Decline of alpine green alder (*Alnus viridis*) and relation to Phytophthora species, preliminary results

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Green alder (*Alnus viridis*) is a widespread tree species in the Northern hemisphere. In Europe it is mainly growing in mountainous areas producing shrubby stands on moist sites up to 2800m a.s.l.. In the Alps, this species has been suffering from a decline related to imbalances in water supply as a likely consequence of climate change. Furthermore, Green alders often grow adjacent to riparian Grey alders (*Alnus incana*), which are commonly subject to root and butt rot caused by a number of *Phytophthora* species. Since pathogenicity of *P. alni* s.l. to *A. viridis* has been proved experimentally, an impact to Green alders is not unlikely. Therefore, we are assessing *Phytophthora* species present in and around declining green alder stands in the Austrian and Northern Italian Alps within the scope of the horizon 2020 project “Pest Organisms Threatening Europe” (POnTE). This is being performed by direct isolation from stem and root bark necroses onto PARNPH-medium, furthermore by soil baiting and direct isolation from symptomatic leaves of *A. viridis* and other plant species collected from nearby streams, onto PARNPH-medium. In addition neighbouring Grey alder sites are checked by the same method in order to compare the spectrum of Phytophthoras present. A number of species were identified, among them *P.pseudosyringae* as a species well adapted to cold climates and a mutual pathogen of *Vaccinium myrtillus*, a shrub widespread in the Alps. In addition also the presence of *P. plurivora* as a pathogen with a wide host range was confirmed.