Post-breeding occurrence of the Red-necked Grebe *Podiceps grisegena* in two marine areas in Denmark

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(Med et dansk resumé: Forekomster i to danske havområder af Gråstrubede Lappedykkere i fældningstiden)

Introduction

The Red-necked Grebe *Podiceps grisegena* undergoes a complete, post-breeding moult in July-September which includes a simultaneous moult of all primaries, making the birds flightless until new flight-feathers develop (Bauer & Glutz 1966, Cramp & Simmons 1977, Piersma 1987). The moult usually takes place in tidal waters (Cramp & Simmons 1977), although isolated records exist of birds moulting on breeding sites in Switzerland and Denmark (Bauer & Glutz 1966, A. H. Larsen pers. comm.). In western Norway, flightless Red-necked Grebes in full moult have been observed in marine areas during late August/early September (Folkestad 1978). Since the species does not breed in Norway (Haftorn 1971), these birds must have migrated across the Scandinavian Peninsula from Swedish or Finnish breeding sites prior to the moult.

Few observations of Red-necked Grebes have been reported from Danish marine sites during July-September (regional reports from the Danish Ornithological Society 1971-1984). Most have occurred as single individuals or small groups, although 18 birds were seen at Omø on 9 September 1980, and 46 were seen on Svanegrunden on 8 August 1983 (A.H. Larsen in litt.).

During a country-wide aerial survey of waterfowl in 1989 (Laursen et al. in press.), and a follow-up survey in 1990, much higher numbers of Red-necked Grebes than previously recorded in the moulting season were observed in two marine areas (Fig. 1). This paper describes these occurrences.

Method

The survey in 1989 was part of a programme monitoring all waterfowl in Danish waters. The 1990 survey aimed specifically at the Red-necked Grebe and covered the two areas where high numbers of this species had been recorded in 1989 (Fig. 1); species other than grebes and divers *Gavia* spp. were ignored.

The surveys followed standard methods (Pihl & Frikke 1992), using twin-engined aircraft (Cessna 337 or Partenavia Observer) flying at an altitude of 180 feet (1989) or 120 feet (1990) and a speed of 90 knots. Parallel transects were 1.5 to 2.5 km apart (Fig. 1). In 1989, Omø Stålgrunde was surveyed on 30 August and Sejerøbugten on 3 September. In 1990 both areas were covered on 28 August. During all flights the weather conditions

Photo: Tommy Flies.

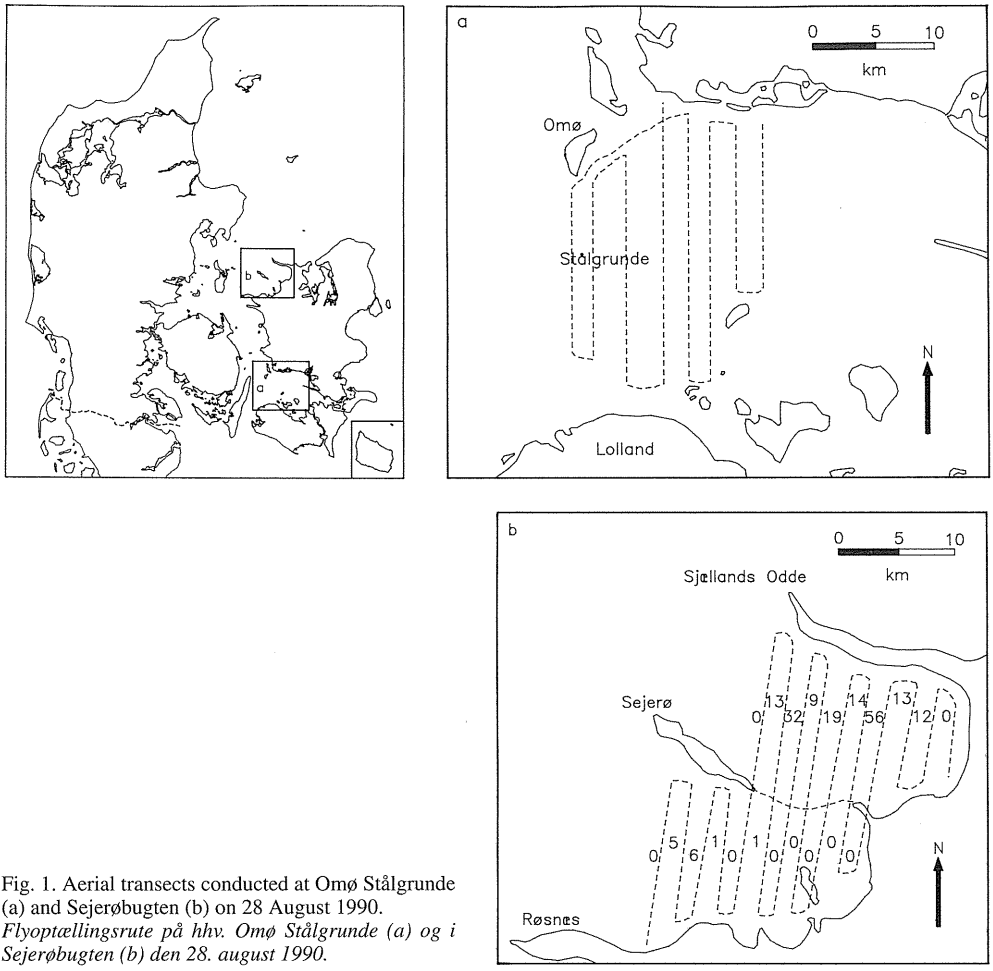

Fig. 1. Aerial transects conducted at Omø Stålgrunde (a) and Sejerøbugten (b) on 28 August 1990. *Flyoptællingsrute på hhv. Omø Stålgrunde (a) og i Sejerøbugten (b) den 28. august 1990.*

were excellent, with visibility exceeding 30 km, a thin cloud cover and calm seas.

The two larger grebe species, Red-necked Grebe and Great Crested Grebe *Podiceps cristatus*, can be identified and separated at a distance of 100-150 m from an aircraft, depending on the weather conditions (own unpubl. data). In this study the Red-necked Grebe was recorded within a 280 m wide zone (150 m on either side of the aircraft, omitting the 20 m immediately below).

In 1989 birds in different plumages were observed but plumage was not recorded. In 1990, each bird was recorded as being in summer or winter plumage.

The total number of birds within an area was estimated from the number counted within the covered part, assuming a uniform density of birds for the entire (sub)area (cf. Tab. 1).

A request for remnants of beached Red-necked Grebes through a local newspaper in the Sejerøbugt area in July 1991 only resulted in three live birds observed between mid-July and mid-August 1991.

Results

The counted and estimated numbers of Red-necked Grebes appear from Tab. 1.

The majority of the birds in 1989 were in summer plumage, but winter plumaged birds were also identified. In 1990, 46 birds were recorded as being in summer plumage and 23 in winter plumage. The remaining 164 birds included juveniles, adults in body moult and birds observed under such poor conditions that plumage characters could not be determined.

Flock size varied from 1 to 11 birds. The mean flock size in 1989 was 2.0 on Omø Stålgrunde and

Tab. 1. Size of surveyed areas, length of transects, and recorded and estimated numbers of Red-necked Grebes. *Areal af optællingsområder, transektlængder, og optalte og estimerede antal Gråstrubede Lappedykkere.*

	Area (km²)	Transect (km)	Number of grebes *Antal*	
	Areal	*Transektlængde*	recorded *optalt*	estimated *estimeret*
1989:				
Omø Stålgrunde	227	142	48	274
Sejerø Bugt N	294	156	51	343
Sejerø Bugt S	263	121	9	69
1990:				
Omø Stålgrunde	337	167	52	374
Sejerø Bugt N	224	124	168	1083
Sejerø Bugt S	201	120	13	77

2.7 in Sejerøbugten; in 1990 it was 1.7 on Omø Stålgrunde and 2.4 in Sejerøbugten.

In both years the birds were observed 2-8 km from the nearest coast and would hardly have been visible from land. They were recorded in water of a depth of 3-20 m, the majority in water of 8-15 m depth.

The Red-necked Grebe was never recorded together with fish-eating species occurring in the same area (divers, Great Crested Grebes). However, a very striking association between Red-necked Grebe and Velvet Scoter *Melanitta fusca* was observed in 1990, as the majority of Red-necked Grebes were recorded in or near flocks of moulting Velvet Scoters. Velvet Scoters were not accurately counted, but several hundred occurred on Omø Stålgrunde and more than 10000 in the northern part of Sejerøbugten.

Discussion

The Red-necked Grebe is a relatively small bird which can be hard to detect from the air, even on days with optimal weather conditions, and the number of birds recorded undoubtedly underestimates actual numbers. The apparent increase in numbers between 1989 and 1990, especially in the northern part of Sejerøbugten, is probably a result of the intensified survey method in 1990 rather than a real increase.

There are two reasons for assuming that Red-necked Grebes complete their moult in the two areas: the birds were recorded in the middle of the moulting period (Cramp & Simmons 1977), and they were recorded in plumages varying from summer (pre-moult) to winter (post-moult) plumage.

The migration of Red-necked Grebes belonging to Northeast European populations starts in late August and peaks in late September/early October in Estonia (Andersson 1954, Il'icev & Flint 1985), but not until mid-October along the Danish west coast (Jakobsen 1988). The birds observed in this study are therefore probably of local (Danish) origin.

The Danish breeding population is estimated to comprise 900-1100 pairs (late 1980s), with approximately 25% in Jutland and 75% on the islands (A. H. Larsen in litt.). The number of post-breeding Danish birds should therefore amount to 2500-3500, depending on breeding success. The two surveyed areas thus account for half the total Danish population, or two thirds of the population outside Jutland. Probably, the majority of the Red-necked Grebes in Denmark move to undisturbed marine sites immediately after the breeding season to complete the moult (cf. also that very few observations of moulting adult birds exist from freshwater sites in Denmark).

Wrecks of oiled birds have previously established the presence of large numbers of Red-necked Grebes in the area immediately west of Sejerøbugten in winter. An oilspill on Hatter Rev (55°55' N, 08°50'E) killed 400-500 Red-necked Grebes in January 1979 (Larsen 1979, Fjeldså 1982, 1983). It is, thus, likely that the birds remain to spend the winter in southwestern Kattegat after the moulting season.

An association with Velvet Scoters has previously been noted in Kattegat in winter (H. Skov pers. comm.), and in Norway in the moult period (A. Follestad pers. comm.) as well as the winter (Folkestad 1978, Follestad et al. 1986). The reasons are not known, but Follestad et al. (1986)

suggested that it could either be a convergence in choice of habitat, or that the Red-necked Grebes obtain access to food items that are disturbed by feeding Velvet Scoters.

Red-necked Grebes are vulnerable to oilspills in winter (Fjeldså 1983, Follestad et al. 1986) when they are scattered over wide areas. In the season of wing-feather moult, when the birds are unable to fly and are concentrated in relatively small areas, they must be even more vulnerable. An oilspill in late summer in either of the two study areas could have serious consequences for the Danish population of Red-necked Grebes.

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Resumé

Forekomster i to danske havområder af Gråstrubede Lappedykkere i fældningstiden

Under Danmarks Miljøundersøgelsers landsdækkende optællinger af vandfugle i august 1989 opdagedes to områder, Omø Stålgrunde og Sejerøbugten, med usædvanlig store antal af Gråstrubet Lappedykker (Fig. 1). Begge områder optaltes igen fra fly i august 1990. Optællingerne blev foretaget som linietransekter. Bredden på optællingszonen var 280 m. Ud fra det optalte antal fugle, arealet af linietransekterne og det samlede areal af området blev antallet af fugle i området estimeret (Tab. 1).

Der er formentlig tale om egentlige fældningsområder, idet fuglene er optalt midt i fældningsperioden, i dragter varierende fra sommerdragt til vinterdragt. Da de Nordøsteuropæiske fugle trækker noget senere (Il'icev & Flint 1985, Jakobsen 1988), er der sandsynligvis tale om danske fugle. I så fald kan disse to områder gøre rede for ca halvdelen af en estimeret dansk bestand på 3000 fugle, eller to tredjedele af fuglene uden for Jylland.

Forekomsterne taler for, at de danske Gråstrubede Lappedykkere umiddelbart efter ynglesæsonen fortrækker til uforstyrrede havområder, hvor den fuldstændige fældning foretages. Dette passer godt sammen med, at fældende adulte fugle sjældent ses på indlandslokaliteter. Efter fældningsperioden forbliver fuglene formentlig i det sydvestlige Kattegat, idet mange Gråstrubede Lappedykkere opholder sig her om vinteren.

Fuglene blev begge år observeret 2-8 km fra nærmeste kyst og har næppe været synlige fra land. Antallet af individer i de enkelte flokke varierede mellem 1 og 11. I 1990 observeredes hovedparten af fuglene i flokke af svingfjersfældende Fløjlsænder. Dette fænomen er tidligere observeret i Kattegat og i Norge, såvel i fældningstiden som om vinteren, men årsagen til at de to arter optræder sammen er ukendt.

Gråstrubede Lappedykkere er sårbare over for olieudslip i vintertiden, hvor de ligger spredt over store områder. De er selvsagt endnu mere sårbare i fældningstiden, hvor de er ude af stand til at flyve, og hvor de ligger relativt koncentreret. Det er derfor sandsynligt, at et olieudslip i sensommeren i et af de to nævnte områder vil få særdeles alvorlige følger for den danske ynglebestand af Gråstrubet Lappedykker.

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