Table S1. Morphometric characteristics of Alders (*Alnus*)

Characteristics	Black alder *Alnus glutinosa*	*Alnus incana* × *Alnus glutinosa*	Grey alder *Alnus incana*
Edge of blade	Doubly dentate or crenate	Doubly dentate or serrate	serrate
Pairs of secondary veins	6–8	7–10	10–12
Leaf shape	Mostly obcordate, obovate or orbicular	Ovate, wider than grey alder, with pointed, obtuse or retuse apex	Oval or ovate with pointed apex
Pubescence of abaxial part of blade	Veins with some hairs, in the axil's tufts of hairs,	Veins rarely with hairs, can have tufts of hairs in the axils	Covered with dense hairs
Upper part of blade	sticky, shiny, dark green	green	Greyish green
Bark	The bark of young trees is greenish-brown, smooth, shiny, and thin - about 2 mm, later dark brown and thicker - 1-3 cm thick, with shallow fissures	Greenish or brownish grey, does not crack as the tree grows, sometimes it can crack; cracks dark grey, up to 1 m long and 3-4 cm wide	Gray, smooth, thin, shiny, remains smooth, uncracked, for almost the entire age

S2. **Methodology**: Identification of naturally growing hybrid alders using TFC

1. The selection of a forest stands where white alder and black alder grows together.

2. Wood samples collection using a wood drill, which are placed in test tubes (not smaller than 2 ml). At least 15 trees of each species/group (grey alder, black alder, and their hybrids) are selected for the study. For statistical evaluation, the number of all samples in the groups should be equal. The identification of hybrids using morphological characteristics of leaves and bark (Table S1).

3. Determinations of the total amount of flavonoids in the laboratory according to the description given in chapter 2. *Materials and methods*.

4. According to the research results, a statistical analysis is performed, calculating the statistical average, upper and lower boundaries of the average for each species/group.

For example, the results obtained by the juvenile alder in Biržai RP, Latveliai enterprise:

TFC, mg/g	Black alder	Hybrid	Grey alder
Mean	5.331	7.852	6.226
Lover bound on mean (95%)	4.445	7.311	5.730
Upper bound on mean (95%)	6.217	8.392	6.722

Based on this data obtained, the alders whose index (according to TFC indicator) is higher than the upper limit of the grey alder average (6.7) could be chosen as hybrid alders. In the current study according to this method, 10 from 15 hybrids was successfully identified (probable F1 generation).

Another example presented with the mature alder trees in Biržai RP, Latveliai enterprise:

TFC, mg/g	Black alder	Hybrid	Grey alder
Mean	5,467	7,173	7,014
Lover bound on mean (95%)	4,975	6,663	6,471
Upper bound on mean (95%)	5,958	7,683	7,556

Obtained data showed, that alders with higher index (according to TFC) than the upper limit of the grey alder average (>7.6) could be chosen as hybrid alders. In this current study 7 from 15 hybrids were proved to be interspecific hybrids (probably F1 generation).