Poster 33 – Variation in the Vkorc1-gene and anticoagulant rodenticide resistance in brown rats on the Faroe Islands

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Anticoagulants are widely used to eradicate the invasive brown rat (*Rattus norvegicus*) on the Faroe Islands. In this study, we investigated variations in the rat Vkorc1-gene in these populations that could lead to resistance against these rodenticides.

In samples from 137 rats from the Faroe Islands, none of the earlier reported non-synonymous mutations in the Vkorc1-gene from Scandinavia, Belgium and Britain were found, but seven new ones were identified. None of those could be linked with functional resistance, but some have a potential based on their position in the enzyme. The calculated dN/dS ratio (0.81) suggests the Vkorc1 gene in Faroer is undergoing negative selection. The low frequency in mutations and the dN/dS ratio suggest that resistance is not widespread and not spreading on the Islands. Further research is needed to link the newfound mutations with possible functional resistance.