

Is there competition between Red-throated Divers and Great Northern Divers in Iceland?

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Population sizes

- Great Northern Diver - 300 pairs
- Red-throated Diver – 1500-2000 pairs

GND - Breeding distribution

- Highland species but found down to sea level
- Usually large deep, oligotrophic lakes, sometimes eutrophic
- Usually only 1 pair/lake
- Rarely 2 prs – only 9 known cases (and not annual)
- > 2 pairs exceptional, only the largest of lakes (Mývatn, Þingvallavatn, Ólafsfjarðarvatn)

RTD - Breeding distribution

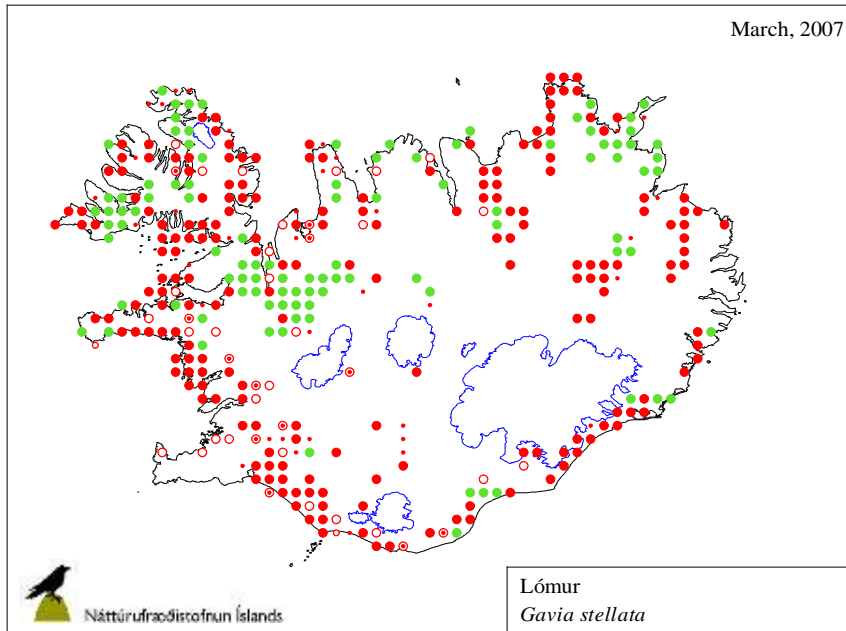
- Overwhelmingly lowland species
- Rarely > 200m
- Mostly coastal
- Most often single pairs on ponds; often several; up to 17 pairs on same lake
- Nearly all “semi-colonies” coastal

GND & RTD - Breeding lakes

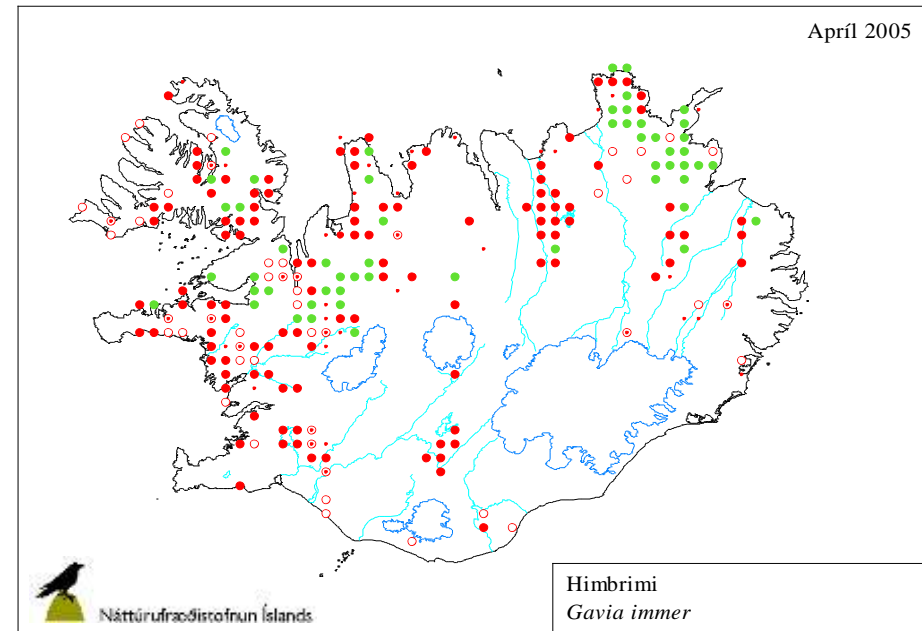
- Much overlap in general breeding distribution
- Difference in size of breeding lakes; RTDs small, GNDs large (>0.4 km² acc. to US studies)
 - 443 potential lakes acc. to database of lakes
 - Rarely on smaller lakes (one e.g. 0.01 km²) but then large lake nearby
 - One site on slow-flowing river, but large lake nearby

Breeding distributions

Red-throated Diver



Great Northern Diver



Coexistence

- RTDs & GNDs rarely coexist nesting on same lakes
- Less than 20 lakes on record
- Mostly on the large lakes in Iceland
- If co-existing usually at each end of lake, or not in sight of each other e.g. indented lakes
- Sometimes RTDs nest at small ponds in vicinity of large lake where GNDs nest

Alternative nesting

- Number of examples where both RTDs and GNDs have nested, but not in same years
- Example: RTD pair nesting 1965-1995, or until GND pair started nesting in same nesting islet
- Could be other reasons than GNDs evicting RTDs

Coexistence

- Example: Sandvatn (W-Iceland)
 - 1978 – 10 RTD prs – no GNDs
 - 1979 – 8 RTD prs – no GNDs
 - 1980 – 7 RTD prs – no GNDs
 - 1981 – 6 RTD prs – no GNDs
- RTD breeding nos were declining in the study area as a whole, but increasing on two nearby lakes next to Sandvatn



Coexistence

- Example: Sandvatn (W-Iceland)
 - 2006 – 3 RTD prs – GND breeding pr (started ca 2000)
 - 2007 - 4 RTD prs – GND breeding pr
 - 2008 - 6 RTD prs – GND bred, unsuccessful and left early, before end of June
 - 2009 - 2 RTD prs – GND breeding pr
 - 2010 - 3 RTD prs – GND breeding pr
 - 2011 - 3 RTD prs – GND breeding pr
 - 2012 - 2 RTD prs – GND breeding pr
 - 2013 - 2 RTD prs – GND breeding pr

Coexistence

- Example: Skíðsvatn (W-Iceland)
 - 2007 - 1 RTD pr – GND breeding pr
 - 2008 - 0 RTD pr – GND successful
 - 2009 - 0 RTD pr – GND non-breeding territorial pr
 - 2010 - 1 RTD pr (unsuccessful) – no GNDs
 - 2011 - 1 RTD pr (successful) – no GNDs
 - 2012 - 1 RTD pr (unsuccessful) – no GNDs
 - 2013 - 1 RTD pr (unsuccessful) – GND non-breeding territorial pr

Coexistence

- Example: Skervötn (W-Iceland)
 - 2007 – 2009 - one RTD pair – no GNDs
 - 2010 – GND territorial pair, built nest but did not lay - no RTDs
 - 2011 – GND breeding pair, unsuccessful, left lake early – RTD pair nested very late (1. egg 1st July) after GNDs left
 - 2012 – 2013 - one RTD pair – no GNDs

GND aggressive behaviour

- Extremely territorial but seems to be considerable variation between individuals
- Usually GND lakes lack other waterfowl; eviction by GNDs? Oligotrophic and bird poor?
- Sometimes Whooper Swans also nest on same lake, even only a few meters away, but ducks and grebes are evicted

GND aggressive behaviour

- GNDs are known to have killed at least several duck species, Slavonian Grebes, Whooper Swans
- Have attacked swimming Arctic Fox - and anglers!
- RTDs obviously dead scared of GNDs. When charged RTDs fly away or jump upon lake bank
- If co-existing as breeders the off-duty RTD is present on its territory much less than where RTD nest alone

Study issues

- Study lakes where GNDs and RTDs co-exist
- Need to quantify observations
- Numbers of co-existing breeding pairs
- Trends in nos of breeding RTD pairs and other species, esp. where GNDs start breeding
- Relative nest locations of the 2 species on same lake
- RTDs - time spent on territory, cf. where co-exist with GNDs and where RTDs nest alone
- Describe behavioural interactions





Thanks

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the surface for a considerable time, and when it rises, if alarmed, it will keep its body submerged, the dark head alone showing. As one comes suddenly on the diver in a lone tarn, its harsh loud cry, like the howl of a wolf mixed with jeering bursts of laughter, or the screams of a man in distress, is sufficiently startling. These Eagle lakes teem with wild fowl.



GREAT NORTHERN DIVER.

I saw several red-throated divers. Ptarmigan send among the tufts of grey moss, and breed in the low willow-beds; phalaropes perch on the highest rocks; whimbrel, with a

From Baring-Gould (1863)