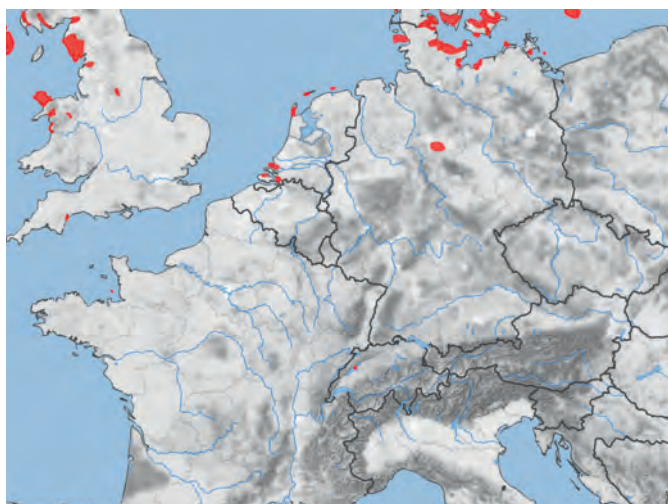


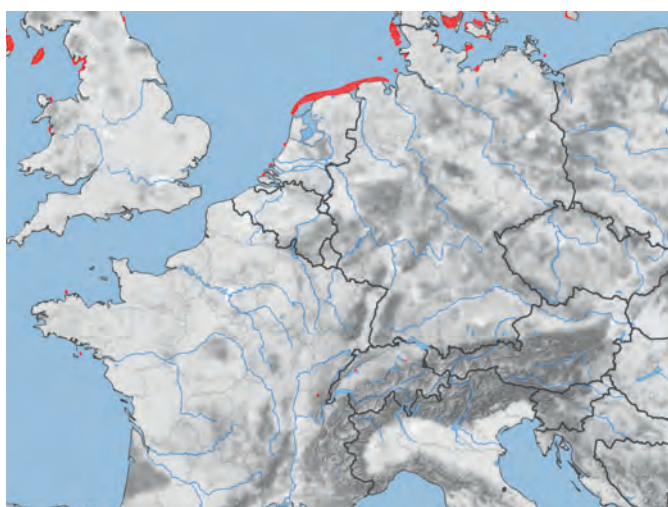
Unexpected breeders

The distribution of breeding birds is in constant flux. Occasionally, birds that normally breed far from Switzerland will temporarily or permanently settle in central Europe – a dynamic that never fails to surprise and fascinate birdwatchers and scientists alike.

Located at the heart of Europe and at the intersection of several biogeographical regions, Switzerland has a remarkably high species richness. This is especially true for ducks, some of which spend the summer here after wintering in Switzerland, or even breed here. Often, these species reach the periphery of their breeding range in Switzerland – Common Teal, Garganey, Northern Shoveler and Ferruginous Duck, for example. Such events are more spectacular when they involve typical maritime species. The Common Eider,



Distribution map for the Red-breasted Merganser: They normally occur on the coasts of northern Europe. Lake Neuchâtel is the species' southernmost breeding site in central Europe.



Distribution map for the Common Eider: Switzerland lies far from the species' habitual breeding and wintering grounds. Nevertheless, the Common Eider is a regular passage migrant and winter visitor, and has bred here almost every year since 1992.

a characteristic bird of northern European coasts, significantly increased its wintering population in Switzerland in the 1970s and 1980s. After several influxes, small groups began to spend the summer here. Breeding was confirmed for the first time in 1988 and occurred almost every year from 1992 onwards, albeit in small numbers, a situation that is unique in central Europe.

Red-breasted Merganser and Arctic Tern are also native to the north. Nevertheless, they have bred irregularly in the Fanel nature reserve BE/NE since 1993 and 2014, respectively^{7, 8}. For both species, it is their southernmost breeding site. A mixed pair of Arctic and Common Tern bred in the Rhine delta A in 2010–2013¹. The Common Shelduck first bred in Switzerland in 1998⁵ and has regularly bred on Lake Geneva since 2011, far away from the nearest larger populations.

Besides species that established themselves for longer periods, isolated cases of breeding occurred by birds whose colonisation process is known to be quite dynamic. Among them are Greater Short-toed Lark, Citrine Wagtail, Black-winged Stilt and Greenish Warbler^{3, 4, 6, 9}. Some have only bred in Switzerland once, but others may attempt to breed again in the near future. Finally, Eurasian Dotterel and Red-spotted Bluethroat are special cases, forming small breeding populations in the central and eastern Alps, far from the northern European tundra^{2, 10}.

It is hardly possible to find a common denominator to explain the presence in Switzerland of species with such different population dynamics. But these cases illustrate that individual pioneers, possibly responding to environmental changes, play an important role in the colonisation of a region. Such events have certainly always occurred, but they are now easier to detect and investigate thanks to the increased popularity of field ornithology, improved tools to identify birds, and the much faster dissemination of reports. Birdwatchers can look forward to more thrilling surprises in the years to come.

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¹ Bruderer (2014); ² Cereda & Posse (2002); ³ Curchod et al. (1990); ⁴ Glutz von Blotzheim (1997); ⁵ Knaus (2000); ⁶ Maumary & Schneider (2018); ⁷ Monnier (1995); ⁸ Müller (2015); ⁹ Müller & Volet (2014); ¹⁰ Müller-Derungs et al. (2014)