

A FURTHER RECORD OF *LUTRIDIA EXILIS* (NITZSCH)
(PHTHIRAPTERA, TRICHODECTIDAE) IN BRITAIN,
WITH NOTES ON THE PRESENCE AND ABSENCE OF LICE
ON OTTERS

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On the 3 August 1987 we collected six lice from a dead otter from Laxdale, 1 km north of Stornoway, Isle of Lewis (NGR NB 423352). Later examination at the British Museum (Natural History) showed these to be 6 adult females of the louse *Lutridia exilis* (Nitzsch in Giebel 1861) (Phthiraptera, Ischnocera, Trichodectidae). This species has previously been recorded from only one small area of Britain and that was 57 years ago. *Lutridia exilis* was first noted by Nitzsch (1818) in Germany, and was placed in the genus *Trichodectes* when its name was first recorded by Giebel (1861). It is a smaller species than the common dog louse, *Trichodectes canis* (DeGeer) and differs also in the antennae, which exhibit sexual dimorphism only in the latter species (the male first segment is greatly expanded and the last segment bears several internal "teeth"), in the absence of setae on pleura V–VI and the much sparser abdominal setae. *L. exilis* is specific to its host, the European otter *Lutra lutra lutra* (L.), which was common in continental countries and Britain up to the 1950s (Chanin & Jefferies, 1978). Both Piaget (1880) and Bagnall (1930) regarded *L. exilis* as a "rare species" but "plentiful when present on its host". Despite this, the louse has been recorded only rarely in Europe and North Africa (France, Germany, Algeria: Séguy 1944). It was not recorded as a British species and was not represented in the British Museum collection until 1929. Nine examples were taken from the head of an otter killed by hounds at Bywell Bridge, Stocksfield-on-Tyne, Northumberland (NGR NZ 052619) in June of that year (S.E. Cook, in Bagnall 1930). On 17 September 1930 the same collector took further examples from an otter at Riding Mill, Northumberland (NGR NZ 016618) (Bagnall, 1932). Both sites are on the River Tyne and only 3.6 km apart. *L. exilis* has not been recorded again in Britain until the present report. A recent survey (Lenton *et al.* 1980) showed that there are now no otters on the Tyne and no signs had been seen since before 1968. We know of no recent reports of *L. exilis* in Europe where the otter population has shown an even greater decline than that of Britain and few otter bodies are to be found.

The host for the present record was a female European otter cub of body weight 2.380 kg. At this weight the animal would have been c.19 weeks of age (from data published by Stephens 1957), not long weaned (occurs at 14 weeks: Wayre 1979) and not yet independent of the parent. It had wandered, obviously sick, into a school playground at Laxdale, where the A857 road crosses the River Laxdale near Stornoway and died the following day 5 February 1987. Autopsy showed that it

had superficial cuts, bruising and internal bleeding, which together with the slivers of glass in the fur indicated that death was most likely due to a road traffic accident, probably on 4 February. However, the animal was in a very poor body condition with wasted muscles and only a trace of fat in the omentum and around the kidneys. It was also suffering from pneumonia. This condition is likely to have preceded the accident by several days and suggests the earlier loss of or separation from the mother. As in the otter from Stocksfield-on-Tyne, the *L. exilis* found on this otter were on the guard hairs all around the head.

It may be thought that the occurrence of *L. exilis* on two otters from Northumberland and one from the Isle of Lewis would suggest that all the otters between these two sites carry this louse and the 57 year gap is merely due to the lack of searching. However, the indications are that this may not be the case. Two of us (DJJ and HMH) have been examining European otters since 1963; we have examined 95 up to 1981 (all unskinned) and a further 59 from 1983 to 1988 (50 unskinned). Each has been given a standard autopsy and analysis for toxic pollutants (Jefferies & Hanson 1987). Those with pelts have been examined closely for this louse from the beginning as we were especially interested in rediscovering it and establishing its incidence on the British otter population. The search has been intensified for the last 50 unskinned otters from which all ecto- and endoparasites have been removed for identification at the British Museum. Admittedly the louse is very small (1.2 mm in length) and the otter's underfur is dense, but the otter on which the present lice were found was not given a particular or better search than the others. Although as the host body cools and the temperature gradient keeping the lice near to the skin breaks down, some of the lice may leave the body, others will come to the surface of the pelage and become more obvious. Because of their gripping adaptations they would not all be shaken from the body on deep freezing. On the other hand it may well be that dissolving the otter's skin could provide a more effective method of monitoring for their presence if burdens are low, than searching by eye.

There may be several reasons why records are few. First, perhaps, in healthy otters the louse population is normally kept very low due to persistent grooming and frequent immersion and thus is difficult to detect by a visual search. Otters appear to groom very frequently (Stephens 1957) but it is known that sick animals cease to groom themselves. It is possible then that the poor condition of the Stornoway otter could have led to the louse burden increasing to the point where they were more obvious at examination. It is also known that house mice *Mus musculus* L. comb their lice *Polyplax serrata* (Burm.) from their coats with the lower incisors (Murray 1961), so adult lice are confined to those parts of the body where it cannot reach with its mouth, i.e. around the head. So the search area is small. The *L. exilis* found on two of the parasitised otters were discovered on the guard hairs all around the head

where the density is likely to have been at its highest before debilitation, and consequently more marked afterwards. This in itself is interesting as their position may be an indicator of previously unknown behaviour, i.e. that the otter too keeps the louse burden in its pelage low by combing the fur with the incisors. This too could suggest that loss of these teeth (which can occur with age) could allow a louse burden to build up.

On the other hand it may be that the geographical distribution of the otter louse is fragmented or does not completely cover that of its host. It has been found with avian lice that certain species seem to be absent from their host in some localities. Also that a higher percentage of infested individuals may be found in some parts of the host's range than others (Rothschild & Clay 1952). As the otter's original range in Britain has been fragmented too (since the severe population decline starting in 1957-58), all the above factors, if present in mammals, would increase the difficulty of finding lice on any individual otters in recent years. This problem would be even more severe on the continent of Europe at present. An interesting parallel is provided by the otters' helminth parasites, many of which are narrowly specific, apparently restricted to small areas and unknown outside the boundaries of the region from which they have been described. It has been suggested that this may be due to the physical isolation of individual populations of otters (Kontramavichus, 1985).

There is an additional possibility that the high organochlorine insecticide load carried in the tissues of otters in the 1960s (Jefferies *et al.*, 1974) could have reduced the louse population feeding on the surviving otters as well as reducing the otter population itself (Chanin & Jefferies, 1978).

One further point of interest is that there are three species of Phthiraptera originally placed in the genus *Lutridia*; two of these are specific each to a single otter host and one occurs on two more species of otter (Hopkins & Clay, 1952). *Lutridia exilis* occurs on the European otter *Lutra lutra lutra* of Britain, Western Europe and North Africa, *Lutridia lutrae* (Werneck) (now placed in the genus *Neolutridia* Lyal, 1985) occurs on the giant otter *Pteronura brasiliensis* (Gmelin) of South America and *Lutridia matschiei* (Stobbe) occurs on the two southern African otters, the spotted-necked otter *Hydricteis maculicollis* (Lichtenstein) and the Cape clawless otter *Aonyx capensis* (= *congica*) (Schinz). A recent review of the Lutrinae by Davis (1978) suggests that there are altogether nine species of otter covering all continents except Australasia. Besides the above four, these are *Lutra canadensis* (Schreber) (North, Central and South America), *Lutra felina* (Molina) (Pacific coast of South America), *Aonyx cinerea* (Illiger) (India and South Asia), *Lutrogale perspicillata* (Geoffroy) (India and South Asia) and *Enhydra lutris* (L.) (Pacific coast of North America). As far as is known, lice specific to each of these five otters have not so far been discovered.

However, the presence of *Lutridia* and *Neolutridia* lice on the four widely differing otters above from three continents suggests a very old attachment, co-evolution and speciation of the Trichodectidae with the Lutrinae and, by inference, that the other five otters are almost certain to have their specific lice. Furthermore the various subspecies of the Eurasian otter *Lutra lutra* inhabiting the eastern part of its range in Russia and China most probably bear *Lutridia exilis* as well as the European otter *L. l. lutra* in the west. The lack of discovery of these lice supports the suggestions made above that they are either not present on every animal, or present at only very low numbers, or both. The possibility of specific lice on the above five otters includes parasitism of the two totally marine species *E. lutris*, the sea otter, and *L. felina*, the sea cat, although Kenyon (1975) states that the former does not bear lice. *L. l. lutra* is largely a marine foraging species on the north western coast of Scotland and the Northern and Western Isles. The Stornoway otter died only 0.8 km from an estuary and 2.6 km from the sea itself. Also to get to Lewis otters would have had to traverse sea water in the past. This suggests that although the guard hairs forming the waterproof barrier get wet, the underfur of the otter remains sufficiently dry and traps sufficient air for *L. exilis* to survive the repeated and long immersion of the otter in sea water. The usual duration of immersion in sea water is unknown but an otter has been radio-tracked during 7.8 hours of almost continuous swimming in freshwater (Jefferies *et al.* 1986). The survival of the lice in the underfur seems a more likely possibility than that lice should be killed by long immersion and then replenished by contact.

All the specimens of *Lutridia exilis* found were placed in the British Museum (Natural History) collection.

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 April 27th, 1988.

Two records of Saldula opacula (Zeit.) (Hem., Saldidae) from the Scottish Highlands. — On the 5th June 1983 I collected a male and female of *Saldula opacula* from mud at the edge of a peaty pool in blanket bog on the Knockfin Heights near Kinbrace, East Sutherland (NC 9234, 430 m asl). At the same time a male and female of *Saldula saltatoria* (L.) were taken at the edge of a nearby pool.

More recently on the 2nd July 1986 I found a single male *S. opacula* on a peaty pool in *Nardus stricta* snow-bed grassland in Coire nan Clach below Beinn a' Bhuirid in the Eastern Cairngorms (NJ 101002, 990 m asl). Snow was still lying in the snow-bed surrounding the pool when the capture was made. There were few pools in this corrie.

I have searched the surface of many high-altitude pools in the Highlands and this is the only *S. opacula* I have taken in this habitat. This suggests that the latter was a stray individual which was caught on the snow during aerial dispersion. Lowland species are commonly found trapped on snow at high altitudes (Ashmole, N.P., Nelson, J.M., Shaw, M.R., Garside, A. 1983, *J. nat. Hist.* **17**: 599-613).

The finds on the Knockfin Heights are probably from a resident population since both a male and female were taken in the same place. A profusion of peaty pools, which is a feature of blanket bog in the far north of Scotland, provides plenty of apparently suitable habitat.

Southwood & Leston (1959, *Land & water bugs of the British Isles*, London: 332) cast doubt upon early Scottish records believing that *Saldula saltatoria* (L.) var. *marginella* was frequently mistaken for *S. opacula*. They state that it undoubtedly occurs in estuarine marshes in Norfolk and Suffolk. However, since then there have been at least two published records of *S. opacula* for Scotland, from Aviemore and Mound Alder Wood Reserve, Sutherland, both given by Woodroffe (1973, *Entomologist's mon. Mag.* **109**: 224).

I am grateful to Roy Crossley for confirming the identification of *S. opacula*. — D. HORSFIELD, Nature Conservancy Council, 12 Hope Terrace, Edinburgh, EH9 2AS: January 14th, 1988.

Arhopalus rusticus (L.) (Col., Cerambycidae) in South Croydon. — On 29.vii.78 a large "longhorn" beetle was discovered in my kitchen at the address below (monad 51(TQ) 3363). This ran down in Joy (1932, *A Practical Handbook of British Beetles*) to *Criocephalus* (now *Arhopalus*) *rusticus* (L.). I was, however, not entirely happy with my interpretation of Joy's keys, and my confidence was not increased by his description of this species as rare and with a distribution, as known up to 1928, restricted to NE Scotland. Furthermore, my son had been using a UV-light trap in the countryside on the previous night, and the possibility that the beetle had been brought home inadvertently with his equipment could not be completely overlooked. For these reasons the specimen remained in my collection with no name or locality assigned to it.

The recovery of a second specimen, a female, flying round the UV-light trap in the garden on 1.viii.82 spurred me to action and, through the kindness of Dr J.A. Marshall, its identity was confirmed at the British Museum (Natural History) by Dr N.E. Stork. A third specimen, also a female, was taken in similar circumstances on 11.ix.82. Comparison of the relative lengths of the antennae of these three beetles indicated that the first to be taken was a male.

Three other sightings in 1984, all at night on the white wall of the house where illuminated by the UV-lamp, and possibly all of the same female as the specimen was not retained, were on 30.vii, 14.viii, and 16.viii.84. On the last occasion the beetle was marked on the pronotum with a dab of white paint, but it was not seen again.

The most recent sighting was on 17.viii.86, when once again a specimen was found in the kitchen. As judged from the length of the antennae, this was another female.

Moore (1953, *Entomologist's mon. Mag.*, 89: 274) has recorded this species from Surrey, presumably near Farnham, but although reports for neighbouring counties have appeared both before and since this date, I have not been able to find any more recent note of its occurrence nearer to Croydon. While it has also been taken at a mercury-vapour moth-trap by Horton (1980, *Entomologist's Rec. J. Var.*, 92: 52) most earlier accounts refer to its association with charred pine stumps. Small clumps of pine trees are present within a few hundred metres of the house, and other larger plantations within a kilometre, but these are not subject to burning. A timber-yard is situated somewhat less than a kilometre away, and Britton (1961 *Domestic Wood-Boring Beetles*, BM(NH)) notes that *Criocephalus* species have been known to emerge from wood in houses, although of rare occurrence in such circumstances. Whatever the local source may be, it is apparent that it has yielded a steady, if sparing, supply of these beetles over a period spanning nine summers. — GEOFFREY B. COLLINS, 15 Hurst Way, South Croydon, Surrey, CR2 7AP: *April 15th*, 1988.

Ectemnius sexcinctus (F.) (Hym., Sphecidae) — a wasp new to Yorkshire. — Amongst a diverse collection of insects submitted to me for identification by A. Brackenbury — taken as part of an urban habitat survey of Sheffield — were a number of striking crabronine wasps from Parkwood Spring (SK 344892), a waste ground area near the centre of the city. Two of these, *Ectemnius continuus* (F.) and *Crabro cribrarius* (L.), are relatively common in South Yorkshire, but the third specimen examined proved to be *E. sexcinctus*, taken Aug. 1987, a species hitherto unknown in the North of England.

Richards (1980, *Scolioidae, Vespoidea and Sphecoidea* (Hymenoptera, Aculeata) *Handbk Ident. Br. Insects* 6(3b). London) gives the range of *E. sexcinctus* as Kent to Cornwall to Somerset, Glamorgan, Norfolk. It is also known from Leicester (SK 624056, July 1975) (M. Archer, pers. comm.). The discovery of this species in South Yorkshire is therefore very surprising and represents a considerable extension of its known range in the British Isles. That it should have been found in such a blighted "brick rubble fringe" habitat amidst a sea of urban dereliction is perhaps the more remarkable.

I am grateful to Dr M.E. Archer for confirming the identification and for checking this note and to Austin Brackenbury for providing additional information about the site. — J.D. COLDWELL, 42 Norwood Drive, Barugh, Barnsley, S. Yorkshire. S75 1LP: *March 12th*, 1988.