

Supplemental Material S1 Distribution of parasite samples across geographic localities and among host individuals. For each host specimen examined in this study (organized by host species and sampling locality) we list the number of parasites from which we obtained DNA sequence data for *Cephaluris* (*Ceph*), *Eugenuris* (*Eug*), *Labriostomum* (*Lab*), and *Schizorchis* (*Schiz*). Where available, museum catalog numbers are provided for host voucher specimens (CUMV – Cornell University Museum of Vertebrates; UAM – University of Alaska Museum).

Host species	Locality	Latitude	Longitude	Host voucher	Ceph	Eug	Lab	Schiz
<i>Ochotona princeps</i>	Hagensborg, BC	N 52° 12'	W 126° 21'	CUMV 20729	1			
				CUMV 20734	1			
				CUMV 20735		1		
				CUMV 20742			1	
<i>Ochotona princeps</i>	Pemberton, BC	N 50° 34'	W 123° 1'	CUMV 20584			1	
				CUMV 20585	1	1		
				CUMV 20744	1			
				CUMV 20745		1		
				CUMV 20750				1
				CUMV 20768			1	
<i>Ochotona princeps</i>	McBride, BC	N 53° 21'	W 120° 6'	CUMV 20590	1			1
				CUMV 20712				1
				CUMV 20715	1			
				CUMV 20716	1			
				CUMV 20717		1		
<i>Ochotona princeps</i>	Raft Mountain, BC	N 51° 43'	W 119° 51'	CUMV 20756	1			
				CUMV 20757		1		
				CUMV 20758	1			
				CUMV 20771	1		1	
<i>Ochotona princeps</i>	Grande Cache, AB	N 54° 4'	W 119° 24'	CUMV 20589	1			1
				CUMV 20720	1		1	
				CUMV 20722			1	
<i>Ochotona princeps</i>	Landslide Lake, AB	N 52° 2'	W 116° 30'	CUMV 20697	1	1	1	
				CUMV 20699	1			
				CUMV 20704				1
<i>Ochotona princeps</i>	Washington Pass, WA	N 48° 30'	W 120° 38'	CUMV 20283		1		
				CUMV 20287				1
				CUMV 20290			1	
				CUMV 20291		1		
				CUMV 20298	2			

Host species	Locality	Latitude	Longitude	Host voucher	Ceph	Eug	Lab	Schiz
<i>Ochotona princeps</i>	Sunrise Peak, WA	N 46° 19'	W 121° 44'	CUMV 20300				1
				CUMV 20302	1			
				CUMV 20304			1	1
				CUMV 20306			1	
<i>Ochotona princeps</i>	Indian Heaven, WA	N 46° 3'	W 121° 45'	CUMV 20306	1	1		
				CUMV 20307				1
				CUMV 20308	1			
				CUMV 20310				1
<i>Ochotona princeps</i>	McKenzie Pass, OR	N 44° 14'	W 121° 49'	CUMV 20628			1	
				CUMV 20631	1	1		
				CUMV 21152	1	1		
<i>Ochotona princeps</i>	Anthony Lakes, OR	N 44° 56'	W 118° 14'	CUMV 20638	1		1	
				CUMV 20639	1			
				CUMV 20642		1		
<i>Ochotona princeps</i>	Wallowa Mtns., OR	N 45° 3'	W 117° 17'	CUMV 20574				1
				CUMV 20575	1			
				CUMV 20648	1			
				CUMV 20649	1		1	
<i>Ochotona princeps</i>	Roman Nose Lakes, ID	N 48° 37'	W 116° 34'	CUMV 20270	1	1		
				CUMV 20272		1		
				CUMV 20275	1		1	
				CUMV 20278	1			
<i>Ochotona princeps</i>	Black Lake, ID	N 45° 11'	W 116° 34'	CUMV 20259		1		
				CUMV 20260	1			
				CUMV 20262		1	1	2
				CUMV 20263			1	
				CUMV 20268	1			
<i>Ochotona princeps</i>	Featherville, ID	N 43° 36'	W 115° 26'	CUMV 20248	1			1
				CUMV 20249		2		
				CUMV 20252	1			
				CUMV 20253				1
				CUMV 20254	1			
<i>Ochotona princeps</i>	Doublespring Pass, ID	N 44° 18'	W 113° 53'	CUMV 20241	1	1		1
				CUMV 20243			1	1
				CUMV 20244	1			

Host species	Locality	Latitude	Longitude	Host voucher	Ceph	Eug	Lab	Schiz
<i>Ochotona princeps</i>	Darby, MT	N 46° 2'	W 114° 17'	CUMV 20237	1	1		
				CUMV 20238		1		1
				CUMV 20239	1		1	1
<i>Ochotona princeps</i>	Neihart, MT	N 46° 56'	W 110° 37'	CUMV 20056			1	
				CUMV 20210				1
				CUMV 20211	1			
				CUMV 20212			1	
				CUMV 20216	1			
<i>Ochotona princeps</i>	Red Lodge, MT	N 45° 0'	W 109° 28'	CUMV 20059		1	1	
				CUMV 20226	1			1
				CUMV 20227			1	
				CUMV 20230	1			
				CUMV 20236				1
<i>Ochotona princeps</i>	Togwotee Pass, WY	N 43° 45'	W 110° 2'	CUMV 20180	1			1
				CUMV 20181	1			
				CUMV 20183		1		
				CUMV 20186	1			
				CUMV 20189				2
<i>Ochotona princeps</i>	Duncum Mtn., WY	N 44° 54'	W 107° 51'	CUMV 20194	1	1		
				CUMV 20198				1
				CUMV 20199				1
				CUMV 20201		1	1	
				CUMV 20207			1	
				CUMV 20208	1			
<i>Ochotona princeps</i>	Bridger Peak, WY	N 41° 10'	W 107° 0'	CUMV 20165				1
				CUMV 20166	1		1	
				CUMV 20170		1		
				CUMV 20177			1	1
<i>Ochotona princeps</i>	Ebbets Pass, CA	N 38° 32'	W 119° 48'	CUMV 20594				1
				CUMV 20683	1		1	
<i>Ochotona princeps</i>	Onion Valley, CA	N 36° 46'	W 118° 19'	CUMV 20685	1			1
				CUMV 20686	1	2		
				CUMV 20687	1		1	
<i>Ochotona princeps</i>	Arc Dome, NV	N 38° 50'	W 117° 20'	CUMV 20312		1		
				CUMV 20314	1	1	1	
				CUMV 20315				2

Host species	Locality	Latitude	Longitude	Host voucher	Ceph	Eug	Lab	Schiz	
<i>Ochotona princeps</i>	Mt. Jefferson, NV	N 38° 43'	W 116° 55'	CUMV 20316	1	2			
				CUMV 20317	1		1	1	
				CUMV 20318					1
				CUMV 20320	1				
				CUMV 20321	1				
<i>Ochotona princeps</i>	Ruby Mtns., NV	N 40° 34'	W 115° 23'	CUMV 20688		1		1	
				CUMV 20690	1				
				CUMV 20691	1		1		
				CUMV 20693				1	
<i>Ochotona princeps</i>	Oakley, UT	N 40° 45'	W 111° 0'	CUMV 20653	1	1	1		
				CUMV 20656	1				
				CUMV 20657		1			
<i>Ochotona princeps</i>	Gunnison, UT	N 39° 3'	W 111° 31'	CUMV 20571	1	1			
				CUMV 20659				1	
				CUMV 20678	1	1			
				CUMV 21155			1	1	
<i>Ochotona princeps</i>	Flat Top Mtn., UT	N 38° 26'	W 111° 28'	CUMV 20569	1			1	
				CUMV 20663		1		1	
				CUMV 20664	1				
				CUMV 20666	1				
<i>Ochotona princeps</i>	Beaver, UT	N 38° 23'	W 112° 23'	CUMV 20567	1		1		
				CUMV 20674		1			
				CUMV 20676	1				
				CUMV 20677				1	
				CUMV 21157				1	
<i>Ochotona princeps</i>	Trappers Lake, CO	N 39° 58'	W 107° 15'	CUMV 20045	1				
				CUMV 20154	1			1	
				CUMV 20157				1	
				CUMV 20158			1		
				CUMV20159		1			
<i>Ochotona princeps</i>	Grand Mesa, CO	N 39° 2'	W 108° 4'	CUMV 20141	1		1		
				CUMV 20143		1			
				CUMV 20145				2	
				CUMV 20149	1	1			

Host species	Locality	Latitude	Longitude	Host voucher	Ceph	Eug	Lab	Schiz
<i>Ochotona princeps</i>	Berthoud Pass, CO	N 39° 48'	W 105° 46'	CUMV 20125	1		1	2
				CUMV 20127	1			
				CUMV 20128		1		
				CUMV 20137			1	1
<i>Ochotona princeps</i>	Twining, NM	N 36° 36'	W 105° 30'	CUMV 20114	1			
				CUMV 20115		1	1	
				CUMV 20116				1
				CUMV 20120	1	1	1	
				CUMV 20121	1			
CUMV 20124				1				
<i>Ochotona princeps</i>	Lake Peak, NM	N 35° 47'	W 105° 46'	CUMV 20323	1		1	1
				CUMV 20326	1	1		
				CUMV 20334	1			
<i>Ochotona collaris</i>	Yukon-Charley National Preserve, AK	N 65° 12'	W 143° 33'	UAM 58257				1
				UAM 58407				1
				UAM 58445				1
<i>Ochotona collaris</i>	Wrangell-St. Elias National Park, AK	N 62° 2'	W 141° 8'	UAM 57920				1
<i>Ochotona collaris</i>	Lake Clark National Park, AK	N 60° 46'	W 153° 51'	UAM 93095	1	1		
				UAM 93191	1	1	1	2
<i>Ochotona collaris</i>	Jawbone Lake, NWT	N 64° 59'	W 127° 37'	no voucher (Field # KG375)	1	1		1
				no voucher (Field # KG376)	1			
				no voucher (Field # KG377)	1	1	2	1
				no voucher (Field # KG378)	1	1		
				no voucher (Field # KG379)		1		
				no voucher (Field # KG562)	2			
				no voucher (Field # KG563)	1	2		
<i>Ochotona hyperborea</i>	Kontakt Station, Magadanskaya, Siberia	N 61° 51'	E 147° 39'	UAM 80029				2
<i>Ochotona hyperborea</i>	Yttygran Island, Chukotskaya, Siberia	N 64° 39'	W 172° 32'	UAM 83952	1	1	1	
				UAM 83955	1			
<i>Ochotona cansus</i>	Maerkang, Sichuan, China	N 31° 43'	E 102° 17'	no voucher (Field # KG558)				1
				no voucher (Field # KG559)	1		4	