

Poronia erici*, a small nail fungus, recently recorded in Norfolk and Suffolk, and notes on the distribution of Nail Fungus *Poronia punctata

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On 3 October 2010, Ray Purser was photographing fungi on the dunes at Holme, West Norfolk, when he noticed a rabbit pellet bearing buff-coloured discs that he recognised as a nail fungus *Poronia* sp. Initially suspecting that they were *Poronia punctata*, a species of considerable conservation interest that usually occurs on horse dung, he sent specimens to Kew. There, Brian Spooner identified them as *Poronia erici*, a species not seen in Britain since the one and only previous record in 1933 (see below). Ray's remarkable photograph (p.60) shows eleven of the disc-shaped fruiting bodies (stromata) on a single pellet (two are fused). This is all the more remarkable when it is realised that the visible 'head' is only part of a conical fungus, most of which is buried within the pellet. Brian Spooner (2011) has recently given an account of this species, which is a 'pyrenomycete' and thus bears its spores in small chambers (perithecia) embedded in the buff-coloured stroma. The perithecia, seen as black dots, open to the surface via small pores or ostioles.

On a visit made on 7 November 2010, members of the Dersingham Mushroom Club were directed by warden Gary Hibberd to the site of the original find, a north-facing mossy bank on fixed dunes to the east of the visitor centre at Holme. About ten pellets with *Poronia* stromata were gathered from both sides of the track, none bearing more than four stromata. The following details were determined from these specimens:

Diameter of stromata: 1.0-2.2 mm with 1-10 ostioles each.

Spore dimensions: Average and range of ten spores from a single specimen: 32.7 (30-34) x 18 (17-20) μm , all pigmented, although many spores from the same perithecium were not (immature). These dimensions are at the top end of the published range (Lohmeyer 1994).

Although small *Poronia* fruit bodies had been observed on rabbit dung on occasions, it was not until 1988 that *P. erici* was described as a distinct species (Lohmeyer & Benkert 1988). Lohmeyer described *P. erici* from specimens found on rabbit dung on an island in the Baltic Sea off the coast of Germany (formerly GDR), noting other records from coastal sites in West Germany, Netherlands, Belgium and, possibly, Britain. Subsequent study of herbarium material revealed that *P. erici* had been collected from five states in Australia (where it is known as Dung Buttons), almost always on kangaroo dung at (mostly) non-coastal sites, and on one occasion from central Spain. The main differences between the two species are summarised in Table 1.

The single British record (before the collections in 2010) is referred to by Lohmeyer (1994) as 'apparently collected (in 1933) on the British Island of Scolt Head off the Norfolk coast.' This record does not appear on the Norfolk Fungus Database (held by the Norfolk Biodiversity Information Service, NBIS) nor on the national database (Fungus Record Database of Britain and Ireland, FRDBI). Despite this, the latter notes that the species is designated 'Extinct since 1933 in the Red Data Book 2nd edn. Brian Spooner has shed light on this (pers. comm.). At the request of Lohmeyer

Table 1 Distinguishing *Poronia erici* and *P. punctata*

	<i>Poronia erici</i>	<i>Poronia punctata</i>
Spore size	(22)25-32(33.5) x (12)14-18(19.5) µm (Lohmeyer 1994).	18-26 x 7-12 µm (Dennis 1978). 17-26 x 8.5-13 µm (Hansen & Knudsen 2000).
Substrate	Rabbit, hare, sheep, goat, horse (Europe). Kangaroo, wallaby, wombat, sheep, cow, horse (Australia).	Horse, cow (Europe).
Shape and size of stromata	Up to 6 mm diameter; cylindrical head, tapered downwards into a short stalk buried in dung.	5-15 mm diameter; flat head with long stalk in dung.

he had located the Scolt Head material in the Kew Herbarium as the only British *Poronia* specimen on rabbit dung. It was immature and had spores slightly smaller than the type material, so was referred only tentatively to *P. erici* but, in view of subsequent records, it is now considered to be that species.

Only after the above exchanges did it come to light that, in August 2010, Sheila Francis had collected what she also presumed was *P. punctata* from the dung of Exmoor Ponies at Snape Warren in Suffolk. She passed this information to Neil Mahler (Suffolk County Fungus Recorder) who collected further specimens and determined that the spores were very large for *P. punctata* –(29)30-32 x 17-18 µm. Neil was aware of the existence of *P. erici*, but only knew of it growing on rabbit dung and naturally assumed that it would therefore be smaller, with smaller spores to match. In the spring of 2011, further examination by Liz Holden established, however, that the Suffolk fungus was in fact *P. erici*.

Lohmeyer (1994) speculates that *P. erici* has been introduced to Europe from Australia but it would seem equally likely that movement was in the opposite direction. In support of this, the many coprophilous

fungi from New Zealand described by Bell (1983) must have been introduced as that country has no indigenous herbivorous mammals.

Nail Fungus *Poronia punctata* in Britain

All sources indicate that the Nail Fungus *P. punctata* was formerly widespread in Britain but is now very uncommon. It is listed as ‘Endangered’ in Red Data Book edn.2, and is a Biodiversity Action Plan species. There are few pre-1970 records on the FRDBI but since then almost all have been from the New Forest area. Exceptions are: Dorset (1984, 2006); Surrey (1985, 2006); Oxfordshire (manure in garden 1995, 1996); North Hampshire(1998); Anglesey (2001); West Kent (2001); Berkshire (2005) and Herefordshire (2006). At least some of these records could be from the dung of ponies which came from the New Forest.

The only records for *P. punctata* on the Norfolk Fungus Database are:

- 1873 near Hunstanton, seashore.
TF6740. CB Plowright, 1 December.
- 1874 Great Yarmouth TG5207.
- 1941 Wacton Common TM1890. EA
Ellis, 4 May.

1944 Horsford Heath (Woods) TG1818.
EA Ellis, 30 July.

1982 Holme, Broad Water TF714504
[should be TF7144]. PC (Peter)
Holland, 5 June.

This last record is intriguing for a number of reasons. First, it is likely to be within one km (and possibly much less) of Ray Purser's 2010 discovery. Although a 6-figure grid reference is given for the 1982 record, this must be incorrect as it specifies a point five km north of Holme beach. The name Broad Water, however, and the easting suggest its proximity to the 2010 collection. The record is annotated 'on horse droppings; reliable record.' It was, however, made before *P. erici* had been described. In view of the fact that in Australia *P. erici* has been recorded from horse dung (and now on that substrate

from Suffolk) it is probable that the 1982 record is actually of this species.

References

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Poronia erici on rabbit pellets at Holme. Photo: Ray Purser.