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HAIRY SNAIL *TROCHULUS HISPIDUS* (LINNAEUS, 1758) IN FLIGHT – A NOTE ON AVIAN DISPERSAL OF SNAILS

STANISŁAW RUSIECKI[1], AGNIESZKA RUSIECKA[2]

[1]Museum of Natural History, Wrocław University, Sienkiewicza 21, 50-335 Wrocław, Poland (e-mail: rusiecki@biol.uni.wroc.pl)
[2]Department of Animal Physiology and Biostructure, Wrocław University of Environmental and Life Sciences, Norwida 31, 50-375 Wrocław, Poland

ABSTRACT: A specimen of hairy snail *Trochulus hispidus* L. was found in the plumage of a great tit, *Parus major*, wintering in SW Poland. This passerine is the smallest bird species recorded carrying a gastropod.

KEY WORDS: *Trochulus hispidus*, *Trichia hispida*, *Parus major*, dispersal, transport, snail, bird

The idea of dispersal of snails (and molluscs in general) by migratory birds was first proposed in the nineteenth century (DARWIN 1859, KEW 1893). Observations and experiments showed that snails could be transported by birds in two main ways: internally, in the host's digestive tract (MALONE 1965a, CADÉE 1988, 2011, KAWAKAMI et al. 2008, ANDERS et al. 2009, VAN LEEUWEN et al. 2012, WADA et al. 2012) or externally, attached to the plumage or legs of water birds (MCATEE 1916, ROSCOE 1955, MALONE 1965b, REES 1965, DUNDEE et al. 1967, BOAG 1986, GREEN & FIGUEROLA 2005, VAN LEEUWEN & VAN DER VELDE 2012), nightjar (DUNDEE et al. 1967) or passerines (LEEGE 1898, RAMSDEN 1913, 1914, ANONYMOUS 1936). A new mode of snail transport by a bird with the nest material has been described recently (MACIOROWSKI et al. 2012). Apart from the above examples, there is some indirect evidence of an aerial dispersal of gastropods in the past (VAGVOLGYI 1975, 1978, WESSELINGH et al. 1999, GITTENBERGER et al. 2006, MIURA et al. 2012).

On 31 January 2010 during our bird ringing fieldwork we caught a great tit, *Parus major*, with a small hygromiid snail attached to it. The bird was mist netted next to the feeder in a house garden located in a rural area in Borowa, 15 km from Wrocław, SW Poland (51°11'12"N, 17°16'45"E). The snail was identified as *Trochulus hispidus* (Linnaeus, 1758), formerly known as *Trichia hispida* (Linnaeus, 1758) (PROĆKÓW 2009). The intact shell, ca. 6 mm in diameter, was located at the base of feathers at low breast of a first-winter male great tit, *P. major* (identification according to SVENSSON 1992). The bird had several feather cysts (folliculoma) on the upper breast but was in good overall condition. The shell was found while taking body measurements, a standard procedure used for every individual caught. It was the only snail we found on a bird while ringing in the winter seasons 2007–2012 in the locality mentioned above, where 854 great tits were caught (1,389 birds in total).

Both *T. hispidus* and *P. major* are widely distributed species, common in a variety of habitats (CRAMP & PERRINS 1993, WIKTOR 2004), so the snail may have adhered to the bird while the latter was foraging or resting. The localisation of the snail in the proximity of feather cysts on the host's breast was the probable reason why the shell was not removed while preening, as the bird may have tried to avoid touching the pathologically altered part of its body. The small size of the snail suggests that the individual hatched in the previous summer. Considering that young great tits undergo a complete moult of body feathers soon after leaving the nest (SVENSSON 1992), it seems most reasonable to assume that the snail attached to its host no sooner than in late summer.

During their autumn migration, great tits in central Europe migrate with an average speed of about 30 km/day with a maximum of 335 km within 24 h (NOWAKOWSKI 2001). Thus, it is easy to assume that a snail can quickly fly over a vast distance hitch-hiking on a plumage of even a small bird. Such unique events, by making gastropod dispersal unusually effec-

tive, can seldom result in colonisation of new territories. However, in terrestrial habitats of non-island character, more crucial would be the role they may play in creating opportunity for gene transfer between distant populations.

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