

Cherry leaf roll virus (CLRV) – an emerging virus in Finland affecting several birch species

von Bargaen, Susanne¹, Dierker, Luise¹, Jalkanen, Risto², Büttner, Carmen¹

¹ Humboldt-Universität zu Berlin, Berlin, Germany

² The Finnish Forest Research Institute METLA, Rovaniemi, Finland

Virus-related symptoms (vein banding, leaf roll, chlorosis, and subsequent necrosis) were increasingly found on birch leaves throughout Finland, northern Norway and Sweden. Disease symptoms occurring on downy birch, silver birch, dwarf birch, Kiilopää birch, mountain birch and curly birch could be associated with an infection of *Cherry leaf roll virus* (Jalkanen et al. 2007, von Bargaen et al. 2009). CLRV is a positive stranded plant RNA virus (*Secoviridae* family, genus *Nepovirus*) infecting primarily deciduous trees and shrubs. In Finland disease symptoms in birch trees are spreading since their first record in 2002 and a countrywide incidence of CLRV could be shown in affected-birch trees tested since 2006. Symptoms are observed in roadside and urban areas, but are also found in seed production stands and for instance the countryside of the Urho Kekkonen national park. However, the mode of virus dispersal in Finland is unclear. CLRV can be transmitted by seed and pollen (Rumbou et al. 2009) and by mechanical means; Vector-assisted transmission has not been confirmed for the virus although CLRV was detected in insects (birch-catkin bug, -leaf hopper, aphids). Symptoms observed in CLRV-infected birches in northern Fennoscandia differ from virus-affected birches from other European countries and it was not possible to obtain a CLRV isolate from a Finnish site by rub inoculation or grafting so far. Additionally, sequences obtained from the viral coat protein- and replicase-coding region as well as from the 3' non-coding region indicate towards the presence of a unique sequence population of CLRV-variants in Finnish birches.