



Faculty of Pharmaceutical Sciences

Eurois occulta in Greenland

Ikka columns, willow,
brocades and Norsemen

April 25, 18
Dias 1

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Narssarssuaq Airport



Ikka Fiord is close to
Arsuk Fiord with
Ivigtut and the Navy
Base Grønnedal



IKKA FJORD 61°10'N 50°W



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Dias 3



Quasiarsuk, the Norsemen's Brattahlid



Outbreak of *Eurois*
larvae in 1959

Copy of Tjodhilde's
church in
Brattahlid,
build in 2000,
for the
1000-year Jubilee



Outbreak of
Eurois in 1959



IKKA Fiord seen from helicopter July 1st 2009



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Dias 6



The morning we all talk about!



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Dias 7



Ikka-columns



at low tide



View of Ikka Fiord from the far end



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Dias 9



Norsemen ruin on North side of Ikka Fiord



Vegetation analyses along streams in Ikka Fiord

All plant species along
the East side and the
West side, are
registered in 5 plots
of 0.1 m²
(in total 2 x 0.5 m²)



Spring locality M, 8.juli 2009 kl.14



Frequency analysis in vegetation at North side of the fiord



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Data loggers in springs show 3° C all year round



Most characteristic plants
Saxifraga aizoides and
Platanthera hyperborea



Defoliated willows
supposed to be due
to *Eurois occulta*

Probably also fatal
to the Norsemen
due to lack of fodder



Completely defoliated *Salix glauca*



A single shoot shows how
it could have been,
were it not for the larvae



Musk oxen were often seen in the willows,
and suddenly they were right outside the cabin



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Dias 16



Caterpillar of *Eurois occulta*



When in abundance they are
repellent and disgusting,
however, they may be eaten by birds

Eurois occulta

Females



Male and
pupa



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Dias 18



On Disko 2012 we saw what could be the explanation

Larvae of *Eurois occulta* are very greedy
They prefer willow leaves and buds



Feeding on *Salix glauca*

In 2013 we saw larvae again in vast numbers outside Knud Rasmussen House at Ilulissat



They have been brought North with the warmer climate !

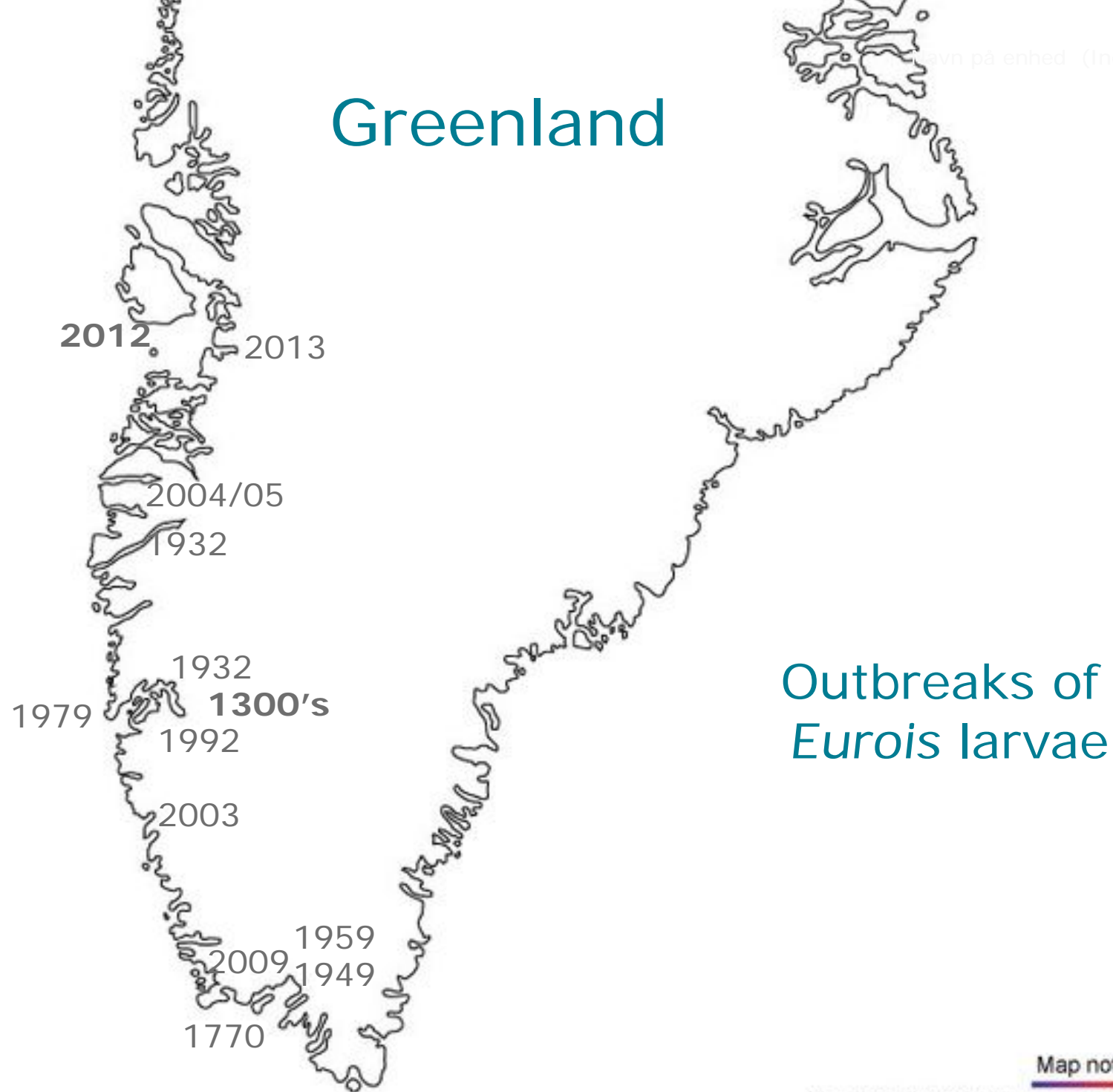


Mass occurrence of *Eurois* larvae in Greenland

År	Sted	Virkning	Kilde
1300+	Godthåbsfiord (Ujaragsuit)	Plant growth failure. Norsemen disappear	Iversen 1934
1770	Lichtenau Fiord	All grass destroyed	Vibe 1949
1932	Godthåbsfjord (Ameralik)	Springtime lack of animal fodder	Iversen 1934
1932	Kangerlussuaq	Difficulty getting ashore from kayak	Iversen 1934
1949	Between Lichtenau and Igaliko	Birch trees with destroyed bud	Vibe 1949
1959	Qasiarssuq	Emerging grass and herbs totally eaten	Atuagagdliutit/Grønlandsposten
1979	Eqalungmiut Nunaat	Feeding on <i>Salix/Calamagrostis</i>	Fox et al.1987 (Lapl. longspur)
1992	Between Ameralik and Buksefiord	Willow defoliated early in the season	Jette Arneborg pers. medd.
2003	Fiskenæs	Enormous attack of <i>Eurois</i> larvae	Jens Bøcher pers. medd.
2004	Kangerlussuaq - Sisimiut	Immense attack to experimental plots	Pedersen & Post 2008
2005	Kangerlussuaq - Sisimiut	Even more heavy attack to plots	Post & Pedersen 2008
2009	Ikka Fiord	Willows defoliated on Southern slopes	Mølgaard & Christensen obs
2010	Godthåbsfiord	Larvae benefit from good weather	http://www.natur.gl/
2011	Kobbefiord valley	Dwarf shrubs defoliated	Lund et al. 2017
2012	Fortunebay, W of Qeqertarssuaq	Larvae on leaves and flowers of <i>S.glauca</i>	Mølgaard & Christensen obs
2013	Ilulissat, Knud Rasmussen House	Larvae in disgustingly great numbers	Mølgaard & Christensen obs



Greenland



Outbreaks of
Eurois larvae

Map not to Scale

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(Updated on 28th Feb, 2015)



Thank you for your attention

Ikka columns, warm springs,
Eurois caterpillars and Norsemen



Greetings to all ITEX'ers from Mukta and Pat Webber

Salix arctica, female plant



April 25, 18
Dias 25



Salix arctica, male plant



April 25, 18
Dias 26



Arctic Willow, *Salix arctica*, male plant



April 25, 18
Dias 27



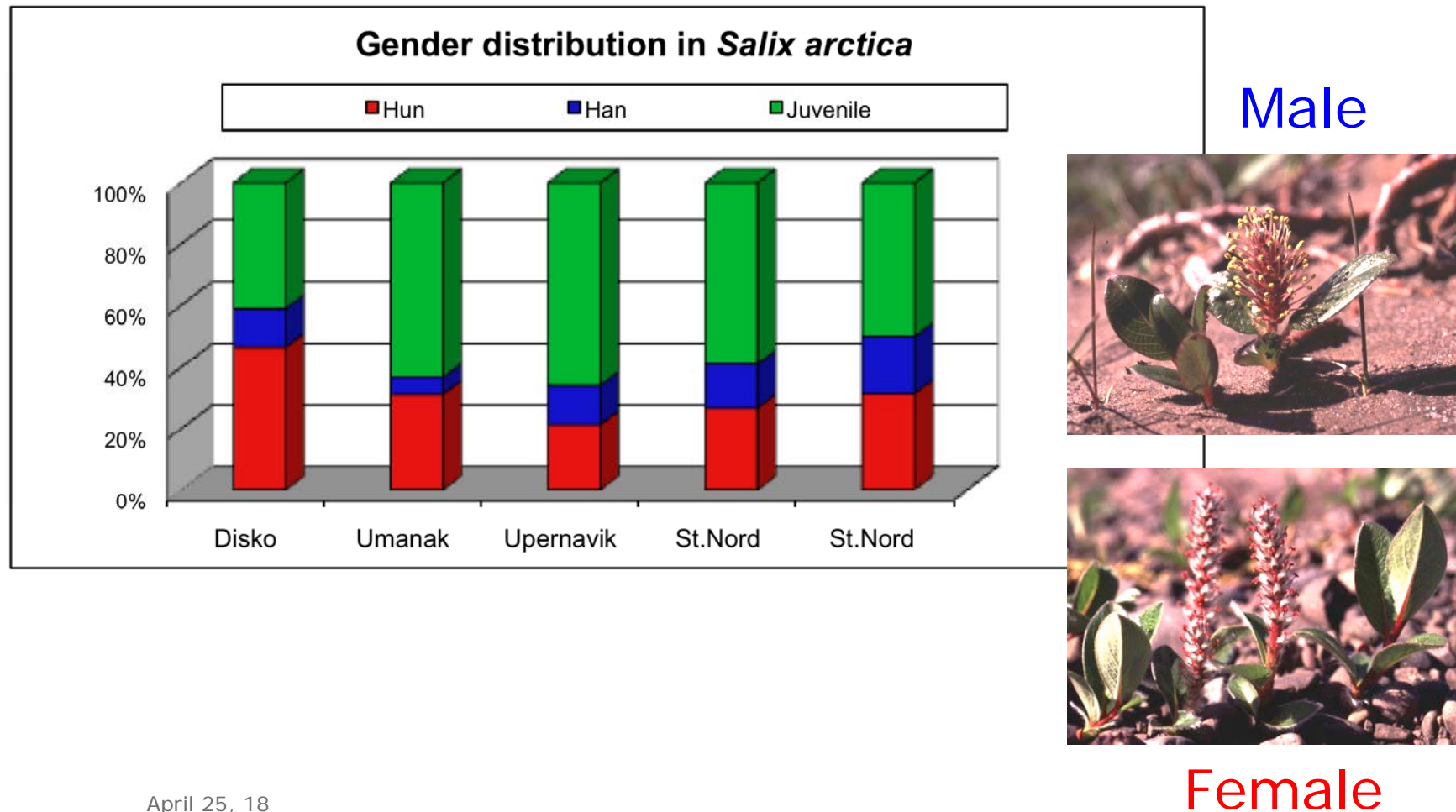
Salix arctica, large male plant



April 25, 18
Dias 28

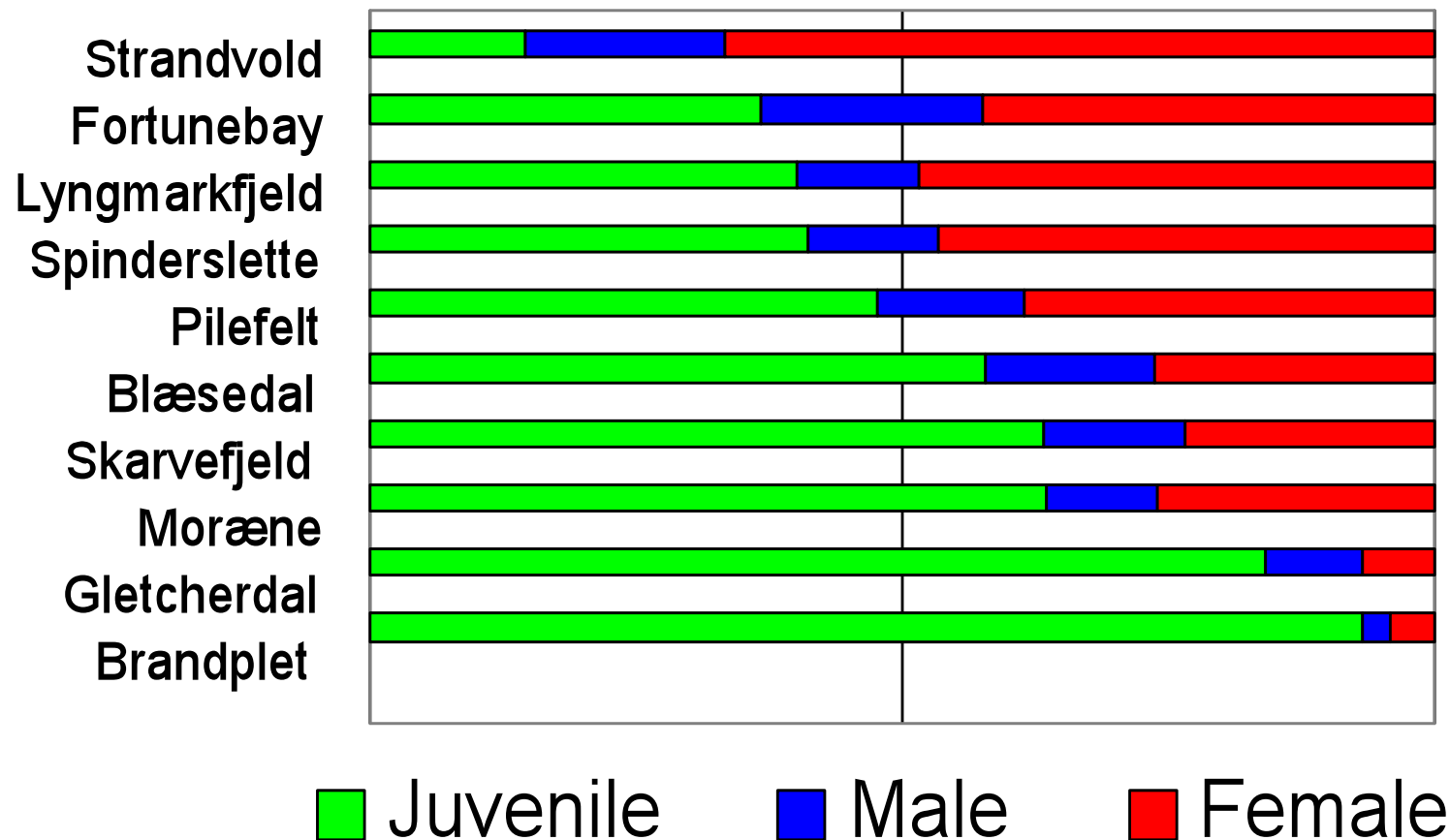


Female biased distribution in Greenland

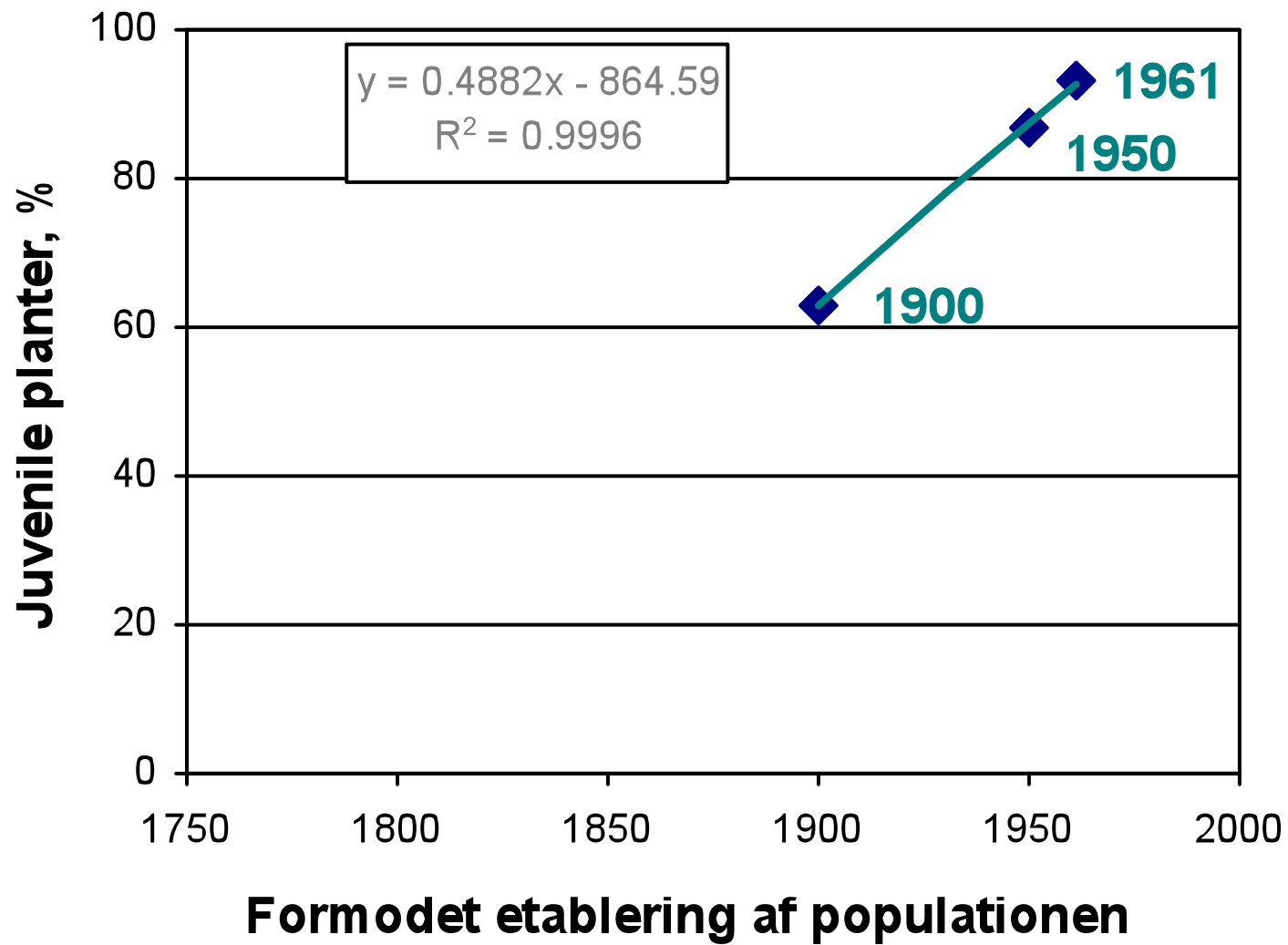


Salix arctica

Kønsfordeling i populationer, %



Populationens alder



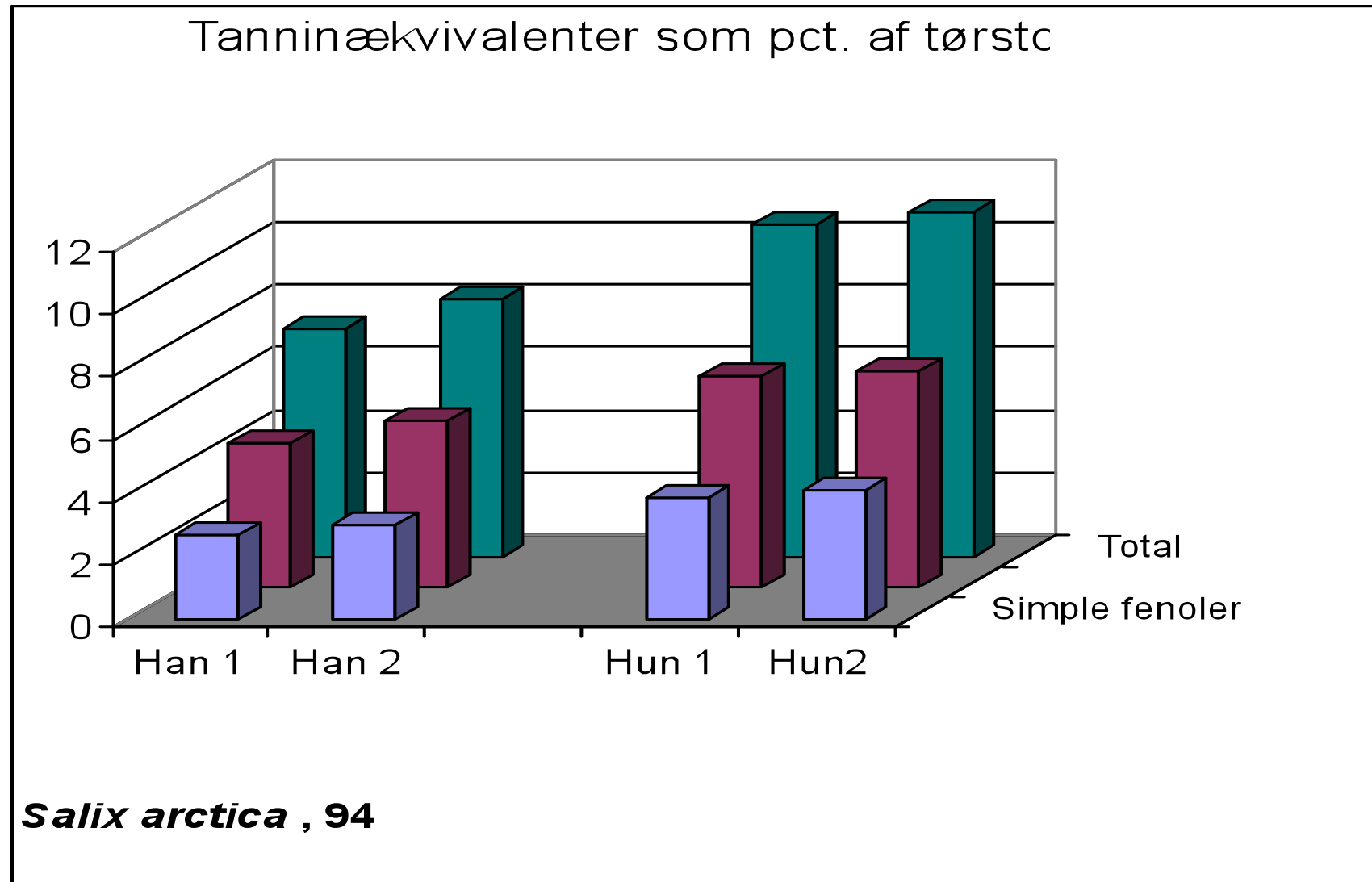
Hunplante på hævet strandvold



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Dias 32



Gender related tannin content in willow leaves





April 25, 18
Dias 34



Moskusokser på vandring om formiddagen den 10.juli 2009



-og de holdt Store Badedag



Moskusokser bader da!



cannabinoider

