp. *dezhevii* (Jurtsev) Jurtsev, Arctic Fl. S.S.S.R. 9: 79, 1986.
 Basionym: *O. deflexa* var. *dezhevii* Jurtsev
- var. *foliolosa* (Hooker) Barneby, Leaf. W. Bot. 6: 111, 1951.
 Basionym: *Astragalus deflexus* Pallas
 Distribution: Rocky Mountains, from Alaska to Nevada and Wyoming; also on arctic and subarctic shores of Mackenzie, Ungava Peninsula, Baffin Island, Labrador, Newfoundland, and Gaspe Peninsula.

This is the most showy of the two common phases of the species in North America. The flowers are typically brightly colored in compact to subcompact racemes with up to 10 flowers. Sometimes there are more flowers in rather lax racemes, but the racemes seldom surpass 10 cm long even in fruit. The herbage is typically sparingly pilose and green in aspect, and both caulescent and acaulescent phases occur. Some of the variation, especially portions of that regarded as var. *capitata* Boivin, is geographically correlated. Further segregation, however, seems unnecessary. Transitional specimens to var. *sericea* are known.

var. *parviflora* Boivin, Svensk Bot. Tidskr. 56: 498. 1962.

Type: Alberta, Ft. Smith, 1 mi SW, black sandy soil in *Populus* spp., *Salix* spp., *Picea glauca* woods along trail, W. J. Cody & C. C. Loan 4496, 17 July 1950; holotype DAO!; isotype RM!

= *O. deflexa* (Pallas) de Candolle var. *sericea* Torrey & Gray

ssp. *retrorsa* (Fernald) Love & Love, Taxon 31: 347. 1982.

Basionym: *O. retrorsa* Fernald

= *O. deflexa* var. *sericea* Torrey & Gray

β [var.] *sericea* Torrey & Gray, Fl. N. Amer. 1: 242. 1835.

Type: "Rocky Mountains near streams" [Wyoming or Idaho], T. Nuttall s.n., 1834; holotype NY!

Distribution: Alaska, Yukon, N.W.T., British Columbia, Alberta, Manitoba, Washington, California, Idaho, Montana, New Mexico, Oregon, Utah, and Wyoming.

This is the common phase of *O. deflexa* south of the Arctic. The variety is highly variable, especially in size and aspect of the flowers. The small-flowered phase of the northern Rockies was proposed as var. *parviflora* Boivin. Flowers of some of the variants appear not to open, as if they are cleistogamous. Further work is indicated on this group.

Oxytropis dispar (A. Nelson) K. Schumann, Just's Bot. Jahrb. 27: 496. 1901.

Basionym: *Aragallus dispar* A. Nelson

= *O. campestris* (L.) de Candolle var. *dispar* (A. Nelson) Barneby

Oxytropis falcata (Greene) A. Nelson, Univ. Wyo. Pub. Bot. 1: 118. 1926.

Basionym: *Aragallus falcatus* Greene

= *O. lambertii* var. *lambertii*

Oxytropis foliolosa Hooker, Fl. Bor.-Amer. 1: 146. 1831.

Type: "Carlton House to the Rocky Mountains, in lat. 54°" [Alberta], collector not noted, probably T. Drummond; holotype K; isotype NY!

= *O. deflexa* var. *foliolosa* (Hooker) Barneby

Oxytropis gaspensis Fernald & Kelsey, Rhodora 30: 123. 1928.

Type: Quebec, Gaspé County, dry talus of slaty cliffs, northern face of Mt. St. Pierre, at mouth of Rivière a Pierre, M. L. Fernald & L. B. Smith 25874, 14 August 1923; holotype GH!; isotypes MO!, CAS!, NY!

= *O. borealis* de Candolle var. *riscida* (Nuttall) Welsh

Oxytropis glaberrima Hulten, Bot. Tidskr. 5: 124. 1954.

Type: Alaska, Kurupa Valley, 7 mi N of Kurupa Lake,

A. R. Hodgdon 8060, 25 June 1952; holotype S!

= *O. nigrescens* (Pallas) Fischer var. *nigrescens*

Oxytropis glabrata (Hooker) A. Nelson, Univ. Wyo. Pub. Bot. 1: 117. 1926

Basionym: *O. campestris* ε *glabrata* Hooker.

= *O. maydelhana* Trautvetter

Oxytropis glutinosa Porsild, Bull. Nat. Mus. Canad. 121: 240. 1951.

Type: Yukon, Canol Rd.: Mile 132. Lower Lapie Crossing, dry shaly slopes of mountain west of road, A. E. Porsild & A. J. Breitung 9730, 20 June 1944; holotype CAN; isotypes GH!, ISC!, S!, NY!, US!

= *O. borealis* de Candolle var. *riscida* (Nuttall) Welsh

Oxytropis gorodkovii Jurtsch, Bot. Journ. 53: 11. 1968 (nom. nov. pro *Astragalus pygmaeus* Pallas; *O. pygmaea* [Pallas] Fernald).

= *O. nigrescens* (Pallas) Fischer var. *nigrescens*

Oxytropis gracilis (A. Nelson) K. Schumann, Just's Bot. Jahrb. 24: 496. 1901.

Basionym: *Aragallus gracilis* A. Nelson

= *O. campestris* (L.) de Candolle var. *gracilis* (A. Nelson) Barneby

Oxytropis hallii Bunge, Gen. Oxytropis, 162. 1874.

Type: Rocky Mts., Lat. 39°–41°, E. Hall & H. Harbour 143 (in part), 1862; isotypes GH!, NY (in packet!), US!

= *O. podocarpa* A. Gray

Oxytropis hookeriana Nuttall ex Torrey & Gray, Fl. N. Amer., 340. 1835

Type: "O. hookeri. *O. lambertii* Hook. Platte Plains. T. Nuttall"; holotype BM.

= *O. lambertii* var. *lambertii*

Oxytropis huddlesonii Porsild, Bull. Nat. Mus. Canad. 121: 242. pl. 17, fig. 5. 1951.

Type: Yukon, Golden Horn Mountain, south of Whitehorse, in lichen heath above timberline, elevation 5,800 feet, C. W. Huddleson s.n. 1944; holotype CAN!

Distribution: S and E Alaska, S Yukon, and N British Columbia; endemic.

The presence of milocular, glabrous or sparingly strigose pods distinguishes this entity from *O. nigrescens*, its apparent close ally in boreal northwestern North America.

Oxytropis hudsonica (Greene) Fernald, Rhodora 30: 142. pl. 172. 1928.

Basionym: *Aragallus hudsonicus* Greene

= *O. borealis* de Candolle var. *hudsonica* (Greene) Welsh

Oxytropis hyperborea Porsild, Sargentia 4: 53. 1943.

Type: N.W.T., Mackenzie R. Delta, E branch, 68°55'N, A. E. Porsild 7033, 21 July 1934; holotype CAN; isotype GH!, S!, US!

= *Oxytropis campestris* (L.) de Candolle var. *varians* (Rydberg) Barneby

Oxytropis inflata (Hooker) Steffen, Beih. Bot. Centralbl. 58B: 162. 1938.

Basionym: *O. arctica* ♂ *inflata* Hooker

= *O. podocarpa* A. Gray

Oxytropis involuta (A. Nelson) K. Schumann, Just's Bot. Jahresb. 27: 496. 1901.

Basionym: *Aragallus involutus* A. Nelson
= *Oxytropis lambertii* Pursh var. *lambertii*

Oxytropis ixodes Butters & Abbe, Rhodora 45: 2, tab. 745, figs. 1–6. 1943.

Type: Minnesota, slate cliffs on north side of a high hill 1/2 mi. west of the outlet of South Fowl Lake, Cook County, F. K. Butters, E. C. Abbe, & G. W. Burns 611, 27 June 1940; holotype MIN; isotype G11, NY1, PH1, US1, UC1, DAO!

= *O. borealis* de Candolle var. *viscida* (Nuttall) Welsh var. *ecaudata* Butters & Abbe, Rhodora 45: 4. 1943.

Type: Ontario, slate cliffs east of North Fowl Lake, Thunder Bay District, F. K. Butters, E. C. Abbe, & G. W. Burns 682, 1 July 1940; holotype MIN; isotype GH1

= *O. borealis* de Candolle var. *viscida* (Nuttall) Welsh

Oxytropis johannensis (Fernald) Fernald, Rhodora 30: 1435, pl. 173. 1928.

Basionym: *O. campestris* (L.) de Candolle var. *johannensis* Fernald

f. *bicensis* Victorin & Rousseau, Cont. Inst. Bot. Univ. Montreal 36: 32. 1940.

Type: Quebec, Rimoufski Co., St. Fabien, Montagne du Bic, J. Rousseau 50297, 15 July 1986; holotype ?; isotype DAO!

= *O. campestris* (L.) de Candolle var. *johannensis* Fernald

Oxytropis jonesii Barneby, Proc. Calif. Acad. IV, 27: 215. 1952.

Type: Utah, pink calcareous gravel benches, Red Canyon, Garfield County, alt. 7150 ft., 1947, H. D. Ripley & R. C. Barneby 8550, 7 June 1947; holotype CAS!, isotypes GH1, NY1, RM!

= *O. oreophila* var. *jonesii* (Barneby) Barneby

Oxytropis jordalii Porsild, Canad. Field-Nat. 65: 77, tab. 1. 1951.

Type: Alaska, Old John Lake, L. H. Jordal 3580, 1950; holotype CAN; isotypes US!, S!

= *O. campestris* (L.) de Candolle var. *jordalii* (Porsild) Welsh

ssp. *davisii* (Welsh) Elisens & Packer, Canad. J. Bot. 55: 1830. 1980.

Basionym: *O. campestris* (L.) de Candolle var. *davisii* Welsh

= *O. campestris* (L.) de Candolle var. *davisii* Welsh

Oxytropis kobukensis Welsh, Iowa State J. Sci. 41: 286. 1967.

Type: Alaska, sand dunes, Kobuk River, across from the mouth of the Hunt River, R. D. Hamilton s.n., 1938; holotype BRY!

Distribution: Sand dunes, Kobuk River, W Alaska; endemic.

The enlarged, purplish stipules on elongate caudex branches are characteristic of this pink-purple flowered plant of dunes in western Alaska. The relationship of this entity likely lies with Siberian species. Jurtsev points to *O. ochotensis* Bunge as having possible relationship. The few specimens of that taxon examined seem to be smaller in all parts and to have chestnut colored stipules

rather than the merely purplish suffused ones of *O. kobukensis*.

Oxytropis kokrinensis Porsild, Rhodora 41: 251, tab. 553. 1939.

Type: Kokrines Mountains, north side of divide towards Melozitna River, 65°20'N, 154°30'W, alpine slopes 2000–4000 ft. A. E. & R. T. Porsild 762, 1926; holotype CAN!, fragment S!

Distribution: Ridge tops in the Kokrines Mountains and western Brooks Range, Alaska; endemic.

This species is evidently allied to *O. podocarpa* by its inflated, stipitate pods. It is easily distinguished from that entity by its purplish stipules.

Oxytropis koyukukensis Porsild, Canad. Field-Nat. 65: 78. 1951.

Type: Alaska, Wiseman, L. H. Jordal 1763, 15 June 1944; holotype CAN!; isotype US!, ISC!

= *O. arctica* R. Brown var. *koyukukensis* (Porsild) Welsh

Oxytropis lagopus Nuttall, J. Acad. Philad. 7: 17. 1834.

Type: Sources of the Missouri, N. B. Wyeth s.n., 1833; holotype PH1; isotype NY!

var. *atropurpurea* (Rydberg) Barneby, Leaf. W. Bot. 5: 111. 1951.

Basionym: *Aragallus atropurpureus* Rydberg, Bull. Torrey Bot. Club 34: 424. 1907.

Distribution: SE Montana, Wyoming, and South Dakota.

var. *cojugans* Barneby, Proc. Calif. Acad. IV, 27: 227. 1952.

Type: Vicinity of Helena, Montana, E. O. Wooton s.n., 1921; holotype US!; isotype NY!

Distribution: W Montana and S Alberta; endemic.

var. *lagopus*

Distribution: N and E Idaho, W Montana, and N Wyoming.

Oxytropis lambertii Pursh, Fl. Amer. Sept., 740. 1814.

Type: "On the Missouri, on the bluffs from the Maha village to the Poncars, Louisiana [NE Nebraska or adjacent South Dakota or Iowa], Bradbury s.n., 1811; holotype PH!

β *Hooker*, Fl. Bor.-Amer. 1: 107. 1834.

Type: *Oxytropis lambertii* β. Dr. Hooker; isotype NY!

= *O. campestris* (L.) de Candolle var. *davisii* Welsh

γ *Torrey & Gray*, Fl. N. Amer. 1: 339. 1838.

Type: ?

= *O. lambertii* var. *lambertii*

δ ? *Torrey & Gray*, Fl. N. Amer. 1: 338. 1838.

Type: Quebec, near Quebec, Mrs. Percival s.n.; holotype NY!

= *O. campestris* (L.) de Candolle var. *johannensis* Fernald

var. *articulata* (Greene) Barneby, Leaf. W. Bot. 5: 111. 1951.

Basionym: *Aragallus articulatus* Greene

Distribution: Kansas (Meade Co.), Oklahoma, and Texas.

This plant of the southern prairies and plains is distinguished by its short calyx teeth, large flowers, and shortly exerted or included pods.

- ssp. *bigelovii* (A. Gray) W. A. Weber, *Phytologia* 51: 374. 1982.
- Basionym: *O. lambertii* var. *bigelovii* A. Gray
= *O. lambertii* var. *bigelovii* A. Gray
- var. *bigelovii* A. Gray, *Proc. Amer. Acad.* 20: 7. 1884.
Type: Rocky hillsides, upper Canadian [Guadalupe or San Miguel County, New Mexico], J. M. Bigelow s.n., Sept. 21, 1853; holotype GH!; isotype US!
- Distribution: SE Wyoming, Colorado, New Mexico, Arizona, and Utah.
- This plant typically has large flowers and short to elongate calyx teeth and pods. It is mainly a montane or intermontane variety, which abuts with var. *lambertii* in Colorado and Wyoming. Materials of var. *bigelovii* from the canyonlands of Utah and adjacent Arizona have malpighian hairs with very short attachment. Furthermore, the plants tend to be tall, with features of scape, inflorescence, and leaflets attenuated. The leaflets further tend to disarticulate from the rachis readily. Northward from the canyonlands of Kane and San Juan counties, Utah, the attenuation of parts fails, even though the short branch of the malpighian hair persists. There does not seem to be sufficient correlation of morphological features to warrant taxonomic status for these plants that are obviously in transition.
- f. *canadensis* Gandoger, *Bull. Soc. Bot. France* 48: xvi. 1901.
Type: Southern Manitoba in the valley of the Souris River, Portage-la-Prairie, MacMorine s.n., Aug. 1897; syntype DAO!
= *O. campestris* (L.) de Candolle var. *gracilis*
- var. *lambertii*
Distribution: British Columbia, Saskatchewan, Manitoba, Montana, North Dakota, Minnesota, South Dakota, Wyoming, Nebraska, Iowa, Kansas, Missouri, and Wyoming.
- The coincidence of long calyx teeth, small flowers, and elongate pods is diagnostic for this variety of the central and northern prairies and plains.
- var. *lilacina* Cockerell, *W. Amer. Sci.* 5: 11. 1888, nomen.
= *O. sericea* Nuttall var. *sericea*
- f. *mixta* Gandoger, *Bull. Soc. Bot. France* 48: xvii. 1901
Type: Minnesota, Montevideo, L. Moyer s.n., 1909; Wyoming, head of Pole Creek, A. Nelson 1320, 27 June 1895; syntypes NY!
= *O. lambertii* var. *lambertii*
- var. *ochroleuca* A. Nelson, *Bull. Wyo. Exper. Sta.* 28: 98. 1896.
Type: Wyoming, Pole Creek, Albany County, A. Nelson 119, 2 June 1894, holotype RM!; isotype NY!, photo BRY! Nelson named this plant three times, in 1896 as *O. lambertii* var. *ochroleuca*, in 1899 as *Aragallus albiflorus*, and in 1900 as *Aragallus saximontanus*. All are typified on the same collection.
= *O. sericea* Nuttall var. *sericea*
- var. *sericea* (Nuttall) A. Nelson, *Erythra* 7: 62. 1899.
Basionym: *O. sericea* Nuttall
= *O. sericea* Nuttall var. *sericea*
- Oxytropis leucantha* (Pallas) Persoon, *Syn.* 2: 331. 1807.
Basionym: *Astragalus leucanthus* Pallas
Note: All combinations cited are synonyms of phases of *O. borealis* de Candolle—*O. leucantha* (Pallas) Persoon belongs to *O. campestris* sens. lat., but Jurtsev (1986) regards it as a separate species allied to *O. sordida* (Willdenow) Persoon.
- var. *depressa* (Rydberg) Boivin, *Naturaliste Canad.* 94: 77. 1967.
Basionym: *Aragallus viscidulus* var. *depressus* Rydberg
= *O. borealis* de Candolle var. *viscida* (Nuttall) Welsh
- var. *hudsonica* f. *galactantha* Boivin, *Naturaliste Canad.* 94: 76. 1967.
Type: Canada: Franklin District, Melville Peninsula, Repulse Bay, along Nauja River, P. F. Bruggeman 52, 27 July 1950; holotype DAO!
= *O. borealis* de Candolle var. *hudsonica* (Greene) Welsh
- var. *gaspensis* (Fernald & Kelsey) Boivin, *Naturaliste Canad.* 94: 76. 1967
Basionym: *Oxytropis gaspensis* Fernald & Kelsey
= *O. borealis* de Candolle var. *viscida* (Nuttall) Welsh
- var. *hudsonica* (Greene) Boivin, *Naturaliste Canad.* 94: 76. 1967.
Basionym: *Aragallus hudsonicus* Greene
= *O. borealis* de Candolle var. *hudsonica* (Greene) Welsh
- var. *ixodes* (Butters & Abbe) Boivin, *Naturaliste Canad.* 94: 76. 1967.
Basionym: *Oxytropis ixodes* Butters & Abbe
= *O. borealis* de Candolle var. *viscida* (Nuttall) Welsh
- var. *leuchippiana* Boivin, *Naturaliste Canad.* 94: 76. 1967.
Type: Yukon: Whitehorse, airport area, steep slope, flowers varying in colour from yellow to purple, abundant, J. M. Gillett & J. A. Calder 3181, 4 June 1949; lectotype here selected DAO!; isolectotype CAS!
= *O. borealis* de Candolle var. *hudsonica* (Greene) Welsh
- var. *magnifica* Boivin, *Naturaliste Canad.* 94: 77. 1967.
Type: Alberta, High River, J. Fletcher 457 1/2, 27 June 1902; holotype DAO!
= *O. borealis* de Candolle var. *viscida* (Nuttall) Welsh
- var. *viscida* (Nuttall) Boivin, *Naturaliste Canad.* 94: 77. 1967.
Basionym: *O. viscida* Nuttall
= *O. borealis* de Candolle var. *viscida* (Nuttall) Welsh
- Oxytropis lunelliana* A. Nelson, *Univ. Wyo. Pub. Bot.* 1: 117. 1926, nom. nov.
Basionym: *Aragallus collinus* A. Nelson
= *Oxytropis sericea* Nuttall var. *spicata* (Hooker) Barneby
- Oxytropis luteola* (Greene) Piper & Beattie, *Fl. N.-W. Coast*, 334. 1915.
Basionym: *Aragallus luteolus* Greene
= *O. campestris* (L.) de Candolle var. *gracilis* (A. Nelson) Barneby
- Oxytropis macounii* (Greene) Dayton, *Proc. Biol. Soc. Wash.* 40: 120. 1927.

Basionym: *Aragallus macounii* Greene

= *O. campestris* (L.) de Candolle var. *gracilis* (A. Nelson) Barneby

Oxytropis maydeliana Trautvetter, Act. Hort. Petrop. 6: 16. 1879.

Type: "... in tractu fluvium Anadyr inter et latus meridionale montium jugi a fluvio hoc septentrionem versus siti" [Chukchi, from the basin of the Anadyr and its northern tributaries], Baron G. von Maydell s.n., 1869; holotype LE?

Distribution: Alaska, Yukon, N British Columbia, N.W.T., E to Hudson Bay and Baffin Island; Chukotsk and Kamchatka.

The yellowish flowers and reddish brown stipules easily characterize this arctic species.

ssp. *melanocephala* (Hooker) Porsild, Nat. Mus. Canada Bull. 216: 47. 1966.

Basionym: *O. campestris* (L.) de Candolle var. *melanocephala* Hooker

= *O. maydeliana* Trautvetter

Oxytropis mazama St. John, Proc. Biol. Soc. Wash. 41: 101. 1928.

Type: Washington, Goat Mts., Pierce County, O. D. Allen 245, 6 July, 30 September 1896; holotype WTC; isotype NY!, US!, CAS!, UC!

= *O. campestris* (L.) de Candolle var. *gracilis* (A. Nelson) Barneby

Oxytropis mertensiana Turczaninow, Bull. Soc. Nat. Mosc., 1840:68. 1840.

Type: "ad sinum Sancti Laurentii," Dr. Mertens; holotype LE.

Distribution: Disjunct in E, N, W Alaska, and N Yukon; arctic Siberia and west to ca 60° E longitude (Jurtsev 1986).

This plant is easily distinguished by its simple primary and trifoliolate secondary leaves in conjunction with few-flowered, densely black-villous inflorescences.

Oxytropis minor (A. Gray) Cockerell, Torreya 18: 180. 1918.

Basionym: *Oxytropis multiceps* var. *minor* A. Gray

= *O. multiceps* Torrey & Gray

Oxytropis mollis Nuttall ex A. Gray, Proc. Amer. Acad. 6: 235. 1864, synonym.

= *O. borealis* de Candolle var. *viscida* (Nuttall) Welsh

Oxytropis monticola A. Gray, Proc. Amer. Acad. 20: 6. 1884.

Type: Montana, Valley of Jocko River, Lake County, W. M. Canby 91, 18 July 1883; lectotype (Barneby, Proc. Calif. Acad. Sci. IV, 27: 257. 1952) GH!

= *O. campestris* (L.) de Candolle var. *gracilis* (A. Nelson) Barneby

This name is lectotypified by Barneby (1952), who selected the type from among a series of specimens cited by Dr. Gray. The syntypes were a mixed lot, with C. C. Parry 87 being a putative hybrid between *O. campestris* var. *gracilis* and *O. borealis* var. *viscida*, Jenney s.n. 1875 belonging to *O. campestris* var. *dispar*, and Lyall s.n. 1862 belonging to *O. campestris* var. *cusickii*. The lectotypification was reviewed by Elisens and Packer (1982).

ssp. *dispar* (A. Nelson) Elisens & Packer, Canad. J. Bot. 58: 1826. 1980.

Basionym: *Aragallus dispar* A. Nelson

= *O. campestris* (L.) de Candolle var. *dispar* (A. Nelson) Barneby

Oxytropis multiceps Torrey & Gray, Fl. N. Amer. 1: 341. 1838.

Type: "Summit of lofty hills in the Rocky Mountain range, towards Lewis's River [S Wyoming], Rocky Mts.," T. Nuttall s.n., 1834; holotype GHI; isotypes NY!, PH!

Distribution: Colorado, NE Utah, S Wyoming, and W Nebraska.

The accrescent calyces, broad bracts, and few flowers are characteristic for the species, which stands alone in the genus in North America in its morphology.

var. *minor* A. Gray, Proc. Amer. Acad. 20: 2. 1884.

Type: Clear Creek County, Colorado, C. C. Parry 991, 1861; lectotype (here designated by Welsh, cf. Barneby, Proc. Calif. Acad. Sci. IV, 27: 220. 1952) GHI; isotype NY!

= *O. multiceps* Torrey & Gray

Oxytropis nana Nuttall ex Torrey & Gray, Fl. N. Amer. 1: 340. 1838.

Type: Plains of the Platte in the Rocky Mountain Range [Wyoming], T. Nuttall s.n. 1834; holotype PH!; isotype NY!

Distribution: Drainage of the North Platte and Cheyenne rivers, westward to the Wind River Mountains, Albany, Carbon, Converse, Fremont, Natrona, Platte, and Sweetwater counties, Wyoming; endemic.

This is a beautiful species of clays, shales, and gravelly bluffs and ridge tops endemic to Wyoming. Barneby (1952) postulated that it might have arisen through hybridization of *O. sericea* and *O. multiceps*, a very likely supposition. Flower colors are variable in a given population from pale pinks through lavender and purple, and white-flowered populations are known. A contribution from *O. lambertii* is also suggested by the presence of incipiently malpighian hairs in some specimens. The relationship to segregates of *O. besseyi* seems tenuous at best. The relegation of *O. nana* to that species might require a realignment of other taxa as well, including combination of *lambertii*, *sericea*, *campestris*, and even *multiceps*. Such a proposal is, of course, absurd. Taxonomy must be both practical and reflect biological reality.

var. *argophylla* (Rydberg) Isely, Syst. Bot. 8: 425. 1983.

Basionym: *Aragallus argophyllus* Rydberg

= *O. besseyi* (Rydberg) Blankinship var. *argophylla* (Rydberg) Isely

var. *besseyi* (Rydberg) Isely, Syst. Bot. 8: 425. 1983.

Basionym: *Aragallus besseyi* Rydberg

= *O. besseyi* (Rydberg) Blankinship var. *besseyi*

var. *fallax* (Barneby) Isely, Syst. Bot. 8: 425. 1983.

Basionym: *O. besseyi* (Rydberg) Blankinship var. *fallax* Barneby

var. *obnapiformis* (C. L. Porter) Isely, Syst. Bot. 8: 425. 1983.

Basionym: *O. obnapiformis* C. L. Porter

- var. *salmonensis* (Barneby) Isely, Syst. Bot. 8: 425. 1983.
 Basionym: *O. besseyi* (Rydberg) Blankinship var. *salmonensis* Barneby
- var. *ventosa* (Greene) Isely, Syst. Bot. 8: 425. 1983.
 Basionym: *Aragallus ventosa* Greene
- Oxytropis nigrescens* (Pallas) Fischer ex de Candolle, Prodr. 2: 278. 1825.**
- ssp. *arctobia* (Bunge) Hulten, Ark. Bot. (n.s.) 7: 80. 1968.
 Basionym: *O. arctobia* Bunge
 = *O. nigrescens* (Pallas) Fischer var. *uniflora* (Hooker) Barneby
- var. *arctobia* (Bunge) A. Gray, Proc. Amer. Acad. 20: 3. 1884
 Basionym: *O. arctobia* Bunge
 = *O. nigrescens* (Pallas) Fischer var. *uniflora* (Hooker) Barneby
- ssp. *bryophila* (Greene) Hulten, Fl. Alaska & Yukon, 1102, map 833. 1947.
 Basionym: *Aragallus bryophilus* Greene, Proc. Biol. Soc. Wash. 18: 17. 1905.
 = *O. nigrescens* (Pallas) Fischer var. *nigrescens*
- var. *bryophila* (Greene) Lepage, Amer. Midl. Nat. 46: 758. 1952
 Basionym: *Aragallus bryophilus* Greene
 = *O. nigrescens* (Pallas) Fischer var. *nigrescens*
- var. *bryophila* f. *albida* Lepage, Amer. Midl. Nat. 46: 758. 1952.
 Type: Alaska, Kodiak, Old Woman Mt., Lepage 25089, 24 June 1949; holotype ?; isotype DAO!, RIM!, fragment BRY!
 = *O. nigrescens* (Pallas) Fischer var. *nigrescens*
- var. *genuina* Kjellman, Vega-Exped. Vetensk. Arb., 16. 1883, nomen.
 = *O. nigrescens* (Pallas) Fischer var. *nigrescens*
- var. *lonchopoda* Barneby, Leaf. W. Bot. 10: 23. 1963.
 Type: Yukon, Cathedral Rocks, Ogilvie Range, J. A. Calder & J. M. Gillett 26013A, 29 June 1960; holotype DAO!; isotype NY!
 Distribution: Ogilvie Mts., Yukon; endemic.
 The variety rests almost solely upon the pods being definitely stipitate. There is considerable variation in stipe length through the range of *O. nigrescens* apart from the phase segregated as var. *lonchopoda*. The localization of an elongated stipe in plants from the Ogilvie Mts. might prove ultimately to represent a mere continuum and lack value in designation of a taxon. Plants from there in vegetative condition are essentially like those of phases of *O. nigrescens* from elsewhere. The elongate stipe and slightly inflated pods are reminiscent of *O. podocarpa*, but the leaflets are as in var. *nigrescens*.
- var. *nigrescens*
 Distribution: Altiheringian, coastal Yukon to Bering Strait, south to Kodiak, and in interior Yukon and Alaska, N.W.T. (Mackenzie Mts.), and British Columbia; Siberia and Kamchatka.
 This is a highly variable taxon with green and silvery, loose and compact, villous to strigose or even glabrous plants growing intermingled. And, it is with the often mixed variants that infraspecific segregation has been attempted. The synonymy is long, indicating the diversity of form but not necessarily the presence of several taxa within the complex morphology of the species.
- ssp. *pygmaea* (Pallas) Hulten, Fl. Alaska & Yukon, 1102. 1947
 Basionym: *Astragalus pygmaeus* Pallas
 = *O. nigrescens* (Pallas) Fischer var. *nigrescens*
- var. *pygmaea* (Pallas) Chamisso, Linnaea 6: 546. 1831.
 Basionym: *Astragalus pygmaeus* Pallas
 = *O. nigrescens* (Pallas) Fischer var. *nigrescens*
- var. *uniflora* (Hooker) Barneby, Proc. Calif. Acad. IV, 27: 209. 1952.
 Basionym: *O. arctica* β *uniflora* Hooker
 Distribution: Islands of the Canadian Arctic Archipelago and along the arctic coast from Mackenzie Delta E to Baffin Island and Hudson Bay, less commonly in interior sites in Yukon.
 This plant, as interpreted by me, is an American (more precisely a Canadian) endemic, but there are plants from the Chukotsk that match them closely (see *O. gorodkovii* Jurtsev, a new name for *O. pygmaea*, a phase of var. *nigrescens*). The Siberian materials seem to represent mere ecological variants within an expanded var. *nigrescens*, however.
- Oxytropis obnapiformis* C. L. Porter, Madrono 9: 133, fig. 1947.**
 Type: Colorado, in the sand hills 8-9 mi W of Maybell, Moffat County, 5,900 ft., C. L. Porter 3864, 19 June 1946; holotype BRY!; isotypes GH!, RSA, US!
 = *O. besseyi* (Rydberg) Blankinship var. *obnapiformis* (C. L. Porter) Welsh
- Oxytropis okanoganea* St. John, Proc. Biol. Soc. Wash. 41: 102. 1928.**
 Type: Washington, n.w. of Riverside, Okanogan County, H. St. John 7728; holotype WTC.
 = *O. campestris* (L.) de Candolle var. *gracilis* (A. Nelson) Barneby
- Oxytropis olympica* St. John, Proc. Biol. Soc. Wash. 41: 103. 1928.**
 Type: Washington, Olympic Mts., Jefferson County, B. Flett 134, 24 July 1897; holotype WTC; isotype US!, photo BRY!
 = *O. campestris* (L.) de Candolle var. *gracilis* (A. Nelson) Barneby
- Oxytropis oreophila* A. Gray, Proc. Amer. Acad. 20: 3. 1884.**
 Type: Utah, Aquarius Plateau, 10,500 ft., Garfield County, L. F. Ward 541, 9 August 1875; lectotype (here designated by Welsh, cf. Barneby, Proc. Calif. Acad. Sci. IV, 27: 214. 1952) GH!, isolectotype NY!
 var. *jonessii* (Barneby) Barneby, Intermountain Fl. 3B: 183. 1989.
 Basionym: *O. jonessii* Barneby
 Distribution: Uinta Basin, Wasatch Plateau, and Paunsaugunt and Markagunt plateaus, Utah; endemic.

This is a caespitose, mat- or mound-forming plant, of moderate elevations in mountain brush or ponderosa pine zones. Its compact growth, large flowers, and short peduncles are characteristic for the variety. It is more or less transitional with the next variety.

var. *juniperina* Welsh, Great Basin Nat. 38: 339. 1978.

Type: Utah, ca 1 mi E of Bicknell, Wayne County, S. L. Welsh & G. Moore 13828, 1976; holotype BRY!; isotype NY!

Distribution: Nevada and Utah; endemic.

This is a caespitose, mat- or mound-forming plant, of low-elevation, xeric sites. The compact growth, smallish flowers, and short peduncles are characteristic for the variety.

var. *oreophila*

Distribution: Arizona, California, Nevada, and Utah.

This is the taller, more robust phase of the species with elongate scapes bearing clustered, bladderly-inflated pods, more typical of high elevations where it often grows intermingled with *O. parryi*.

Oxytropis parryi A. Gray, Proc. Amer. Acad. 20: 4. 1884.

Type: "Rocky Mountains of northern New Mexico and Colorado, near the limit of trees" [Sangre de Cristo Pass, Taos Co., N.M.], C. C. Parry 41, 1867; lectotype (here designated by Welsh, cf. Barneby, Proc. Calif. Acad. Sci. IV, 27: 218. 1952) GH!. Rocky Mountains, E. Hall & H. Harbourn; cotypes GH!, NY!

Distribution: Montana (?), Idaho, Wyoming, California, Nevada, Utah, Colorado, and New Mexico.

Oxytropis patens (Rydberg) A. Nelson, Univ. Wyo. Pub. Bot. 1: 114. 1926.

Basionym: *Aragallus patens* Rydberg

= *Oxytropis lambertii* Pursh var. *bigelovii* A. Gray

Oxytropis paysoniana A. Nelson, Univ. Wyo. Pub. Bot. 1: 119. 1926.

Type: Wyoming, Piney Mt., 25 miles west of Big Piney, Sublette County, E. & L. Payson 2700, July 12, 1922; holotype RM!; isotypes NY!, US!

= *O. campestris* (L.) de Candolle var. *cusickii* (Greenman) Barneby

Oxytropis pinetorum (A. Heller) K. Schumann, Just's Bot. Jahresh. 27: 496. 1901.

Basionym: *Aragallus pinetorum* A. Heller

= *O. sericea* Nuttall var. *sericea*

Oxytropis plattensis Nuttall ex Torrey & Gray, Fl. N. Amer. 1: 340. 1838.

Type: Platte Plains, Nuttall s. n.; isotype NY!

= *O. lambertii* var. *lambertii*

Oxytropis podocarpa A. Gray, Proc. Amer. Acad. 6: 234. 1864.

Type: Labrador (Schweinitz) and Alberta (Bourgeau); cotypes GH! The specimens are cotypical, both having been used by Gray in characterization of the species.

Distribution: Rocky alpine ridges and coastal shores, in Colorado, Wyoming, Montana, Alberta, N.W.T., Ungava Peninsula, Labrador, and Baffin Island.

The bladderly-inflated stipitate pods are characteristic of this and few other species of oxytrope. The

folded, falcate leaflets are useful in distinguishing this from closely related mat- or mound-forming species, such as *O. nigrescens*, in vegetative condition.

var. *inflata* (Hooker) Boivin, Naturaliste Canad. 94: 78. 1967.

Basionym: *O. arctica* δ *inflata* Hooker

= *O. podocarpa* A. Gray

Oxytropis pygmaea (Pallas) Fernald, Rhodora 30: 153. 1928.

Basionym: *Astragalus pygmaeus* Pallas

= *Oxytropis nigrescens* (Pallas) Fischer var. *nigrescens*

Oxytropis retrorsa Fernald, Rhodora 30: 140. 1928.

Type: Colorado, vicinity of Como [Park Co.], South Park, C. S. Crandall & J. S. Cowen 152, August 3, 1895; holotype GH!; isotype NY!

= *O. deflexa* var. *sericea* Torr. & Gray

var. *sericea* (Torrey & Gray) Fernald, Rhodora 30: 140. 1928.

O. retrorsa ssp. *sericea* (Torrey & Gray) Love & Love, Taxon 31: 347. 1982.

= *O. deflexa* var. *sericea* Torrey & Gray

Oxytropis richardsonii (Hooker) K. Schumann, Just's Bot. Jahresh. 27: 496. 1901.

Basionym: *O. splendens* β *richardsonii* Hooker

= *O. splendens* Douglas

Oxytropis riparia Litvinov, Sched. Herb. Fl. Ross. 6: 98. 1908.

Type: Russian Turkestan, from Farab (on the Amu Darya); holotype LE.

Distribution: Idaho, Montana, North Dakota, and Wyoming; introduced from central Asia.

This is a coarse perennial herb with the general aspect of *O. deflexa* (Pallas) de Candolle. It grows in riparian habitats where it is grazed by wildlife, especially by sage hens. The species is expected to spread in suitable habitats through much of the American West.

Oxytropis roaldii Ostenfeld, Vasc. Pl. Arctic N. Amer. Gjoa Exped., 54, pl. 3, fig. 16. 1910.

Type: Iter arcticus Roald Amundsen (Gjoa-Expedition) 1903-1906. America Arct., Herschell Island, Lat N 69°35' Long. W 138°50', 13 July 1906. A. H. Lindstrom s. n.; isotype NY!

= *O. campestris* (L.) de Candolle var. *roaldii* (Ostenfeld) Welsh

Oxytropis rydbergii A. Nelson, Univ. Wyo. Pub. Bot. 1: 117. 1926.

nom. nov. pro *Aragallus alpicola* Rydberg

= *O. campestris* (L.) de Candolle var. *cusickii* (Greenman) Barneby

Oxytropis saximontana (A. Nelson) A. Nelson, Univ. Wyo. Pub. Bot. 1: 113. 1926.

Basionym: *Aragallus saximontanus* A. Nelson, nom. nov. *Oxytropis lambertii* Pursh var. *ochroleuca* A. Nelson

= *Oxytropis sericea* Nuttall var. *sericea*

Oxytropis scammaniana Hulten, Ark. Bot. 33B: 4, figs. 2, 3 (map). 1947.

Type: Alaska, Eagle Summit, near Steese Highway 109 miles north of Fairbanks, elevation 3850 feet,

E. Scamman 806, 7–11 July 1937, holotype S!; isotype GH!; photo BRY!

Distribution: Alaska, Yukon, and N.W.T. (Mackenzie Mts.); endemic.

This plant is similar to *O. mertensiana*, possibly its nearest ally in North America, in both inflorescence and pod aspect and structure.

Oxytropis sericea Nuttall ex Torrey & Gray, Fl. N. Amer. 1: 39. 1835.

Type: Rocky Mountains towards the sources of the Oregon [S Wyoming], T. Nuttall s.n., 1834; holotype NY!

var. *sericea*

Distribution: Montana, Wyoming, South Dakota, Nebraska, Idaho, Oregon, Nevada, Utah, Colorado, Kansas, New Mexico, and Oklahoma.

This variety forms hybrids with *O. lambertii* at points where the two entities come in contact. Especially impressive hybrid populations occur along the western Great Plains and in the Rocky Mountain foothills. The great swarms of hybrids, back crosses, and derivatives at Nederland, Colorado, are especially distinctive, with floral colors and sizes not readily evident in either of the parental types. There are indications, also, of transitional material between this variety and phases of *O. besseyi*.

var. *spicata* (Hooker) Barneby, Leaff. W. Bot. 5: 111. 1951.

Basionym: *O. campestris* (L.) de Candolle δ *spicata* Hooker

Distribution: Yukon, British Columbia, Alberta, Saskatchewan, Manitoba, Montana, Idaho, and Wyoming.

Members of this variety are characterized by their ochroleucous flowers with immaculate keels. In general aspect they simulate the partially sympatric *O. campestris* var. *gracilis*, from which they may be distinguished on the basis of the smaller number of leaflets and generally larger flowers. Alpine phases of *O. campestris* var. *cusickii* approach both flower size and color of var. *sericea*. Mainly var. *sericea* is not a plant of the highlands where that variety grows, but the similarities should not be discounted. Apparent hybrids are known between this and *O. campestris* var. *davisi* in northeastern British Columbia.

Oxytropis sheldonensis Porsild, Bull. Nat. Mus. Canad. 121: 246. 1951.

Type: Yukon, Canol Rd.: South and east slopes of Mt. Sheldon, steep ravines and ledges opposite mile 222, A. E. Porsild & A. J. Breitung 11750, 11 August 1944; holotype CAN!; isotypes GH!, ISC!, US!, NY!, UC!

= *O. borealis* de Candolle var. *sulphurea* (Porsild) Welsh

Oxytropis sordida (Willdenow) Persoon, Syn. Pl. 2: 332. 1807.

Basionym: *Astragalus sordidus* Willdenow

ssp. *barnebyana* (Welsh) Jurtsev, Arctic Fl. U.S.S.R. 9(2): 109. 1956.

Basionym: *O. arctica* R. Brown var. *barnebyana* Welsh

= *O. arctica* R. Brown var. *barnebyana* Welsh

ssp. *murrayi* Jurtsev, Arctic Fl. U.S.S.R. 9(2): 179. 1956.

Type: Yukon, St. Elias Mts., Observation Mt. and vicinity, at terminus of Kaskawulsh Glacier, D. F. & B. M. Murray 522, 1966; holotype LE!; isotype ALA, BRY!

= *O. arctica* R. Brown var. *murrayi* (Jurtsev) Welsh

Oxytropis spicata (Hooker) Standley, Contr. U. S. Nat. Herb. 22: 373. 1921.

Basionym: *O. campestris* δ *spicata* Hooker

= *O. sericea* Nuttall var. *spicata* (Hooker) Barneby

Oxytropis splendens Douglas ex Hooker, Fl. Bor.-Amer. 1: 147. 1834.

Type: Canada, on limestone rocks of the Red River, and south toward Pembina [S Manitoba], D. Douglas s.n.; holotype ?; isotype OXF!, photo BRY!

Distribution: E Alaska, Yukon, N.W.T., Ontario, Manitoba, Saskatchewan, Alberta, British Columbia, Montana, North Dakota, Minnesota, Wyoming, Colorado, and New Mexico.

This species is, for the most part, readily identifiable by its copious vesture, fasciculate leaflets, and short corollas relative to calyx length. In the Alberta Rockies there occur apparent intermediates with portions of *O. campestris* var. *gracilis*. Inconclusive specimens are known between *O. splendens* and both *O. campestris* var. *johannensis* near James Bay and var. *davisi* in British Columbia and Alberta. The intermediate specimens have less copious pubescence, a tendency to fasciculate leaflets, and petal to calyx proportions intermediate from those typical of *splendens* to those typical of the *campestris* taxa.

f. *nelsonii* Gandoger, Bull. Soc. Bot. France 48: xvii. 1901.

Type: ?

= *O. splendens* Douglas

β *richardsonii* Hooker, Fl. Bor.-Amer. 1: 148. 1834.

Type: Richardson. "Franklin's Journey, Dr. Hooker"; isotype NY!, *O. oxyphylla* of Richardson, isotype GH!

= *O. splendens* Douglas

f. *strigosa* Gandoger, Bull. Soc. Bot. France 48: xvii. 1901.

Type: ?

= *O. splendens* Douglas

α *vestita* Hooker, Fl. Bor.-Amer. 1: 148. 1834

Type: Red River, D. Douglas; holotype ?

= *O. splendens* Douglas

Oxytropis terrae-novae Fernald, Rhodora 30: 147, pl. 174. 1928.

Type: Newfoundland, St. John Island, peat on dry gravelly limestone barrens, M. L. Fernald et al. 25615, 31 July 1925; holotype GH!

= *O. campestris* (L.) de Candolle var. *terrae-novae* (Fernald) Barneby

Oxytropis tschuktschorum Jurtsev, Bot. Journ. 53: 11, 1538. 1968.

= *O. nigrescens* (Pallas) Fischer var. *nigrescens*

Oxytropis uralensis δ *arctica* (R. Brown) Ledebour, Fl. Ross. 1: 594. 1842.

Basionym: *Oxytropis arctica* R. Brown

= *O. arctica* R. Brown var. *arctica*

- γ minor* Hooker, Fl. Bor.-Amer. 1: 146. 1834.
 Note: Barneby cites this name as problematical, to be excluded because of inadequate typification. The Labrador specimens cited with the original description are likely what now passes under *O. campestris* var. *terrae-novae*; the remainder is cited from dry hills and prairies in the Rock Mountains, and remains obscure.
- β *subsucculenta* Hooker, Fl. Bor.-Amer. 1: 146. 1831.
 Type: "Arctic seashore, to the east of the Mackenzie River," Dr. Richardson s.n.; holotype K.
 = *O. borealis* de Candolle var. *borealis*
- Oxytropis varians* (Rydberg) K. Schumann, Just's Bot. Jahrb. 29: 543. 1903.
 Basionym: *Aragallus varians* Rydberg
 = *O. campestris* (L.) de Candolle var. *varians* (Rydberg) Barneby
- Oxytropis vegana* (Cockerell) Wootton & Standley, Contr. U. S. Nat. Herb. 16: 136. 1913.
 Basionym: *Aragallus pinctorum veganus* Cockerell
 = *O. sericea* Nuttall var. *sericea*
- Oxytropis verruculosa* Porsild, Bull. Nat. Mus. Canad. 121: 246. 1951.
 Type: Yukon: Canol Rd.: Rose-Lapie Pass, southwest of granite mountain west of mile 116, alpine slopes from road to below summit. Elev. 5000 ft. rocky ledges. A. E. Porsild & A. J. Breitung 10072, 1 July 1944; holotype CAN!; isotype GH!, S!, US!
 = *O. borealis* de Candolle var. *sulphurea* (Porsild) Welsh
- Oxytropis villosa* (Rydberg) K. Schumann, Just's Bot. Jahrb. 29: 543. 1903.
 Basionym: *Aragallus villosus* Rydberg
 = *Oxytropis campestris* (L.) de Candolle var. *gracilis* (A. Nelson) Barneby
- Oxytropis viscida* Nuttall ex Torrey & Gray, Flora N. Amer. 1: 341. 1838.
 Type: Rocky Mountains, near the sources of the Oregon [SW Wyoming], T. Nuttall s.n., 1834; syntypes NY!, PH; and "R. Mts. Oxytropis mollis," GH!
 = *O. borealis* de Candolle var. *viscida* (Nuttall) Welsh var. *hudsonica* (Greene) Barneby, Proc. Calif. Acad. IV, 27: 245. 1952.
 Basionym: *Aragallus hudsonicus* Greene
- ssp. *hudsonica* (Greene) Love & Love, Taxon 31: 347. 1982.
 Basionym: *Aragallus hudsonicus* Greene
- var. *subsucculenta* (Hooker) Barneby, Proc. Calif. Acad. IV, 27: 246. 1952.
 Basionym: *Oxytropis uralensis* β *subsucculenta* Hooker
- var. *viscida*
- Oxytropis viscidula* (Rydberg) Tidestrom, Contr. U.S. Nat. Herb. 25: 332. 1925.
 Basionym: *Aragallus viscidulus* Rydberg
 = *O. borealis* de Candolle var. *viscida* (Nuttall) Welsh
- ssp. *sulphurea* Porsild, Bull. Nat. Mus. Canad. 121: 247. 1951.
 Type: Yukon, Canol Rd.: Rose-Lapie R. Pass, mile 105; schist mountain east of lake. Elev. 4000. shaly cliffs by waterfall. A. E. Porsild & A. J. Breitung 10918, July 19, 1944; holotype CAN; isotype ISC!, GH!, S!, US!, NY!
 = *O. borealis* de Candolle var. *sulphurea* (Porsild) Welsh
- Physocalyx multiceps* Nuttall ex Gray, Proc. Amer. Acad. 6: 234. 1864.
 Type: Rocky Mountains, T. Nuttall s.n., 1834; holotype PH!; isotype NY!
 = *Oxytropis multiceps* Torrey & Gray
- Spiesia arctica* (R. Brown) Kuntze, Rev. Gen. 205. 1891.
 Basionym: *Oxytropis arctica* R. Brown var. *arctica*
 = *Oxytropis arctica* R. Brown var. *arctica*
- Spiesia arctobia* (Bunge) Kuntze, Rev. Gen. 205. 1891.
 Basionym: *Oxytropis arctobia* Bunge
 = *O. nigrescens* (Pallas) Fischer var. *uniflora* (Hooker) Barneby
- Spiesia bellii* Britton ex Macoun, Can. Rec. Sc. 6: 148. 1894.
 Type: Canada, Digges Island, R. Bell s.n., 15 Sept. 1884; holotype CAN!; isotype NY!; US!
 = *Oxytropis arctica* R. Brown var. *bellii* (Britton) Boivin
- Spiesia inflata* (Hooker) Britton, Mem. Torrey Bot. Club 5: 201. 1894.
 Basionym: *Oxytropis arctica* δ *inflata* Hooker
 = *O. podocarpa* A. Gray
- Spiesia lagopus* (Nuttall) Kuntze, Rev. Gen., 206. 1891.
 Basionym: *Oxytropis lagopus* Nuttall
 = *Oxytropis lagopus* Nuttall
- Spiesia lambertii* (Pursh) Kuntze, Rev. Gen., 206. 1891.
 Basionym: *Oxytropis lambertii* Pursh
 = *Oxytropis lambertii* Pursh var. *lambertii*
 var. *sericea* (Nuttall) Rydberg, Fl. Neb. 21: 43, pl. XI, figs. 107–109. 1895.
 Basionym: *Oxytropis sericea* Nuttall
 = *Oxytropis sericea* Nuttall
- Spiesia mertensiana* (Turczaninow) Kuntze, Rev. Gen., 206. 1891.
 Basionym: *Oxytropis mertensiana* Turczaninow
 = *Oxytropis mertensiana* Turczaninow
- Spiesia monticola* (A. Gray) Kuntze, Rev. Gen., 206. 1891.
 Basionym: *Oxytropis monticola* A. Gray
 = *Oxytropis campestris* (L.) de Candolle var. *gracilis* (A. Nelson) Barneby
- Spiesia multiceps* (Torrey & Gray) Kuntze, Rev. Gen., 206. 1891.
 Basionym: *Oxytropis multiceps* Torrey & Gray
 = *Oxytropis multiceps* Torrey & Gray
- Spiesia nana* (Nuttall) Kuntze, Rev. Gen., 206. 1891.
 Basionym: *Oxytropis nana* Nuttall
 = *Oxytropis nana* Nuttall
- Spiesia nigrescens* (Pallas) Kuntze, Rev. Gen., 206. 1891.
 Basionym: *Astragalus nigrescens* Pallas
 = *Oxytropis nigrescens* (Pallas) Fischer var. *nigrescens*

- Spiesia oreophila* (A. Gray) Kuntze, Rev. Gen., 206. 1891.
 Basionym: *Oxytropis oreophila* A. Gray
 = *Oxytropis oreophila* A. Gray
- Spiesia parryi* (A. Gray) Kuntze, Rev. Gen., 206. 1891.
 Basionym: *Oxytropis parryi* A. Gray
 = *Oxytropis parryi* A. Gray
- Spiesia podocarpa* (A. Gray) Kuntze, Rev. Gen., 206. 1891.
 Basionym: *Oxytropis podocarpa* A. Gray
 = *Oxytropis podocarpa* A. Gray
- Spiesia splendens* (Douglas) Kuntze, Rev. Gen., 207. 1891.
 Basionym: *Oxytropis splendens* Douglas
 = *Oxytropis splendens* Douglas
- Spiesia viscida* (Nuttall) Kuntze, Rev. Gen., 206. 1891.
 Basionym: *Oxytropis viscida* Nuttall
 = *Oxytropis borealis* de Candolle var. *viscida* (Nuttall) Welsh
- LITERATURE CITED
- BARNEY, R. C. 1952. A revision of the North American species of *Oxytropis* DC. Proceedings of the California Academy of Science IV, 27: 177-312.
- BOIVIN, B. 1962. Etudes sur les *Oxytropis* DC. I. *Oxytropis deflexa* (Pallas) DC. Svensk Botaniska Tidskrift 56: 496-500.
- . 1967. Etudes sur les *Oxytropis* DC. II. Naturaliste Canadienne 94: 73-78.
- BUNGE, A. 1874. Species Generis *Oxytropis*, DC. Memoires l'Academie Imperiale des Sciences de St. Petersbourg VII, 22(1): 1-166.
- ELISENS, W. J. AND J. G. PACKER 1980. A contribution to the taxonomy of the *Oxytropis campestris* complex in northwestern North America. Canadian Journal of Botany 58: 1820-1831.
- . 1982. Typification of *Oxytropis monticola*. Canadian Journal of Botany 60: 1580-1582.
- GRAY, A. 1854. A revision of the North American species of *Oxytropis* DC. Proceedings of the American Academy 20: 1-7.
- JURTSEV, B. A. 1986. *Oxytropis* DC. Pages 61-146 in A. A. Korobkov, M. V. Sokolova, N. N. Taraskina, and B. A. Jurtsev, Arctic flora U.S.S.R 9(2), 187 pp.
- PORSILD, A. E., AND W. J. CODY. 1980. *Oxytropis* DC. Pages 438-442 in Vascular plants of the continental Northwest Territories, Canada. National Museum of Natural Sciences, National Museums of Canada. 667 pp.
- VASILCHENKO, I. T., B. A. FEDCHENKO, AND B. K. SHISHKIN. 1948. *Oxytropis* DC. in Flora U.S.S.R 13: 1-229.
- WELSH, S. L. 1967. Legumes of Alaska II: *Oxytropis* DC. Iowa State Journal of Science 41: 277-303.
- . 1974. *Oxytropis* DC. Pages 275-282 in Anderson's flora of Alaska and adjacent parts of Canada. Brigham Young Press, Provo, Utah. 724 pp.
- . 1977. On the typification of *Oxytropis leucantha* (Pallas) Pers. Taxon 21: 155-157.
- . 1987. *Oxytropis* DC. Pages 396-398 in S. L. Welsh, N. D. Atwood, S. Goodrich, and L. C. Higgins, A Utah flora. Great Basin Naturalist Memoirs 9. 984 pp.

Received 19 August 1991

Accepted 15 October 1991