Aggemyr, E and S.A.O. Cousins. “Revisiting 27 islands in the Stockholm archipelago after a century – the effect of land use change on species composition.” [Cousins will present, Dep of Physical Geography and Quaternary Geology, Stockholm university, 10691 Stockholm, Sweden; tel # 46 708101595, sara.cousins@natgeo.su.se]. **ORAL**

Our objective was to use historical diversity records together with past land use to quantify plant species turnover and effects of land use change and spatial dynamics on present biodiversity in naturally fragmented landscapes. At the end of the 19th century plant species occurrences on 27 islands were investigated by J.W. Hamner which where revisited during 2008. Species data consist of presence/absence data on the islands in two time-layers. Maps from 1901, aerial photos from 1952 and today, and a soil database were analysed in a GIS. In 1900 many islands were grazed or mowed for hay but today there is no grassland management left on the islands. Scrubs and trees have increased with 50% on average since 1950s although islands dominated by bedrock are less encroached. In 1900 there were no houses on any of the 27 islands and today more than half of the islands have summerhouses (>50 houses).
There is a significant relationship to island area and species richness, both today and in the past. 265 species were found a century ago and 347 today, however 25% of the species have gone extinct whereas disappear and 42% of the present species pool is new. Typical species that have increased in frequency are either nitrophilus species or scrub and trees, whereas the declining species are typically associated to grassland management.