Woodlice

of Norfolk

Norfolk & Norwich Naturalists' Society

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Data for maps courtesy of Norfolk Biodiversity Information Service (NBIS)
Based on data received to 31.12.08 with some supplementary records for later years.

This presentation compiled by DI Richmond.

Bibliography

Gregory, S. 2009 *Woodlice and Waterlice in Britain and Ireland*
Centre for Ecology and Hydrology

Key to maps

Latest record: ☐ **pre-1984** ■ **1984-2000** ■ **2001-2014**

Revision date 28.02.14

Woodlice are terrestrial crustaceans of the order Isopoda, and are commonly known as slaters, sowbugs or pillbugs. In the British Isles, thirty-four species are considered native or naturalised of which twenty-six have been found in Norfolk. Many species are **synanthropic**, i.e. they occur near man in houses, walls, gardens, farm buildings, glasshouses, dung heaps, rubbish dumps and piles of rubble.

Because of their crustacean inheritance, woodlice need relatively damp conditions. They shun light and are most easily found by looking under stones or logs or by sieving soil or litter. Some species are more easily found at night when they wander in search of food or shelter. Different techniques need to be used in a range of habitats in order to find all the species. Our apparently common species are really those which are large and live in easily accessible situations (e.g. under a log). Other, supposedly rare species may be very common, but are seldom found because they are very small and live within the soil. Woodlice are very sensitive to changes in humidity and temperature. They migrate down into the soil in winter to escape freezing and in summer to escape desiccation.

Spring and autumn are the most profitable seasons for fieldwork, spring being the more favoured because then there are few immatures to confuse the inexperienced collector.

Female woodlice retain their eggs in a fluid-filled brood-pouch where the embryos develop. When the pouch ruptures, miniature almost independent woodlice emerge. Apart from the difference in size, the immatures may be very different in shape, colour and texture, so that it is not always obvious to which species they belong. Even among adult woodlice, a single species can exhibit great variation in colour to further confuse the collector and several of the tiny species can only be identified with certainty by reference to the male genitalia. Despite this, most problems of identification can be overcome quite quickly and field identification is the accepted method of recording for most species. Characters used for identification are the shape, colour, pattern and texture of the body, the structure of the **uropods** (posterior appendages) and antennae, the size and structure of the eyes and overall body size.

Some species have the ability to roll into protective balls earning them the name of pill-woodlice.

The big five

In this presentation the species accounts are arranged alphabetically. The beginner may wish to pay particular attention to the following five species, which are known to some as the “big five”, because they are easy to find in a wide range of habitats. *(Size estimates relate to full grown adults).*

Armadillidium vulgare
Common pill-woodlouse (18mm)

Oniscus asellus
Common shining woodlouse (16mm)

Philoscia muscorum
Common striped woodlouse (11mm)

Porcellio scaber
Common rough woodlouse (17mm)

Trichoniscus pusillus
Common pygmy woodlouse (4mm)

Colour variation

Some species show significant colour variations even among individuals collected at the same site.

The examples below show some of the variations which can occur in two of our commoner species.

Oniscus asellus

Common shining woodlouse

Normal form

Orange form

Porcellio scaber

Common rough woodlouse

Normal grey form

Mottled form

Pale form found in dunes

Androniscus dentiger Verhoeff

A medium-sized brilliant orange or pink species often with a yellow dorsal stripe.

It occurs in synanthropic situations throughout the county. Despite its stunning appearance it is often overlooked because it prefers damp undisturbed habitats. It is often found under objects which are sitting on concrete or brick, and when it is found in soil this is usually clay.

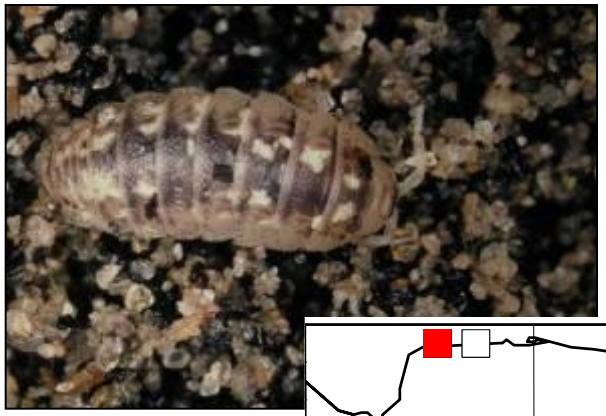
A. dentiger is also found commonly in coastal cliffs of slumping clay in N.E. Norfolk and is recorded from the stable shingle bank at Snettisham. These may represent natural habitats for this species in Britain.

Dick Jones

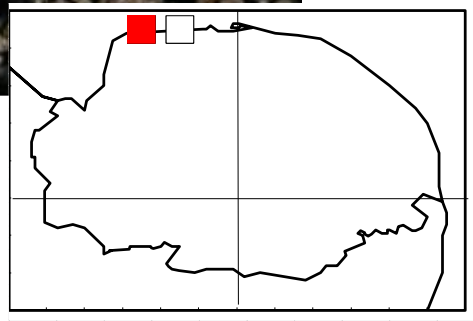
Armadillidium album Dollfus

The smallest Norfolk pill-woodlouse. It is white or off-white, speckled with grey and ginger, thus closely matching the sand in which it occurs.

A coastal species, it may be found burrowed into the sand and under driftwood along the highest strandlines of dune systems out of reach of all but the highest spring tides. It can also occur in the upper reaches of saltmarshes where these back onto dunes. Although a scarce species nationally, in Norfolk it can be found from Holme to Holkham and is particularly common on Scolt Head. It has not yet been recorded from the dune systems of East Norfolk.



Dick Jones

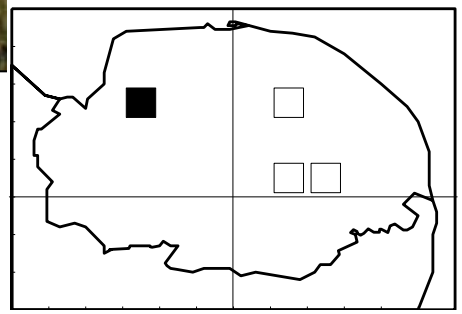


Armadillidium nasatum Budde-Lund

This uncommon pill-woodlouse occurs throughout southern England and Wales but has only rarely been found in Norfolk.

The first occasions were reported (as *A. speyeri* Jackson) by A. E. Ellis (1942) who found the species in Daniels' Nurseries and Earlham Park in Norwich. More recently, in 1982, both immatures and adults were found at a stone importer's yard near Aylsham; but the firm is supplied by quarries throughout England so the origin of the colony is unknown. Finally it was reported from Appleton Tip, near Flitcham in 1984.

Dick Jones

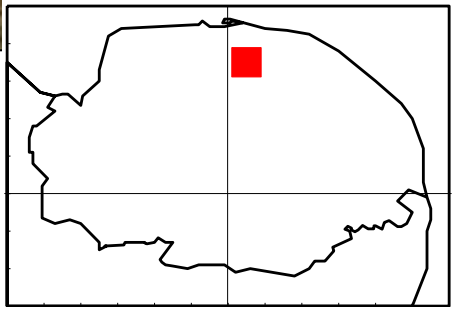


Armadillidium pulchellum (Zenker)

This species was first recorded in Norfolk in 2006 at Swanton Novers Wood, where it was found beneath heather in a woodland ride.

This habitat differs markedly from most other British records which are from carboniferous limestone or from cliffs and cliff tops on Paleozoic rocks, although 11 per cent of records are from acid heath or moorland. It is a rare species with a predominantly northern and western distribution in Gt Britain and also occurs in Ireland.

Dick Jones



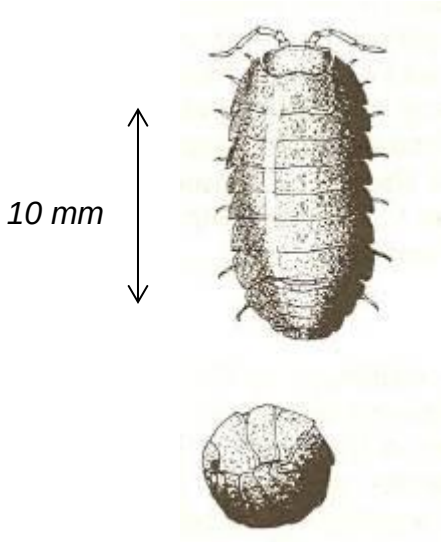
Armadillidium vulgare (Latrielle)

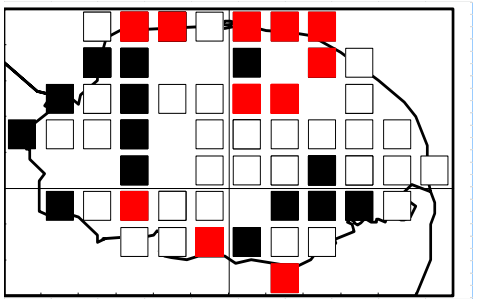
This is the only pill-woodlouse widespread in Norfolk.

It is found in a variety of colour forms, the most common of which are shiny slate grey and mottled grey on a pale background. Another frequently found form is orange-red. All of these forms may have yellow speckles along the mid-line.

Large individuals may reach 20 mm in length. When rolled up, *A. vulgare* is perfectly spherical, which distinguishes it from similar species, as well as the pill-millipede, *Glomeris marginata*.

Its wide distribution includes grassland, arable, wasteland, gardens, shingle beaches and sand dunes. On beaches it may occur in the higher strandline litter and on sandy beaches it may be found alongside A. album. It is notably absent from damp habitats and acid heath.





David Richmond

A.Vulgare is easily confused with the **Pill-millipede *Glomeris marginata*** which also rolls up into a protective ball. Note the shinier appearance of the millipede and the single large segment at its tail end.

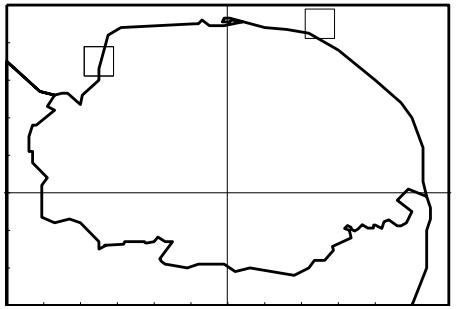
Buddelundiella cataractae Verhoeff

This tiny woodlouse closely resembles a grain of sand when it is rolled up, so it is not surprising that it remained undiscovered in Britain until 1981. The first specimens were found in a garden in Cardiff and the species is synanthropic throughout most of Europe.

In March 1982, it was discovered in a stable shingle bank at Snettisham at densities of over 6,000 per sq m and was mainly present at 10-20 cm depth. The shingle was thinly covered with the grass *Arrhenatherum elatius* and litter from this, together with old buried strandlines, provided the primary food-source for a large invertebrate community. It has also been reported from Overstrand.

Dick Jones

1 mm

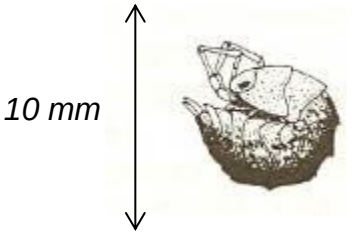


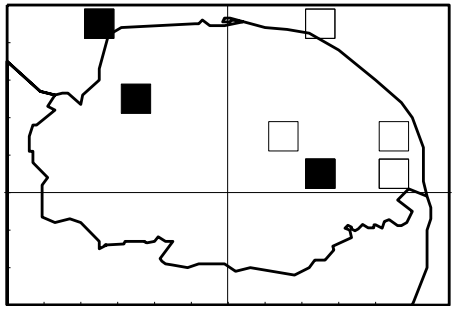
Cylisticus convexus (DeGeer)

This uncommon pill-woodlouse is not very good at rolling into a ball. Unlike *Armadillidium vulgare* the large antennae are left sticking out.

Cylisticus is recorded from several synanthropic sites in Norfolk as well as in unstabilised scree below chalk cliffs at Hunstanton and among clay blocks on slumping cliffs at Overstrand. It has also been found in a rotten log lying on saltmarsh on the south side of Breydon Water.

Dick Jones

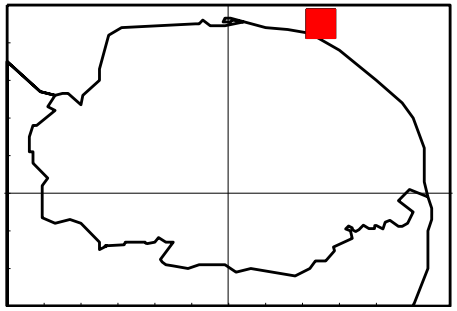




Eluma purpurascens Budde-Lund

This purple-grey pill-woodlouse is very similar to *Armadillidium vulgare*. However its slender build and waxy bloom on the cuticle are characteristic.

Elsewhere in the British Isles it is known from few localities including sand dunes in Dublin and streamside flood refuse in Kent. In Norfolk it was first discovered in 1975 at Overstrand, where the clay scree of the cliffs is colonised by coltsfoot. *Armadillidium vulgare* and *Eluma* both occur here, but the *Eluma* tend to burrow into the soil while the *Armadillidium* remain on the surface.



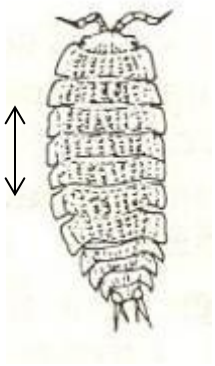
Dick Jones

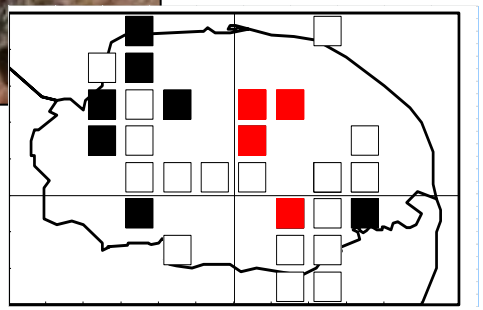
Haplophthalmus danicus Budde-Lund

This small species is usually white or off-white but may occasionally be pink.

It occurs throughout the county, preferring damp, humus-rich, friable soil. Rotting wood is another favoured substrate, and it is frequently found under the bark of decaying hardwood logs, particularly ash and elm. It has also been recorded from synanthropic situations such as damp, well-rotted straw in barns.

David Richmond



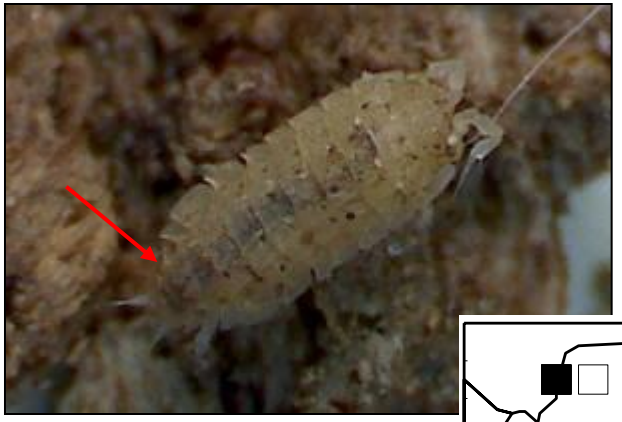


Haplophthalmus mengei (Zaddach)

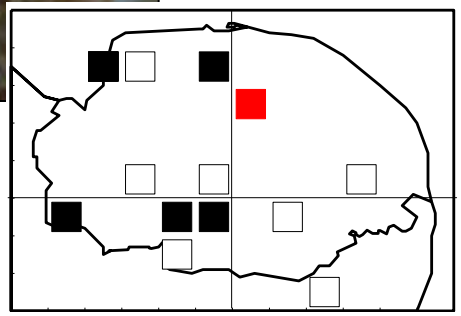
This, and another similar species, can be distinguished from *H. danicus* by the paired bumps on the lower back.

Although less frequently associated with rotting wood than *H. danicus*, it inhabits the same type of humus rich, friable soil and synanthropic situations.

H. montivagus *is a similar species which has only recently been recognised and which has not yet been formally recorded in Norfolk. Separation of the species requires microscopic examination of the genitalia. In the absence of such detailed research, the map for H.mengei should be interpreted as relating to the species aggregate.*



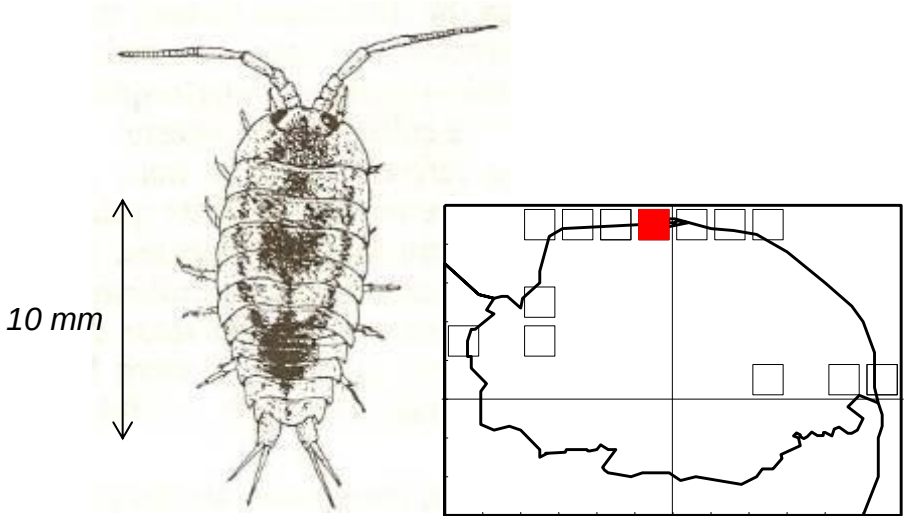
David Richmond



Ligia oceanica (Linneaus)

The 'sea slater' is the largest of the British woodlice with a head and body length of up to 30 mm.

It is littoral in habit, preferring rocky shores where it is commonest around the high tide mark, but it is able to maintain colonies around the Norfolk coast in sea walls, groynes, quays etc. It penetrates the tidal reaches of estuaries, being found in the River Nene, River Ouse and Breydon Water. There is a single inland record from a woodyard in Norwich in 1964. Individuals may frequently be found under debris on the strandline.



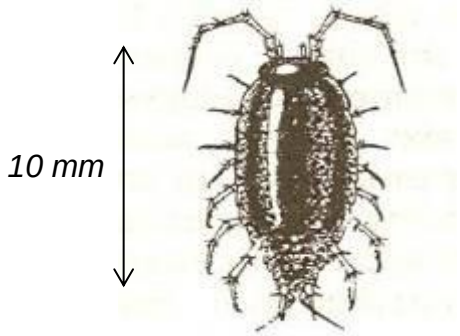
Dick Jones

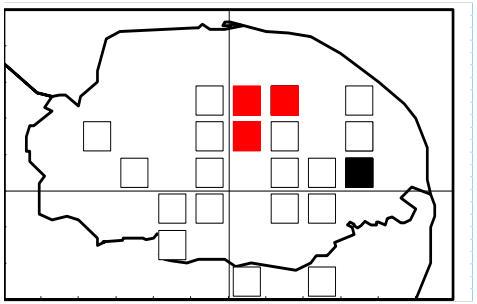
Ligidium hypnorum (Cuvier)

Superficially resembling *Philoscia muscorum*, this species can be recognised by its large compound eyes and long thin uropods.

Like *P. muscorum* it is extremely agile. It occurs in two major types of habitat. The first is river valleys where it occurs in the litter of open and tussocky fens, carr, river banks and poplar plantations. It has also been collected from *Sphagnum*. The second habitat is woodland on heavy clay where it is to be found under logs and in the thin litter layer which accumulates on such soils. Twenty-first century records are from Sparham (Wensum Way), Whitwell Common and Booton Common.

Dick Jones



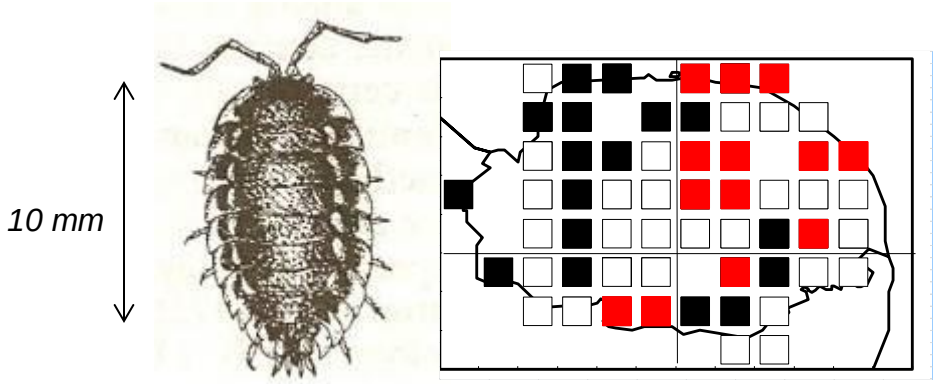


Oniscus asellus (Linneaus)

One of our larger and more common species, it can reach 15 mm in length. Its colour varies from grey to brown with irregular pale markings.

These markings may form a weak row of pale dots down each side and the lateral margins are invariably translucent. The back is frequently speckled with yellow. A striking colour form where the grey is replaced by orange has been found in the county on several occasions.

O. asellus is found everywhere except the shore, dunes and open heath. It is particularly common in woodland where it congregates in large numbers under dead bark.



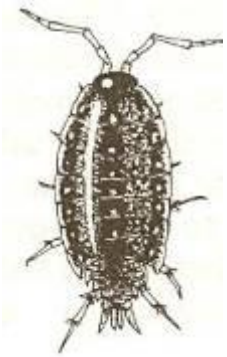
David Richmond

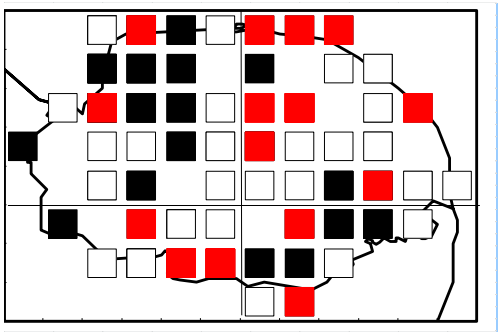
Philoscia muscorum (Scopoli)

This shiny, fast-moving woodlouse displays a great variety of colour forms in browns, greys, reds and yellows.

Typically the animal has a dark head and a central dark stripe along the body. It is a widespread species, particularly abundant in grassland, but found in all major habitats in the county.

10 mm





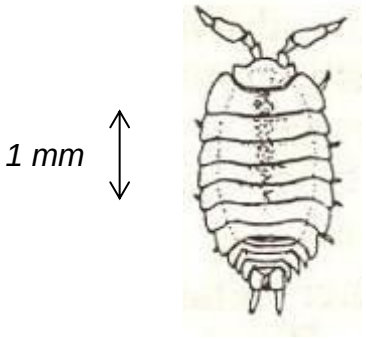
Dick Jones

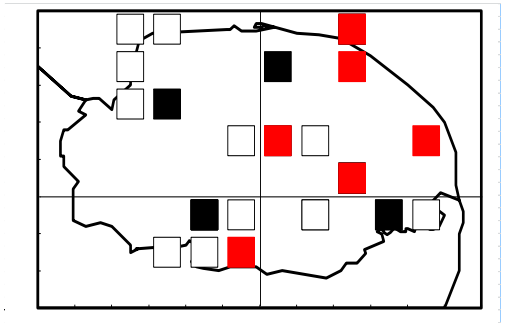
Platyarthrus hoffmannseggi (Brandt)

This enchanting little species is blind, white and very broad. It is a common inhabitant of ants' nests where it probably feeds on excreta.

It is widely distributed in Norfolk and has been found most frequently with *Lasius niger* but also with *L. flavus, L. umbratus* and *Myrmica rubra*. Occasionally it has been found in soil without ants. Viable ant-free colonies can be maintained for several generations.

Tony Irwin



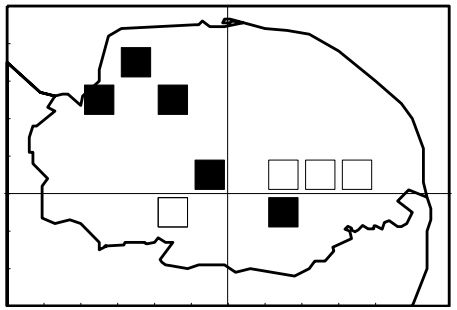


Porcellio dilatatus (Brandt)

The inexperienced observer may find it difficult to separate this species from *P. scaber* and thus it has probably been overlooked in the past.

It is grey-brown with well defined stripes along each side. The authors recorded this species from synanthropic situations in West Norfolk where it occurs in and around farm buildings, particularly field barns.

Dick Jones

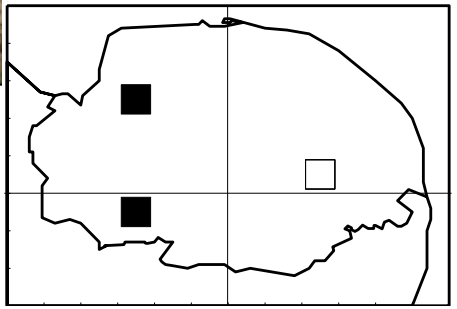


Porcellio laevis Latrielle

This very large (up to 18 mm long) shiny brown *Porcellio* is nationally rare.

Almost certainly introduced it is found in similar habitats to *Metoponorthus pruinosus*. The only Norfolk colony known to the authors in 1984 was around the compost heap on the Castle Mound, Norwich. Subsequently there have been reports of this species from Flitcham (1984) and Terrington St Clement (1997).

Dick Jones

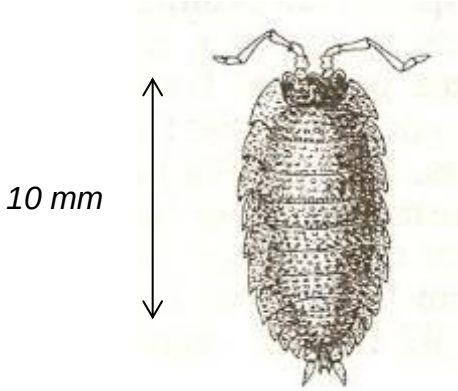


Porcellio scaber Latrielle

This is one of the most familiar woodlice and is found commonly in nearly all Norfolk habitats. It is the dominant woodlouse of dry areas such as sand dunes and sandy heaths.

It is abundant under the bark of rotten logs and is frequently found climbing trees. The colour of the rough cuticle ranges from a uniform dark grey to pale buff with brown speckles. These colour forms seem to be related to habitat much more than in other species. The very pale forms are typical of sand dunes, and a form which is brick red with or without blue speckles is most often found among piles of soft red bricks.

David Richmond

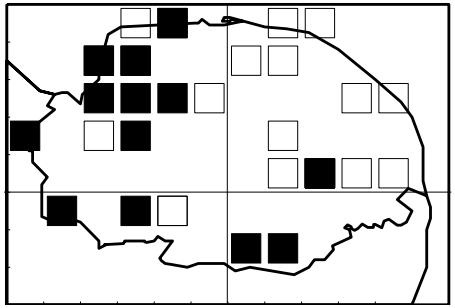


Porcellio spinicornis Say

This large attractive species is mottled brown and yellow with a dark head.

It is native on limestone screes and chalk cliffs but in Norfolk is only found where limestone or lime mortar are used in buildings. Although widely distributed in the county, it seldom occurs in large numbers. It is often found in ruined walls, on doorsteps and even on rooftops.

Dick Jones

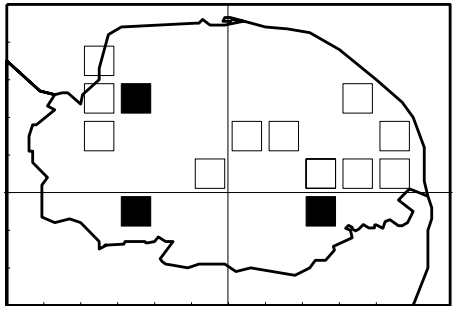


Porcellionides pruinosus (Brandt)

This is an easily identified woodlouse, being grey (rarely orange) with a distinctive white bloom which is like that of a plum and can be rubbed off.

In addition its white feet and pale spots on the antennae are conspicuous. It is possibly not native and is only found in synanthropic situations such as farmyards and gardens, where it is almost invariably associated with old manure or compost heaps. It has also been found in barns and a municipal rubbish tip. Where suitable habitat occurs it can be very abundant.

Dick Jones

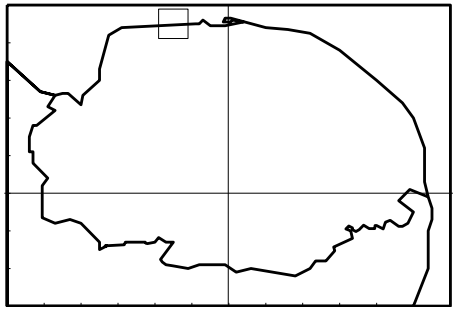


Stenophiloscia zosterae (Verhoeff)

This is a medium-sized species which has very long antennae and uropods.

It is known from Norfolk from a single specimen collected in a pitfall trap on a sandy beach on Scolt Head. It is probable that this species will be found elsewhere on the Norfolk coast, when suitable collecting strategies have been devised.

The species has also been recorded from a shingle ridge in Devon and a gravel beach in Essex.



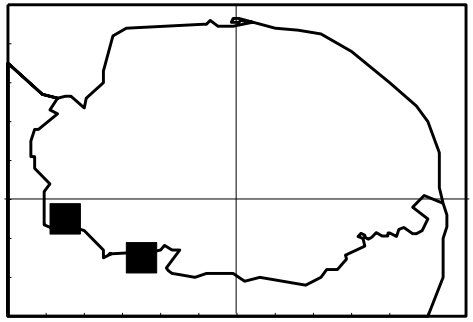
Trachelipus rathkei (Brandt)

This species has a mottled yellowish-grey body with 3 distinct double stripes.

RE Jones first collected it at Welney in September 1984. The site is within the modern administrative county of Norfolk but outside of the West Norfolk vice-county by about 20 feet, (the width of the road that forms the boundary). AG Irwin collected it from Hockwold cum Wilton well inside Norfolk on 7 May 1985.

It is probably extending its range. It seems to have colonised the manmade river banks which cross the fens and which appear to provide a similar habitat to that of the damp, rough grassland on clay soils in which it occurs further to the west.

Dick Jones



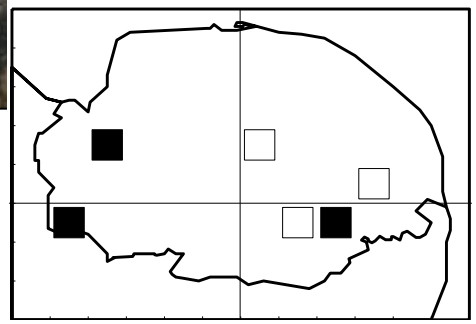
Trichoniscoides albidus (Budde-Lund)

This tiny species is cream or pink in colour and can only be identified with certainty by examining the male genitalia.

Irwin and Jones (1984) knew of only three Norfolk records - from a roadside ditch at North Tuddenham, in leaf litter from Wayland Wood, and in riverside litter at Tasburgh. There have been later records from Welney, King's Lynn and Woodton.

There is evidence to show that elsewhere in Britain this species is grossly under-recorded (Rundle, 1979) and it probably occurs in suitable habitats throughout Norfolk.

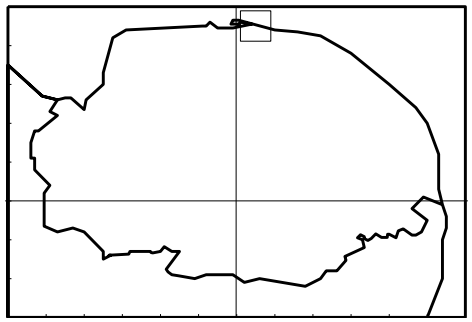
Dick Jones



Trichoniscoides saeroeensis Lohmander

This is a tiny white or pink woodlouse with bright pink eyes.

It is occasionally found in caves and mines, but is primarily a coastal species in Britain, living on cliffs and banks above the high water mark. In Norfolk, Irwin and Jones (1984) knew of it only from the shingle banks at Cley, where it occurred on the main bank underneath large concrete and brick blocks, and behind the main bank in stable, sandy shingle at 10 to 20 cm depth.



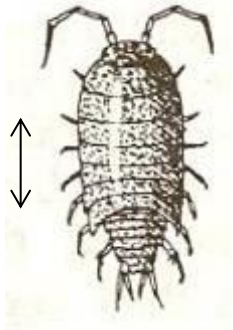
Trichoniscus pusillus aggregate

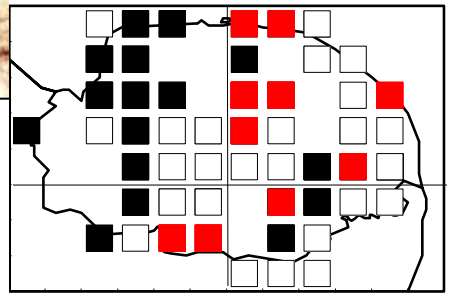
*Until recently T. pusillus was considered to exist in two forms, a smaller, sexual form **provisorius** up to about 3.5mm in length with equal numbers of males and females in the population, and a larger parthenogenetic form **pusillus** up to 5mm in length with males virtually absent. Since 2004 the forms have been considered as separate species, although they are morphologically identical and thus rarely separated by recorders.*

Together they can be considered to be Britain's most abundant woodlouse but being small soil species their numbers are often underestimated.

The usual colour is reddish brown but certain individuals are a brilliant purple. It is abundant nearly everywhere, but cannot tolerate dry conditions, so migrates into the soil during dry periods. It appears to be absent from sand dunes and heathland.

David Richmond





Trichoniscus pygmaeus Sars

This tiny white or pink soil species is probably one of our more common woodlice but it is difficult to find and thus grossly under-recorded.

It prefers slightly damp, friable soil and occurs in woodland, grassland, wasteland and gardens where it may be found by looking under rocks and logs. Large numbers occur within the stable shingle bank at Snettisham.

Records of woodlice seen in Norfolk may be sent to the Norfolk Biodiversity Information Service:

www.nbis.org.uk

The most important pieces of information to include in any record are:

- **Species name**
- **Site name**
- **Grid reference**
- **Notes on the sighting *(eg number of individuals, habitat)***
- **Date**
- **Observer contact details**