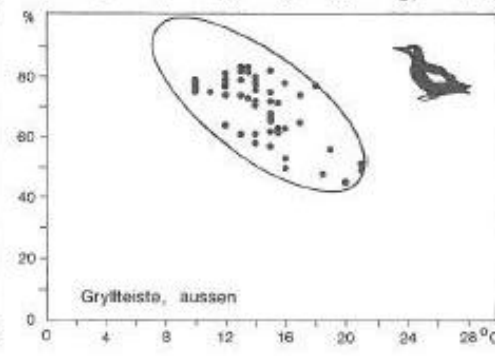
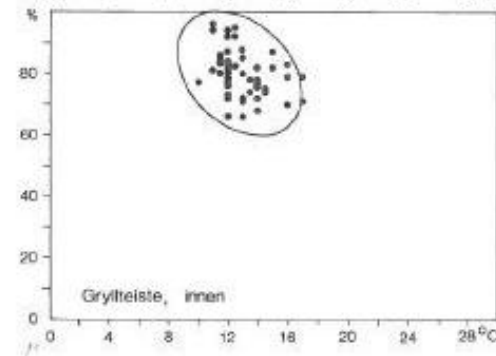
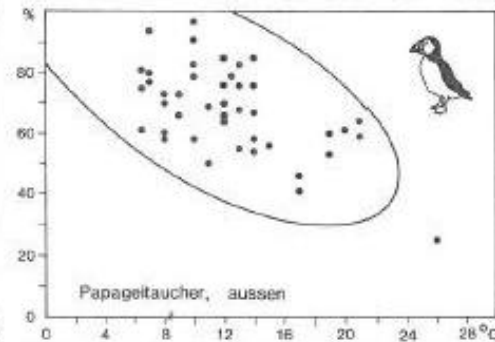
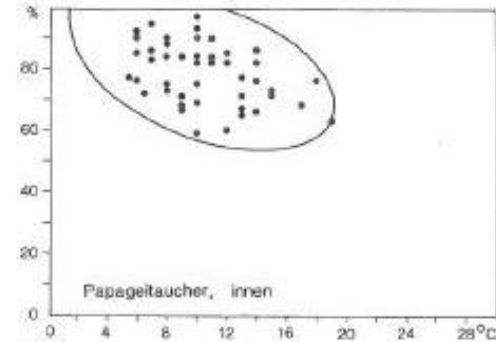
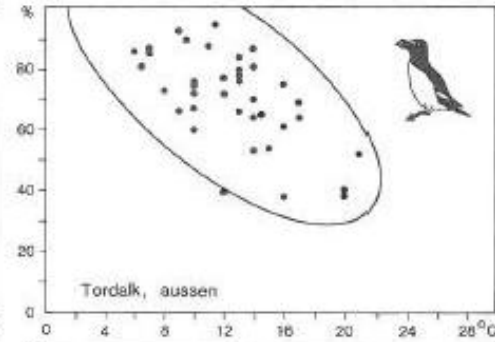
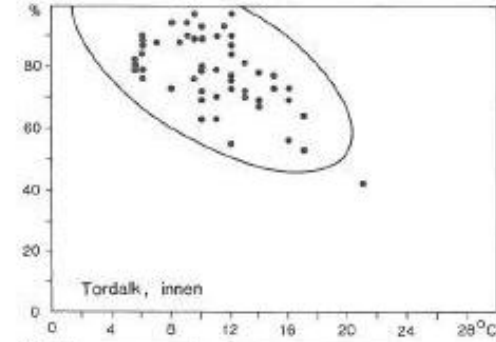
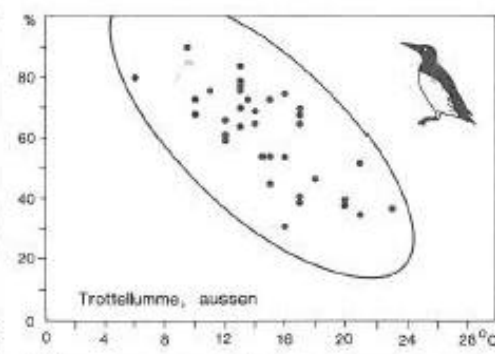
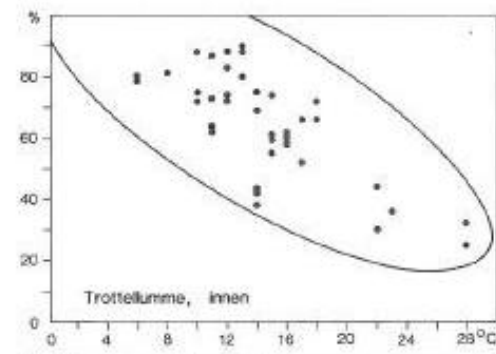


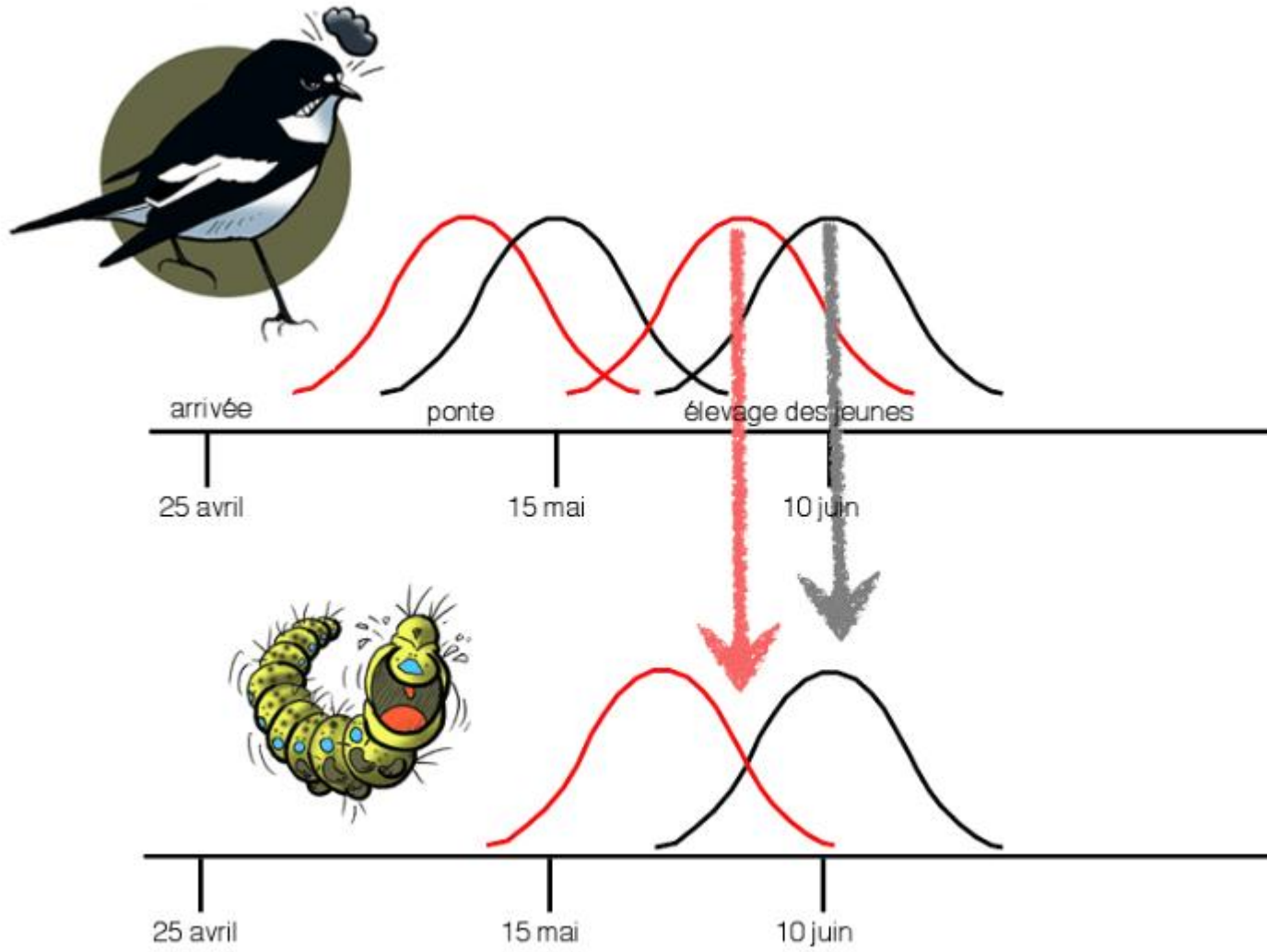


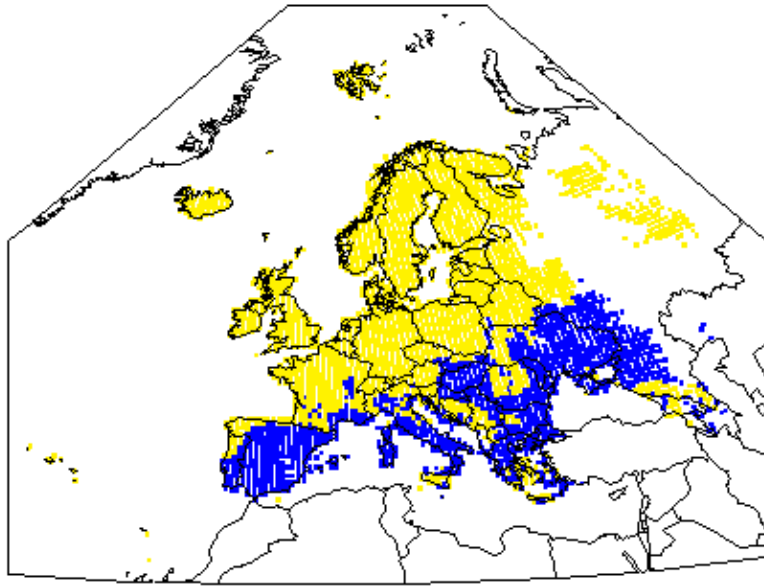
Session 2 – Case study 4: «Birds and climate change»

Mr Olivier Biber, Expert, Switzerland

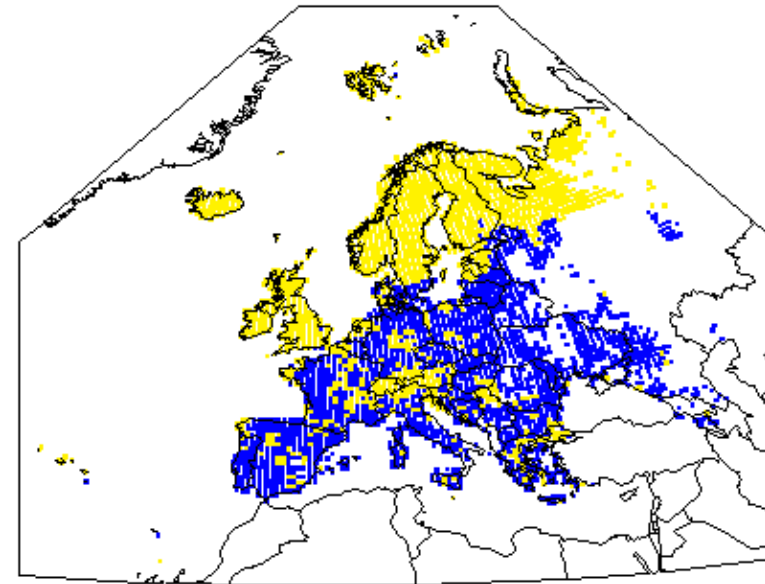
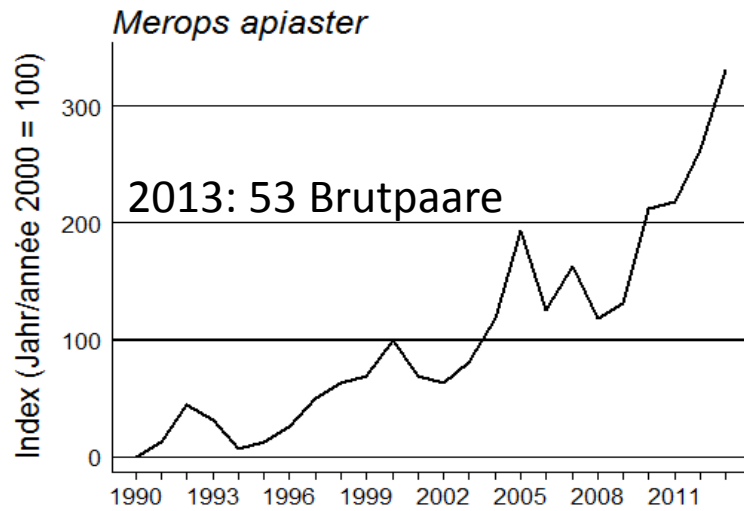






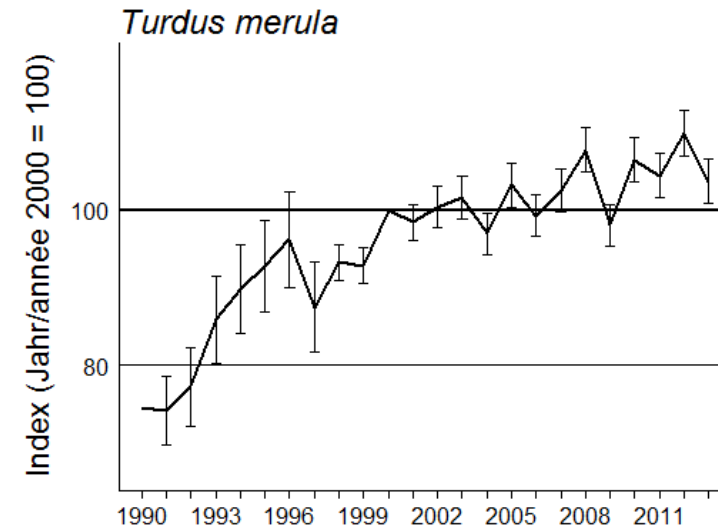
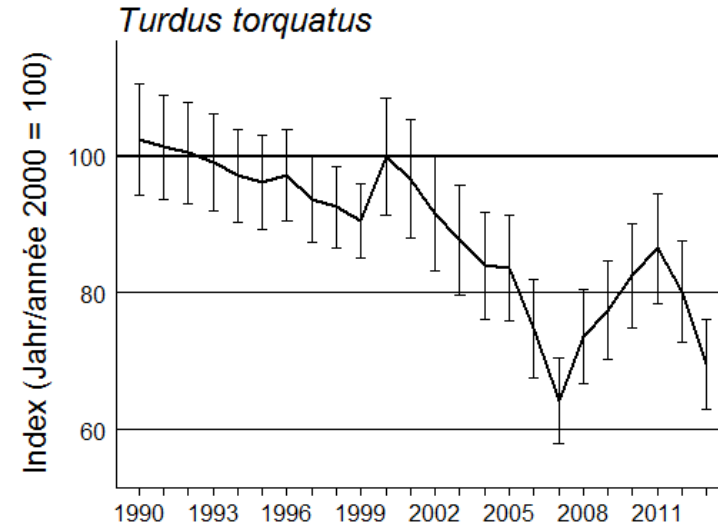


Simulated present distribution (AUC = 0.968; κ = 0.814)

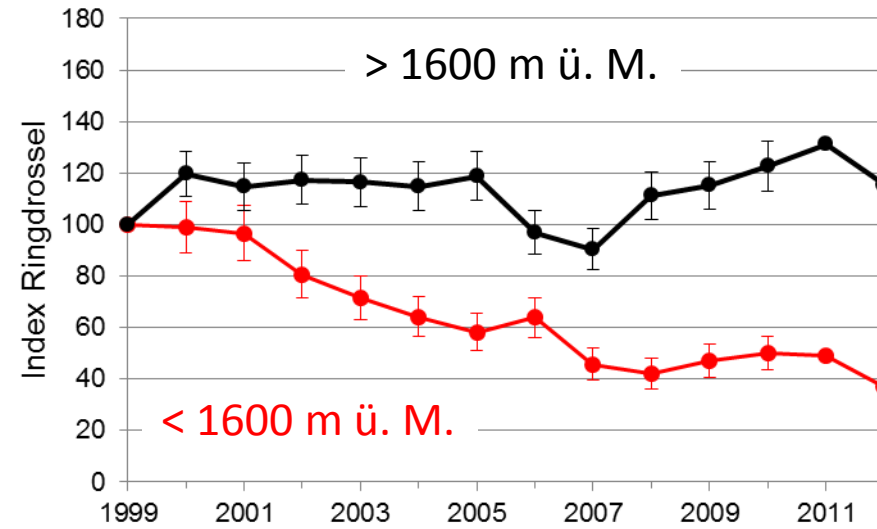


Simulated late 21st century distribution (R = 1.45; O = 0.71)

Observed changes in numbers of Ring Ouzel and Blackbird



Population changes of Ring Ouzel in relation to altitude



Loss of range in the lower subalpine zone

Provisional changes in distribution of Ring Ouzel and Blackbird

1993-96

2070

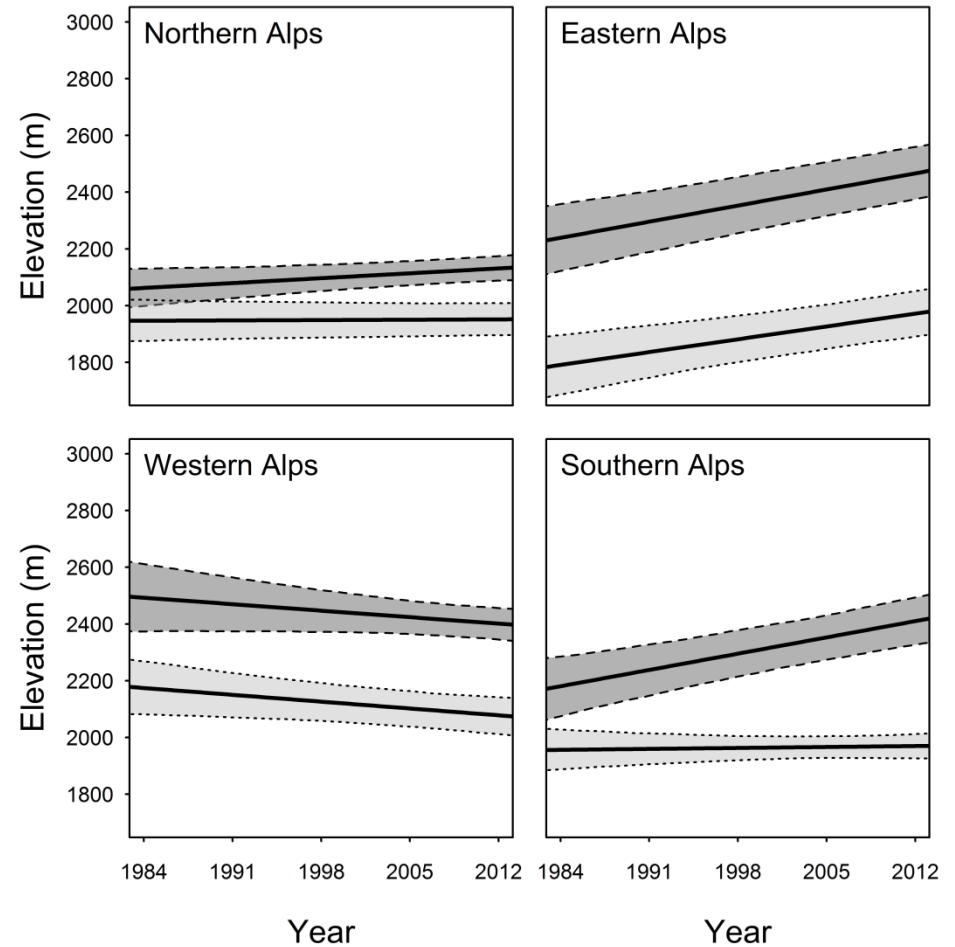
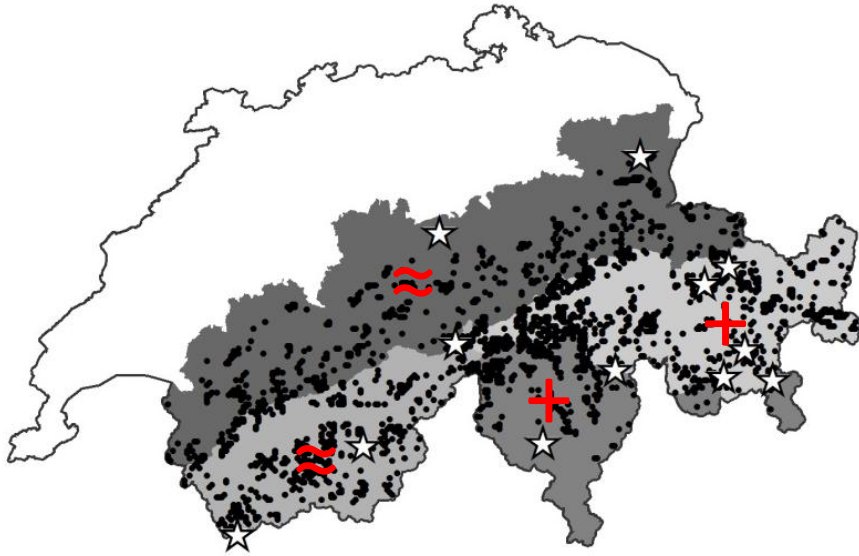


Alpine Rock Ptarmigan: well adapted to cold



Adaptation?: altitudinal distribution

Random records (n =5272)



Pernollet et al in prep.

PHYLLOSCOPUS COLLYBITA

Species - Supercilium
not very prominent. Ax.
yellow, sides and flanks
slightly tinged brown.
Legs may be rather
pale brown but generally
are dark brown-grey.

Moult - Ad. moults
completely in July-Sept.
and body-f. and some-
times inner tail-f. and/
or tert. in late winter.
Juv. moults only body-f.
and wing-c. in Aug.-
Sept.

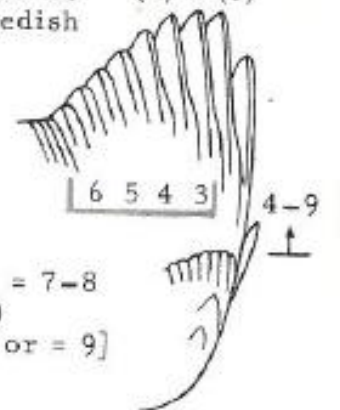
Sex

♂ = ♀ as to plumage.

Age

1y = ad. as to plumage. Skull ossification useful guide
in autumn.

Wing 53-68 (5) 4 (3)
(61 Swedish
md)



2nd p. = 7-8
(= 8/9)
[= 6/7 or = 9]

PHYLLOSCOPUS SIBILATRIX

Species - Under parts
white except throat,
which is bright
yellowish-green.

Sex

♂ = ♀ as to plumage.

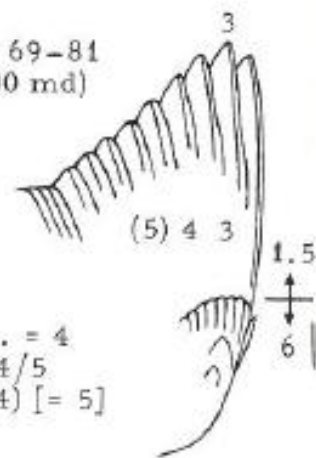
A u t, u m n

Age

Ad.: rem. and rectr.
worn, though some-
times a few tail-f. as
well as tert. are
moulted and fresh.

1y: rem. and rectr. fresh, edged yellowish-green.

Wing 69-81
(> 100 md)



2nd p. = 4
or = 4/5
(= 3/4) [= 5]