ASTRAGALUS

ANALYTICAL TABLE OF B.C. RECORDS

	Root	Stem				Leaf				Flower											Fruit						Remarks
		Height	Habit	Stipules	Pubescence	Pr. leaflets	Shape	Pubescence	Remarks	White	Yellow	Purple	Raceme	Spike	Number of flowers	Pedicel : Calyx tube	Peduncle : Leaves	Calyx	Remarks	Flat	Rounded, Inflated	One celled	± 2-celled	Pubescence	Remarks	Stipe : Calyx	
adsurgens Pallas.		4-18" 1.-4.5 dm. Elongate	Stout ascendant or prostrate	ovate acuminate membranous	cinereous minute-appressed to glabrate	6-12 10 8-12	obtuse oval to linear oblong oblong	glabrescent ± glabrous					oblong-ovate	-			>	long campan. tube 2× teeth appressed.	spike, oblong-ovate ± rotund. flowers dense, erect. Vex ≥ 3 wings		Δ		2	appressed.	erect coriaceous sessile 8-10 mm oblong	Erostrate <	deep dorsal furrow.
alpinus L. orig.		25-40 cm	ascending or decumbent caulescent procumbent	ovate Foliaceous	strigose or slightly hairy	6-12	oval or elliptic obtuse or acute 6-12 mm long					v	oval-elliptic	few			>	black purpl.	Flrs. pendulous from spicate raceme.	lax,	Δ		v	downy black pubesc.	membranous pendent rounded oblong acute at both ends	>	Red deeply sulcate below.
Bourgovii A. Gray orig.	Woody caudex	15-25cm	Short, numerous decumbent or ascending	Present on upper leaves connate scarious	thin strigose	7-8	oblong-elliptic-linear-linear ± lanceolate acute	slender-villous Sparse appressed hairs					flat	~5-10	±	much >	Teeth ± tube black strigose	Raceme short calyx black-pubescent Apex of carina inflexed & subproduced wings subequal. Flrs 4.5-5 lines ♀ 7-10 mm.		immature		v	matted black to ashy pubescent	oblong ± obtriangular 12-16 mm ovate lanceolate	<	
campestris A Gray		cm 7.5-40	Adsurgent Petioles ± level rigid	triangular accumulate lower membranous	ashy strigulose becoming glabrate	4-6 4-6	Upper seldom reduced to phyllodes usually acute lance-linear or lin-subulate					flags		5-10		>	Teeth = ± tube. resinous stem-leaf	Apex of keel inflexed & produced into a long beak Flrs. 10 mm		-			puberulous	turgid oblong linear	Erostrate	
var Canadensis L. in rea		3-8 dm Spreading	Stout			7-12	oval→ oblong 2-4 cm	nearly glabrous Subvillous					dense					Flr. 1-6 cm long						glabrous	1-1.5 cm mucronate Sub. cylindrical.		- leaves or nearly so. thick long-beaked
collinus Dougl. ex Hook.	Stout Letter H.A. Senn	3 dm+	Erect or Spreading, round-striate	Small, oblong acuminate subfoliaceous	Pilose	9-11	linear-obtuse base shortly attenuate. obtuse→ retuse	2.5 cm long. Pilose beneath.					sub-dense			-2>	densely pale hirsute oblong. elongate, base subgibbous Teeth subulate ± ½ tube	oblong, densely flrd. 7.5-10 cm long.			✓		Pubescent	immature 2× calyx Submembran. diffused. linear	V>	
debilis (Nutt. MSS.) A. Gray			Decumbent	Triangular-oblong acuminate slightly adnate to base of petiole.	Slender ± pubescent	8-11	Cuneate-oblong. Apex truncate or emarginate petiolulate.	minutely hirsute with appressed hairs beneath. lower leaves glabrous	rather long petioles 7 mm long lower leaves with smaller				ish		close to hairs		>	pubescent with grayish hairs. subulate teeth ≠ tube.	± capitate vexillum deeply emarginate					1-1.5 cm long canescent puberulous	straight to falcate broadly linear		
decumbens (Nutt.) A. Gray		15-25cm	Spreading to adsendent		Gray to silky pubescent	3-6	linear-lanceolate acute		Petioles flat				✓	~5-10			Teeth attenuate < tube. slightly	8-9 mm. Keel apex slightly inflexed					hairy	2 cm. linear-oblong		
frigidus (L.) Gray.		dm. 3-6.		ovate-oblong membranous		7-9	ovate-oblong→ elliptic oblong. 2-4 cm long obtuse	green	± smooth.	✓						> =	Teeth short						shiny black hairy glabrous in America	attenuate 1.5-2.0 cm acute at both ends. oblong		
Gibbsii Kellogg		dm 3-6	Erect ? Herbaceous, Fistulous Flexuous Simple or branching Striate	foliaceous triangular acute. Adnate to lowermost base of petiole upper-ovate	Canescently short villous	8-10	obcordate cuneate upper leaves with retuse leaflets	minutely villous above & below	Petiole 5 mm. leaflets 1-2.5 cm long-rarely 12 mm wide.					15-20		2>	Teeth = ± tube. dense creamy white pubescence	2.5 cm long Nodding. Bracts ovate acute = pedicels Keel very obtuse					Pubescent finely pubesc.	Sutures thickened.	2> mature	
glabriusculus (Hook.) A. Gray.					glabrous or with scattered short hairs		slender linear-lanc. subacute, or oblong & obtuse at both ends.	green										4 mm long					very glabrous	lanceolate subfalcate attenuate 2.5 cm	12 mm. 3>	
glareosus (Dougl.) MSS Hook		Short cm 12.5	Low	oblong acuminate membranous	densely wooly tomentose	6	linear oblong	whitish from wooly pubescence				✓		3-4	short	Just >	elongate cylindrical	black-hairy						Coriaceous obcompressed		Branches apex obtuse
gracilis Nutt		± 6 dm.	slender erect angular but scarcely striate	ovate acuminate	Subcinereous glabrate	6-10 ±10	oblong-linear remote		Subsessile vs.			Pale	loose subsecund			>	teeth minute pubescent	short very. cernuous elliptic-ovate ± 3 angled.			✓		pubescent	determinate with curved style		
Hallii, Gray		3 dm.	Adsurgent	Subulate.	Subcinereous pubescent → glabrate	9-12	narrowly-oblong subcuneate retuse		8-14 mm.			violet	dense capitate or open.	+ 20		>	Teeth broad. Tube campan. Base gibbous = ½ tube. Calyx 2 mm long. Black pubescent.	14-16 mm long			✓		very glabrous	straight apiculate inflated oblong	1/3 <	"Near A. debilis" - Gray Rachis in fruit at most 4 cm. long
Ex Hook. Fl. var α hypoglottis L.		15-40 cm.	Spreading-procumbent Slender	ovate-lanceolate, acute	Sub-pilose	8-12	Elliptic oblong obtuse or retuse	Ellip Sparsely pilose → glabrate				violet		capitate-dense Flrs. crowded		>	Teeth = tube Black pubescent	10-12 mm		△		2	very hirsute.	erect appearing capitate one seeded. 6-8 " ovate	<	leathery Sept.
as above except for noted details " var β			luxuriant foliaceous, elongated.														Pale.							Seeds 4-8.		
Hook. Fl. Letter H.A. Sehn lentiginosus, Dougl.		5-20 cm.	Prostrate	Small, ovate acute	Very glabrous	5-8 8	obovate obcordate or oblong	ver				or ✓	oblong-ovate			<	Companulate. Teeth > tube				✓	2 ✓	very glabrous	membranous base curved. acuminate ovate	S	Legume often mottled 8-12 mm long
lotiflorus Hook		2.5-7.5 cm	shortly diffusis	ovate-acuminate 3-4 mm.	appressed pilose	3-7 ±6	oblong-obtuse or mucronulate		± long petiolate remote 10-16 mm			Small ✓	lax-capitate	3-4	slender <		Companulate. Teeth > tube white pilose				± 2		White pilose	erect coriaceous acuminate ovate	Sutures 2 <	Bracts subulate > short pedicel. → Upper suture straight, lower arcuate. → Keeled on dorsal suture "A rare species." macoun
Lyalli A. Gray	24	3 dm.	not very stout leafy slightly striate	ovate-lanceolate free	finely puberulent or glabrate	4-8	oblong obtuse above oval below	glabrous above sparingly strigose beneath.	Leaves - 5-10 cm. leaflets 15-25 mm.		cream	Fringed	4-16 cm.		10-15 cm.	>	4 mm tube ½ as long linear subulate black-hairy	corolla 8 mm.			oval		acute at both ends. black hairy	slipe + pod = 2 cm. membranous	2/3 mm	Bracts linear 2-3 mm. Pedicel 3-4 mm
microcystis Gray	Procumbent, woody.		slender, branching	scarious to almost free	gray-pubescent	4-6	oblong to oblong-lanc-obtuse					White	slender	5-12			Teeth setaceous-subulate = to short campan. tube pilose	Vexillum deeply emargin. wings incurved & slightly > keel.					Brown pubescent	6 mm thin-membranous globose-ovate		
Mortoni, Nuttall,	24	4-5 6 dm.	Erect ±	membranous broad. sheathing & attached to the stem	nearly smooth.	6-8	oblong to oblong-elliptic obtuse	12-24 mm long					5-7 mm long, ± equaling calyx tube		≠		Teeth short & acute < tube nearly smooth	Not much longer than pedicel slightly > keel Hrs ± sessile 4-8 mm long		O		2	sulcate dorsally villous	elliptical or oblong erect obtuse	Sessile	cartel or leather Seeds numerous
multiflorus A. Gray	24	up to 4-5 dm	adsurgent to spreading, branching	upper-lower connate. mostly ovate	± glabrous	6-10	narrowly oblong or linear obtuse & mucronate					Style & ovary ± hairy	lax then ±		Short (<) <		Teeth < tube	Keel straightish, wings shortly obtuse		V			12 mm chartaceous smooth	oblong	Usually <	may be absent or long aristate 2-4 seeded.
Palliseri A. Gray	Woody caudex.	> 3 dm.	Slender, rigid branching - adsurg.	upper-stem-like separate.	Sparingly strigulose-pubescent → glabrate	4-9	linear to ± lanceolate obtusish rigid	Sparingly strigose below glabrate above	14-24 mm x 3 mm	✓		keel ish	sparse	7-12	≠	=	Teeth < ½ tube white Hairy strigose	Keel narrow at apex. Inflexed - Purple < wings produced into tip.		Purple			vy. glabrous	linear	<	
paucifl orus Hook	Deep, subfusiform, woody with a divided apex.	15-30 cm.	many stems branching, Decumbent to Prostrate below Slender, straight	apparently opposite connate lower entire Upper slightly bifid. foliaceous upper pilose	gray	3-5	oblong or linear-oblong rarely elliptical acute.	Short white appressed pilose	mm. long. 6-8			✓	lax capitate	Lax-Small upper 2-3 4	2.5-3 3.8 cm long. Very Very slightly >		short-companulate Teeth subulate = or > tube. Villous - pile white depressed.	Wings & keel whitish at base obtuse below.					immature ovary oblong silky.	1 cm long linear oblong	<	Bracts linear lanceolate > pedicel
Purshii Dougl.	24		short, spreading	lanceolate acuminate	very woolly	6-8	oblong	very woolly				Calyx-tube at first	lax Calyx-tube open.			1/2 <	elongate membranous cylindrical Teeth subulate, equal = tube	Wings attenuate ± vexillum Vexillum obovate, obtuse, ± long. Flrs 3.5 cm long Keel purple-tipped					ovary subsessile linear, vy pilose	coriaceous ± arcuate		Bracts linear subulate 2× pedicel Flowers in June 24
Robbinsii Gray		3 dm	erect, slender			7-11	elliptical often notched			✓			loose nearly ± sessile in fruit		much >						✓		smooth	Papery veiny oblong, boat-shaped obtuse	<	→ seed bearing suture convex, other nearly straight
serotinus Gray	24 root	2-4.5 dm.	often slender branching ascending-slender adsurgent	acuminate	Gray, minut. strigulose pubescence	4-10	linear to obtuse mucronate not rigid	(glabrous or nearly so above				ish	9-20 flo.	Grn	>	companulate teeth very short ⅓ or ¼ Tube minutely pubescent or glabrous	keel apex ± winged. broad & inflated					legume ± 2-cycle spiral minutely pubescent or glabrous	1-5 cm linear-lanceolate linear acute	Sutures 2 <	8-10 seeded.
var falciformis Gray Speirocarpus Gray		15 cm.			ashy incolor.	4-9	oblong retuse		ashy in color.			ish	few flrd				tube < ¼ tube barely pubescent	glabrous					legume in 2 1-2 cycle spiral glabrous	linear lanceolate	2x <	Var falciformis - stipe filiform 12-18 mm long - pod falcate or merely hooked - thinner walled than species.
stenophyllus, T. & G.	24	3 dm or over.	erect, stout striate, scarcely angular.	small, ovate, rather obtuse	glabrous	4-7	linear, remote	slightly hirsute beneath. 8-15 mm long 1-2 mm wide			Calyx-tube	Keel-ish ?	oblong-lanc. acute, ± equaling calyx tube	10	much >		Teeth obtuse < tube ± ½ ½ 3-4 mm. Pilose with blackish hairs	Flrs 12 mm long.					immature ovary linear glabrous	18-30 mm x 4-5 "	>	Pedicels longer than the minute lanceolate bracts. Long stipitate
formerly Astragalus. alpicola (Rydb) J.D. Nov comb	24		Depressed, acaulescent			4-6	Oblong or elliptic obtuse or acutish 5-8 mm long	White silky strigose				✓	sub-capitate	3-8	2-6 cm. >		Teeth subulate = ½-⅓ tube black hairy	Flrs. 15 mm long wings broadly emarginate broadly emarginate				4		Subcoriaceous short beaked. 15 mm long ovoid		
Beckwithii T. & G.	24	3-6 dm.	Distinctly spreading	ovate lanceolate adnate to the petiole	glabrous or nearly so	6-12	12 mm long broadly oval					✓	short loose	5-8			Teeth subulate ≠ campan tube nearly glabrous	Flrs 18 mm long					glabrous	Transversely rugulose coriaceous 2 cm long gla		Short stipitate ± obcompressed. Flattened dorsally with sutures slightly intruded, bisulcate ventrally with the prominent suture acutely margined Many seeded.
flexuosus Dougl.			decumbent, flexuous, sparsely branched.	small, acuminate from a wide base. lower, connate.		6-9	linear-oblong obtuse	glabrous above appressed pilose beneath.				ish	elongate lax		>	subsericeous	"frequent"			✓	✓		cylindrical coriaceous straight acute	Sessile	