
Spring tail moult in Purple Sandpiper *Charadrius maritima* in the Dutch Wadden Sea

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de Roos, G.T. 1992. Spring tail moult in Purple Sandpiper *Calidris maritima* in the Dutch Wadden Sea. *Wader Study Group Bull.* 64: 40

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Calidridine sandpipers and other shorebirds show considerable variation in the timing and duration of moult in relation to the annual breeding cycle. These variations are thought to represent adaptive responses and appear to be influenced by factors such as breeding season duration and environmental conditions found in breeding areas at different latitudes, seasonal patterns of food abundance, the presence or absence of potential competitors and migration length (Kozlova 1957; Holmes 1966a, 1966b, 1971, 1972; Thomas & Dartnall 1971a, 1971b; Morrison 1984). In a long-term study of sandpipers *Calidris* in northern Alaska, Holmes (1966b, 1971, 1972) demonstrated how different species evolved different moult timing.

During my research on the Isle of Vlieland in the Dutch Wadden Sea, on the origin and migratory routes of Purple Sandpipers *Calidris maritima* and Turnstone *Arenaria interpres* I caught two adult Purple Sandpipers on 11 April 1988 which were undergoing active tail moult. The birds were recorded with the following stages of tail moult: 551515/115555 and 555511/115555, which gave the same moult score of 44. Neither the primary or secondary wing feathers of either bird were in moult. Both birds showed, however intensive body moult of neck, mantle and nape feathers suggesting that these were birds assuming nuptial plumage before returning to their breeding grounds. As far as I am aware, spring tail moult of tail feathers has not previously been recorded in Purple Sandpipers.

Among Purple Sandpipers in north-western USSR, the prebasic moult occurs between August and November (Dementev *et al.* 1969). From southern Baffin Island there is evidence that breeding Purple Sandpipers had begun to moult before they left the area in mid-August (Bengston 1975; Sutton & Parmlee 1955). According to Morrison (1976) timing of tail moult in Icelandic Purple Sandpipers is not particularly closely related to primary score: feather loss often started early in primary moult, but the main period of growth and replacement of the feathers was usually after about primary score 30 (when the main secondary moult began). A similar tail moult timing occurs also in Red-necked Stint *Calidris*

ruficollis (Thomas & Dartnall 1971a) and Curlew Sandpiper *Calidris ferruginea* (Thomas & Dartnall 1971b).

Cramp (1983) stated that Purple Sandpipers in adult pre-breeding stage occasionally moult a few tertials, inner upper wing-coverts, upper tail-coverts or show t_1 replacement, although the sample sizes of skins examined at the Natural Museum in Leiden and the Amsterdam Zoological Museum are not given. The t_1 replacement might, however, be related to accidental feather loss rather than being a true tail moult. No other replacement of tail feathers has been mentioned in literature (see Bengston 1975; Morrison 1976; Cramp *et al.* 1983; Boere *et al.* 1984; Morrison 1984).

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