

Table S1. Sample information for close relatives of *P. glacialis* examined in this study.

	Species	Location	N	Geographic coordinates	Altitude (m)
1	<i>P. stubbendorffii</i>	Tonghua, Jilin Prov.	5	E125.95, N41.71	314
		Fushun, Liaoning Prov.	4	E123.91, N41.89	335
2	<i>P. cephalus</i>	Qilianshan, Qinghai Prov.	2	E98.89, N39.01	345
3	<i>P. imperator</i>	Bamishan, Gansu Prov.	8	E103.52, N35.98	615
4	<i>P. jacquemontii</i>	Qilianshan, Qinghai Prov.	2	E100.66, N38.09	1,360
5	<i>P. apollonius</i>	Jiangjunshan, Xinjiang Prov.	2	E86.09, N44.20	861
6	<i>P. szechenyii</i>	Qilianshan, Qinghai Prov.	6	E99.09, N38.34	536
7	<i>P. orleans</i>	Guanggaishan, Gansu Prov.	6	E103.21, N34.30	685
8	<i>P. andreji</i>	Qilianshan, Qinghai Prov.	7	E99.48, N38.61	1,420
9	<i>P. choui</i>	Bayankalashan, Qinghai Prov.	2	E118.29, N32.28	270
10	<i>P. epaphus</i>	Qilianshan, Qinghai Prov.	7	E100.66, N38.09	680
11	<i>P. acco</i>	Qilianshan, Qinghai Prov.	1	E99.09, N38.34	290
12	<i>P. apollo</i>	Tianshan, Xinjiang Prov.	2	E88.07, N44.11	1,820
13	<i>P. nomion</i>	Bamishan, Gansu Prov.	6	E113.05, N34.48	716
14	<i>P. actius</i>	Tianshan, Xinjiang Prov.	1	E88.07, N44.11	1,802
15	<i>P. simo</i>	Qilianshan, Qinghai Prov.	6	E100.66, N38.09	1,355