

4 Methods

4.1 Subfossil bryophytes

At the Department of Botany, University of Innsbruck, several thousands of macroscopic subfossils were extracted from the coarse mineral sediments accumulated in the Iceman hollow for more than 5,000 years. Such subfossils are coarse fragments of plants large enough to be seen with the naked eye, such as seeds, leaves, wood, charcoal, mosses. For a detailed description of the methodology used for the extraction of subfossil bryophytes see Dickson (1973; 1986). The identification of the subfossil bryophyte remains from sediment, clothes, gear and body of the Iceman was carried out by J.H. Dickson and in his work 200 samples were scanned for bryophyte remains. In a joint publication (Dickson et al. 2019), further information regarding the subfossils (excavation, sampling, radiocarbon dating) is given, accompanied by statistical analyses and discussion of dispersal, taphonomy and the Iceman's last journey. In this book, we present the list of determined subfossil bryophytes.

4.2 Recording the present bryoflora

For the field work standard maps (1:25,000) of the region in Italy and Austria were used. In 1994, J.H. Dickson first visited Tyrol and from

2000 on together with W.K. Hofbauer and sometimes with the help of others, bryophytes have been recorded systematically from around the Iceman site on a 1 km² square basis (Dickson 1997, 2000, 2003; Dickson et al. 1996; 2003a, b). There were one or more recording surveys almost every year until 2017. Detailed searches for the taxa recovered with the corpse and ancient sediment have been made at many localities of the Ötztal Mountains on both the Italian and the Austrian side. By 2017, 200 * 1 km² squares have been recorded (Fig. 1-3, see attachment). For a few selected species, the recorded distribution is shown in sketched maps containing the investigated squares of the study area. These maps show the present occurrences of the species in darkened squares with the square number.

All recorded data are supplied for download on the website <https://www.uibk.ac.at/iup/buecher/9783903187849.html>.

In the results, all recorded species are presented in alphabetic order, regardless if they belong to mosses or liverworts. First, there is the Latin name according to Hill et al. (2006) for mosses and according to Grolle & Long (2000) for liverworts. Sometimes, important synonyms are mentioned, reflecting recent changes in nomenclature. Next are the family names and then German and English common names. Furthermore, important taxonomic information is given if it is important for the understanding of the particular taxon. Squares in which the species was recorded are listed and the lowest and highest altitude is given (both for South Tyrol / Italy and North Tyrol / Austria). Altitudinal figures were mainly taken from

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standard maps, but occasionally by using a GPS device. Habitat and substrate preferred by the taxon in the investigated area are only mentioned briefly. The extreme altitudinal limits in Austria, Italy, Switzerland, France and Germany were obtained from the literature, if available. The absolute elevation record, whether it was recorded in our investigation or supplied by the literature, is marked by digits written in bold. Occasionally, further geographical or additional information is given if appropriate. Finally, current red list information of the referred countries is stated, if available.

The German names mostly refer to “Verbreitungsatlas Moose Deutschlands” (Meinunger & Schröder 2007; www.moose-deutschland.de, accessed 12/09/2018), “Moosflora der Schweiz” (www.swissbryophytes.ch, accessed 12/09/2018), “Buch der Moose” (Weymar 1969) and “Die Moose Baden-Württembergs” (Nebel & Philippi 2000, 2001, 2005). The English names refer to “Mosses and Liverworts of Britain and Ireland” (Atherton et al. 2010).

The altitudinal ranges of bryophytes are still poorly known. Older publications often yield incomplete data and sometimes it was not easy to assess altitudinal ranges from older studies, since the nomenclature has substantially changed. We used only data clearly given in digits and we did not include information on ranges which were expressed only in words.

The literature searched for data on altitudinal distribution was as follows: Aleffi et al. (2008), Amann et al. (2013), Andreis et al. (1988), Bergamini et al. (2006, 2008, 2009 a, b, 2010, 2011, 2013), Berger (1933), Bertram (2009), Blom (1996, 1998), Blom et al. (2016),

Bornmüller (1933), Buchner et al. (1993), Burgisser (2007), Chavourtier & Hugonnot (2013), Cortini Pedrotti (1980, 2001, 2006), Cortini Pedrotti & Aleffi (2011), Dalla Torre & Sarnthein (1904), Dickson (1973, 1997, 2000, 2003, 2013), Dickson & Horton (2010), Dickson et al. (1996, 2005, 2009), Diersen (2001), Dort van & Smulders (2010), Düll (1991, 2006), Düll & Düll-Wunder (2012), Düll-Hermanns (1985), Düll-Wunder (2006, 2007, 2012), Dunk (1973), Ellis et al. (2016, 2017a, b), Feldmeyer-Christie et al. (2001), Fiedorow et al. (2001), Frahm (2012, 2013), Frahm et al. (1998), Frey et al. (1995), Gams (1932, 1939), Gärtner (2010, 2013), Gärtner & Hofbauer (2012), Glowacki (1915), Grabherr (1941), Greven (1995), Grims (1999), Grims & Köckinger (1999), Hagel (1970), Handel-Mazzetti (1904), Herzog (1926, 1944), Hofbauer (2007), Hofbauer et al. (2011, 2016), Hofmann & Berney (2006), Holler (1906), Holyoak & Köckinger (2010), Hölzer (2010), Jack (1898), Kern (1913), Kiebacher & Mair (2015 a, b), Kiem (1994, 1995), Köckinger (2017), Köckinger et al. (2008), Krisai (1977, 1985, 1998, 1999), Limpricht (1890, 1895, 1904), Loeske (1909), Loitlesberger (1908), Lübenau-Nestle (2001), Ludwig et al. (1996), Lüth (2006, 2008), Maier (1992), Maier & Geissler (1997), Matouschek (1901, 1902, 1903, 1905, 1907), Meinunger & Schröder (2007), Milde (1862, 1864), Mönkemeyer (1927), Moose Deutschlands - www.moose-deutschland.de, Moosflora der Schweiz 2011 – www.swissbryophytes.ch, Müller, K. (1906 – 1911, 1912 – 1916), Nebel & Philippi (2000, 2001, 2005), Nebel & Schoepe (2001),

Nicholson (1909), Offner (2004), Oegg (1988), Orgaz et al. (2011), Oostendorp-Bourgonjon (1977), Philibert (1885), Poelt (1955), Poponessi & Aleffi (2017), Porley (1999), Potemkin et al. (2018), Privitera et al. (2010), Prosser (1994), Reisingl & Pitschmann (1958), Sabovljević (2006), Saukel & Köckinger (1999), Schiffner (1904), Schlüsselmayr & Schröck (2013), Schnyder et al. (2004), Schröck et al. (2013), Schumacker & Soldán (1997), Schumacker et al. (1999), Sendtner (1848), Senn (2000), Smettan (1982), Spitale et al. (2015), Vaccari (1913, 1914), Zechmeister (1994, 1995, 2012), Zuttere de (2002).

The conservational status (red list) was checked according to Grims & Köckinger (1999) and Saukel & Köckinger (1999) for Austria, the Swiss Bryophyte Atlas by Schnyder et al. (2004) for Switzerland and the Verbreitungsatlas Moose Deutschlands for Germany; for Italy and France the information was extracted from Hodgetts (2015). Bryophytes which belong to the “plant species of Community interest whose conservation requires the designation of special areas of conservation” are indicated according to Annex II of the EEC FFH Directive (1992) in the current version.

From every taxon recorded, at least one representative herbarium sample has been prepared and stored in the private herbariums of the authors.

In order to give an overview on the frequency of the species in the study area, the expressions “very abundant” and “abundant” were used. “Very abundant” refers to species recorded for more than 99 squares and “abundant” to species recorded for 34 to 99 squares.

Abbreviations:

cf.: “confer”, “compare with”, refers to a specimen difficult to identify with certainty to species level because of practical difficulties, such as poorly developed or preserved specimens.

c.fr.: “con fructus” – fruiting (with capsules)

AT Austria; IT Italy; CH Switzerland; DE Germany; FR France; TS South Tyrol (IT); TN North Tyrol (AT); TE East Tyrol (AT).

Red list rating for AT:

0: extinct or missing; 1: threatened with extinction; 2: severely endangered; 3: endangered; 4: potentially endangered; r: regionally endangered (according to Grims & Köckinger 1999; Saukel & Köckinger 1999).

Red list rating for IT and FR:

E: extinct, EW: extinct in the wild, RE: regionally extinct (i.e. in a European country), CR: critically endangered, EN: endangered, VU: vulnerable, NT: near threatened, AR: at risk (according to Hodgetts 2015; Cortini Pedrotti & Aleffi 1992).

Red list rating for CH:

RE: extinct, CR: critically endangered, EN: endangered, VU: vulnerable, NT: near threatened (according to Schnyder et al. 2004).

Red list rating for DE:

0: extinct or missing; 1: threatened with extinction; 2: severely endangered; 3: endangered; G: risk assumed; R: extremely rare; V: decreasing (according to Ludwig et al. 1996).

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4.3 Location of the squares

The coordinate system used for the location of the assessed squares is the UTMS (Universal Transverse Mercator coordinate system) grid (<https://www.demis.nl>; Hager et al. 1989) given on the recently available map resources. The whole area of the investigation is located within the UTM zone 32T. For a precise location of a certain point within an UTM zone, easting and northing coordinate pairs are used, displaying the distance of the point from the southwestern corner point of the respective UTM zone in meters (see dashed lines on the maps). Example for square 1: UTM 32T 0653000 m East 5166000 m North (of the southwestern corner point of the UTM zone 32T). All squares occur in the same UTM zone, therefore we used 32T 0653000 5166000.

4.4 Nomenclature, critical species, taxonomy

In general, as mentioned above, the nomenclature follows Hill et al. (2006) for mosses, and Grolle & Long (2000) for liverworts. For critical taxa recent monographic work was used, e.g. for *Dicranum* Hedenäs & Bisang (2004); for *Grimmia* Greven (1995), Muñoz (1998) and Maier (2009; 2010); for *Schistidium* Blom (1996, 1998) and Bremer (1980 a, b, 1981); for Brachytheciaceae Ignatov & Huttunen (2002) and Orgaz et al. (2011); Potemkin (2002) for Scapaniaceae. Sphagnaceae were treated

according to Daniels & Eddy (1985) and Hölzer (2010). Recently the genus *Hypnum* was rearranged by Câmara et al. (2018) and Schlesak et al. (2018). Additionally, taxonomical literature on certain species or species groups was consulted as referred to in the text.

4.5 Investigated squares

The assessed 1 km² squares (Fig. 1-3, see attachment) are characterised by a running number, a local reference like the name of a community, a valley or a property and the geographical location. According to the UMTS grid the lower (southern) left (western) cornerpoint is given with easting and northing within the zone 32T. Important locations, the vegetation and the sampled altitudinal range are mentioned.

1 Platzhof, Naturns, 32T 0653000 5166000

Narrow valley east of Platzhof (Kellerbach) until Platzhof; woodland dominated by *Picea abies*; altitudinal range ca 700 – 1,120 m a.s.l.

2 Naturns, 32T 0653000 5167000

Naturns village; walls, deciduous street trees, road embankment, fruit cultures; altitudinal range ca. 530 – 545 m a.s.l..

3 Naturns, 32T 0653000 5168000

Naturns village and near Castle Falkenstein; walls, deciduous street trees, road embank-

ment; altitudinal range ca. 525 m a.s.l. and 560 – 580 m a.s.l.

4 Unterstell, 32T 0652000 5168000

Trail from cable car station Unterstell downwards; meadows, dry stonewalls, dry woodland (*Quercus pubescens*), steppe heath; altitudinal range 750 – 990 m a.s.l.

5 Juval, 32T 0651000 5168000

Footpath to Castle Juval; gorge with climbing garden; trail from cable car station Unterstell downwards; *Fraxinus ornus* – *Quercus pubescens* shrub, steppe heath, rock, riverine woodland (*Alnus incana*) and ruderal vegetation; altitudinal range 550 – 790 m a.s.l. and 996 – 1,155 m a.s.l.

6 Tschars, 32T 0650000 5168000

Trail to castle; Schnalswaal (Waal = irrigation canal, partly dry at visit), trail towards Sonnenhof; dry woodland (*Quercus pubescens*), chestnuts (*Castanea sativa*), steppe heath, rock; altitudinal range 790 – 933 m a.s.l. and 820 – 830 m a.s.l.

7 Juval, 32T 0649000 5168000

From Juval path up to Schlossalm, Schnalswaal trail towards Sonnenhof; dry woodland (*Quercus pubescens*), chestnuts (*Castanea sativa*), steppe heath, rock; altitudinal range 980 – 1300 m a.s.l. and 780 – 820 m a.s.l.

8 Tschars, 32T 0648000 5168000

Schnalswaal trail towards Sonnenhof; apple cultures; dry woodland (*Quercus pubescens*),

chestnuts, steppe heath, rock; altitudinal range 650 – 780 m a.s.l.

9 Lint, 32T 0651000 5169000

Footpath from Lint towards Katharinaberg; trail from cable car station Unterstell downwards; *Fraxinus ornus* bush; *Larix decidua* – *Picea abies* woodland, steppe heath, dry meadow, rock (Augengneis), rivers; altitudinal range 780 – 820 m a.s.l., 1,386 – 1,400 m a.s.l. and 1,155 – 1,260 m a.s.l.

10 Innerunterstell, 32T 0650000 5169000

Footpath from Lint towards Innerunterstell, St. Katharinaberg; *Fraxinus ornus* bush; dry *Larix decidua* woodland, steppe heath; altitudinal range 1,400 – 1,460 m a.s.l.

11 Ladurner, 32T 0649000 5169000

Along dead end road to Ladurner property; *Larix decidua*-dominated woodland, rock; altitudinal range 770 – 780 m a.s.l.

12 Juval, 32T 0648000 5169000

From Castle Juval path up to Schlossalm; *Larix decidua*-dominated woodland, pasture, rock; altitudinal range 1,350 – 1,700 m a.s.l.

13 Altratheis, 32T 0649000 5170000

Shortly after Innerunterstell; along Waal trail and from Altratheis towards Juval; *Larix decidua* – *Picea abies* dominated woodland, mixed woodland, rock; altitudinal range 1,436 – 1,470 m a.s.l. and 856 – 880 m a.s.l.

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14 Altratheis, 32T 0648000 5170000

Around Altratheis, woodland with great blocks and rock shelters (“resting place”); (from Juval path up to Schlossalm) then down to Altratheis; *Alnus incana* dominated slope, mixed woodland, rock, river bank; altitudinal range ca. 880 – 900 m a.s.l. and 850 – 1,200 m a.s.l.

15 Unterperfl, 32T 0648000 5171000

Trail at Unterperfl; mixed woodland – *Larix decidua*, *Populus tremula*, *Laserpitium latifolium*, rock; altitudinal range ca. 1,360 – 1,420 m a.s.l.

16 Neuratheis, 32T 0647000 5171000

Below Neuratheis and trail into gorge; mixed woodland – *Betula pendula*, *Corylus avellana*, *Lonicera xylosteum*, meadow, rock, river bank; altitudinal range ca. 960 – 980 m a.s.l. and 1,270 – 1,363 m a.s.l.

17 Katharinaberg, 32T 0648000 5172000

Katharinaberg, Höhenweg, Unterperfl; dry *Larix decidua* woodland, block scree mixed woodland – *Betula pendula*, *Corylus avellana*, *Prunus mahaleb*, *Juniperus communis*, *Juniperus sabina*, *Fraxinus ornus*, meadow, rock, river bank; altitudinal range 980 – 1,245 m a.s.l. and 1,245 – 1,412 m a.s.l.

18 Katharinaberg, 32T 0647000 5172000

Katharinaberg village and below Katharinaberg – along road after tunnel and near Neuratheis; woodland and boulders, *Corylus avellana*, *Larix decidua*, *Betula pendula*, *Fraxinus excelsior*, rock; altitudinal range 1,245 m a.s.l. and 1,050 – 1,060 m a.s.l.

19 Neuratheis, 32T 0647000 5173000

At Neuratheis and Karthaus towards Neuratheis; mixed woodland and boulders, rock; altitudinal range 960 – 980 m a.s.l. and ca. 960 – 1,000 m a.s.l. and 1,050 – 1,140 m a.s.l.

20 Burghof, 32T 0646000 5173000

At Burghof towards Grubhof and Karthaus towards Neuratheis, up leading path from Karthaus and gorge at Rangghof; mixed woodland and *Larix decidua* dominated woodland, boulders, meadow, pasture, rock, river bank; altitudinal range 1,299 – 1,303 m a.s.l. and ca. 1,050 – 1,150 m a.s.l., at path ca. 1,500 m a.s.l., gorge ca. 1,087 m a.s.l.

21 Klosteralm, 32T 0645000 5173000

Country road up to Klosteralm; road bank and *Larix decidua*-dominated woodland; altitudinal range ca. 1,500 – 1,980 m a.s.l.

22 Klosteralm, 32T 0645000 5172000

Country road up to Klosteralm; road bank and *Larix decidua* – *Pinus cembra*-dominated woodland, alpine pasture with boulders; altitudinal range ca. 1,980 – 2,300 m a.s.l., Klosteralm 2,152 m a.s.l.

23 Klosteralm, 32T 0645000 5171000

Klosteralm to Saxalbersee; alpine pasture with boulders, swampy, lake shore; altitudinal range ca. 2,240 – 2,550 m a.s.l., Saxalbersee 2,460 m a.s.l.

24 Karthaus, 32T 0646000 5174000

Karthaus village; southern below village towards Neuratheis; and opposite of Karthaus,

beginning of Pfosental; open *Larix* woodland with boulders and moist places, *Sambucus racemosa*, *Poa nemoralis*, *Alnus incana*; mixed woodland, *Corylus avellana*, *Larix decidua*, *Picea abies*, *Pteridium aquilinum*, *Berberis vulgaris*, *Juniperus communis*, *Juniperus sabina* rock partly shaded, pasture/meadow, field borders, rocks, cliffs, river bank; altitudinal range ca. 1,250 – 1,280 m a.s.l. and 1,160 – 1,320 m a.s.l., Karthaus village 1,327 m a.s.l.; church 1,307 m a.s.l., river ca. 1,090 – 1,103 m a.s.l.

25 Karthaus, 32T 0645000 5174000

At Karthaus village and path above village; open *Larix* woodland, shady moist boulders, *Populus tremula*, *Betula pendula*, *Lonicera nigra*; altitudinal range ca. 1,337 – 1,586 m a.s.l. and 1,333 – 1,400 m a.s.l.

26 Penaudtal, 32T 0644000 5174000

Country road leading up to Penaudalm near Karthaus; open *Larix* woodland, damp, *Populus tremula*, *Betula pendula*, boulders, road and river banks; altitudinal range 1,600 – 1,720 m a.s.l.

27 Penaudtal, 32T 0644000 5173000

Country road leading up to Penaudalm above Karthaus; open *Larix* woodland, boulder, road and river banks; altitudinal range 1,720 – 1,860 m a.s.l.

28 Penaudtal, 32T 0643000 5173000

Country road leading up to Penaudalm; open *Larix* woodland, boulders; altitudinal range 1,860 – 1,880 m a.s.l.

29 Penaudtal, 32T 0643000 5172000

Country road leading up to Penaudalm; open *Larix* woodland, boulders; altitudinal range 1,860 – 2,075 m a.s.l.

30 Penaudtal, 32T 0643000 5171000

Country road leading up to Penaudalm; open *Larix* woodland, *Alnus incana*, alpine pasture; altitudinal range 2,075 – 2,200 m a.s.l.

31 Penaudtal, 32T 0642000 5171000

Country road leading up to Penaudalm; open *Larix* woodland, *Alnus incana*, alpine pasture; altitudinal range 2,200 – 2,320 m a.s.l.

32 Gurschlalm, 32T 0645000 5175000

Gurschlalm; alpine pasture; altitudinal range, 1,599 – 1,950 m a.s.l., Gurschlalm 1,659 m a.s.l.

33 Gurschlhof, 32T 0644000 5175000

Along road towards Gurschlhof and opposite the river, rocks and ground near overhang, cliffs, large boulders, stream, river bank; *Larix*-dominated woodland; altitudinal range 1,547 – 1,621 m a.s.l. and 1,300 – 1,310 m a.s.l.

34 Lafezbach, 32T 0643000 5175000

At Lafezbach and at river Schnalsbach; *Larix* woodland, *Rhododendron ferrugineum*, *Calluna vulgaris*, rocky pasture, river bank; altitudinal range ca. 1,425 – 1,480 m a.s.l. and ca. 1,300 – 1,400 m a.s.l.

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35 Lafezbach, 32T 0642000 5175000

At Unser Frau village, Lafezbach and at river Schnalsbach; *Larix* woodland, rocky pasture, river bank, boulders; altitudinal range ca. 1,480 – 1,660 m a.s.l. and ca. 1,300 – 1,400 m a.s.l. and Unser Frau 1,496 m a.s.l.; Schnalsbach 1,525 m a.s.l.; Lafezbach 1,617 – 1,647 m a.s.l.

36 Mastauntal, 32T 0641000 5175000

Country road up to Maso Mastaun; *Larix* woodland, pasture, river bank; altitudinal range ca. 1,640 – 1,790 m a.s.l.

37 Mastauntal, 32T 0641000 5174000

Country road up to Maso Mastaun and Mastaunalpe; *Larix* woodland, pasture, river bank; altitudinal range ca. 1,790 – 1,900 m a.s.l.

38 Mastauntal, 32T 0640000 5174000

Mastaunalpe and Mastauntal; *Larix* woodland, pasture, river bank, scree; altitudinal range ca. 1,900 – 1,950 m a.s.l.

39 Unser Frau, 32T 0642000 5176000

At Unser Frau; *Larix* woodland, meadow, river bank; altitudinal range ca. 1,508 – 1,520 m a.s.l.

40 Unser Frau, 32T 0641000 5176000

Above Unser Frau and near Archaeoparc; *Larix* woodland, scree; altitudinal range ca. 1,800 – 1,950 m a.s.l. and 1,520 – 1,600 m a.s.l.

41 Pension Lydia, 32T 0641000 5177000

Near Pension Lydia; *Larix* woodland, pasture, river bank, boulders; altitudinal range ca. 1,670 – 1,850 m a.s.l.

42 Vernagt reservoir, 32T 0640000 5177000

At Vernagt reservoir; *Larix* woodland, rock crevices, wall, shore of reservoir; altitudinal range ca. 1,700 – 1,780 m a.s.l.

43 Vernagt reservoir, 32T 0639000 5177000

At Vernagt reservoir; *Larix* woodland, rock crevices, wall, shore of reservoir, bog; altitudinal range ca. 1,700 – 1,780 m a.s.l.

44 Vernagt reservoir, 32T 0638000 5177000

At Vernagt reservoir, Untere Gerstgras; *Larix* woodland, rock crevices, wall, shore of reservoir, bog; altitudinal range ca. 1,720 – 1,900 m a.s.l.

45 Gerstgras, 32T 0637000 5177000

From Hotel Gerstgras up to the mountain slope; *Larix* woodland, rock; altitudinal range ca. 1,767 – 2,000 m a.s.l.

46 Gerstgras, 32T 0636000 5177000

At Hotel Gerstgras and mountain slope; *Larix* woodland, rock; altitudinal range ca. 1,900 – 2,220 m a.s.l. and ca. 2,130 – 2,265 m a.s.l.

47 Taschenjöchel, 32T 0636000 5176000

Up to Taschenjöchel, snow field; *Larix decidua* and *Pinus cembra* woodland – last *Pinus cembra* at 2,468 m a.s.l., rock, alpine pasture, *Carex curvula* grassland with *Primula glutinosa*; altitudinal range ca. 2,220 – 2,700 m a.s.l.

48 Marchegg, 32T 0637000 5178000

Marchegg; old pond with boggy areas, *Larix* woodland, rock; altitudinal range ca. 1,884 – 1,949 m a.s.l., first bog ca. 1,930 m a.s.l., second bog ca. 1,949 m a.s.l.

49 Near Kurzras, 32T 0636000 5178000

Near Kurzras and bog near Wieshof; *Larix* woodland, meadow, pasture, bog, rock; altitudinal range ca. 1,970 – 2,020 m a.s.l.

50 Kurzras, 32T 0636000 5179000

Kurzras village and near Wieshof; *Larix* woodland, meadow, pasture, skiing slope; altitudinal range ca. 2,011 – 2,040 m a.s.l. and 2,000 – 2,030 m a.s.l.

51 Kurzras, 32T 0636000 5180000

Kurzras village and near Wieshof; *Larix* woodland, meadow, pasture, skiing slope; altitudinal range ca. 2,011 – 2,050 m a.s.l.

52 Kurzras, 32T 0635000 5181000

From Kurzras village towards Bildstöckljoch and boggy places; *Larix* woodland, meadow, pasture, skiing slope, boulders, bog; altitudinal range 2,011 – 2,153 m a.s.l. and 2,015 – 2,200 m a.s.l.

53 Kurzras, 32T 0634000 5181000

From Kurzras village towards Bildstöckljoch back near skiing slope; *Larix* woodland, meadow, pasture, skiing slope, boulders, bog; altitudinal range 2,153 – 2,210 m a.s.l.

54 Tisenhof, 32T 0641000 5178000

Different trails to Tisenhof and upwards; *Larix* woodland, meadow, pasture, boulders, river bank; altitudinal range ca. 1,740 – 2,450 m a.s.l., Tisenhof 1,814 – 1,817 m a.s.l.

55 Raffenerhof, 32T 0640000 5178000

Steep slope north of farm Raffenerhof; *Larix* woodland, pasture, boulders, river bank; altitudinal range ca. 1,866 – 1,970 m a.s.l.

56 Finailtal, 32T 0639000 5178000

Finailtal, Finail-Jausenstation (1952 m a.s.l.), Finailbach; *Larix* woodland, pasture, boulders, wetland, river bank; altitudinal range ca. 1,840 – 2,120 m a.s.l.

57 Finailtal, 32T 0639000 5179000

North of Finailhof to Finailalm; *Larix* woodland, pasture, boulders, river bank; altitudinal range ca. 2,110 – 2,307 m a.s.l.

58 Tisental, 32T 0641000 5179000

Tisental, trail to Similaunhütte, Schneckenhütte; rock, pasture, dwarf shrub heath, river, springs, scree, river bank; altitudinal range ca. 2,030 – 2,310 m a.s.l., 2,279 m a.s.l., scree up to 2,500 m a.s.l.

59 Tisental, 32T 0640000 5179000

Tisental, trail to Similaunhütte; rock, pasture, dwarf shrub heath, springs, scree, river bank; altitudinal range ca 2,000 – 2,400 m a.s.l.

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60 Tisental, 32T 0641000 5180000

Tisental, trail to Similaunhütte; rock, pasture, dwarf shrub heath, springs, scree, river bank; altitudinal range 2,310 – 2,530 m a.s.l.

61 Tisental, 32T 0640000 5180000

Tisental, trail to Similaunhütte; pasture, dwarf shrub heath, springs, wetland, scree, rock, river bank; altitudinal range 2,310 – 2,530 m a.s.l. and 2,600 – 2,680 m a.s.l.

62 Similaunhütte, 32T 0642000 5181000

Trail up to Similaun Spitz over glacier starting from Similaunhütte; pioneer vegetation, open rock; altitudinal range 3,036 – 3,242 m a.s.l.

63 Niederjoch, 32T 0641000 5181000

Niederjoch near Similaunhütte; pioneer vegetation, open rock; altitude ca. 3,019 m a.s.l.

64 Tisental, 32T 0640000 5181000

Tisental down from Similaunhütte; pioneer vegetation, open rock, gravel, river bank; altitudinal range ca. 2,500 – 2,590 m a.s.l.

65 Niederjochferner,

32T 0641000 5182000

At Niederjochferner, near Iceman site; pioneer vegetation, open rock, gravel, snow patch; altitude ca. 3,200 m a.s.l.

66 Site of the Iceman,

32T 0640000 5182000

At Niederjochferner, at place of discovery; pioneer vegetation, open rock, gravel, snow patch; altitude around 3,210 m a.s.l.

67 Niederjochferner,

32T 0643000 5183000

At Niederjochferner, towards Martin-Busch-Hütte; moraine, scree, river bank, spring, snow patch; altitude ca. 2,620 m a.s.l.

68 Niederjochferner,

32T 0642000 5183000

At Niederjochferner, towards Martin-Busch-Hütte; moraine, scree, river bank, spring, snow patch; altitudinal range ca. 2,620 – 2,880 m a.s.l.

69 Above Martin-Busch-Hütte,

32T 0641000 5183000

Trail towards Martin-Busch-Hütte; pioneer vegetation, moraine, scree, river bank, spring, snow patch; altitude ca. 2,550 m a.s.l.

70 Above Martin-Busch-Hütte,

32T 0644000 5184000

Trail towards Martin-Busch-Hütte; pioneer vegetation, alpine pasture, moraine, scree, wetland, snow patch; altitudinal range ca. 2,500 – 2,540 m a.s.l., partly higher.

71 Above Martin-Busch-Hütte,

32T 0643000 5184000

Trail towards Martin-Busch-Hütte; pioneer vegetation, alpine pasture, moraine, scree, wetland, snow patch, glacier lake; altitudinal range ca. 2,540 – 2,630 m a.s.l.

72 Above Martin-Busch-Hütte,

32T 0642000 5184000

Trail towards Martin-Busch-Hütte; pioneer vegetation, alpine pasture, moraine, scree, wet-

land, snow patch; altitude ca. 2,630 m a.s.l. and above.

**73 Martin-Busch-Hütte,
32T 0644000 5185000**

Martin-Busch-Hütte; pioneer vegetation, alpine pasture, scree, wetland, snow patch; altitudinal range ca. 2,320 – 2,490 m a.s.l. and ca. 2,520 – 2,630 m a.s.l.

74 Niedertal, 32T 0645000 5186000

Trail from Martin-Busch-Hütte towards Vent; alpine pasture, scree; altitudinal range ca. 2,220 – 2,300 m a.s.l. and above.

75 Niedertal, 32T 0644000 5186000

Trail from Martin-Busch-Hütte towards Vent; alpine pasture, scree; altitudinal range ca. 2,300 – 2,320 m a.s.l. and above.

76 Niedertal, 32T 0645000 5187000

Trail from Martin-Busch-Hütte towards Vent; alpine pasture, scree; altitudinal range ca. 2,130 – 2,220 m a.s.l.

77 Niedertal, 32T 0646000 5188000

Trail from Martin-Busch-Hütte towards Vent; alpine pasture, dwarf shrub heath, scree; altitudinal range ca. 2,110 – 2,130 m a.s.l.

78 Niedertal, 32T 0645000 5188000

Trail from Martin-Busch-Hütte towards Vent; alpine pasture, dwarf shrub heath, scree; altitudinal range ca. 2,130 – 2,140 m a.s.l.

79 Niedertal, 32T 0646000 5189000

Trail from Martin-Busch-Hütte towards Vent; alpine pasture, dwarf shrub heath, scree; altitudinal range ca. 2,050 – 2,110 m a.s.l.

**80 Niedertal, “Auf der Schale”,
32T 0645000 5189000**

Trail from Martin-Busch-Hütte towards Vent; alpine pasture, dwarf shrub heath, scree, rock; altitudinal range ca. 2,400 – 2,500 m a.s.l.

81 Niedertal, 32T 0646000 5190000

Trail from Martin-Busch-Hütte towards Vent, Hohler Stein and opposite slope of valley towards Ramoljoch; alpine pasture, dwarf shrub heath, *Pinus mugo*, *Pinus cembra*, scree, rock; altitudinal range ca. 1,900 – 2,050 m a.s.l. and ca. 2,040 – 2,100 m a.s.l., Hohler Stein, 2,050 m a.s.l., opposite slope of valley ca. 1,960 – 2,050 m a.s.l.

82 Above Vent, 32T 0645000 5190000

Trail from Vent towards Rofen and towards Hörndle; alpine pasture, dwarf shrub heath, scree, wetland (ca. 1,970 m), rock, *Larix* woodland, *Nardus stricta*, *Pinus cembra*, *Juniperus*, *Alnus viridis*, *Rhododendron ferrugineum*, *Salix lanata*; altitudinal range ca. 1,940 – 2,100 m a.s.l. and ca. 2,260 – 2,400 m a.s.l.

83 Mutsbichl, 32T 0647000 5191000

Trail to Mutsbichl; *Pinus cembra* woodland and alpine pasture (alp); altitudinal range ca. 2,130 – 2,250 m a.s.l.

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84 Vent, 32T 0646000 5191000

Vent village, Hotel Post, Venterbach; *Pinus cembra* woodland and bouldery alpine pasture, river bank; altitudinal range ca. 1,893 – 2,130 m a.s.l.

85 Near Vent, 32T 0645000 5191000

Vent towards Rofenhöfe and trail to Hochvent/Stablein; alpine pasture, rock; altitudinal range ca. 1,920 – 2,040 m a.s.l. and ca. 2,130 – 2,356 m a.s.l.

86 N Vent, 32T 0647000 5192000

Northwards from Vent; alpine pasture, *Pinus cembra* woodland, river bank, rock; altitudinal range ca. 1,870 – 1,880 m a.s.l.

87 N Vent, 32T 0646000 5192000

Northwards from Vent; alpine pasture, *Pinus cembra* woodland, river bank, boulders, rock; altitudinal range ca. 1,870 – 1,940 m a.s.l.

88 Ventertal, 32T 0648000 5193000

Ventertal, main road and near Gampe; river bank, boulders, rock; altitudinal range ca. 1,830 – 1,840 m a.s.l.

89 Ventertal, Koner Rinne,

32T 0647000 5193000

Ventertal at Koner Rinne; river bank, boulders, rock, block scree; altitudinal range ca. 1,840 – 1,860 m a.s.l.

90 Ventertal, Winterstall,

32T 0649000 5194000

Ventertal at Winterstall; river bank, boulders, rock, scree; *Larix decidua* – *Picea abies* wood-

land; altitudinal range ca. 1,770 – 1,840 m a.s.l.

91 Ventertal, Winterstall,

32T 0648000 5194000

Ventertal near Winterstall and Panorama trail; river bank, pasture, rock, scree, *Larix decidua* – *Picea abies* woodland; altitudinal range ca. 1,790 – 1,850 m a.s.l.

92 Ventertal, Winterstall,

32T 0649000 5195000

Ventertal near Winterstall; river bank, pasture, rock, scree, *Larix decidua* – *Picea abies* woodland; altitudinal range ca. 1,726 – 1,750 m a.s.l.

93 Ventertal, 32T 0651000 5196000

Ventertal; rock, river bank, *Larix decidua* – *Picea abies* woodland; altitudinal range ca. 1,590 – 1,790 m a.s.l.

94 Ventertal, Heiligkreuz,

32T 0650000 5196000

Ventertal at Heiligkreuz; rock, road bank, *Larix decidua* – *Picea abies* woodland, pasture, scree, *Betula pendula*; altitudinal range ca. 1,590 – 1,790 m a.s.l., scree ca. 1,699 – 1,711 m a.s.l.

95 Ventertal, Heiligkreuz,

32T 0649000 5196000

Ventertal near Heiligkreuz; rock, river bank, road bank, *Larix decidua* – *Picea abies* woodland, *Betula pendula* – *Alnus alnobetula* woodland, pasture; altitudinal range ca. 1,700 – 1,750 m a.s.l.

96 Ventertal, Heiligkreuz,

32T 0651000 5197000

Ventertal at Heiligkreuz and to Lehn; pastures and meadows rock, river bank, *Larix decidua* – *Picea abies* woodland, *Betula pendula* – *Alnus alnobetula* woodland, pasture; altitudinal range ca. 1,571 – 1,700 m a.s.l.

97 Ventertal, 32T 0650000 5197000

Ventertal towards Zwieselstein; rock, river bank, *Larix decidua* – *Picea abies* woodland, pasture; altitudinal range ca. 1,600 – 1,670 m a.s.l.

98 Ventertal, 32T 0653000 5198000

Ventertal towards Zwieselstein; rock, river bank, *Larix decidua* – *Picea abies* woodland, pasture; altitudinal range ca. 1,560 – 1,650 m a.s.l.

99 Ventertal, Bodeneck,

32T 0652000 5198000

Ventertal at Bodeneck; rock, scree, river bank, *Larix decidua* – *Picea abies* woodland, pasture; altitudinal range ca. 1,525 – 1,530 m a.s.l.

100 Freistabl, 32T 0651000 5198000

Ventertal at Freistabl; rock, scree, river bank, *Larix decidua* – *Picea abies* woodland; altitudinal range ca. 1,550 – 1,560 m a.s.l.

101 Martlaswald, 32T 0655000 5199000

Forest road at Martlaswald; rock, road bank, *Larix decidua* – *Picea abies* woodland; altitudinal range ca. 1,690 – 1,700 m a.s.l.

102 Martlaswald, 32T 0654000 5199000

Forest road at Martlaswald; rock, scree, road bank, *Larix decidua* – *Picea abies* woodland; altitudinal range ca. 1,690 – 1,700 m a.s.l.

103 Near Zwieselstein,

32T 0653000 5199000

Near Zwieselstein and forest road towards Gaislachalm; rock, scree, road bank, river bank, *Larix decidua* – *Picea abies* woodland; altitudinal range ca. 1,490 – 1,510 m a.s.l. and ca. 1,900 – 1,930 m a.s.l.

104 Gaislachalm, Silberbergalm,

32T 0652000 5199000

Gaislachalm and Silberbergalm; rock, scree, dwarf shrub heath, *Larix decidua* – *Picea abies* woodland, *Betula pendula* – *Alnus viridis* woodland, skiing slope; altitudinal range ca. 1,900 – 1,980 m a.s.l.

105 Zwieselstein, 32T 0655000 5200000

At Zwieselstein; rock, scree, *Larix decidua* woodland; altitudinal range ca. 1,470 – 1,500 m a.s.l.

106 Zwieselstein, 32T 0654000 5200000

At Zwieselstein; rock, boulders, river bank, open *Larix decidua* woodland; altitudinal range ca. 1,470 – 1,540 m a.s.l.

107 Nachtberg, 32T 0653000 5200000

At Nachtberg; rock, bog with pond, *Larix decidua* woodland; altitudinal range ca. 1,780 – 1,850 m a.s.l.

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108 Ötztal, 32T 0654000 5201000

Ötztal towards Sölden; rock, river bank, *Larix decidua* woodland; altitudinal range ca. 1,470 – 1,500 m a.s.l.

109 Ötztal, 32T 0653000 5201000

Ötztal towards Sölden near Infang; rock, river bank, *Larix decidua* woodland, pasture, boggy places; altitudinal range ca. 1,450 – 1,650 m a.s.l.

110 Pfossental, 32T 0647000 5174000

Beginning of Pfossental, trail to Sellboden; woodland *Picea abies*, *Larix decidua*, *Betula pendula*, *Corylus avellana*, pasture, meadow; altitudinal range ca. 1,210 – 1,370 m a.s.l.

111 Pfossental, 32T 0647000 5175000

Beginning of Pfossental; steep slope woodland *Larix decidua*, much *Betula pendula*, sparse *Picea abies*, scree; altitudinal range 1,380 – 1,450 m a.s.l.

112 Pfossental, 32T 0647000 5176000

Along Pfossental; woodland and rock cliffs, *Larix decidua*, *Polypodium vulgare*, *Juniperus sabina*; roadside with wet cliffs, block scree; altitudinal range 1,450 – 1,590 m a.s.l.

113 Pfossental, 32T 0647000 5177000

Along Pfossental, Jägerrast, Vorderkaser; woodland, scree and pasture, roadside banks; altitudinal range 1,590 – 1,700 m a.s.l.

114 Pfossental, Grafbach, 32T 0646000 5177000

Along Pfossental, Vorderkaser, side valley Grafbach; woodland, scree and pasture, roadside banks, *Alnus alnobetula* scrub; altitudinal range 1,760 – 1,980 m a.s.l.

115 Pfossental, Grafbach, 32T 0645000 5177000

Along Pfossental, Vorderkaser, side valley Grafbach; woodland, scree and pasture, roadside banks, *Alnus alnobetula* scrub; altitudinal range 1,980 – 2,020 m a.s.l.

116 Pfossental, between Mitterkaser and Vorderkaser, 32T 0647000 5178000

Pfossental, between Mitterkaser and Vorderkaser; woodland, scree and pasture, roadside banks, *Alnus alnobetula* scrub; altitudinal range 1,700 – 1,870 m a.s.l.

117 Pfossental, near Mitterkaseralm, 32T 0648000 5179000

Pfossental, near Mitterkaseralm; woodland and pasture, dominating *Larix decidua* with understorey of *Rhododendron ferrugineum*; some *Pinus cembra* on inaccessible cliffs, stonewalls, clearance cairns; altitudinal range 1,870 – 1,954 m a.s.l., Mitterkaseralm 1,954 m a.s.l.

118 Pfossental, near Mitterkaseralm, 32T 0649000 5179000

Pfossental, near Mitterkaseralm; *Larix decidua* – *Picea abies* woodland and pasture; altitudinal range 1,980 – 2,060 m a.s.l.

119 Pfossental, at Eishof,

32T 0650000 5179000

Pfossental, at Eishof; *Larix decidua* – *Picea abies* woodland and pasture, river banks; altitudinal range 2,060 – 2,090 m a.s.l.

120 Pfossental, at Eishof,

32T 0651000 5179000

Pfossental, at Eishof; *Larix decidua* – *Picea abies* woodland and pasture, river banks; altitudinal range 2,090 – 2,180 m a.s.l.

121 Pfossental, above Eishof,

32T 0652000 5179000

Pfossental, above Eishof; timberline, *Juniperus communis* ssp. *alpina* heath, *Pinus mugo* shrub, pasture, marble boulders; altitudinal range 2,180 – 2,350 m a.s.l.

122 Pfossental, above Eishof,

32T 0653000 5179000

Pfossental, above Eishof; alpine pasture, alpine vegetation, marble boulders; altitudinal range 2,350 – 2,610 m a.s.l.

123 Pfossental, near Stettiner Hütte,

32T 0654000 5179000

Pfossental, near Stettiner Hütte; alpine vegetation, marble boulders; altitudinal range 2,610 – 2,630 m a.s.l.

124 Pfossental, at Stettiner Hütte,

32T 0654000 5180000

Pfossental, towards Stettiner Hütte; alpine vegetation, marble boulders; altitudinal range ca. 2,600 – 2,875 m a.s.l.

125 Pfossental, at Stettiner Hütte,

32T 0655000 5180000

Pfossental, at Stettiner Hütte; alpine vegetation; altitudinal range 2,700 – 2,880 m a.s.l., Stettiner Hütte 2,875 m a.s.l.

126 Pfelderertal, Labkofel,

32T 0655000 5181000

Pfelderertal, below Labkofel, near saddle; alpine vegetation, *Dryas octopetala*, *Carex firma*, *Sesleria caerulea* where marble dominates; altitudinal range 2,400 – 2,571 m a.s.l., Zollhütte 2,571 m a.s.l.

127 Pfelderertal, below Labkofel,

32T 0656000 5181000

Pfelderertal, below Labkofel, near saddle, Meran high altitude trail; alpine vegetation, *Dryas octopetala*, *Carex firma*, *Sesleria caerulea* where marble dominates, pasture, rock; altitudinal range 2,080 – 2,400 m a.s.l.

128 Pfelderertal, Lazins Alm,

32T 0656000 5182000

Pfelderertal, Lazins Alm, Meran high altitude trail; pasture, rock; altitudinal range 1,860 – 2,080 m a.s.l.

129 Pfelderertal, Pfelderer Alm,

32T 0657000 5182000

Pfelderertal, Pfelderer Alm; slope with marble and micaschist, pasture, rock; altitudinal range 1,820 – 1,860 m a.s.l.

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130 Pfelderertal, Pfelderer Alm,

32T 0657000 5183000

Pfelderertal, Pfelderer Alm; pasture, rock; altitudinal range 1,770 – 1,820 m a.s.l.

131 Pfelderertal, Pfelders village,

32T 0658000 5184000

Pfelderertal, towards Lazins; pasture, blocks; altitudinal range 1,660 – 1,820 m a.s.l.

132 Pfelderertal, Pfelders village,

32T 0659000 5184000

Pfelderertal, Pfelders village; alluvial deposits, pasture and marble; altitudinal range 1,630 – 1,700 m a.s.l.

133 Pfelderertal, Pfelders village,

32T 0659000 5185000

Pfelderertal, Pfelders village; alluvial deposits and marble, river, rock, pasture, woodland, walls; altitudinal range 1,610 – 1,940 m a.s.l.

134 Pfelderertal, Pfelders village,

32T 0660000 5185000

Pfelderertal, Pfelders village; alluvial deposits, woodland, river bank, rock, pasture, springs; altitudinal range 1,610 – 1,940 m a.s.l.

135 Pfelderertal, at Krössbichl,

32T 0661000 5185000

Pfelderertal at Krössbichl; woodland, river bank, rock, pasture, marsh; altitudinal range ca. 1,550 – 1,565 m a.s.l.

136 Pfelderertal, at Innerhütt,

32T 0662000 5186000

Pfelderertal at Innerhütt; woodland, river bank, rock, pasture, marsh; altitudinal range ca. 1,425 – 1,510 m a.s.l.

137 Pfelderertal, at Ausserhütt,

32T 0663000 5186000

Pfelderertal at Ausserhütt; *Picea abies* woodland, pasture, river bank, rock, bog; altitudinal range ca. 1,460 – 1,500 m a.s.l.

138 Pfelderertal, Bruggstein,

32T 0663000 5187000

Pfelderertal at Bruggstein, Pill village; *Picea abies* woodland, pasture, river bank, rock, dry stone wall; altitudinal range ca. 1,380 – 1,430 m a.s.l.

139 Pfelderertal, below Farmazon,

32T 0664000 5187000

Pfelderertal below Farmazon, at Platt; woodland, pasture, rock; altitudinal range ca. 1,310 – 1,350 m a.s.l.

140 Pfelderertal, above Weiherhof,

32T 0664000 5188000

Pfelderertal above Weiherhof, near Pill village; woodland, pasture, meadow, river bank, dry stone pile, rock; altitudinal range ca. 1,260 – 1,310 m a.s.l.

141 Pfelderertal, at Moos in Passeier,

32T 0665000 5188000

Pfelderertal at Moos in Passeier, Stieber waterfall trail; woodland, pasture, river bank, rock; altitudinal range ca. 980 – 1,026 m a.s.l.

142 Schlanders E, 32T 0637000 5165000
Schlanders village, east slopes; dry woodland, pasture, steppe heath, rock; altitudinal range ca. 850 – 900 m a.s.l.

143 Schlanders E, 32T 0636000 5165000
Schlanders village east, entrance to gorge of Schlandrauntal; dry woodland, pasture, steppe heath, river bank, rock; altitudinal range ca. 750 – 850 m a.s.l.

144 Tappein Hof, 32T 0637000 5166000
Above Schlanders village at Tappein Hof (1397 m), above gorge of Schlandrauntal; dry woodland, pasture, steppe heath, rock; altitudinal range 1,397 – 1,450 m a.s.l.

145 Schlandrauntal, 32T 0636000 5166000
Schlanders entrance to Schlandrauntal, mountain slopes; dry woodland, pasture, steppe heath, river bank, rock; altitudinal range ca. 780 – 940 m a.s.l.

146 Schlandrauntal, 32T 0635000 5166000
Schlanders entrance to Schlandrauntal, dry mountain slopes; dry woodland, pasture, steppe heath, river bank, rock; altitudinal range ca. 780 – 1,220 m a.s.l.

147 Towards Tappein Alm, 32T 0636000 5167000
Schlanders towards Tappein Alm, dry mountain slopes; dry woodland, pasture, steppe heath, rock; altitudinal range ca. 1,500 – 1,800 m a.s.l.

148 Schlandrauntal, Talatsch, 32T 0635000 5167000
Schlanders, Talatsch towards Schlandrauntal, dry mountain slopes; dry woodland, pasture, steppe heath, rock; altitudinal range 1,400 – 1,454 m a.s.l.

149 Schlandrauntal, 32T 0635000 5168000
Schlanders, lower Schlandrauntal; woodland, pasture, meadow, rock; altitudinal range 1,400 – 1,483 m a.s.l.

150 Schlandrauntal, 32T 0635000 5169000
Schlanders, lower Schlandrauntal; woodland, pasture, meadow, rock; altitudinal range 1,483 – 1,740 m a.s.l.

151 Schlandrauntal, 32T 0635000 5170000
Schlanders, lower Schlandrauntal; woodland, pasture, meadow, rock; altitudinal range 1,740 – 1,823 m a.s.l.

152 Schlandrauntal, 32T 0635000 5171000
Schlanders, lower Schlandrauntal; woodland, pasture, meadow, rock; altitudinal range 1,823 – 1,900 m a.s.l.

153 Schlandrauntal, 32T 0635000 5172000
Schlanders, lower Schlandrauntal; woodland, pasture, meadow, rock; altitudinal range 1,900 – 1,980 m a.s.l.

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**154 Schlandrauntal,
32T 0635000 5173000**

Schlanders, upper Schlandrauntal; woodland, pasture, meadow, rock; altitudinal range 1,980 – 2,220 m a.s.l.

**155 Schlandrauntal,
32T 0635000 5174000**

Schlanders, upper Schlandrauntal; woodland, pasture, meadow, rock; altitudinal range 2,220 – 2,400 m a.s.l.

**156 Schlandrauntal,
32T 0636000 5175000**

Schlanders, upper Schlandrauntal, Taschljöch; woodland, pasture, meadow, rock; altitudinal range 2,520 – 2,794 m a.s.l.

157 Rofental, 32T 0644000 5190000

Rofen towards Rofenbergalm; woodland, alpine pasture, meadow, rock; altitudinal range 1,970 – 2,030 m a.s.l.

158 Rofental, 32T 0643000 5190000

Rofen towards Rofenbergalm; woodland, alpine pasture, meadow, wetland, rock; altitudinal range 2,030 – 2,100 m a.s.l.

159 Rofental, 32T 0642000 5190000

Rofen towards Rofenbergalm, around Plattenbach; woodland, alpine pasture, meadow, river bank, wetland, rock; altitudinal range 2,100 – 2,200 m a.s.l.

160 Rofental, 32T 0642000 5189000

Rofen towards Rofenbergalm; woodland, alpine pasture, meadow, river bank, rock; altitudinal range 2,130 – 2,160 m a.s.l.

161 Rofental, 32T 0641000 5188000

Rofen towards Rofenbergalm; woodland, alpine pasture, meadow, river bank, rock; altitudinal range 2,160 – 2,290 m a.s.l.

162 Rofental, 32T 0640000 5187000

Rofen towards Rofenbergalm, Hochjochhospiz; woodland, alpine pasture, meadow, river bank, rock; altitudinal range 2,250 – 2,412 m a.s.l.

**163 Breslauer Hütte,
32T 0644000 5191000**

Trail towards Breslauer Hütte; forest (*Pinus cembra*), alpine pasture, meadow, rock; altitudinal range 2,030 – 2,560 m a.s.l.

**164 Breslauer Hütte,
32T 0644000 5192000**

Trail towards Breslauer Hütte; alpine pasture, meadow, rock; altitudinal range 2,560 – 2,660 m a.s.l.

**165 Breslauer Hütte,
32T 0643000 5192000**

Breslauer Hütte; alpine pasture, rock; altitudinal range 2,660 – 2,844 m a.s.l.

166 Tiefenbach, 32T 0648000 5195000

Panoramatrail; alpine vegetation, rock; altitudinal range 2,550 – 2,560 m a.s.l.

- 167 Tiefenbach, 32T 0647000 5195000**
Panoramatrail; alpine vegetation, rock; altitudinal range 2,550 – 2,660 m a.s.l.
- 168 Tiefenbach, 32T 0648000 5196000**
Panoramatrail; alpine vegetation, rock; altitudinal range 2,650 – 2,700 m a.s.l.
- 169 Tiefenbach, 32T 0648000 5197000**
Panoramatrail; alpine vegetation, rock; altitudinal range 2,700 – 2,820 m a.s.l.
- 170 Tiefenbach, 32T 0648000 5198000**
Tiefenbach Ferner, end of glacier road; alpine vegetation, rock; altitudinal range 2,780 – 2,820 m a.s.l.
- 171 Matschertal, 32T 0628000 5175000**
Glieshof; pasture, meadow, woodland; altitudinal range 1,810 – 1,820 m a.s.l.
- 172 Matschertal, 32T 0623000 5171000**
Kortatsch to ruin of Castle Matsch; pasture, meadow, woodland, rock, river bank; altitudinal range ca. 1,370 – 1,434 m a.s.l.
- 173 Langtauferertal, 32T 0619000 5185000**
Langtaufers; meadows, pasture, larch woodland, road banks; altitudinal range ca. 1,600 – 1,620 m a.s.l.
- 174 Langtauferertal, 32T 0618000 5185000**
Entrance to Langtauferertal; meadows, pasture, *Alnus alnobetula*, *Larix* woodland, road banks, river; altitudinal range ca. 1,513 – 1,540 m a.s.l.
- 175 Haidersee, 32T 0617000 5178000**
At Haidersee; bog, lake shore, floating mat; altitude 1,450 m a.s.l.
- 176 Oris, 32T 0626000 5164000**
Near Oris village; pasture, coppice woodland – bosco di sotto – “biotope”, *Alnus glutinosa*; altitude ca. 870 m a.s.l.
- 177 Tarantsberg, 32T 0655000 5167000**
At Castle Tarantsberg up narrow valley; apple orchards and woodland; altitude ca. 555 m a.s.l.
- 178 Partschins, 32T 0658000 5172000**
At Partschins waterfall; woodland, rocks, pasture; *Corylus avellana*, *Betula pendula*, *Picea abies*, *Fraxinus ornus*, *Tilia*, *Prunus spinosa*, *Larix decidua*; altitudinal range ca. 700 – 1,100 m a.s.l.
- 179 Marlingerberg, 32T 0661000 5167000**
At property of family Kofler; mixed woodland: *Picea abies*, *Corylus avellana*, *Larix decidua*, *Lonicera xylosteum*, *Rubus fruticosus*, river bank; altitude ca. 1,100 m a.s.l.
- 180 Marlingerberg, 32T 0662000 5167000**
Below property of family Kofler; rocks, banks; mixed woodland: *Picea abies*, *Larix decidua*, *Sorbus aucuparia*, *Tilia*, *Betula pendula*; altitude ca. 800 m a.s.l.

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181 Obertalmühle, 32T 0664000 5161000

At Obertalmühle, Völlan; rocks, banks; mixed woodland, gorge, lime sinter, river bank; altitude ca. 660 m a.s.l.

182 Martelltal, 32T 0631000 5150000

Martelltal at reservoir, Alpengasthof Zufritt; bog; altitude 1,880 m a.s.l.

183 Near Brixen, 32T 0702000 5176000

At Tils; dry *Fraxinus ornus* and *Quercus pubescens* woodland, rock, partly wet, road banks; altitudinal range 650 – 730 m a.s.l.

184 Lajen, Grödnertal,

32T 0696000 5165000

Wasserbühel trail; dry *Pinus sylvestris* woodland, rock, road banks, dry stone wall, biotope altitudinal range 1,070 – 1,090 m a.s.l.

185 Kreuztal, 32T 0707000 5173000

Kreuztal below Plose; alpine pasture, *Pinus cembra* – *Larix decidua* woodland road bank, rock; altitudinal range 1,980 – 2,050 m a.s.l.

186 Dörf, Pustertal,

32T 0711000 5187000

At Dörf, Getzenberg; *Picea abies* woodland, meadow, banks; altitudinal range 880 – 900 m a.s.l.

187 Dörf, Pustertal,

32T 0710000 5187000

At Dörf, Getzenberg, towards property of family Tanzl; *Picea abies* woodland, meadow, banks; altitudinal range 900 – 1,030 m a.s.l.

188 Dörf, Pustertal,

32T 0710000 5188000

Dörf, towards Vintler waterfall; *Picea abies* woodland, meadow, banks; altitudinal range 780 – 800 m a.s.l.

189 Dörf, Pustertal,

32T 0711000 5188000

Dörf, circular walk to Vintler waterfall; *Picea abies* woodland, meadow, banks; altitudinal range 790 – 820 m a.s.l.

190 Above Latzfons,

32T 0692000 5174000

Above Steinebner Hütte; *Picea abies* woodland, meadow, banks; altitudinal range 1,580 – 1,600 m a.s.l.

191 Pfunderer Mine,

32T 0694000 5170000

Mine spoil at Pfunderer Mine; *Picea abies* woodland, mine spoil; altitudinal range 970 – 1,010 m a.s.l.

192 Laugen sports centre,

32T 0704000 5180000

Laugen sports centre, between Elvas and Natz; *Picea abies* woodland, boggy places, meadows, fruit cultures; altitudinal range ca. 870 – 900 m a.s.l.

193 Cloister Säben, Tinnetal,

32T 0696000 5168000

Gorge (Tinnetal) at Klausen below Cloister Säben; *Picea abies* woodland, walls, roadside banks, cliffs, woodland; *Prunus spinosa*; altitudinal range 525 – 570 m a.s.l.

**194 Cloister Säben, Tinnetal,
32T 0696000 5169000**

Gorge (Tinnetal) at Klausen below Cloister Säben, Säbener Promenade; *Picea abies* woodland, walls, roadside banks, cliffs, mixed woodland *Picea abies* – *Pinus sylvestris*; *Cornus mas*, *Viburnum lantana*, *Prunus mahaleb*, *Amelanchier ovalis*, *Ostrya carpinifolia*, *Fraxinus ornus*, *Quercus pubescens*, *Lonicera xylosteum*; altitudinal range 570 – 729 m a.s.l.

**195 Villnoder, Grödnertal,
32T 0694000 5163000**

Villnoder, Grödnertal; woodland and meadow, river; Rocks, *Picea abies* – *Corylus avellana*, *Cornus mas*, *Colchicum autumnale*, *Anemone trifolia*, *Gagea lutea*; altitudinal range 690 – 700 m a.s.l.

**196 Above Meransen,
32T 0702000 5190000**

Altfasstal above Meransen; *Picea abies* woodland, some *Larix decidua*, roadside banks, outcrops, stream, *Vaccinium vitis-idaea*, *Vaccinium myrtillus*, *Erica carnea*, *Calluna vulgaris*, *Homogyne alpina*; altitudinal range 1,580 – 1,644 m a.s.l.

197 Valsertal, 32T 0699000 5193000

Hornanger; degraded bog and meadow; altitude 1,395 m a.s.l.

**198 Obergurgl, Zirbenwaldmoos,
32T 0653000 5191000**

Pinus cembra woodland, Zirbenwaldmoor, Bruggboden; peat bog, wetland and skiing slope; altitudinal range 1,950 – 2,100 m a.s.l.

**199 Obergurgl, Rotmoos,
32T 0654000 5189000**

Rotmoos near Obergurgl; peat bog; altitudinal range 2,260 – 2,300 m a.s.l.

200 Hohe Mut, 32T 0654000 5190000

Hohe Mut summit; alpine vegetation; altitudinal range 2,600 – 2,670 m a.s.l.