

ABIES ALBA POPULATIONS - STUDIED BY NEUTRAL GENETIC MARKERS											
	Populatio Logitude (Degrees- minutes- secods e.g. 66° 31' 32.34")	Population Latitude (Degrees- minutes- seconds e.g. 25° 31' 06.66" E)	Population Elevation (if possible Minimum - Maximum, e.g. 100- 400 m.)	Population Characteriz ation (Marginal/P eripheral or NOT)	Type of marginality (distributio n/ecology)	Dynamic in situ conservatio n (Y/N)	Year of collection	Type of material collected (buds, leaves, etc.)	Marker type	Marker type	location
Germany	46° 39' 42.21"	10° 31' 42.73" E	1450	marginal	ecology	n	2009	seed	SSRs - n	Isozymes	Vintschgau/ Northern Italy
Germany	42° 53'	0° 48'W	1400	marginal	distribution	n	2009	buds	SSRs - n	Isozymes	Gamueta /ES
Germany	42° 45'	0° 41'W	1152	marginal	distribution	n	2009	buds	SSRs - n	Isozymes	Paco Ezpela /ES
Germany	42° 31'	0° 41'W	1393	marginal	distribution	n	2009	buds	SSRs - n	Isozymes	San Juan de la Peña / ES
Germany	42° 42'	0° 38'W	1333	marginal	distribution	n	2009	buds	SSRs - n	Isozymes	Paco Mayor / ES
Germany	42° 31'	0° 17'W	1595	marginal	distribution	n	2009	buds	SSRs - n	Isozymes	Oroel / ES
Germany	42° 38'	0° 17'W	1399	marginal	distribution	n	2009	buds	SSRs - n	Isozymes	Yésero /Es
Germany	42° 37'	0° 5'W	1528	marginal	distribution	n	2009	buds	SSRs - n	Isozymes	Diazas /ES
Germany	41° 18'	0° 12'W	1428	marginal	distribution	n	2009	buds	SSRs - n	Isozymes	Guara / ES
Germany	42° 28'	0° 18'E	1474	marginal	distribution	n	2009	buds	SSRs - n	Isozymes	Collubert /ES

Germany	42°38'	0° 35' E	1600	marginal	distribution	n	2009	buds	SSRs - n	Isozymes	Benasquez / ES
Germany	45°18'	14°41'		marginal	distribution	n	2008	buds	SSRs - n	Isozymes	Fužine (CRO)
Germany	45°18'	14°36'		marginal	distribution	n	2008	buds	SSRs - n	Isozymes	Gerovo (CRO)
Germany	45°26'	14°53'		marginal	distribution	n	2008	buds	SSRs - n	Isozymes	Skrad (CRO)
Germany	45°24'	15°03'		marginal	distribution	n	2008	buds	SSRs - n	Isozymes	Vrbovsko (CRO)
Germany	44°28'	16°23'		marginal	distribution	n	2008	buds	SSRs - n	Isozymes	Oštrej (BiH)
Germany	44°33'	16°39'		marginal	distribution	n	2008	buds	SSRs - n	Isozymes	Grmeč (BiH)
Germany	44°11'	16°35'		marginal	distribution	n	2008	buds	SSRs - n	Isozymes	Bos. Grahovo (BiH)
Germany	43°57'	16°33'		marginal	distribution	n	2008	buds	SSRs - n	Isozymes	Troglav (BiH)
Germany	44°01'	16°50'		marginal	distribution	n	2008	buds	SSRs - n	Isozymes	Glamoč (BiH)
Germany	43°32'	17°35'		marginal	distribution	n	2008	buds	SSRs - n	Isozymes	Čabulja (BiH)
Germany	43°08'	17°08'		marginal	distribution	n	2008	buds	SSRs - n	Isozymes	Biokovo (CRO)
Germany	44°02'	17°18'		marginal	distribution	n	2008	buds	SSRs - n	Isozymes	Bugojno (BiH)
Germany	43°56'	17°54'		marginal	distribution	n	2008	buds	SSRs - n	Isozymes	Vranica (BiH)
Germany	43°45'	18°16'		marginal	distribution	n	2008	buds	SSRs - n	Isozymes	Igman (BiH)
Germany	44°19'	17°29'		marginal	distribution	n	2008	buds	SSRs - n	Isozymes	Vlašić (BiH)

Germany	44°34'	18°00'		marginal	distribution	n	2008	buds	SSRs - n	Isozymes	Tešanj (BiH)
Germany	44°18'	18°15'		marginal	distribution	n	2008	buds	SSRs - n	Isozymes	Zavidovići (BiH)
Germany	44°10'	18°27"		marginal	distribution	n	2008	buds	SSRs - n	Isozymes	Očevija (BiH)
Germany	43°44'	18°34'		marginal	distribution	n	2008	buds	SSRs - n	Isozymes	Jahorina (BiH)
Germany	44°06'	18°41'		marginal	distribution	n	2008	buds	SSRs - n	Isozymes	Klis (BiH)
Germany	43°59'	18°45'		marginal	distribution	n	2008	buds	SSRs - n	Isozymes	Knežina (BiH)
Germany	43°54'	18°39'		marginal	distribution	n	2008	buds	SSRs - n	Isozymes	Romanija (BiH)
Germany	43°29'	18°35'		marginal	distribution	n	2008	buds	SSRs - n	Isozymes	Kalinovik (BiH)
Germany	42°38'	18°33'		marginal	distribution	n	2008	buds	SSRs - n	Isozymes	Orjen (BiH)
Germany	48°45'38"	13°47'02"	830	not		n	2011	buds from seedlings	SSRs - n	Isozymes	Pleckenstein-20
Germany	48°27'35"	11°16'04"	480	not		n	2011	buds from seedlings	SSRs - n	Isozymes	Schiltberg-21
Germany	47°47'45"	12°47'28"	973	not		n	2011	buds from seedlings	SSRs - n	Isozymes	Stoißberg-22
Germany	47°36'08"	10°58'32"	1234	not		n	2011	buds from seedlings	SSRs - n	Isozymes	Unterammergau
Germany	42°51'29"	26°14'42"	500	marginal	distribution	n	2012	buds from seedlings	SSRs - n	Isozymes	Kipilovo
Germany	42°55'31"	27°39'51"	200	marginal	distribution	n	2012	buds from seedlings	SSRs - n	Isozymes	Solnik
Germany	41°21'20"	23°35'57"	1400	marginal	distribution	n	2012	buds from seedlings	SSRs - n	Isozymes	Slavjanka

Germany	48°31'12.43 "N	8°11'52.40" E	500-700							1983			Isozymes?	Oberkirch / DE-BW
Germany	48°31'53.00 "N	8°28'10.00" E	650-700							1982			Isozymes?	Pfalzgrafenw eiler1 / DE- BW
Germany	48°31'23.00 "N	8°29'22.00" E	550-750							1983			Isozymes?	Pfalzgrafen weiler2 / DE- BW
Germany	48°24'29.56 "N	8°31'58.31" E	660-800							1982			Isozymes?	Alpirsbach / DE-BW
Germany	48°12'52.84 "N	8°54'55.86" E	700-750							1983			Isozymes?	Balingen4 / DE-BW
Germany	48°15'58.00 "N	8°47'19.00" E	620-640							1983			Isozymes?	Balingen6-9 / DE-BW
Germany	47°51'56.30 "N	7°47'5.55" E	450-550							1983			Isozymes?	Staufen / DE-BW
Germany	47°42'60.00 "N	8°12'60.00" E	600-800							1982			Isozymes?	Tiengen1 / DE-BW
Germany	47°42'60.00 "N	8°12'60.00" E	600-800							1983			Isozymes?	Tiengen2 / DE-BW
Germany	48°55'58.00 "N	9°46'52.00" E	400-500							1982			Isozymes?	Gschwend / DE-BW
Germany	48°59'60.00 "N	10°10'60.00 "E	500-600							1983			Isozymes?	Ellwangen- Ost / DE- BW

Germany	48°47'34.04 "N	9°42'48.07" E	300-350							1983			Isozymes?	Lorch / DE-BW
Germany	48°54'2.00" N	10°12'7.00" E	490-510							1983			Isozymes?	Bopfingen / DE-BW
Germany	47°48'49.00 "N	9°26'28.00" E	700-750							1983			Isozymes?	Ravensburg / DE-BW
Germany	47°43'22.00 "N	10°11'59.00 "E	900-1060							1982			Isozymes?	Kempton1 / DE-BY
Germany	47°45'31.00 "N	10°10'3.00" E	850-1010							1983			Isozymes?	Kempton2 / DE-BY
Germany	48°14'12.32 "N	12°49'35.90 "E	390-400							1983			Isozymes?	Altötting / DE-BY
Germany	50° 6'2.86"N	11°15'43.86 "E	400-470							1983			Isozymes?	Lichtenfels / DE-BY
Germany	48°57'42.00 "N	11°55'28.00 "E	460-480							1983			Isozymes?	Kelheim / DE-BY
Germany	50°19'38.80 "N	11°32'10.15 "E	440-560							1983			Isozymes?	Bad Steben / DE-BY
Germany	50°16'4.17" N	11°30'53.14 "E	410-470							1983			Isozymes?	Kronach / DE-BY
Germany	50°10'16.00 "N	11°53'43.00 "E	610-655							1983			Isozymes?	Weißensstadt / DE-BY

Germany	49°57'44.35 "N	11°46'0.12" E	600-780							1983			Isozymes?	Goldkronac h / DE-BY
Germany	49°32'11.00 "N	12°26'6.00" E	635-715							1983			Isozymes?	Tännesberg / DE-BY
Germany	49°22'0.00" N	12°44'60.00 "E	620-750							1983			Isozymes?	Waldmünch en / DE-BY
Germany	49° 4'15.00"N	13°13'46.00 "E	620-730							1982			Isozymes?	Zwiesel1 / DE- BY
Germany	49° 4'15.00"N	13°13'46.00 "E	620-730							1983			Isozymes?	Zwiesel2 / DE-BY
Germany	48°51'27.15 "N	13°23'50.66 "E	700-900							1983			Isozymes?	NPV Grafenau- Mi. / DE-BY
Germany	48°53'20.33 "N	13°35'13.79 "E	700-900							1983			Isozymes?	Mauth-Mi. / DE-BY
Germany	48°46'0.55" N	13°45'33.54 "E	740-830							1983			Isozymes?	Neureichen au / DE-BY
Germany	47°41'9.85" N	11°25'37.14 "E	780-940							1983			Isozymes?	Bad Tölz1 / DE-BY
Germany	47°47'44.00 "N	12°48'13.04 "E	760-900							1982			Isozymes?	Siegsdorf1 / DE-BY

Germany	47°47'44.00 "N	12°48'13.04 "E	760-900							1983			Isozymes?	Siegsdorf2 / DE-BY
Germany	47°34'34.33 "N	10° 4'34.71"E	960-1140							1982			Isozymes?	Immenstadt1 / DE-BY
Germany	47°34'34.33 "N	10° 4'34.71"E	960-1140							1983			Isozymes?	Immenstadt 2 / DE-BY
Germany	47°41'54.17 "N	11°27'45.79 "E	1015-1210							1983			Isozymes?	Bad Tölz2 / DE-BY
Germany	47°41'45.16 "N	12°22'43.32 "E	810-1180							1982			Isozymes?	Marquartstei n / DE-BY
Germany	47°48'45.00 "N	12°45'54.00 "E	995-1195							1983			Isozymes?	Siegsdorf3 / DE-BY
Germany	49°10'55.23 "N	10°48'19.22 "E	450-500							1983			Isozymes?	Gunzenhaus en / DE-BY
Germany	48° 4'16.98"N	10°15'15.93 "E	600-610							1983			Isozymes?	Ottobeuren / DE-BY
Germany	48° 7'47.37"N	11° 9'28.25"E	560-580							1983			Isozymes?	Grafrath, FVG / DE-BY
Germany	48°28'32.00 "N	13°12'17.00 "E	490-500							1983			Isozymes?	Griesbach / DE-BY
Germany	42°45'10.00 "N	2°16'35.00" E	800-1040							1982			Isozymes?	Les Fanges- Aude Moyenne / FR

Germany	45°20'49.00 "N	4°30'37.00" E	1080-1195							1982		Isozymes?	Velay-Pilat / FR
Germany	46°52'16.00 "N	5°59'32.00" E	770							1982		Isozymes?	La Joux-Jura / FR
Germany	48°29'60.00 "N	7° 7'0.00"E	490-630							1982		Isozymes?	Donon / FR
Germany	46°17'0.23" N	7°34'0.74"E	1000-1500							1983		Isozymes?	Ochsenbod en2 / CH
Germany	46°17'0.23" N	7°34'0.74"E	1000-1500							1982		Isozymes?	Ochsenbode n / CH
Germany	46° 4'50.00"N	9°36'18.00" E	1000							1982		Isozymes?	Garzino / IT
Germany	45°56'40.96 "N	11°18'31.07 "E	1050-1400							1982		Isozymes?	Lavarone / IT
Germany	46° 7'27.00"N	11°49'33.00 "E	1100-1350							1982		Isozymes?	Val Noana / IT
Germany	39°15'12.23 "N	16°27'6.44" E	1650							1982		Isozymes?	Gariglione / IT
Germany	48°46'14.70 "N	20°37'25.67 "E	515-650							1982		Isozymes?	Stara Voda / SK
Germany	45°30'17.38 "N	25° 0'0.30"E	660							1982		Isozymes?	Papuk / HR (Kroatien)

Germany	44° 6'38.61"N	18°39'53.74 "E	750									Isozymes?	Donja Stupcanica / BA (Bosnien- Herz.)	
Germany	43° 5'19.81"N	20°40'9.86" E	950-980									1982	Isozymes?	Goc / SRB (Serbien)
Germany	41° 1'17.36"N	21°10'12.45 "E	1350									1982	Isozymes?	Pelister / MK (Mazedonien)
Germany	45°40'0.56" N	24°26'31.07 "E	850									1982	Isozymes?	Avrig / RO
Germany	47°33'24.58 "N	24° 3'59.52"E	875									1982	Isozymes?	Lapus / RO
Germany	42°48'34.47 "N	24°31'11.86 "E	1100									1982	Isozymes?	Ribarica / BG
Germany	51°46'24.67 "N	19°44'24.62 "E	190										Isozymes?	Lódz / PL
Germany	50°26'39.81 "N	23°28'29.92 "E	270										Isozymes?	Tomaszow / PL
Germany	49°16'60.00 "N	21°59'0.00" E	650									1982/83	Isozymes?	Medzilabor ce / Slowakia SK
Germany	47°35'0.31" N	25°53'1.43" E	600										Isozymes?	Bukowina / RO

Germany	48°59'36" N	12°55'17" E	730				2006			Isozymes?	Achslach / DE
Germany	48°27'35" N	11°16'04" E	480				2006			Isozymes?	Schiltberg2 / DE
Germany	48°45'38" N	13°47'02" E	830				2006			Isozymes?	Ploeckenstein / DE
Germany	48°27'35" N	11°16'04" E	480				2006			Isozymes?	Schiltberg1 / DE
Germany	47°47'45" N	12°47'28" E	973				2006			Isozymes?	Stoißberg1 / DE
Germany	47°36'08" N	10°58'32" E	1234				2006			Isozymes?	Unterammerngau1 / DE
Germany	48°22'05" N	08°08'46" E	509				2006			Isozymes?	Oberharmersbach / DE
Germany	48°26'28" N	09°00'56" E	482				2006			Isozymes?	Ofterdingen / DE
Italy	43° 56' 00"	7° 36' 00"	1000-1300	Peripheral		Y (ex National Seed Stand)	2010	Leaves		SSRs - n	
Italy	44° 07' 00"	7° 43' 00"	1400-1600	Peripheral		Y (ex National Seed Stand)	2010	Leaves		SSRs - n	

Italy	44° 12' 00"	7° 39' 00"	1000-1200			Y (ex National Seed Stand, Regional Seed Stand, Regional Park)	2010	Leaves				SSRs - n
Italy	44° 12' 00"	7° 16' 00"	1400- 1600			Y (Regional Park)	2010	Leaves				
Italy	44° 20' 00"	7° 02' 00"	1300-1400			Y (ex National Seed Stand, Regional Seed Stand)	2010	Leaves				
Italy	44° 29' 00"	7° 05' 00"	900-1100			Y (Regional Seed Stand)	2010	Leaves				
Italy	44° 56' 00"	7° 03' 00"	1200-1400			Y (ex National Seed Stand, Regional Seed Stand)	2010	Leaves				

Italy	45° 03' 00"	6° 54' 00"	1600-1800			Y (ex National Seed Stand, Regional Seed Stand, Regional Park)	2010	Leaves			
Italy	45° 31' 00"	7° 41' 00"	1100-1200			N	2010	Leaves			
Italy	45° 41' 00"	8° 03' 00"	1400-1600			N	2010	Leaves			
Italy	45° 53' 00"	8° 09' 00"	1000-1100			N	2010	Leaves			
Italy	44° 58' 00"	8° 04' 00"	800-1000			N	2010	Leaves			
Italy	46° 09' 00"	8° 12' 00"	1500-1700			N	2010	Leaves			
Italy	46° 09' 00"	8° 28' 00"	1100-1300			N	2010	Leaves			
Italy	45° 39' 00"	7° 54' 00"	1400-1700			N	2010	Leaves			
Italy	45° 47' 00"	7° 25' 00"	1700-2000			N	2010	Leaves			
Italy	45° 43' 00"	7° 23' 00"	1100-1500			N	2010	Leaves			
Italy	45° 42' 00"	7° 17' 00"	950-1450			N	2010	Leaves			
Italy	45° 44' 00"	7° 03' 00"	1000-1400			N	2010	Leaves			
Italy	45° 49' 00"	7° 21' 00"	1000-1700			N	2010	Leaves			
Italy	45° 50' 00"	7° 49' 00"	1400-1900			N	2010	Leaves			
Italy	45° 51' 00"	10° 26' 00"	1200-1400			N	2010	Leaves			
Italy	46° 05' 00"	9° 37' 00"	1000-1300			Y (Regional Seed Stand)	2010	Leaves			
Italy	46° 09' 00"	11° 00' 00"	1000-1200			N	2010	Leaves			
Italy	46° 58' 00"	11° 21' 00"	1300-1600			N	2010	Leaves			
Italy	46° 41' 00"	10° 32' 00"	1100-1400			N	2010	Leaves			

Italy	46° 19' 00"	11° 22' 00"	1200-1500			Y (ex National Seed Stand)	2010	Leaves			
Italy	46° 17' 00"	11° 11' 00"	1200-1500			N	2010	Leaves			
Italy	46° 43' 00"	12° 16' 00"	1300-1600			N	2010	Leaves			
Italy	46° 32' 00"	11° 10' 00"	1000-1300			N	2010	Leaves			
Italy	46° 37' 00"	12° 39' 00"	1400-1600			Y (ex National Seed Stand)	2010	Leaves			
Italy	45° 55' 00"	11° 30' 00"	1300-1500			Y (ex National Seed Stand, Regional Seed Stand)	2010	Leaves			
Italy	46° 32' 00"	13° 07' 00"	900-1100			Y (ex National Seed Stand)	2010	Leaves			
Italy	44° 34' 00"	9° 30' 00"	1400-1600			N	2010	Leaves			
Italy	44° 23' 00"	10° 16' 00"	1100-1300	Marginal	Distribution (small population)	N	2010	Leaves			
Italy	44° 09' 00"	10° 26' 00"	900-1200	Marginal	Distribution (very small population)	Y (Regional Park)	2010	Leaves			

Italy	44° 09' 00"	10° 40' 00"	1200-1400			Y (ex National Seed Stand)	2010	Leaves			
Italy	43° 42' 00"	11° 56' 00"	1100-1300			Y (ex National Seed Stand)	2010	Leaves			
Italy	43° 34' 00"	12° 11' 00"	800-1100			N	2010	Leaves			
Italy	42° 53' 00"	11° 38' 00"	1500-1700			N	2010	Leaves			
Italy	42° 44' 00"	13° 24' 00"	900-1200			N	2010	Leaves			
Italy	41° 53' 00"	14° 21' 00"	800-1000			Y (ex National Seed Stand)	2010	Leaves			
Italy	40° 09' 00"	16° 05' 00"	700-1000	Peripheral		N	2010	Leaves			
Italy	39° 08' 00"	16° 39' 00"	1500-1600	Peripheral		Y (ex National Seed Stand)	2010	Leaves			
Italy	38° 33' 00"	16° 21' 00"	1000-1200	Peripheral		Y (ex National Seed Stand)	2010	Leaves			
Slovakia	23,4930	48,5625	580	NOT		N	2009				Sojmy
Slovakia	23,9427	48,3380	850	NOT		N	2009				Ust' Chorna
Slovakia	24,5346	48,0317	700	NOT		N	2009				Lugi
Slovakia	24,2091	47,9281	480	NOT		N	2009				Dilove
Slovakia	24,3153	48,2315	700	NOT		N	2009				Yasinya
Slovakia	24,7350	48,1956	850	NOT		N	2009				Krivopilskij pereval

Slovakia	24,6091	48,4186	700	NOT		N	2009				Mykulychyn
Slovakia	24,7023	48,4921	490	NOT		N	2009				Beli Oslavi
Slovakia	24,9048	48,5478	400	NE margin	distribution	N	2009				Knyazhdvir
Slovakia	24,0833	48,1167	1000	NOT		N	2009				Kobyletska Polyana
Slovakia	24,3957	48,7697	440	NOT		N	2009				Rosilna
Slovakia	25,7835	47,9553	460	NE margin	distribution	N	2009				Korchivtsi
Slovakia	25,3966	48,1591	530	NE margin	distribution	N	2009				Migove
Slovakia	25,2892	48,0000	720	NOT		N	2009				Sepin - Putila
Slovakia	25,6498	48,0802	430	NE margin	distribution	N	2009				Budynets
Slovakia	25,2281	48,2170	600	NE margin	distribution	N	2009				Bagne
Slovakia	24,6105	48,9538	360	NE margin	distribution	N	2009				Rybne
Slovakia	23,8868	49,1549	380	NOT		N	2009				Morzhin
Slovakia	24,0380	49,0162	470	NOT		N	2009				Rakhinja
Slovakia	23,4651	48,8973	620	NOT		N	2009				Tukhla
Slovakia	23,5074	49,2902	380	NOT		N	2009				Truskavec
Slovakia	23,2345	49,3257	440	NOT		N	2009				Pidbuzh
Slovakia	22,9658	49,2419	580	NOT		N	2009				Rozluch
Slovakia	25,6667	47,4667	900	NOT		N	2009				Slatioara
Slovakia	25,5667	47,5500	800	NOT		N	2009				Campulung Moldovene sc
Slovakia	22,0269	49,2704	600	NOT		N	2009				Palotské jedliny NPR
Slovakia	20,9973	49,2077	740	NOT		N	2009				Kamenica
Slovakia	24,0072	47,6592	760	NOT		N	2009				Baiut Marmaros

