EUROPEAN INVERTEBRATE SURVEY

PROVISIONAL ATLAS

OF THE

CRUSTACEA OF THE BRITISH ISLES

General editor John Heath

Part 1

ISOPODA : ONISCOIDEA

Woodlice

Edited for the British Isopoda Study Group by

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ISOPODA : ONISCOIDEA

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Map 8 : Trichoniscus pygmaeus - Ireland. Delete solid circle in square 22/95
Insert solid circle in square 22/96

Map 10 : Haplophthalmus mengei - Ireland. Delete solid circle in square 22/92

Map 22 : Porcellio laevis - Ireland. Squares 32/13 & 32/23, Change open circles to solid circles.

Map 23 : Porcellio dilatatus - Ireland. Delete solid circle in square 32/13.
Change from solid circle to open circle in square 32/23.

NOTES ON MAPS

Map 25 : line 1., for Porcellios read Porcellio.

INTRODUCTION

Woodlice are the only group of terrestrial Crustacea occurring in the British Isles. There is a small number of species, and comparatively few collectors have worked on the group although there was considerable interest in it at the turn of the century.

Distribution records of species in the British Isles were largely based on named localities, but Pack-Beresford & Foster (1911) produced vice-county distribution maps for all the Irish species, with a later supplement (1913). Collinge published many papers on distribution including lists of localities for each species, and (1943) the distribution of the species in Britain arranged by counties. Although the work of Pack-Beresford & Foster seems to have been based on reliable identifications, that of Collinge is more dubious (Harding, *in preparation*). The distribution statements for the British Isles species included by Edney (1953, 1954) were based mainly on Collinge's records. Sutton, Harding and Burn (1972) give brief statements of the distribution of species based on records since the publication of a workable key to species by Edney (1953, 1954).

The atlas includes maps of the distribution of the 31 species of woodlice considered by Sutton *et al* (1972) to be native, or naturalised in outdoor situations, in the British Isles. The maps are based on over 12,500 records of species received up to the end of June 1976 from the sources listed below. Maps are not included for the 10 species considered to be alien in Britain and Ireland. No authentic specimens of *Trachelipus ratzeburgi* have been seen and this species may never have occurred here.

Records have been received from 1675 ten km. squares, of which records from 1600 squares date from 1960 or later. Most of the records date from 1970 onwards, with over 4000 species records for 1975/6.

SOURCES OF RECORDS

Non-marine Isopoda Recording Scheme

The main source of records has been the Non-marine Isopoda Recording Scheme organised by the British Isopoda Study Group. This scheme was launched publicly in 1969 (Sutton 1969), although a pilot scheme had been organised by Dr S.L.Sutton & R.J.A.Metcalfe in 1968. A recording card for the scheme was printed by the Biological Records Centre in 1970. The design of the card differs from that of most other recording cards by including a detailed habitat classification. This means that a recording card is completed for each microsite in which specimens are collected, so that detailed ecological information is recorded as well as geographical distribution. The card was designed in collaboration with the Myriapod Study Group, so that an identical habitat classification for recording Centipedes, Millipedes and Non-Marine Isopoda could be used (Barber & Fairhurst, 1974). The habitat classification was codified using a system devised by Mr David Burn for analysis using a computer. A trial analysis of the data available for *Platyarthrus hoffmannseggi* is described by Fairhurst, Harding and Sutton (1975).

Initially all records collected through the recording scheme were supported by voucher specimens identified or checked by the organisers of the scheme. In many cases, collectors gained experience of identification using named reference collections returned to them by the organisers. As a result, after six years operation, the scheme has a small team of collectors competent at identifying all or most of the material they collect.

The recording scheme also includes the four species of the freshwater genus *Asellus* recorded from the British Isles. Although many records of these species have been received, coverage is irregular, and it has been decided to omit these species from this atlas, thereby limiting it to the woodlice. It is hoped that maps for the *Asellus* species will be ready for publication in a few years.

The records from the personal collections of Dr S.L.Sutton and myself, dating back to the early 1960s have been included with the records of the recording scheme.

Museum Collections

The following three museum collections have contributed most of the pre-1960 records included in this atlas. In all cases identifications have been checked, and usable records extracted. The collection in the British Musem (Natural History) includes material collected in the British Isles from the H.J.Larwood, A.M.Norman and W.M.Webb collections. The Yorkshire Museum has British Isles material comprising part of the W.E.Collinge collection. Examination of the collection in the National Museum of Ireland is incomplete, but two large collections attributable to D.R.Pack-Beresford have been checked.

Cave Research Group of Great Britain

Records of specimens collected by members of the Cave Research Group (now the British Cave Research Association) and identified by Dr E.M.Sheppard are held at the Biological Records Centre. These records have been used in compiling this atlas.

Published Records

Because of the uncertainty over the reliability of published records, especially those of W.E.Collinge, mentioned earlier, no records from the literature which cannot be supported by voucher specimens have been used in the preparation of these maps.

RECORDS FROM SYNANTHROPIC HABITATS

Synanthropic habitats can be simply described as those associated with man. Examples are: houses, walls, gardens, farm buildings, glasshouses, dung heaps and rubbish dumps, domestic refuse and litter, and piles of rubble. Synanthropic habitats are often the most productive for numbers of individuals and also often for numbers of species. The geographical distribution of many species is effected by the varying degrees of synanthropy they exhibit. Several species, e.g. *Androniscus dentiger* (Map 2) and *Armadillidium nasatum* (Map 27), which probably would otherwise be rare have been able to greatly extend their geographical and ecological range by being able to exploit synanthropic habitats different from

their natural ones and have been inadvertantly spread by man. Other species, e.g. *Oniscus asellus* (Map 16) and *Porcellio scaber* (Map 25) are equally at home in natural and synanthropic habitats. Some species appear not to be able to exploit synanthropic habitats because they require obviously very specialised conditions for survival, e.g. *Halophiloscia couchi* (Map 14) and *Ligidium hypnorum* (Map 12), but the factors limiting the distribution of species such as *Armadillidium pulchellum* (Map 31) and *Metoponorthus cingendus* (Map 19) are less apparent.

It is hoped that in the future it will be possible to separate the distribution records for certain species by synanthropic, and non-synanthropic habitats to give a clearer picture of the probable natural distribution of these species.

NOTES ON THE MAPS

Date of mapping

All the maps were made from data available at the end of June 1976

Symbols

Open circles indicate records dating from before 1960

Solid circles indicate records dating from 1960 to 1976

Map 1. Records Received

Map 2. *Androniscus dentiger* Verhoeff. Found in several distinctly different habitats. Very widespread in synanthropic habitats especially in gardens, ruins and under rubble. Commonly recorded from the dark zone of mines, caves and tunnels. Also occurs in calcareous screes, inland and on the coast.

Map 3. *Oritoniscus flavus* (Budde-Lund). Recorded only from the Suir/Nore/Barrow, and Slaney drainage basins, except for a single record from Burnham Woods, Dingle Peninsula, Kerry. Few habitat data are available, but records are mainly from scrub woodland, overgrown roadside walls and coastal grassland. The distribution of this species is curious; it occurs in the Pyrenees and south-western France, and in this restricted area of southern Ireland. It may be a long-established introduction in Ireland.

Map 4. *Trichoniscoides albidus* (Budde-Lund). Four recent records, mainly from synanthropic habitats, i.e., waste ground and a rubbish dump. Found in large numbers in a roadside ditch at Runnymede, Surrey.

Map 5. *Trichoniscoides saeroeensis* Lohmander. First recorded in the British Isles from the Warton area of Lancashire in 1966 (Sheppard,1968) although a specimen dating from 1934 from South Queensferry, near Edinburgh, was found in the Collinge collection. The habitats recorded are, caves and mines (Clare and Lancashire), stony ground beside an estuary (Hebrides) and an estuarine strand-line (Cork), coastal cliffs (Louth), woodland on coastal cliffs (Kirkcudbright). This species may prove to be widespread in coastal habitats although it is difficult to collect, and to identify.

Map 6. *Trichoniscoides sarsi* (Patience). A soil species recorded from open chalk grassland, chalk rubble, sea cliffs, salt marsh and ornamental woodland.

Map 7. *Trichoniscus pusillus* (Brandt). The most abundant species in the British Isles. It occurs in a wide range of habitats, but is very vulnerable to desiccation. Almost certainly occurs throughout the British Isles, but may be overlooked by inexperienced collectors. The two sub-species (*T.p.pusillus* and *T.p. provisorius*) have not been mapped separately because insufficient records are available. The suggestion made by Sutton *et al* (1972) that the two sub-species have different geographical ranges is not borne out by the records that are available.

Map 8. *Trichoniscus pygmaeus* Sars. A soil species which is probably badly under-recorded because it is small and difficult to find. It occurs in friable, slightly damp soil in many habitats including woodland, grassland, waste ground and gardens. Most easily collected by sieving samples of suitable soil or searching under stones. The map shows a distinct bias for the records of collectors familiar with the habits of this species.

Map 9. *Haplophthalmus danicus* Budde-Lund. Found under the bark of decayed logs, especially elm, and in damp, friable, humus rich soil in various synanthropic

habitats. Seems to be genuinely absent from woodlands in northern Britain. Two recent Irish records, from Howth (Co. Dublin) where it occurs under stones at the base of sea cliffs, and from debris cleared from a canal near Prosperous (Co. Kildare).

Map 10. *Haplophthalmus mengei* (Zaddach). Found in damp, friable, humus rich soil in a variety of habitats, including synanthropic situations. Strongly associated with "peaty" soils on the Carboniferous and Magnesian Limestones where it occurs in grassland and woodland. Very rarely occurs with *H. danicus* (Map 9).

Map 11. *Ligia oceanica* (L.). Littoral. Common on rocky coasts, but rare on "soft" coasts, eg sand, mud, or shingle; in these areas usually only found around sea walls, groynes and quays. A single inland record, from a warehouse in Bradford engaged in overseas container trade through Hull.

Map 12. *Ligidium hypnorum* (Cuvier). Strongly hydrophilic. Found in damp situations in woods, and certain fens and marshes, also occasionally in damp grassland. Almost certainly a south-eastern species, with a single occurrence beside the Kennet & Avon Canal near Bath probably being an introduction. Noticeably absent from fens in the Test Valley (Hampshire), and also Wicken Fen (Cambridgeshire). A record by Collinge from the Bollin Valley (Cheshire) has not been confirmed.

Map 13. *Platyarthrus hoffmannseggi* Brandt. Usually associated with ants, particularly *Lasius* spp. and *Myrmica* spp. Seems to be commoner on calcareous soils, and becomes restricted to them in the northern parts of its range. Commonly occurs with synanthropic species of ants..

Map 14. *Halophiloscia couchi* (Kinahan). Littoral. Occurs interstitially in boulder beaches on rocky coasts. Very difficult to find except during high tides, or at night (Harding,1975).

Map 15. *Philoscia muscorum* (Scopoli). Mainly a grassland species which occurs in some synanthropic habitats. Common in southern Britain, but local in Scotland and parts of northern England.

Map 16. *Oniscus asellus* L. Ubiquitous and strongly synanthropic. Common in woodland, rare in calcareous grassland. Usually the commonest species on acid soils with high humidity.

Map 17. *Cylisticus convexus* (De Geer). It occurs in coastal localities in natural habitats - unstable cliffs and shore drift lines, but also occurs in synanthropic habitats, including waste ground in several cities. Also found in drains and tunnels, but there are no records from caves or mines.

Map 18. *Trachelipus rathkei* (Brandt). The irregular distribution of this species is not understood. It usually occurs in a fairly widespread habitat - ill-drained rough grassland, occasionally with scrub. Frequent in such habitats on clay soils in Huntingdonshire, in reconstituted quarries in Northamptonshire and in disused quarries in Kent. A few records from synanthropic habitats in Surrey and Kent, and from a compost heap near Whitby (Yorkshire).

Map 19. *Metoponorthus cingendus* (Kinahan). A "Lusitanian" species whose occurrence in Ireland conforms well with the accepted distribution for "Hibernean Lusitanian" species. It also occurs on or near the coast in south-west England and Wales. There is also a record from a fen in the Rother valley (Sussex). Usually found in long grass in species-rich grassland, but in south-western Ireland it is often very common and occurs in such habitats as scrub woodland and gardens.

Map 20. *Metoponorthus pruinosus* (Brandt). All records are from synanthropic habitats such as dung-heaps, stables, gardens and rubbish dumps. Probably not native in the British Isles.

Map 21. *Acaeroplastes melanurus* (Budde-Lund). Recorded frequently on the southern cliffs of Howth (Co. Dublin) between 1909 and 1929, but several attempts, since 1968, to re-find it there, have failed.

Map 22. *Porcellio laevis* Latreille. Similar to *Metoponorthus pruinosus* (Map 19) in that it has been recorded only from synanthropic habitats and may well not be native in the British Isles.

Map 23. *Porcellio dilatatus* Brandt. Recorded mainly from synanthropic habitats, especially around buildings and in ruins, but also from natural habitats on coastal chalk cliffs (Dorset) and chalk grassland (Bedfordshire).

Map 24. *Porcellio spinicornis* Say. Probably occurs naturally in Carboniferous limestone screes, but has been able to colonise all types of limestone quarries, dry-stone walls (especially Oolitic limestone), walls with mortar, buildings and ruins. Also recorded from chalk cliffs in Dorset.

Map 25. *Porcellios scaber* Latreille. Very common, especially in synanthropic habitats. Often occurs in very large numbers and in a wide variety of colour forms. The only species found widely on dry sandy soils, eg. mobile sand dunes and lowland heaths.

Map 26. *Eluma purpurascens* Budde-Lund. Occurs commonly on Howth (Co. Dublin) and elsewhere around the northern half of Dublin Bay, and at scattered localities to the north in Co. Dublin. Usually very near the sea in grassland or scrub, and on beaches. Also recorded in 1975 from Overstrand (Norfolk) in unstable clay sea-cliffs.

Map 27. *Armadillidium nasatum* Budde-Lund. Recorded mainly from quarries and synanthropic situations, with a few records from limestone screes and calcareous grassland. Occasionally occurs in numbers in glasshouses and buildings.

Map 28. *Armadillidium depressum* Brandt. With the exception of records from Kew Gardens (Surrey), this species appears to be limited to south-west Britain, but has not been recorded from Ireland. Most records are from gardens and quarries, but it also appears to occur naturally in limestone screes and grassland.

Map 29. *Armadillidium vulgare* (Latreille). Probably occurs naturally in calcareous and coastal grassland in southern Britain. It is also associated with synanthropic situations, particularly around buildings, away from calcareous soils. Seems to be genuinely absent from the Craven limestone

area of Yorkshire and from the west coast of Scotland, both areas having been well worked by collectors.

Map 30. *Armadillidium pictum* Brandt. Recorded from Carboniferous limestone pavement areas near Silverdale (Westmorland) and probably in a similar habitat at Ribblehead (Yorkshire). Also recorded from a locality on the eastern edge of Lake Coniston (Westmorland) and from Devonian strata in the Vale of Ewyas (Breconshire).

Map 31. *Armadillidium pulchellum* (Zencker). Occurs on Carboniferous limestone in Yorkshire, around Morecambe Bay, Derbyshire and Denbighshire, usually in areas of limestone scree or pavement. It also occurs on grassy sea cliffs in southern Scotland and on Skomer (Pembrokeshire). In all these areas it is usually found associated with *Thymus* spp. and often with ants, under flat stones in species-rich grassland. Its occurrence in Ireland may be correlated with the distribution of eskers (gravel ridges of glacial origin), but there are no recent records from Ireland.

Map 32. *Armadillidium album* Dollfus. Occurs in undisturbed drift lines on sandy beaches, usually where these back onto sand dune systems. Also recorded from drift zones on two salt-marshes behind dune systems.

FUTURE RECORDING

This atlas does not constitute anything more than an interim statement of knowledge of the geographical distribution of woodlice. Much wider ranging geographical and ecological recording is required in future years, with a strong emphasis on the use of the habitat recording card. The freshwater genus *Asellus* (not included in this Atlas) is very poorly recorded outside the north-midlands of England. It is hoped that this atlas will encourage recorders to search for species in under-recorded areas and different habitats.

The British Isopoda Study Group and the Non-marine Isopoda Recording Scheme are administered by Paul Harding at Monks Wood. Recording cards, instructions and hints to collectors are available from him. The book *Woodlice* by S.L.Sutton (1972) contains much useful background information on woodlice, and details of the recording scheme.

Recording in Ireland and Scotland is now organised on a regional basis. Recorders *living* in Ireland should contact:

Declan Doogue Esq.,
12, Glasilawn Road,
Dublin, 11.

Recorders *living* in Scotland should contact:

Dr G.M.Collis,
c/o Department of Psychology,
University of Strathclyde,
Turnbull Building,
155 George Street,
Glasgow, G1 1RD

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The idea of a recording scheme for Isopoda originated with Dr S.L.Sutton and R.J.A. Metcalfe in 1968, and they organised the scheme until 1972. Dr Sutton has continued to help with the identification of voucher specimens, and his help and encouragement have been invaluable.

I am very grateful to the Trustees and to Dr R.J.Lincoln (British Museum, Natural History), Dr C.E. O'Riordan (National Museum of Ireland) and to C. Simms (Yorkshire Museum) for unrestricted access to collections in their care. I am also grateful to Miss M. Hazelton and the British Cave Research Association for access to the biological records of the Cave Research Group of Great Britain.

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The co-operation of J. Heath, Miss D. Scott and the staff of the Biological Records Centre, and of Miss E. Ni Lamhna, Irish Biological Records Centre, is gratefully acknowledged.

Many recorders have contributed to the scheme in the last seven years, regrettably too many to list here. Several recorders merit special thanks for their efforts in covering whole counties or larger areas: Dr R.P. Bray, Dr J.E. Chatfield, Dr & Mrs G.M. Collis, Mrs M.H. Dolling, D. Doogue, E. Philp, N.M. Reardon, D.T. Richardson and Dr A.J. Rundle. I am very grateful to them and to all other recorders for their invaluable contribution.

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Paul T. Harding

Monks Wood

July, 1976

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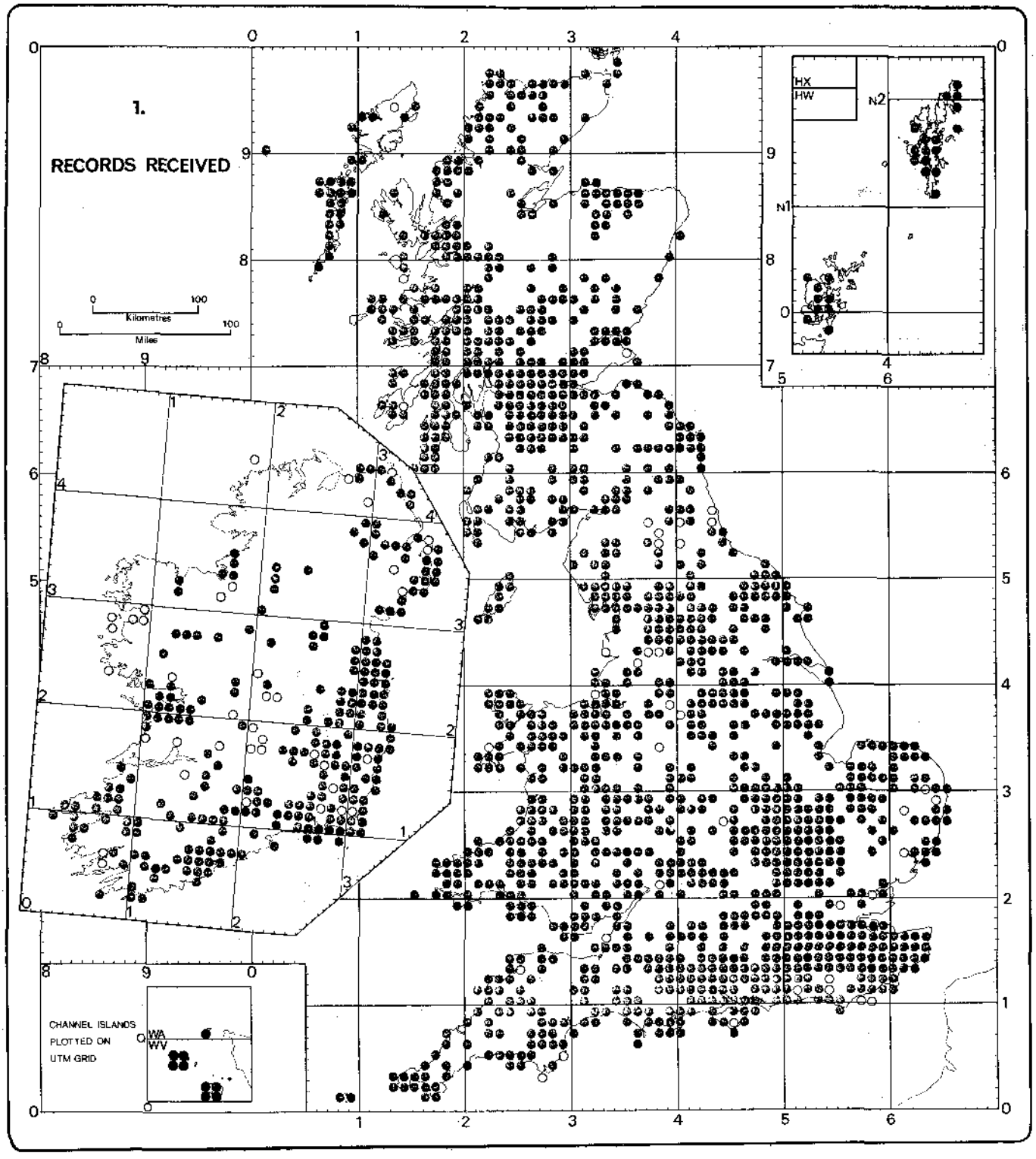
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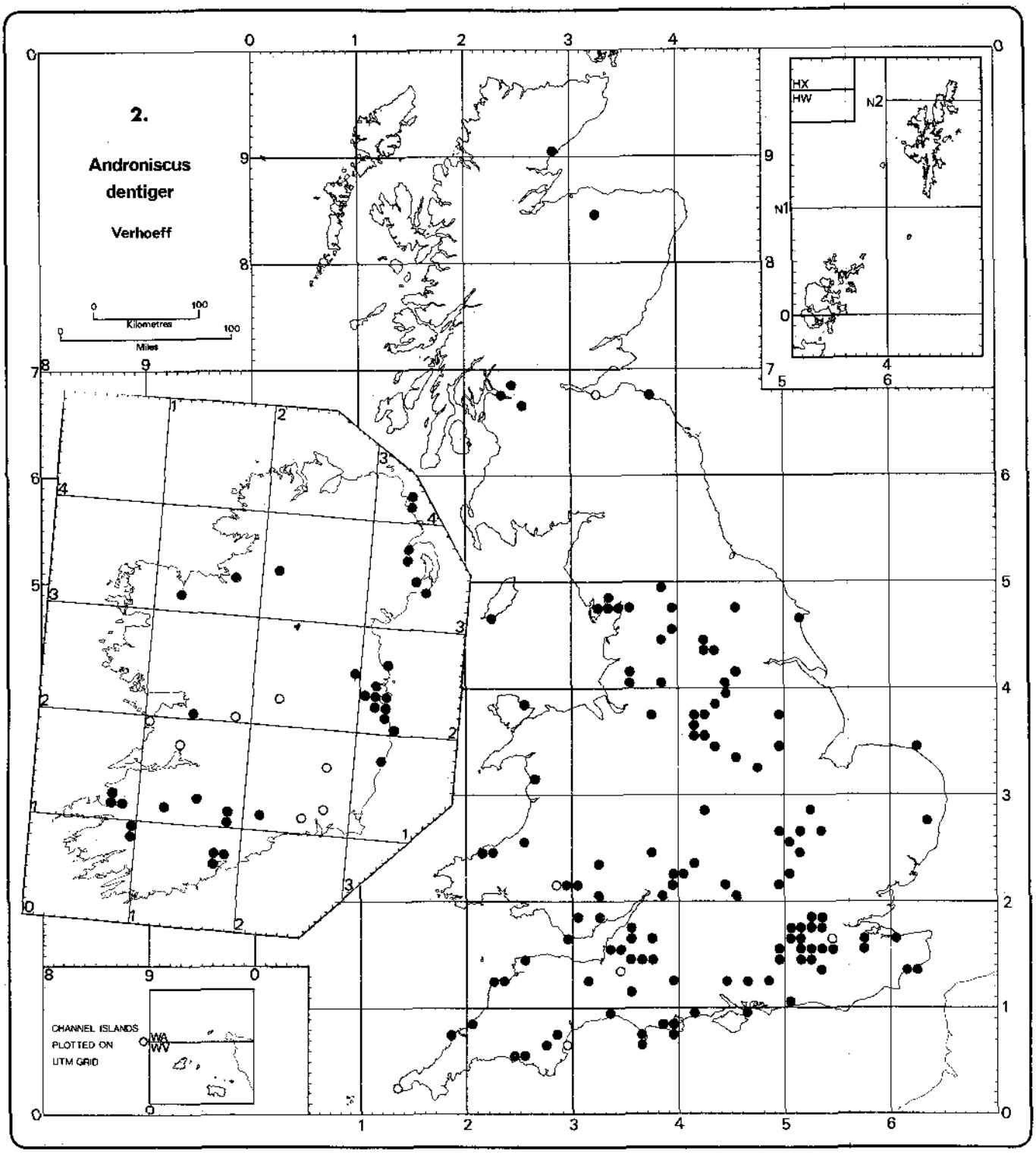
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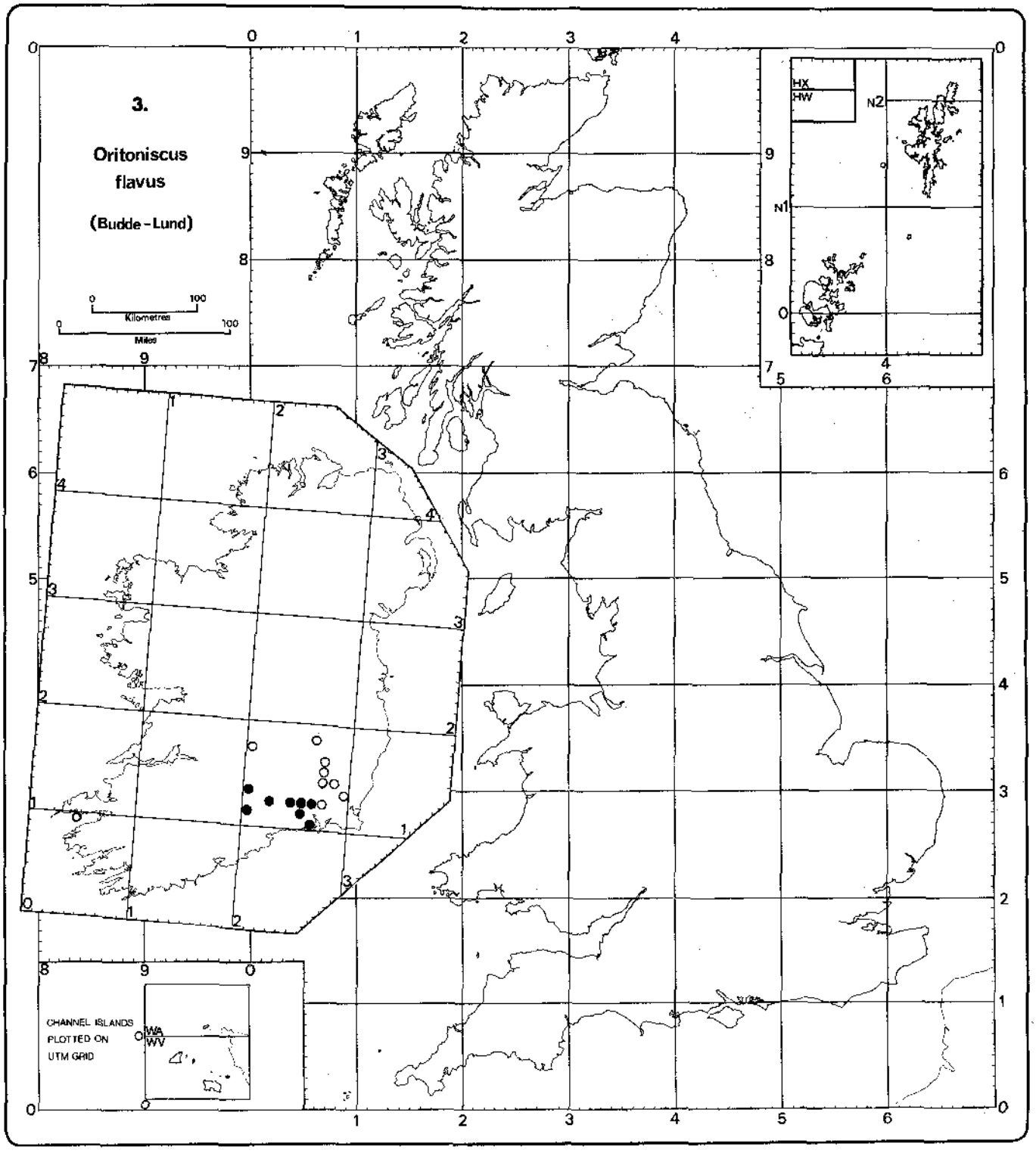
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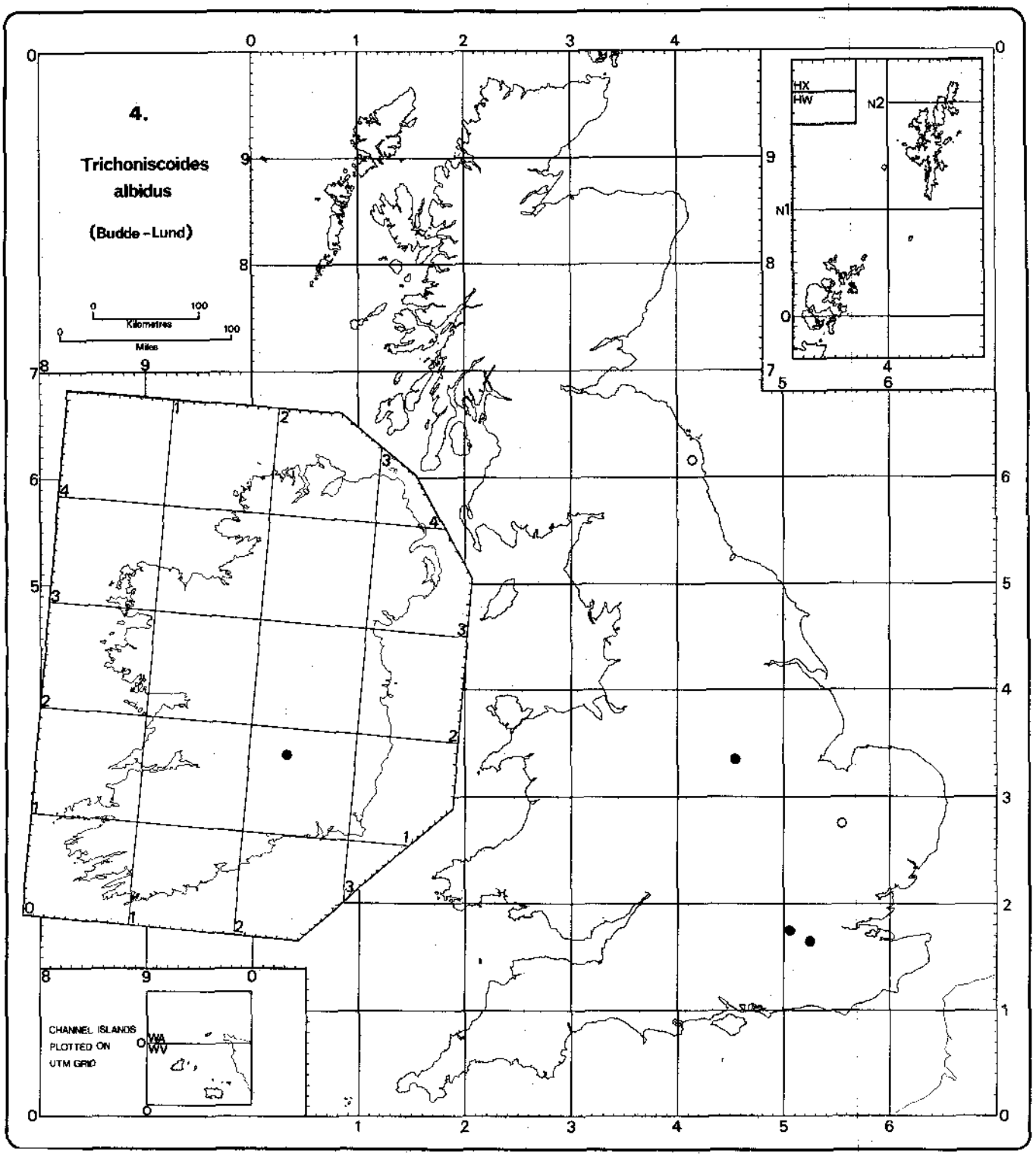
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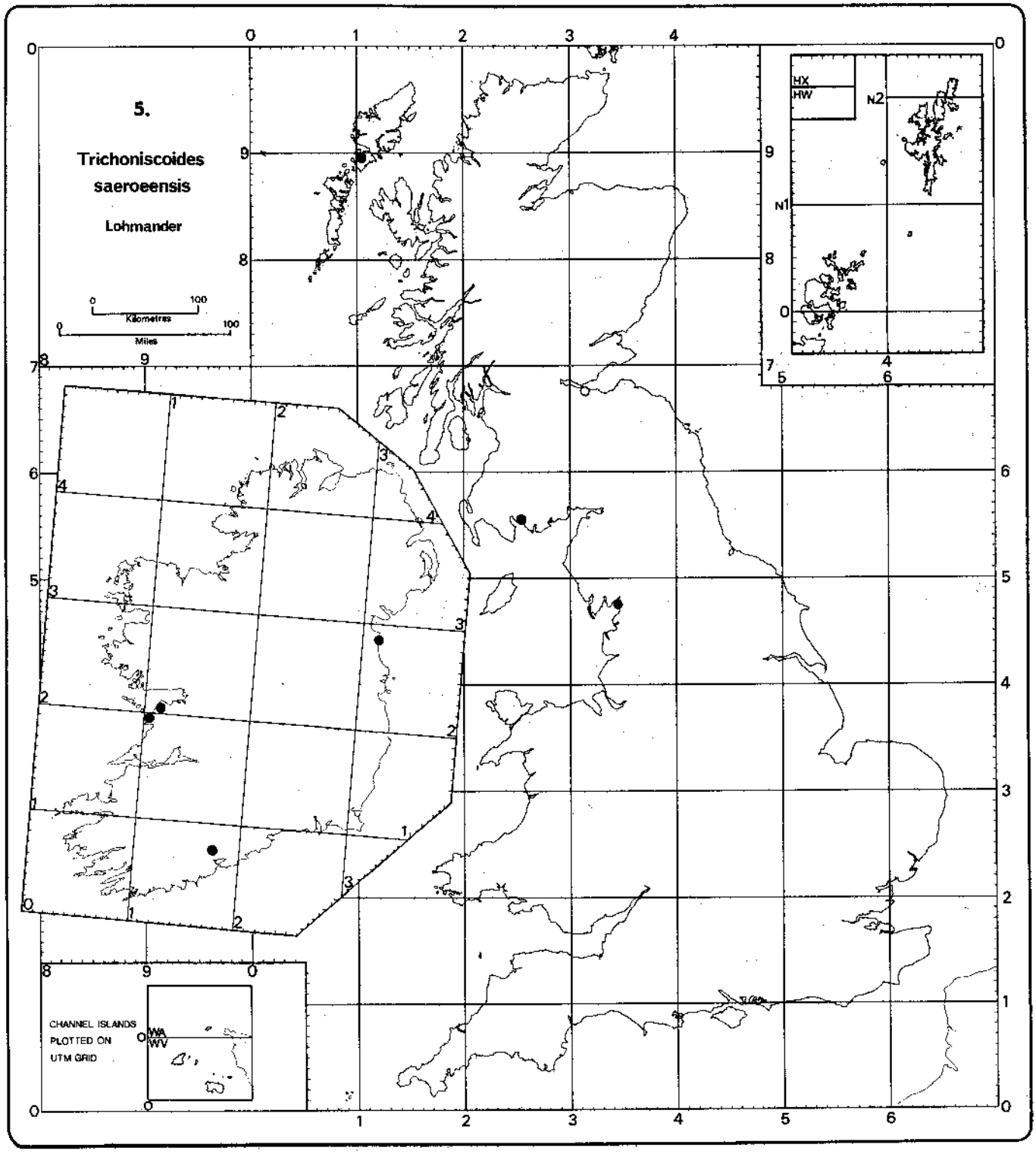
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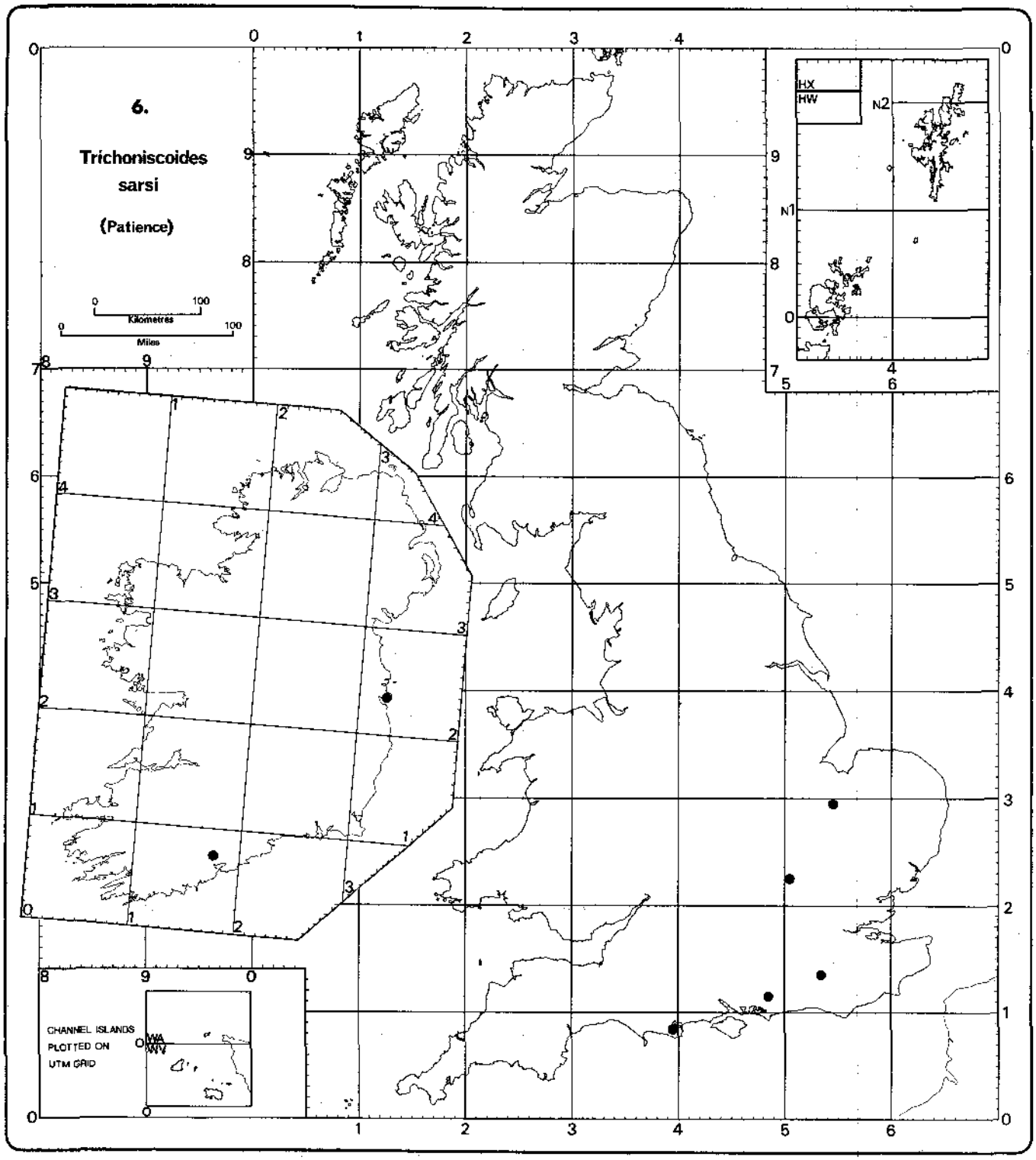
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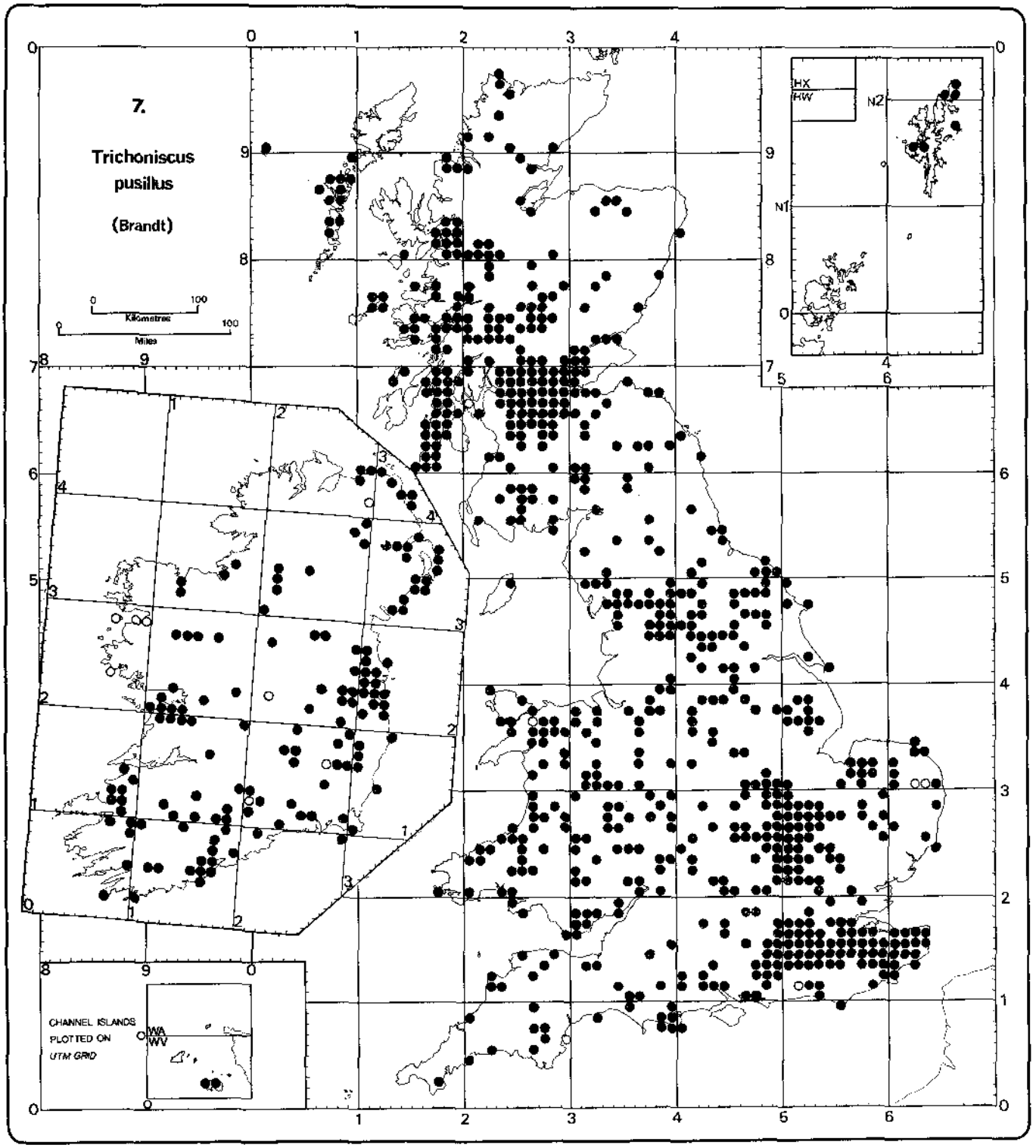
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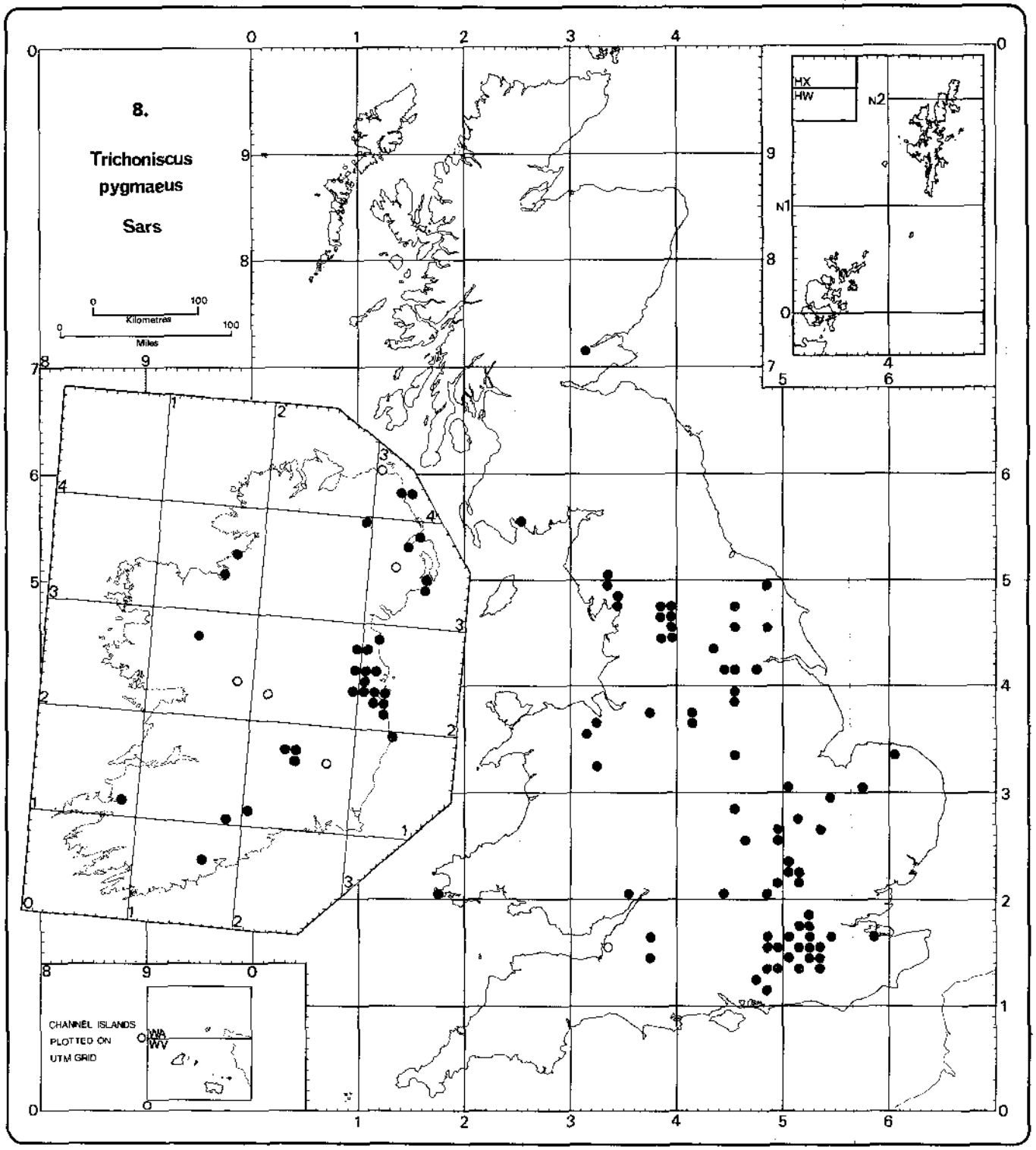
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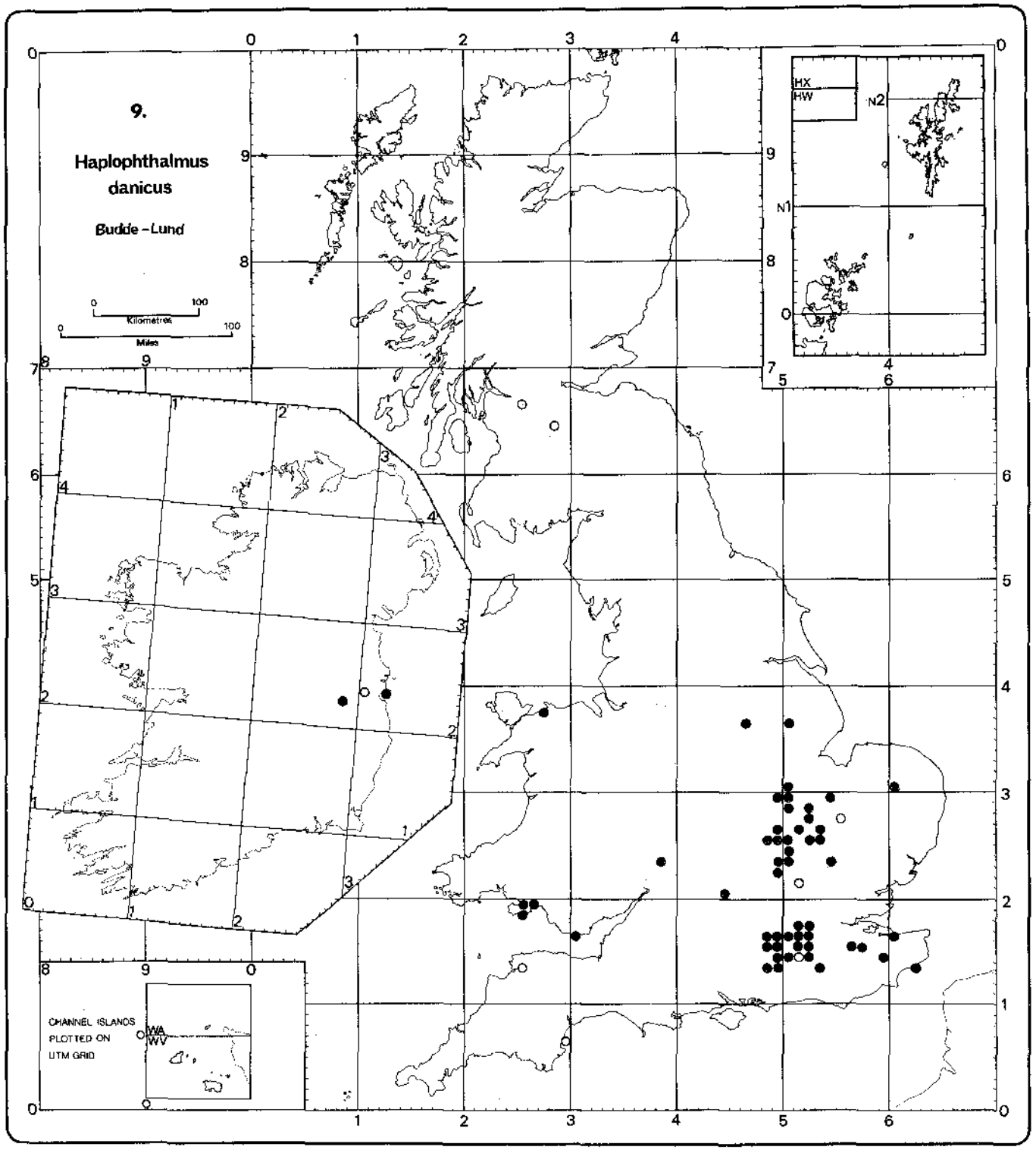
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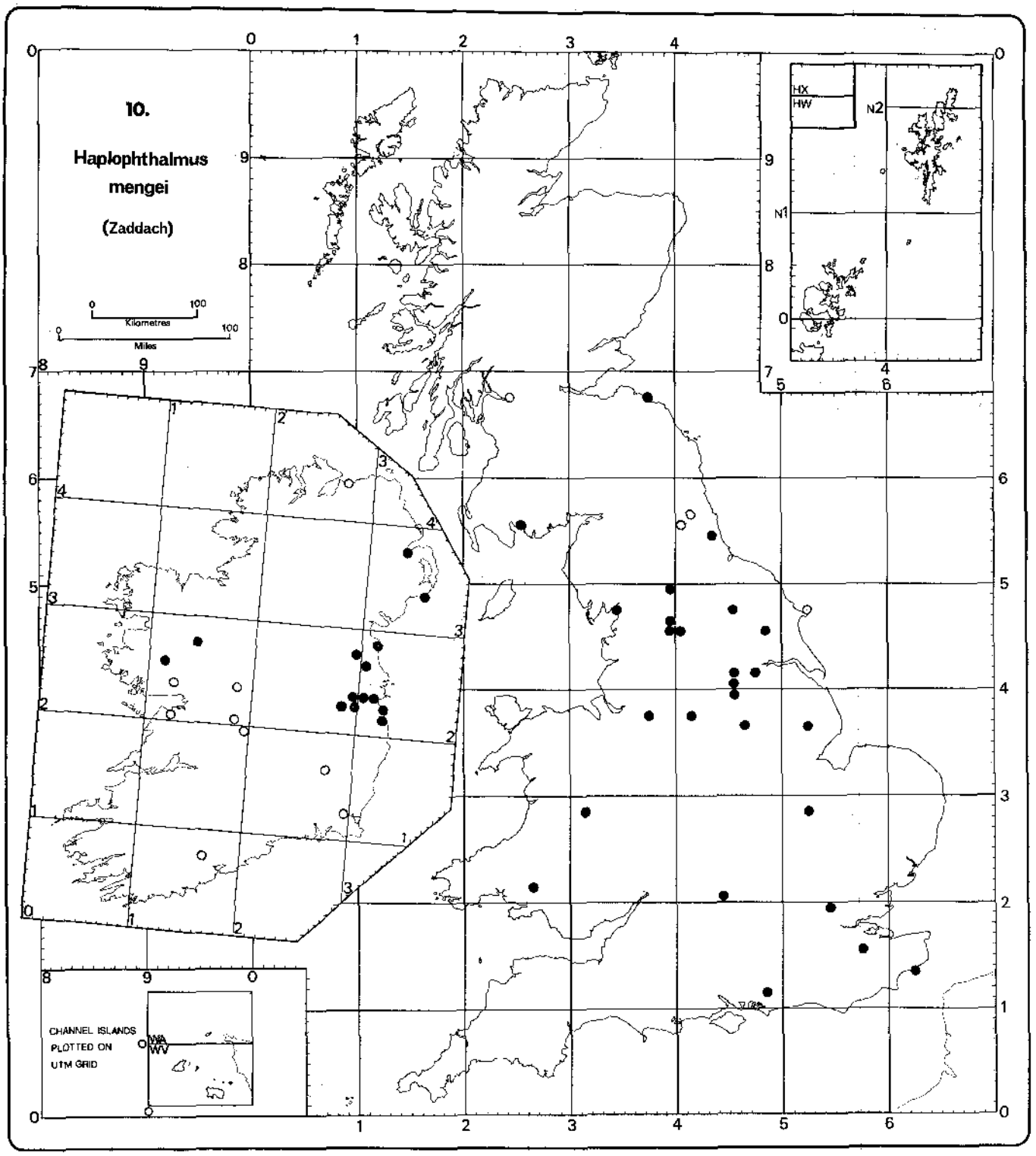
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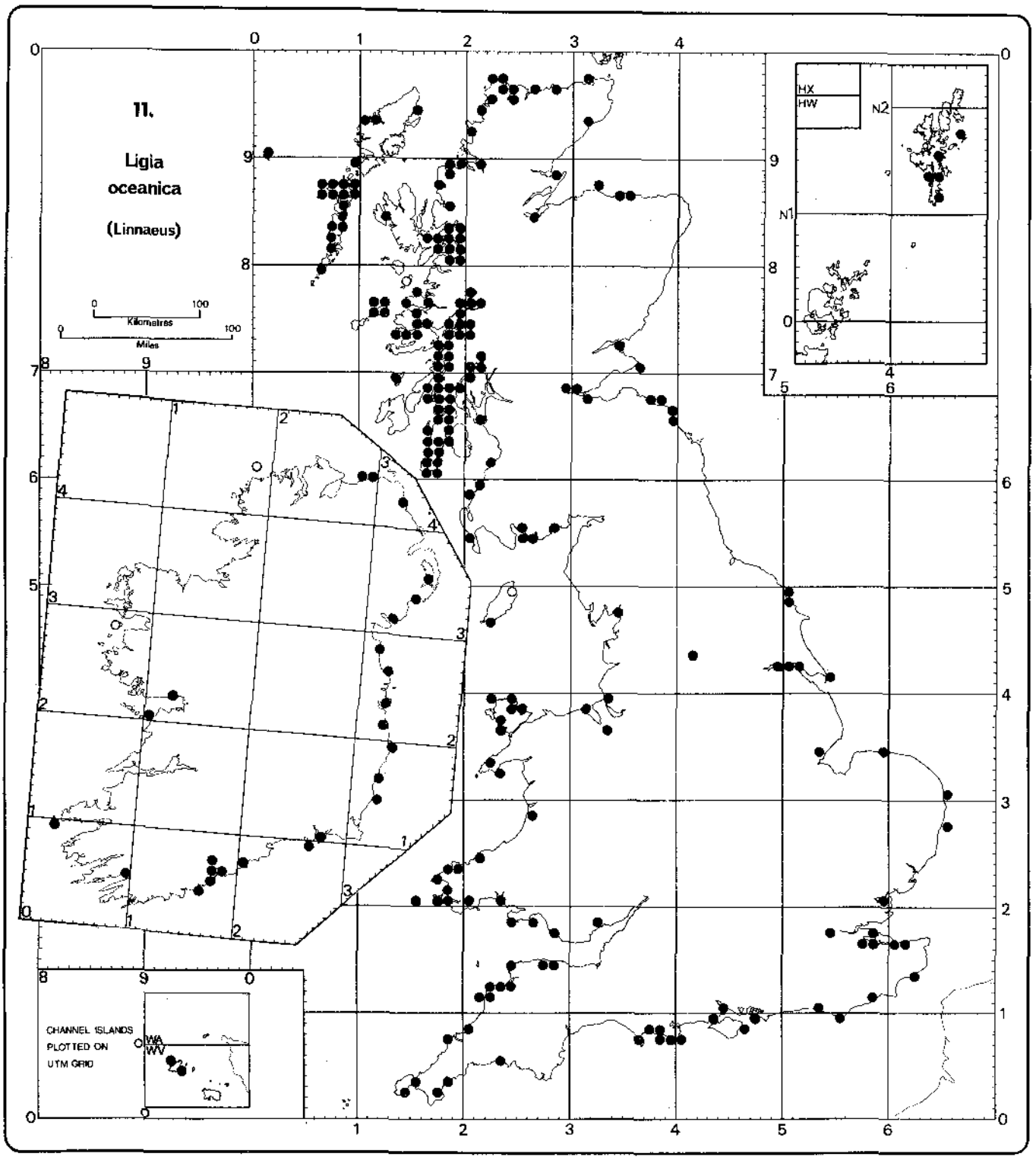
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(Linnaeus)
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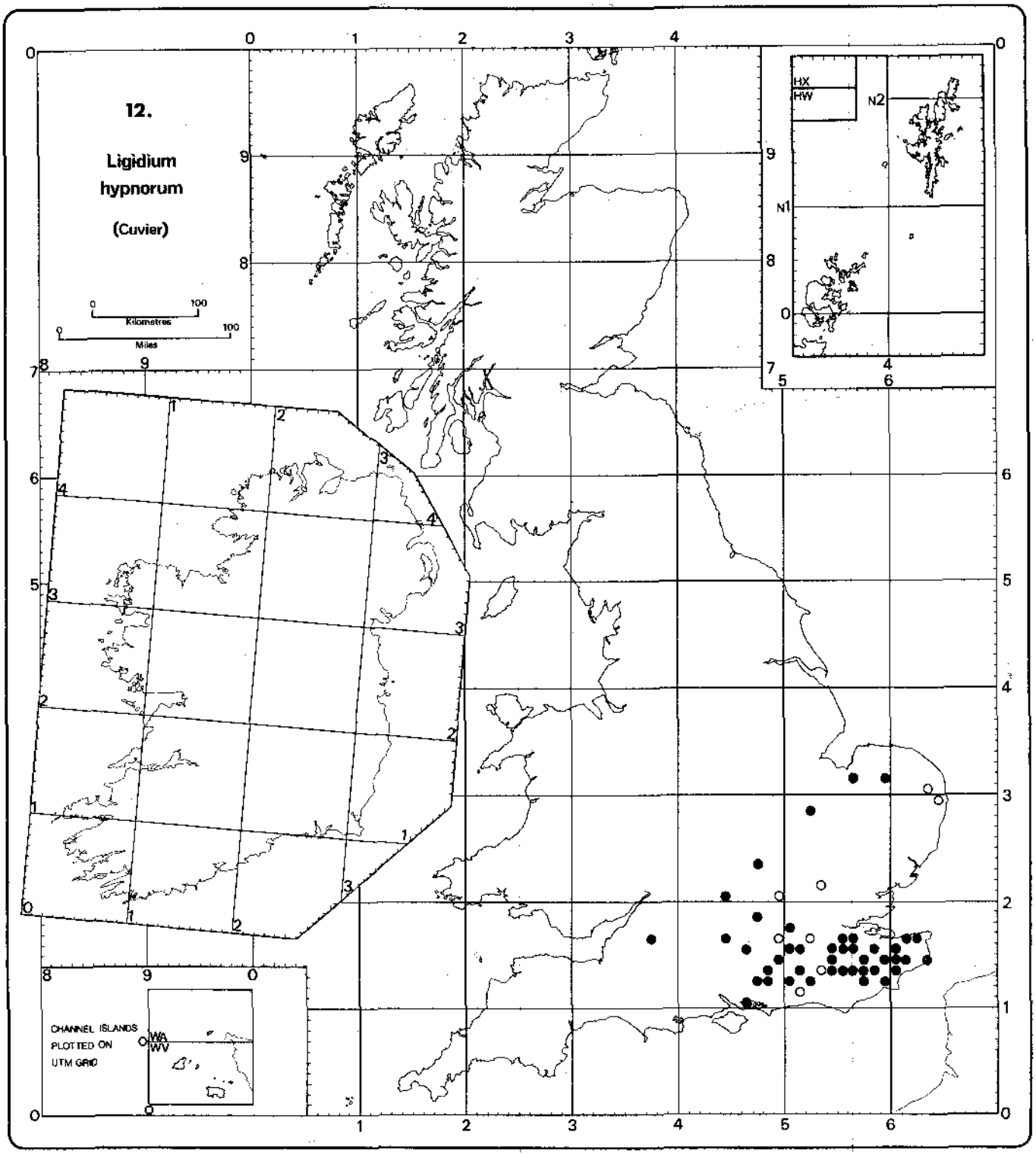
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(Cuvier)
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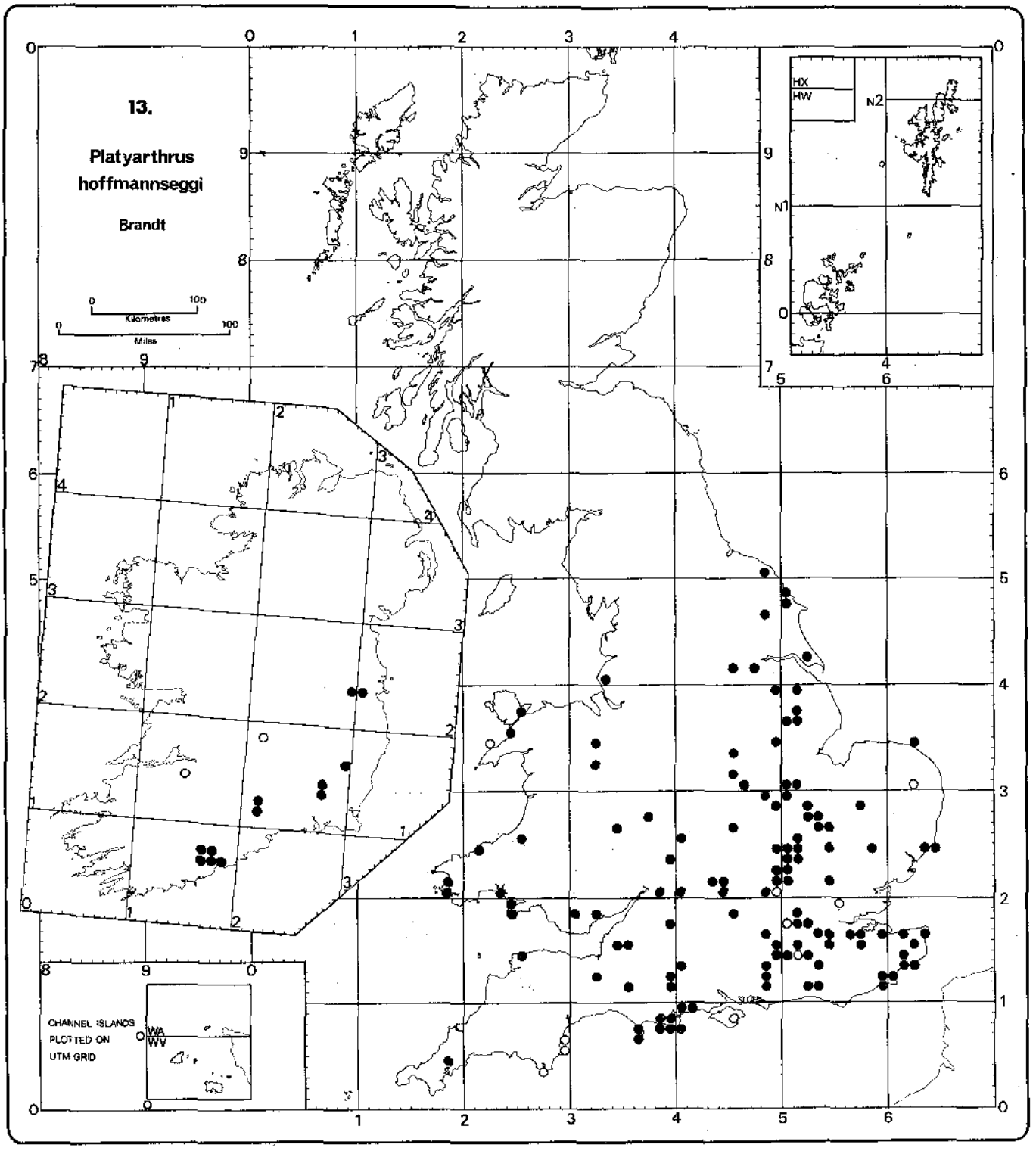
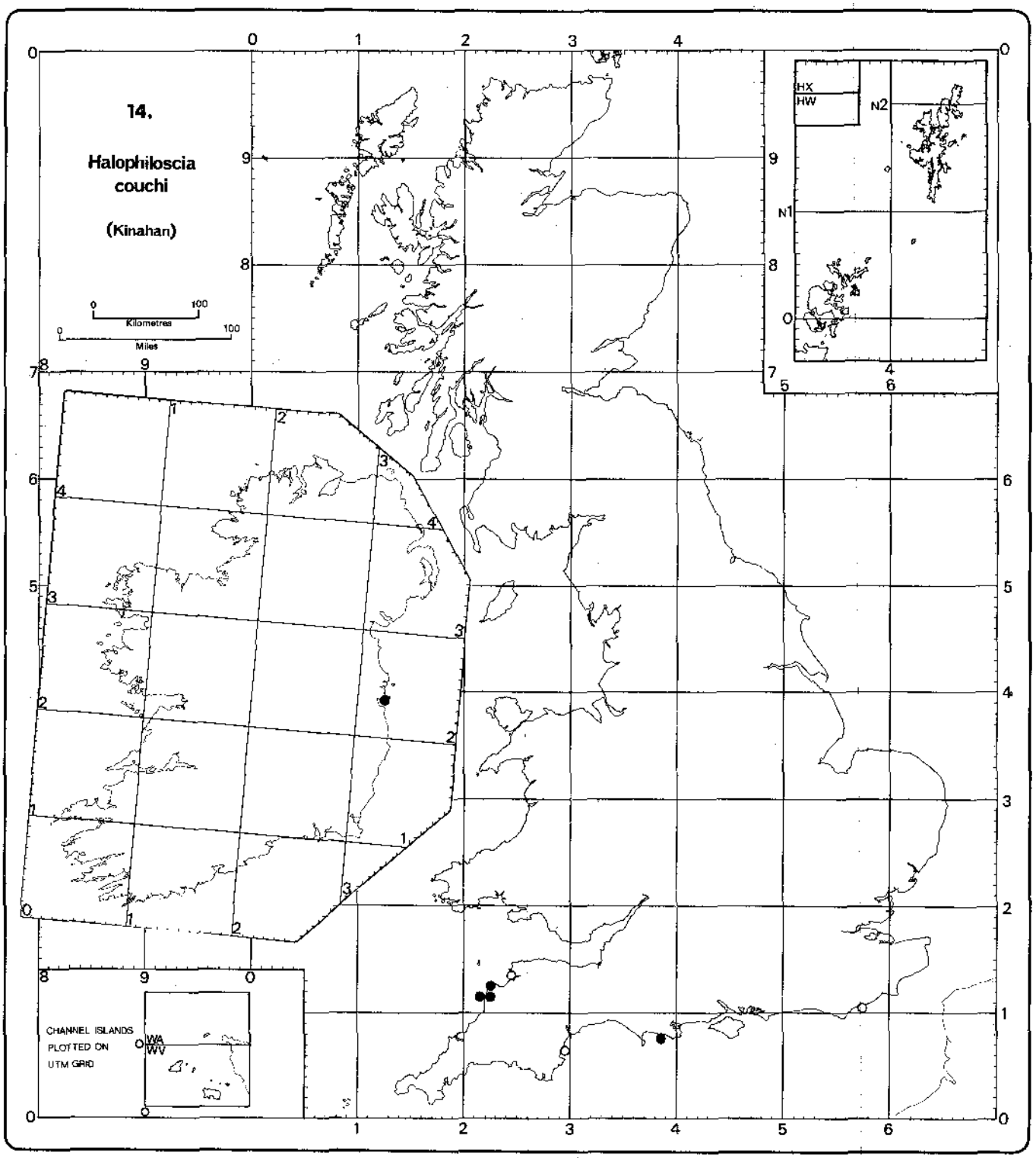
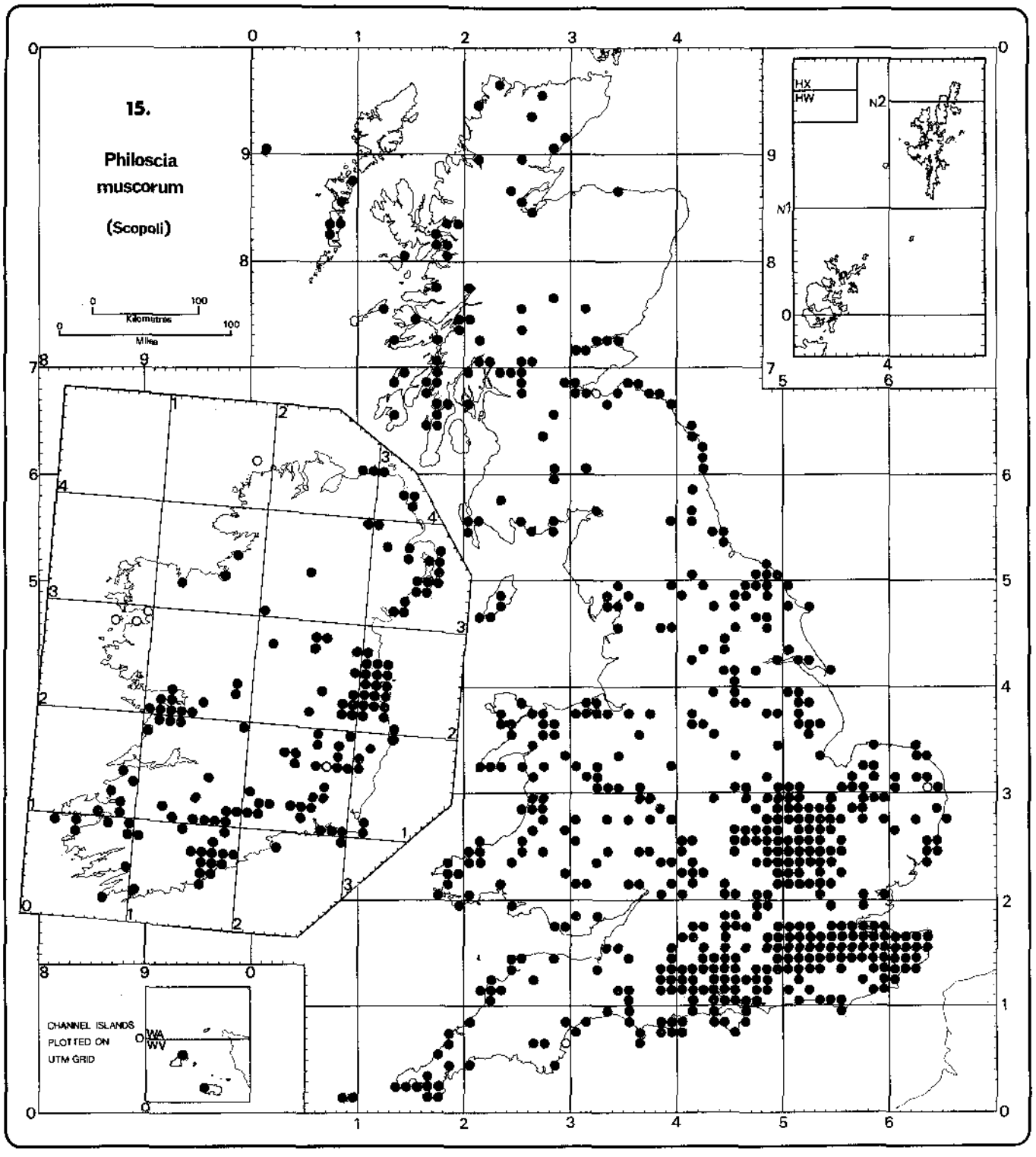
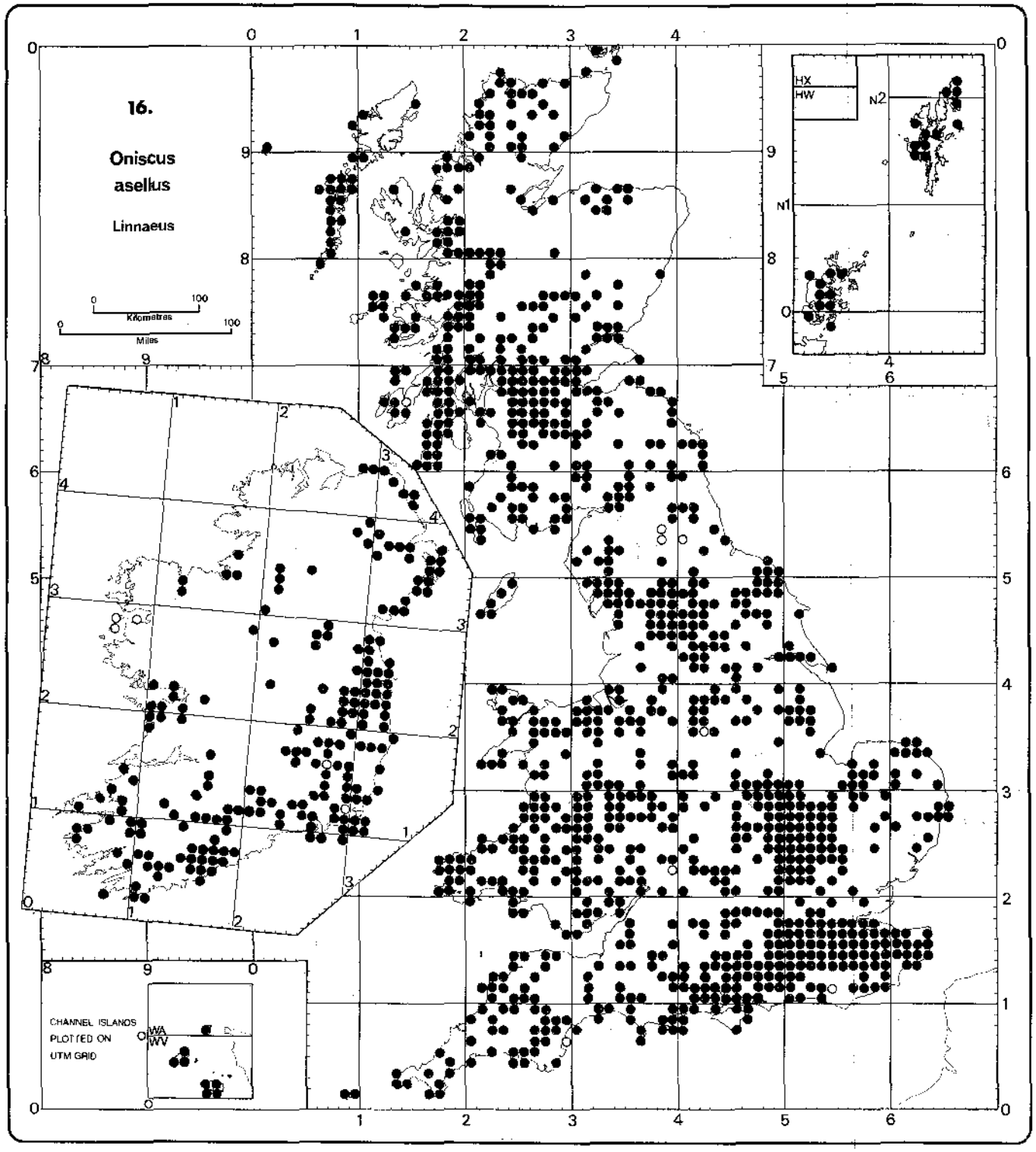
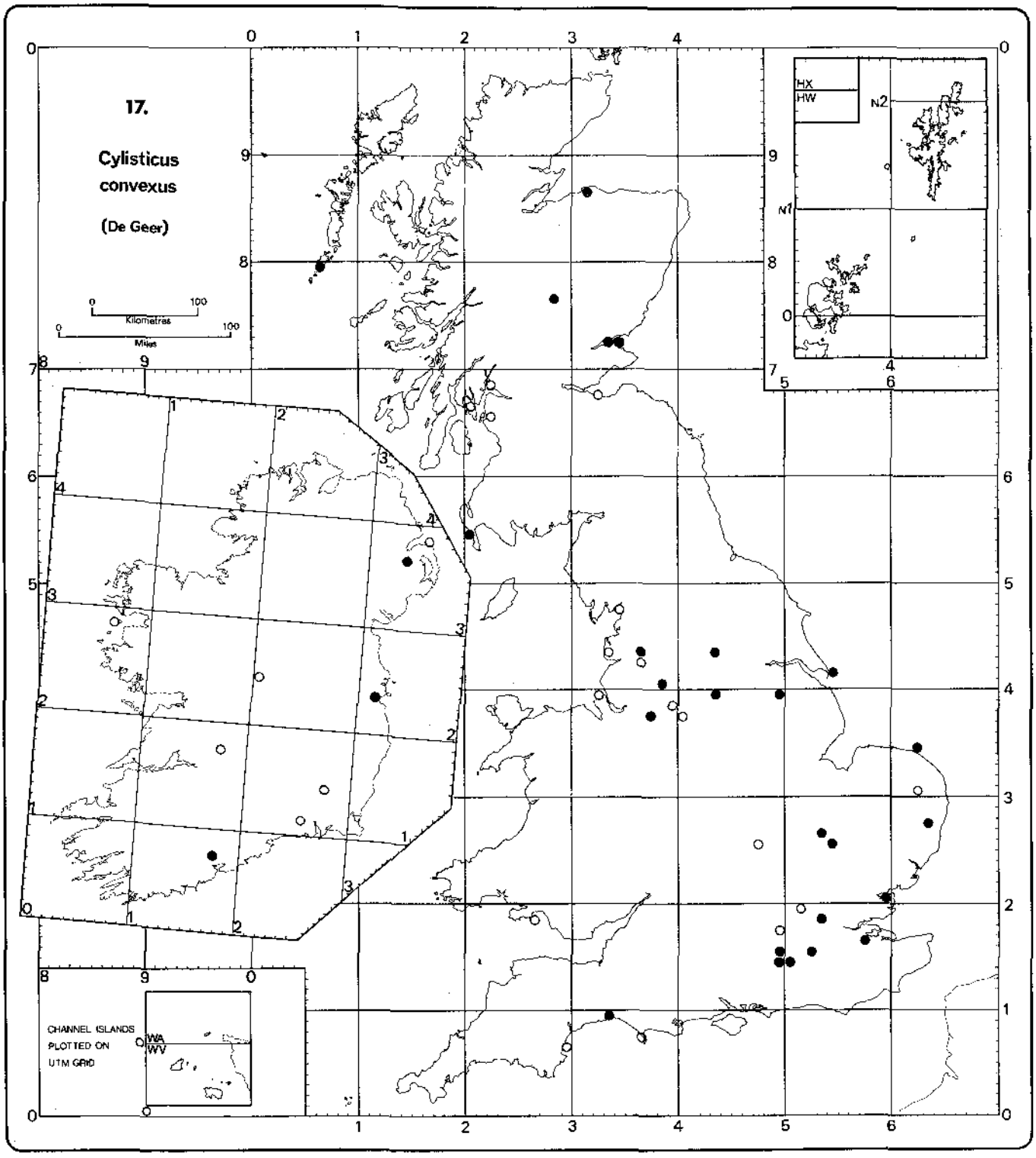
WA
WV

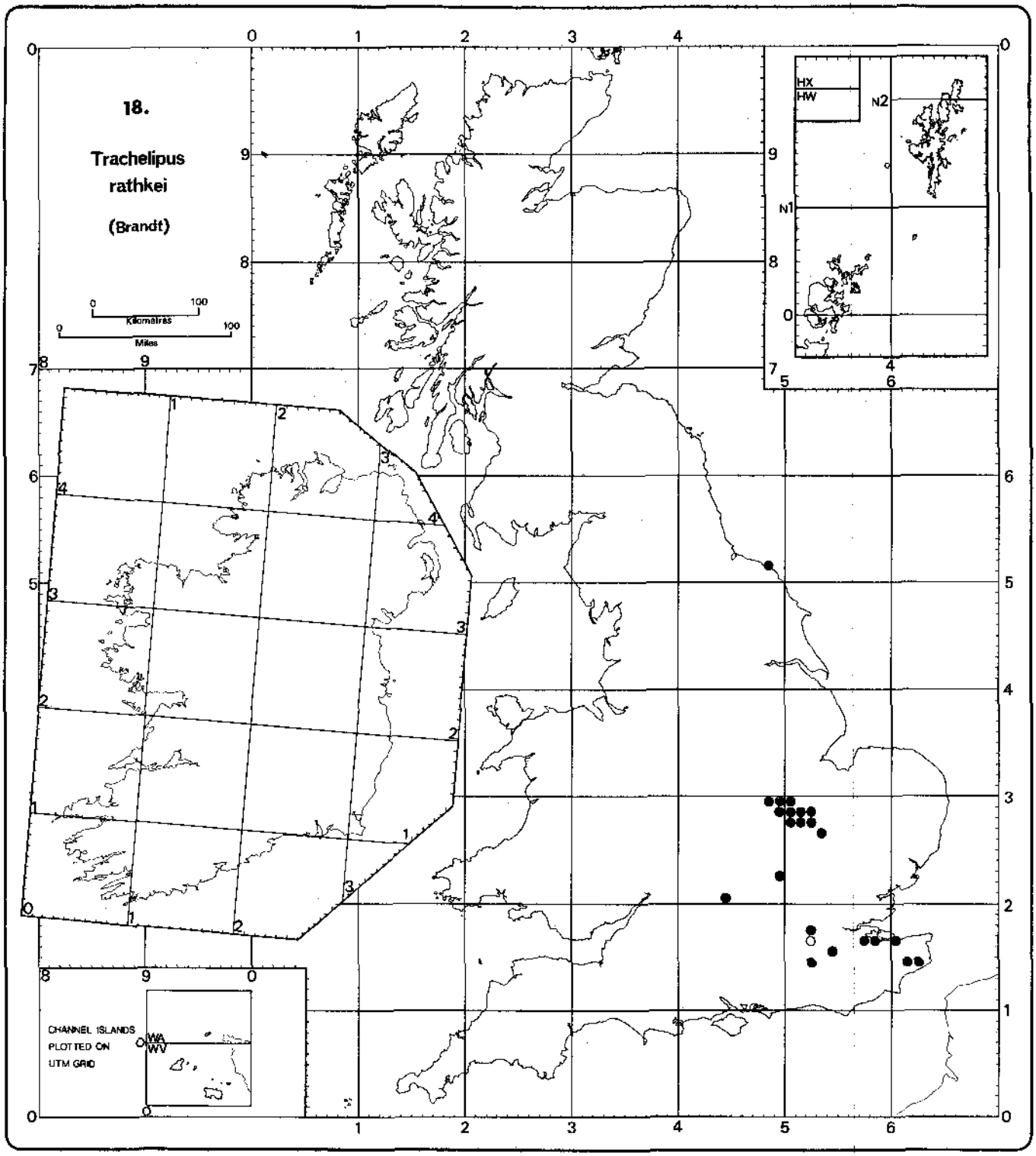

13.
Platyarthrus
hoffmannseggi
Brandt
0 100
Kilometres
0 100
Miles
HX
HW
N2
N1
CHANNEL ISLANDS
PLOTTED ON
UTM GRID
WA
WV

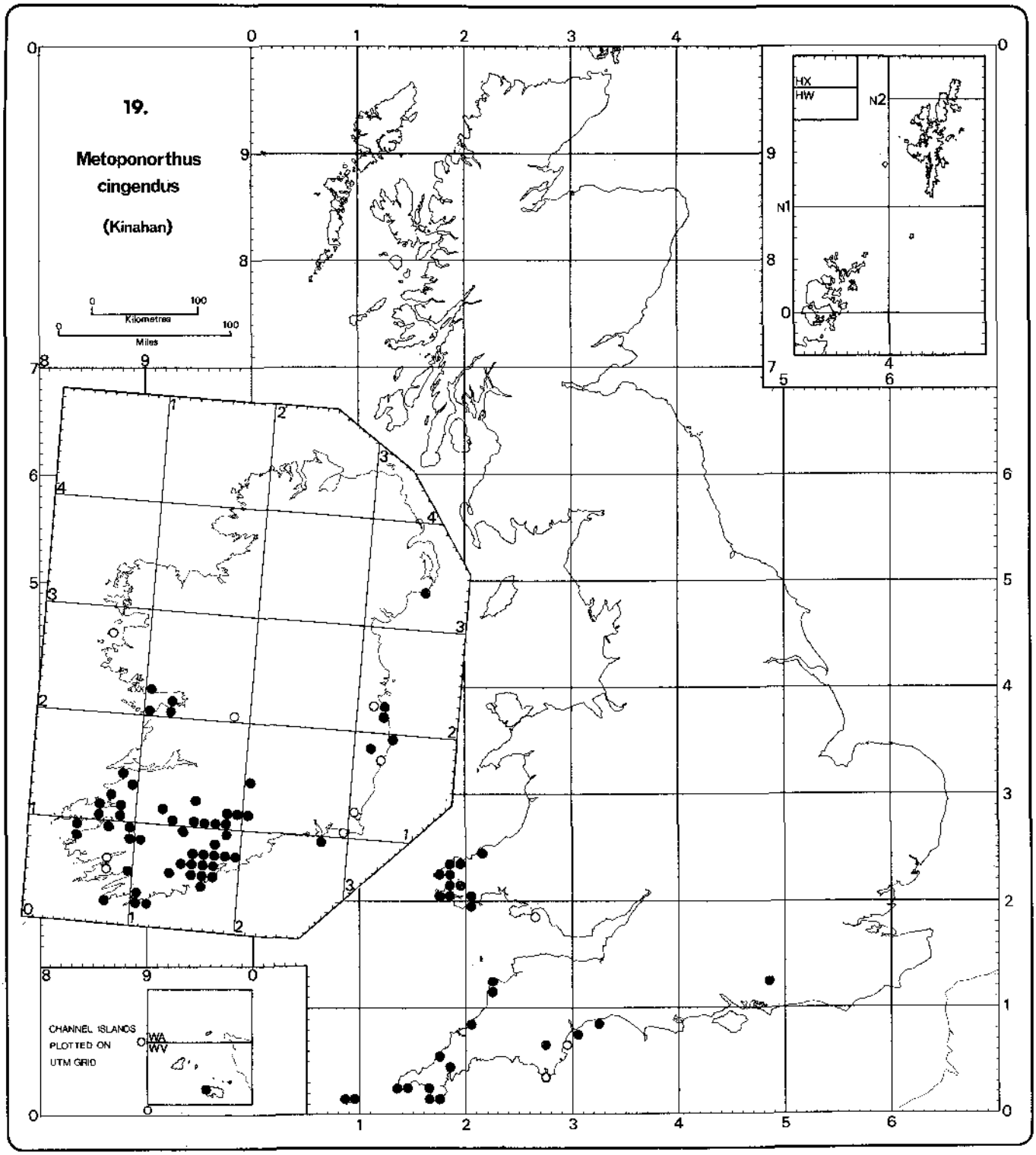

14.
Halophiloscia couchi
(Kinahan)
0 100
Kilometres
0 100
Miles
HX
HW
N2
N1
CHANNEL ISLANDS PLOTTED ON UTM GRID
WA
WV

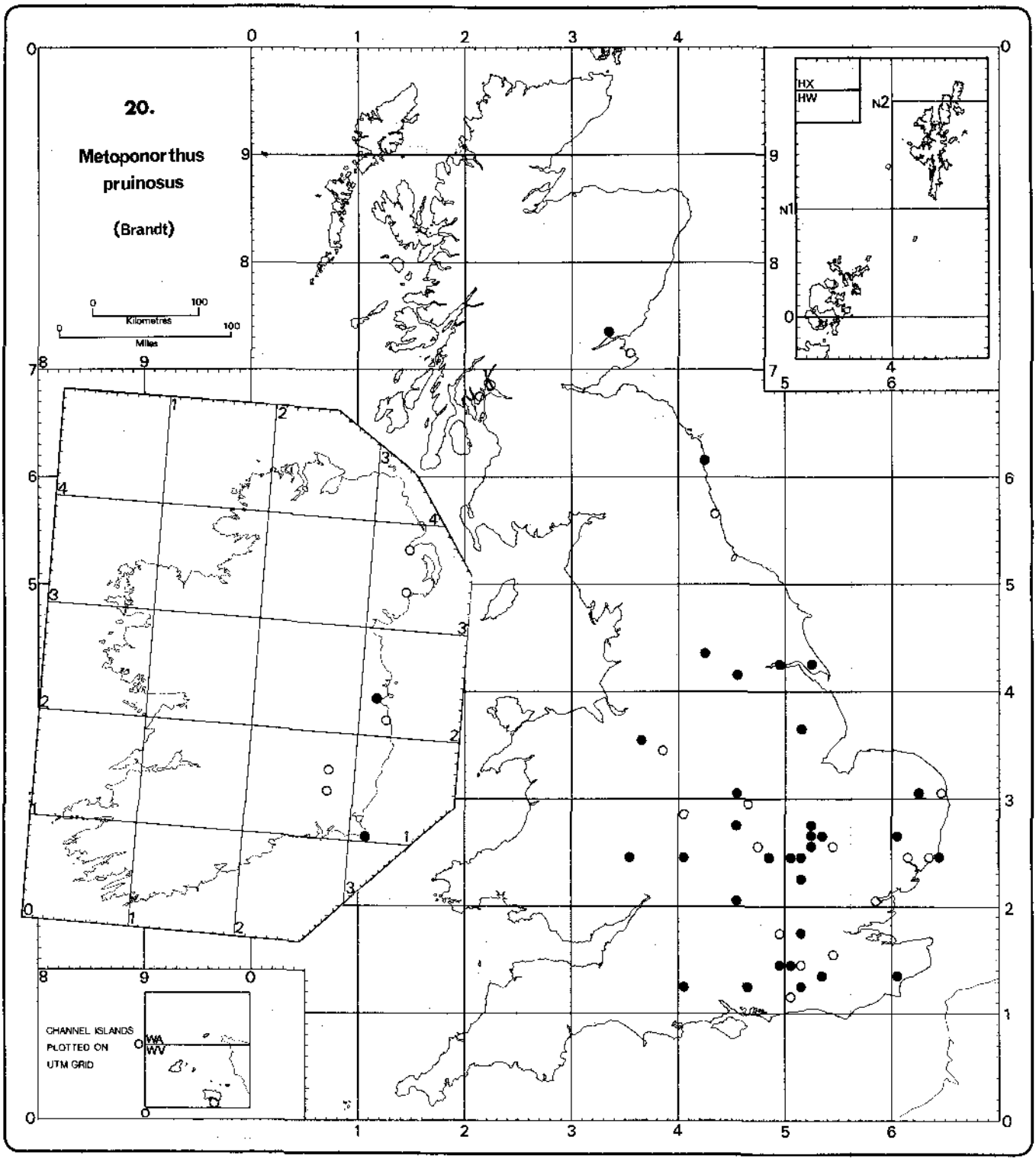

15.
Philoscia muscorum
(Scopoli)
0 100
Kilometres
0 100
Miles
HX
HW
N2
N1
CHANNEL ISLANDS PLOTTED ON UTM GRID
WA
WV

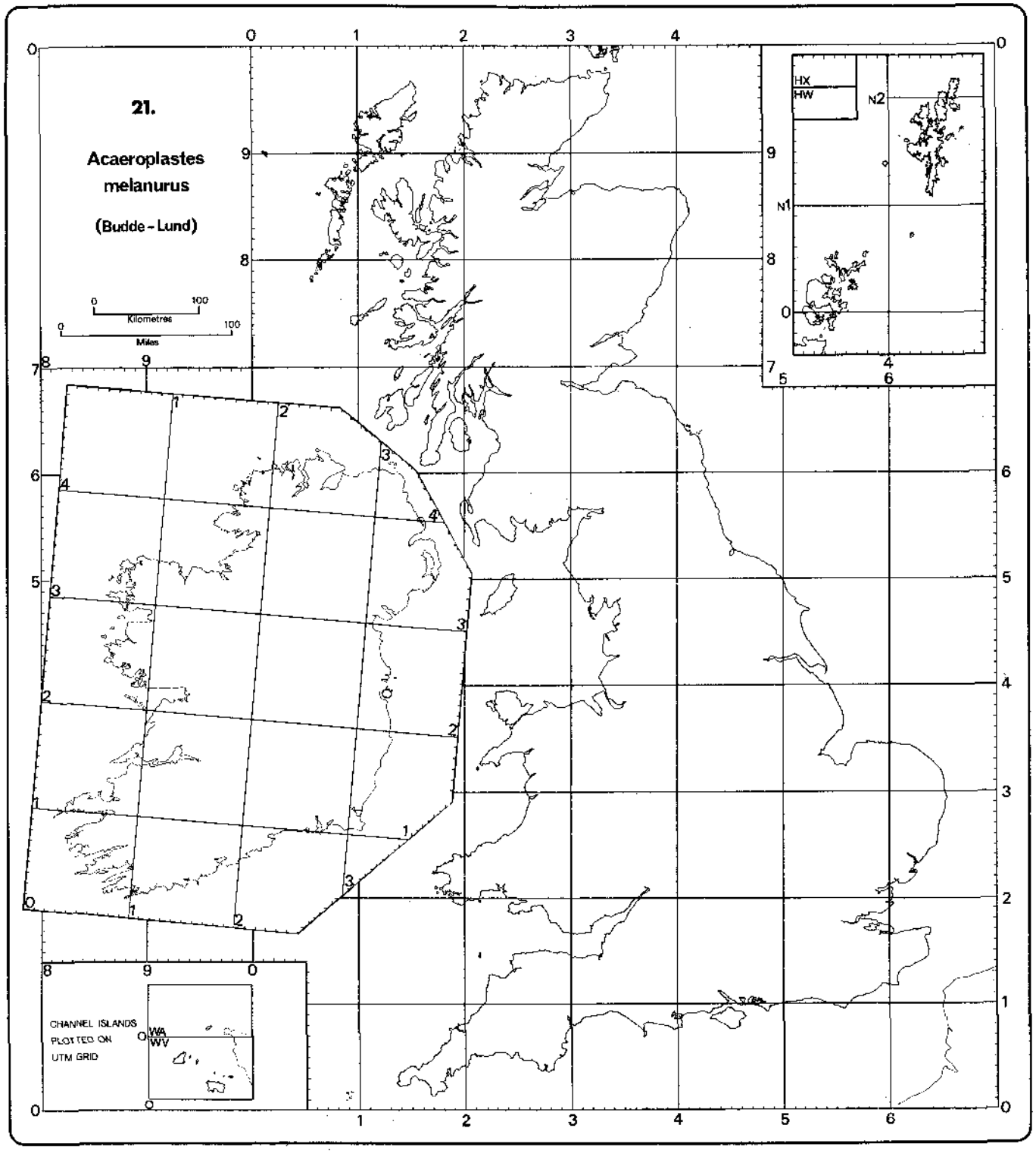

16.
Oniscus
asellus
Linnaeus
0 100
Kilometres
0 100
Miles
HX
HW
N2
N1
CHANNEL ISLANDS
PLOTTED ON
UTM GRID
WA
WV

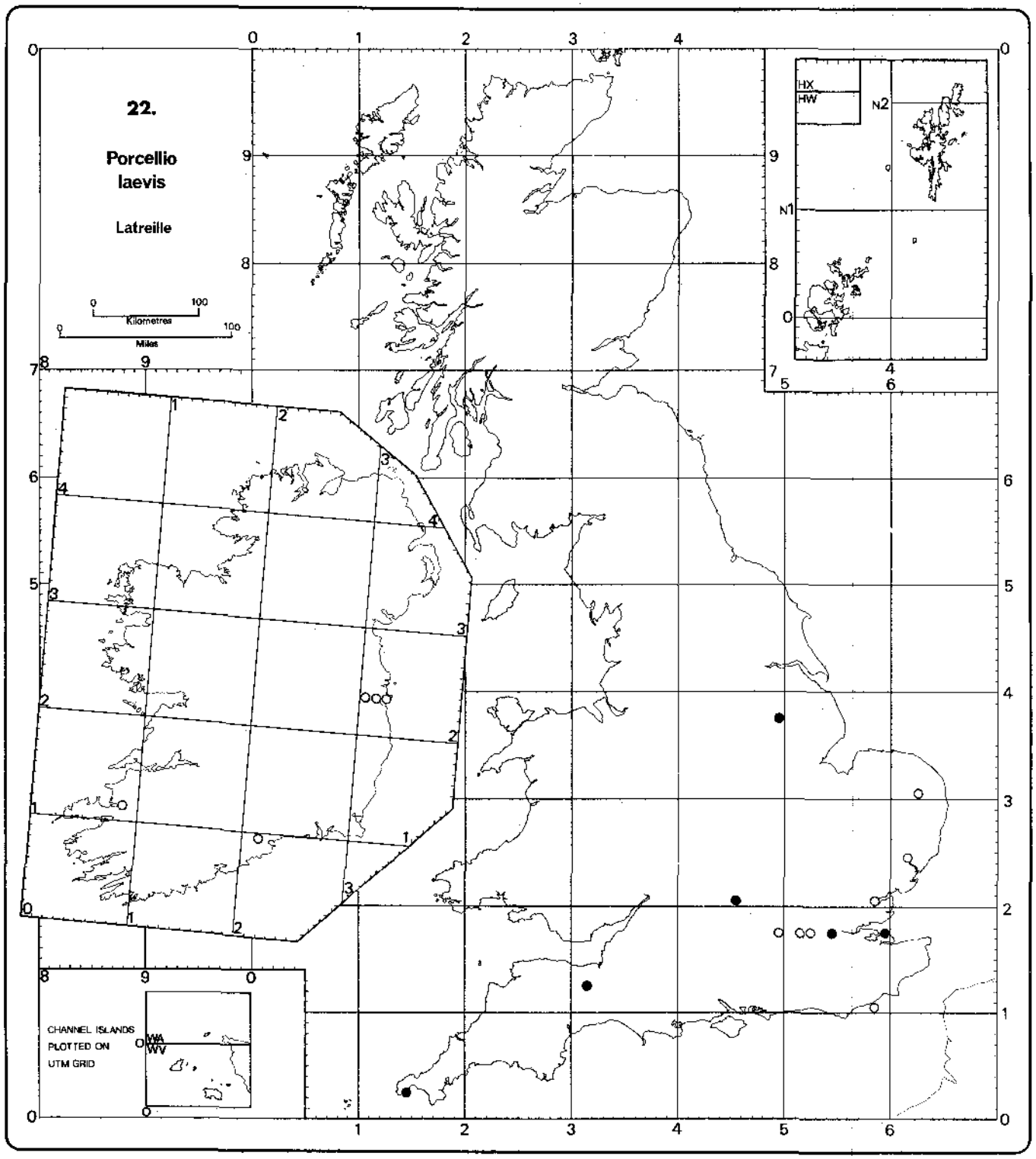

17.
Cylisticus convexus
(De Geer)
0 100
Kilometres
0 100
Miles
HX
HW
N2
N1
CHANNEL ISLANDS PLOTTED ON UTM GRID
WA
WV

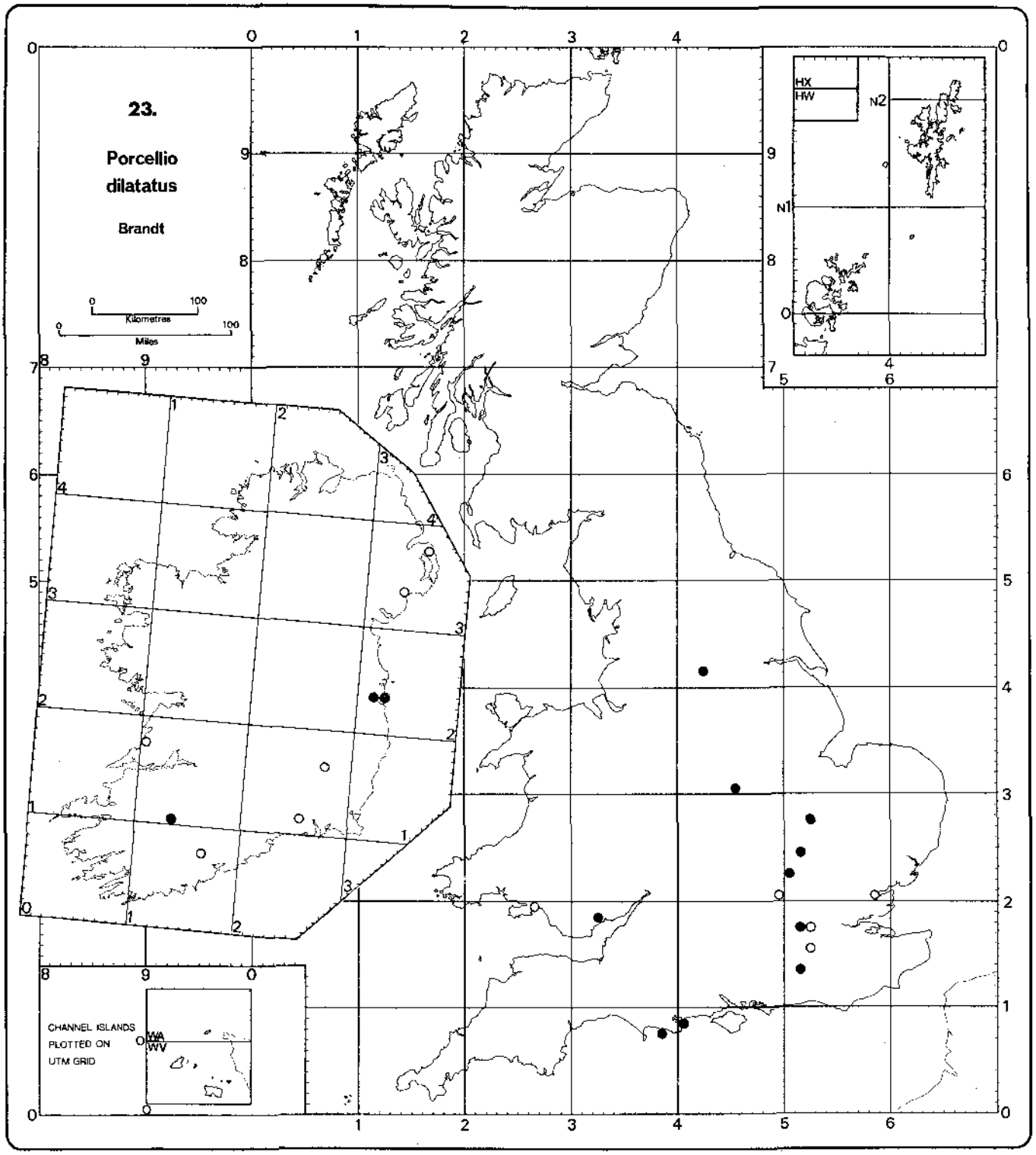

18.
Trachelipus rathkei
(Brandt)
0 100
Kilometres
0 100
Miles
HX
HW
N2
N1
CHANNEL ISLANDS PLOTTED ON UTM GRID
WA
WV

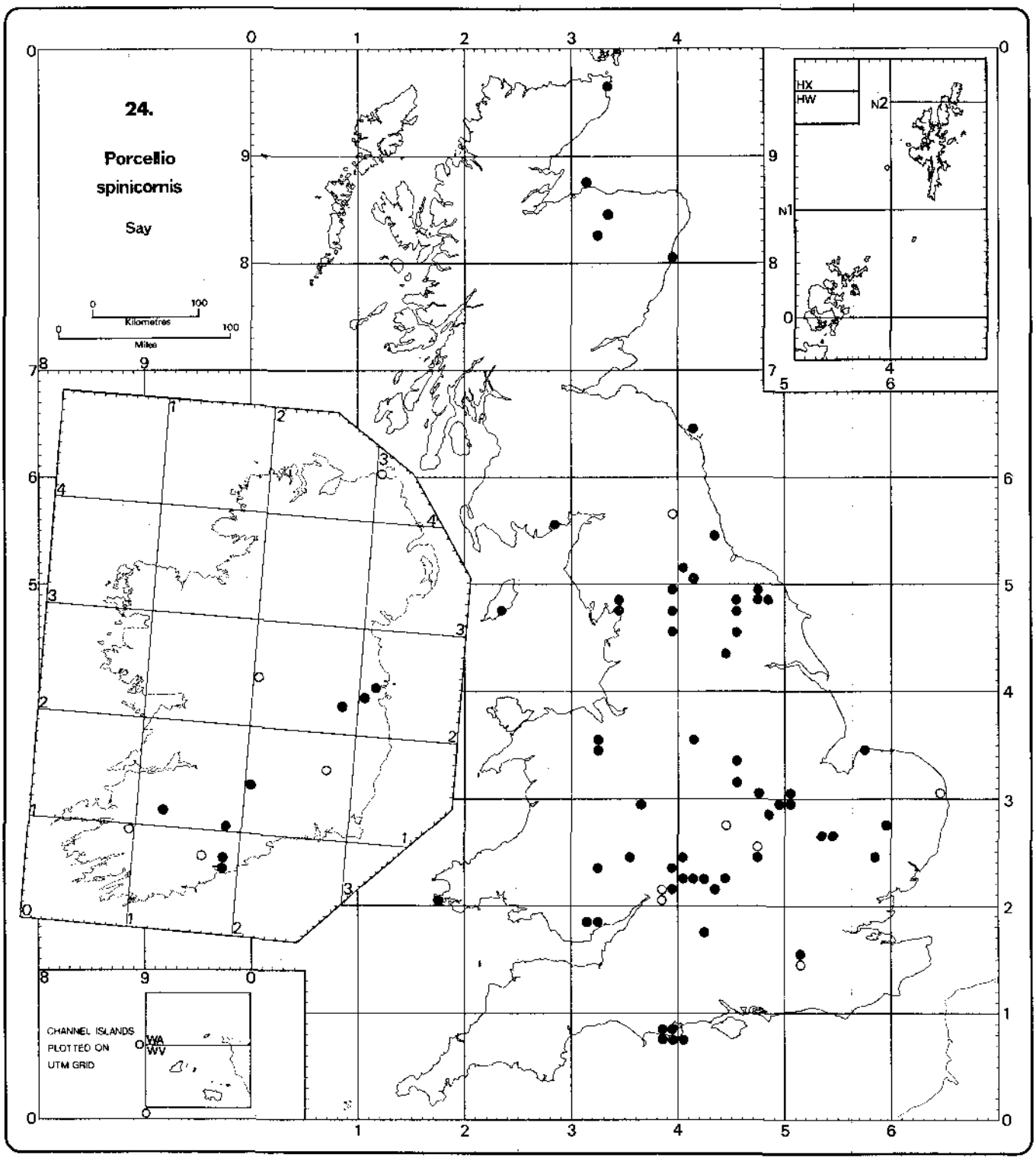

19.
Metoponorthus cingendus
(Kinahan)
0 100
Kilometres
0 100
Miles
HX
HW
N2
N1
CHANNEL ISLANDS PLOTTED ON UTM GRID
WA
WV

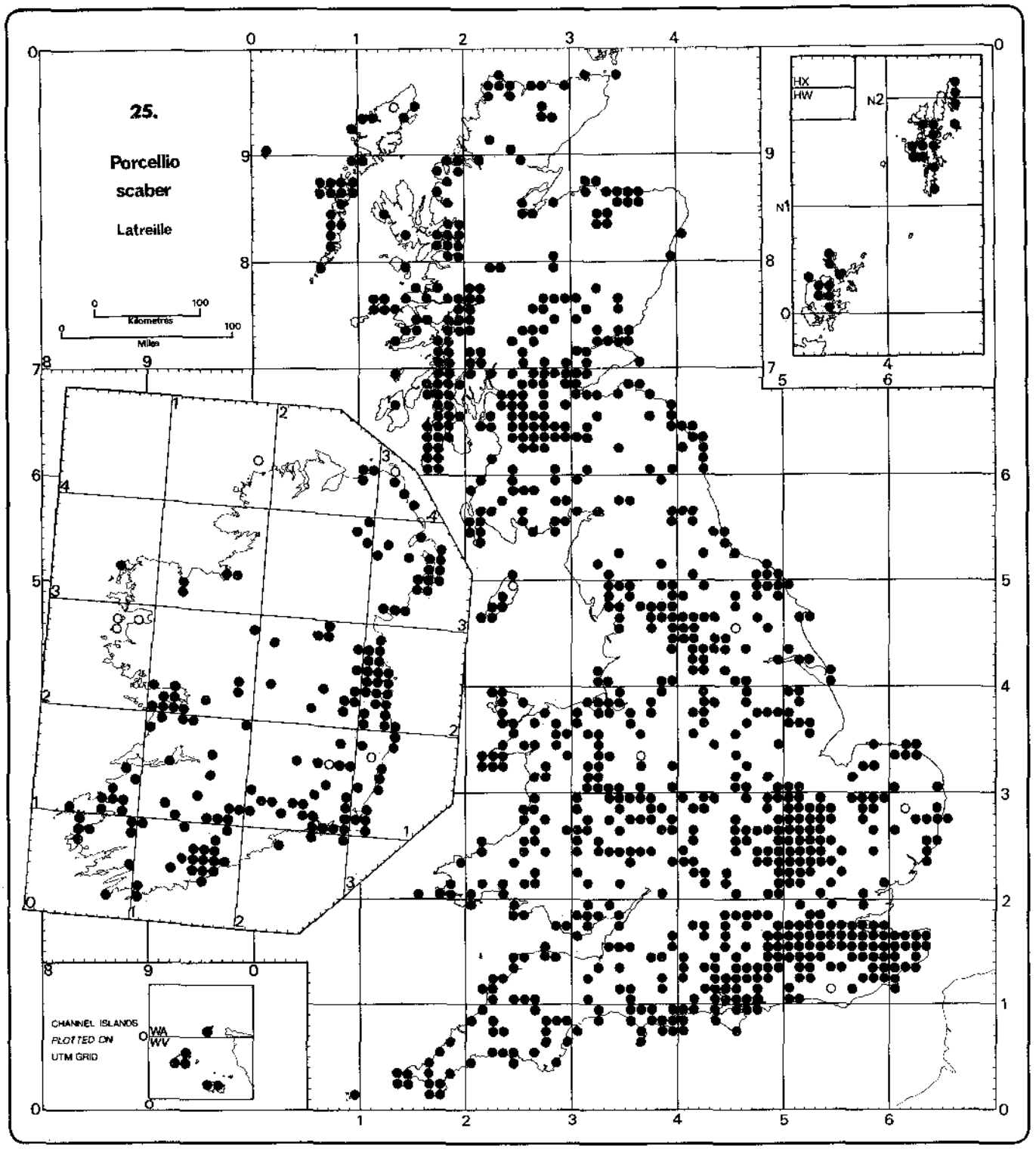

20.
Metoponorthus pruinosus
(Brandt)
0 100
Kilometres
0 100
Miles
HX
HW
N2
N1
CHANNEL ISLANDS PLOTTED ON UTM GRID
WA
WV

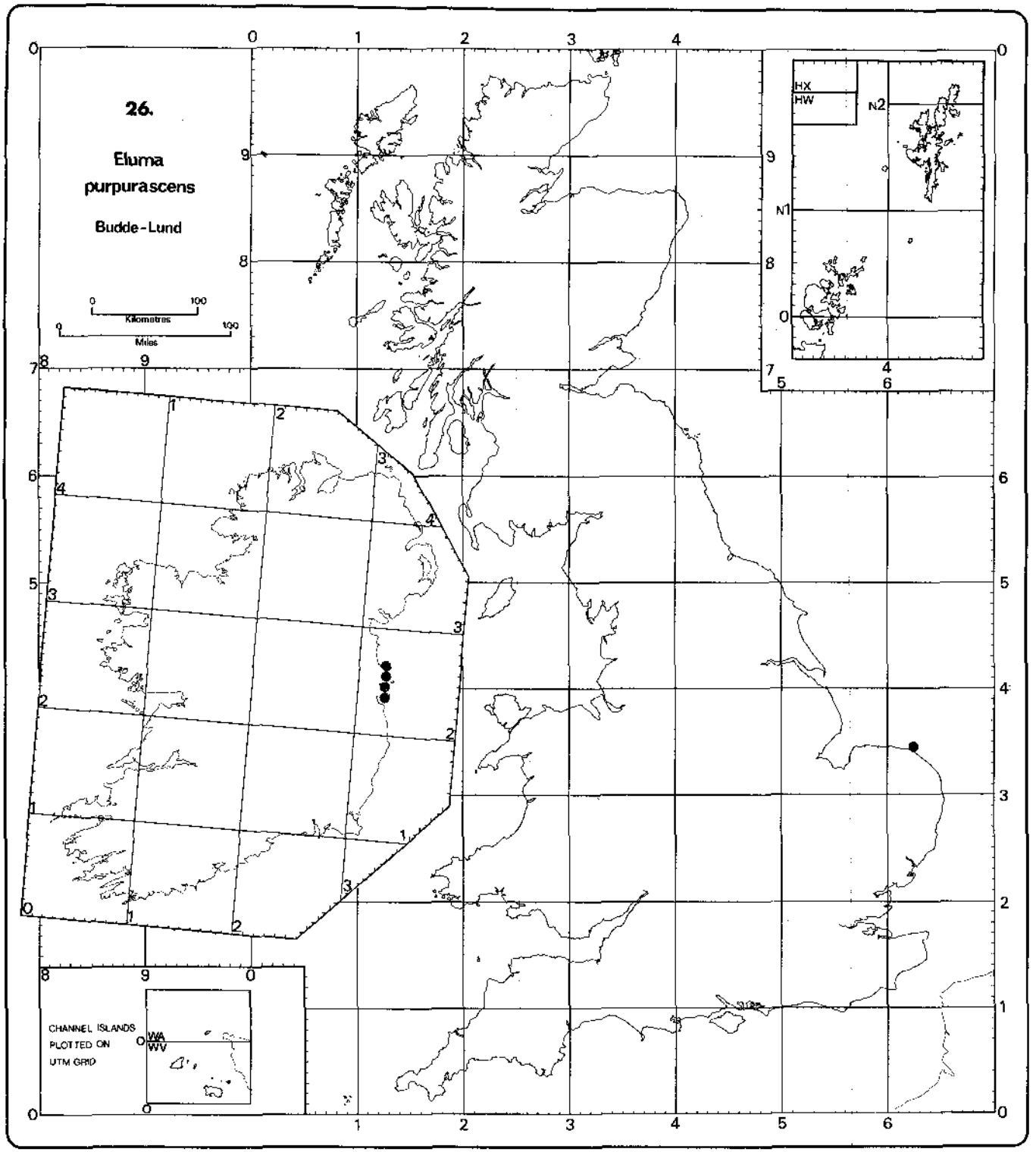

21.
Acaeroplastes melanurus
(Budde - Lund)
0 100
Kilometres
0 100
Miles
HX
HW
N2
N1
CHANNEL ISLANDS PLOTTED ON UTM GRID
WA
WV

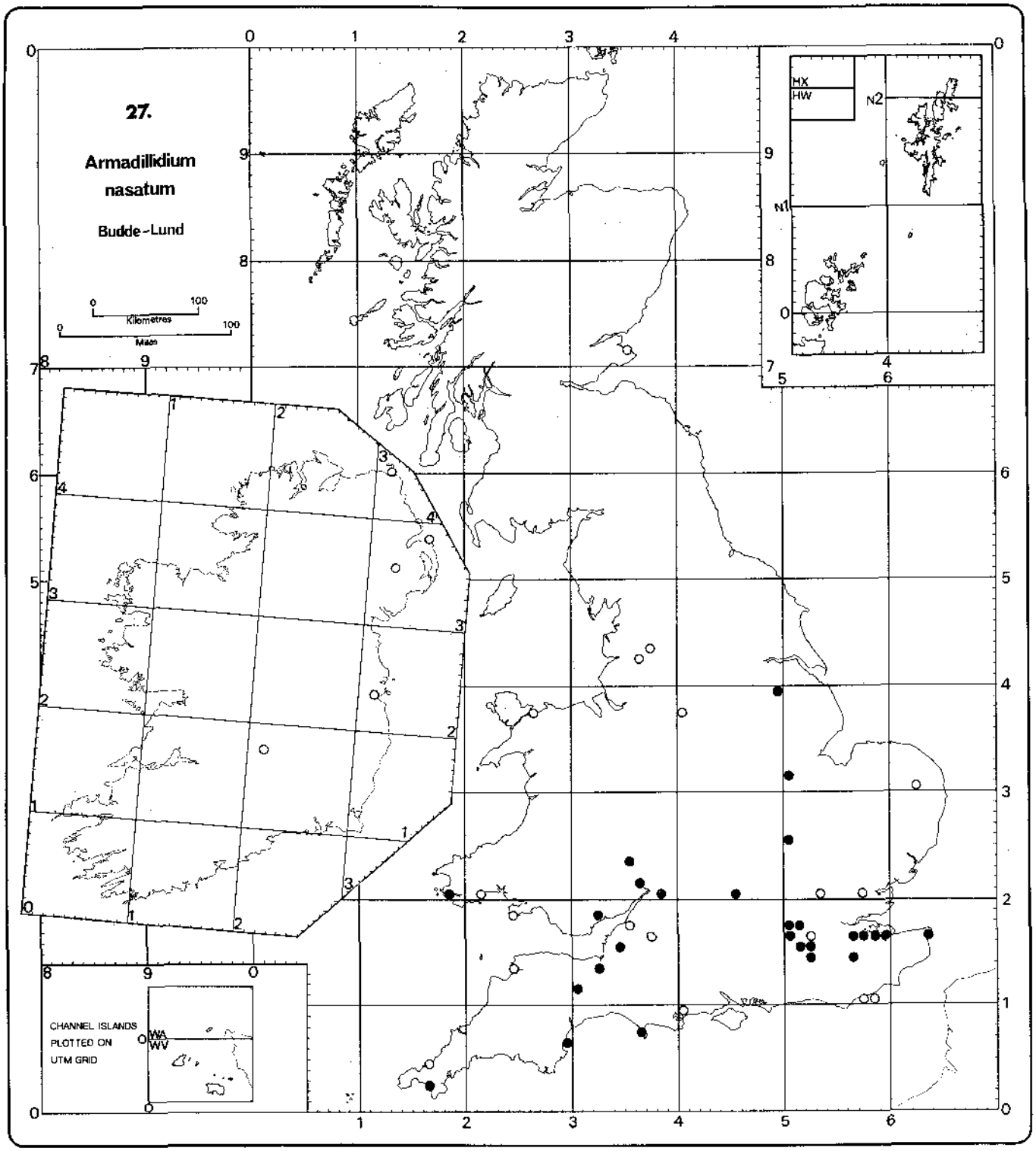

22.
Porcellio laevis
Latreille
0 100
Kilometres
0 100
Miles
HX
HW
N2
N1
CHANNEL ISLANDS PLOTTED ON UTM GRID
WA
WV

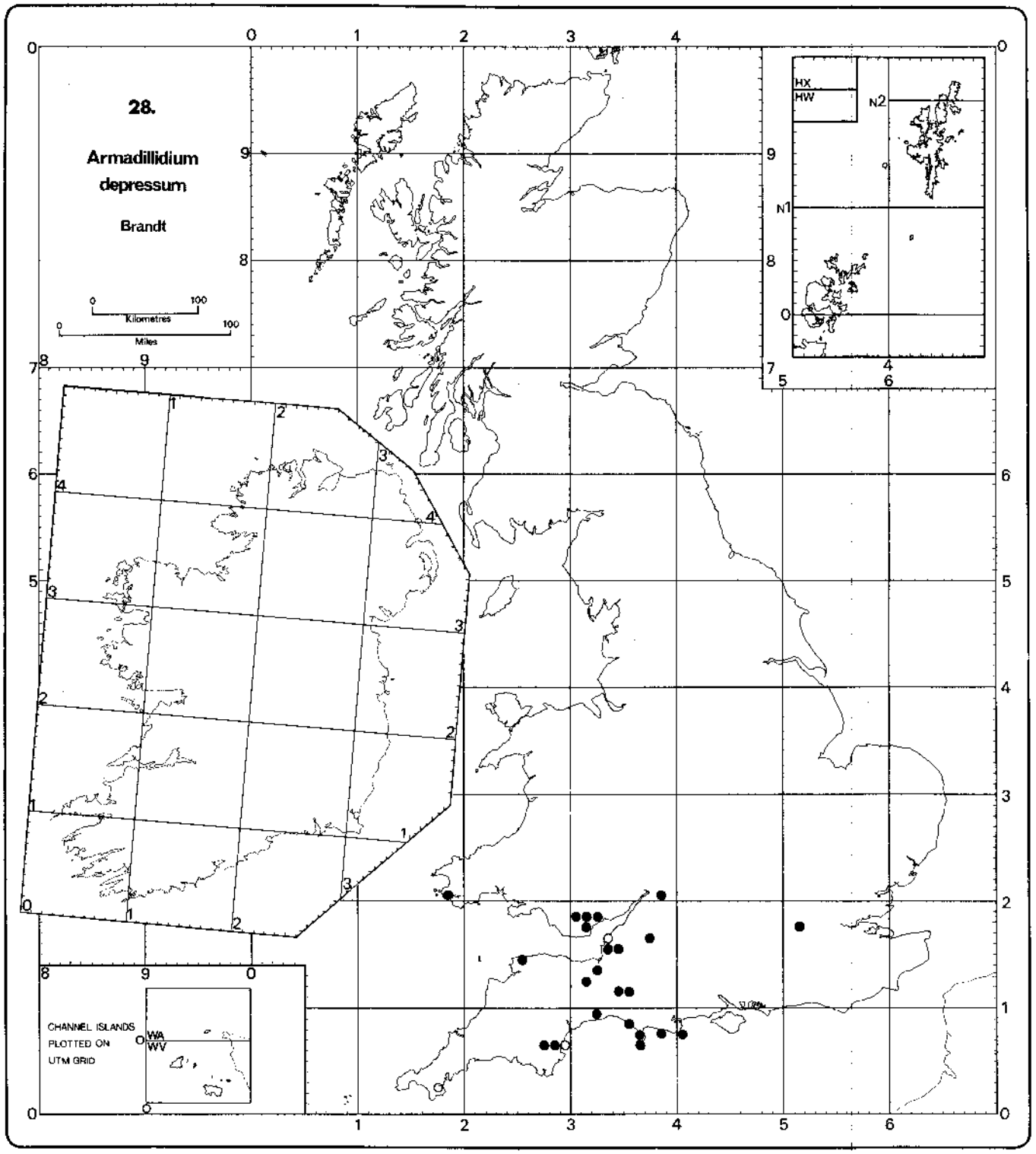

23.
Porcellio dilatatus
Brandt
0 100
Kilometres
0 100
Miles
HX
HW
N2
N1
CHANNEL ISLANDS PLOTTED ON UTM GRID
WA
WV

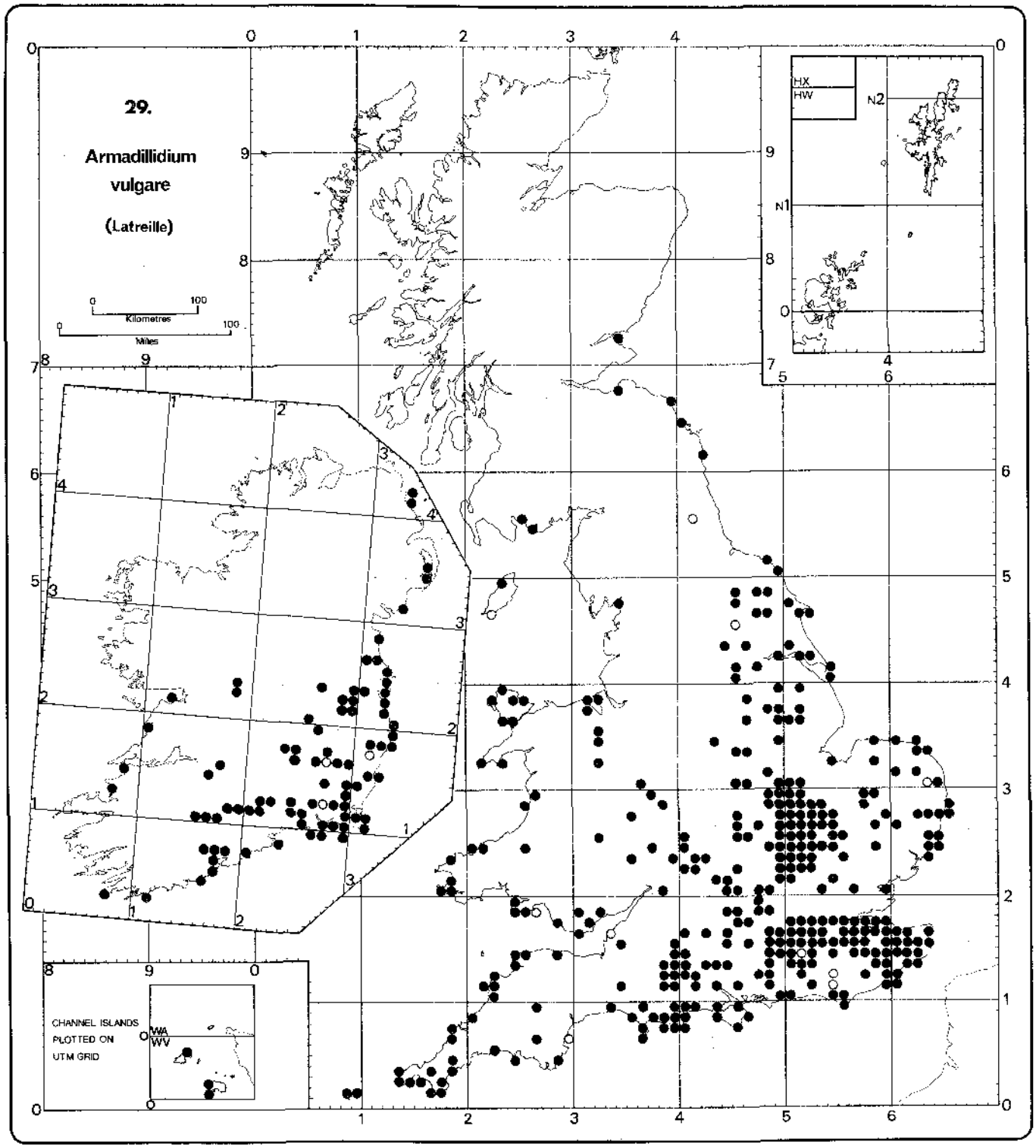

24.
Porcellio spinicornis
Say
0 100
Kilometres
0 100
Miles
HX
HW
N2
N1
CHANNEL ISLANDS PLOTTED ON UTM GRID
WA
WV

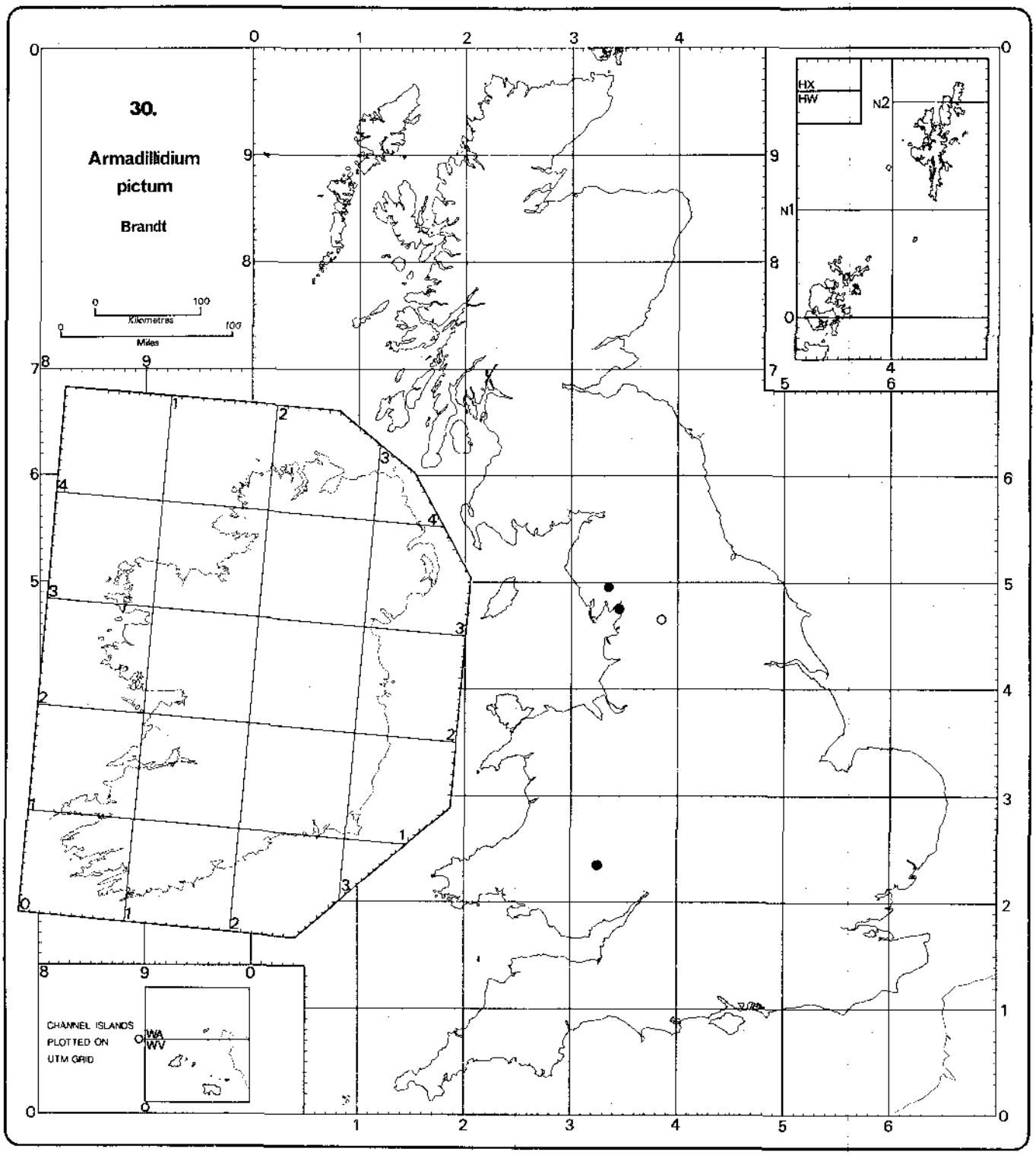

25.
Porcellio scaber
Latreille
0 100
Kilometres
0 100
Miles
HX
HW
N2
N1
CHANNEL ISLANDS PLOTTED ON UTM GRID
WA
WV

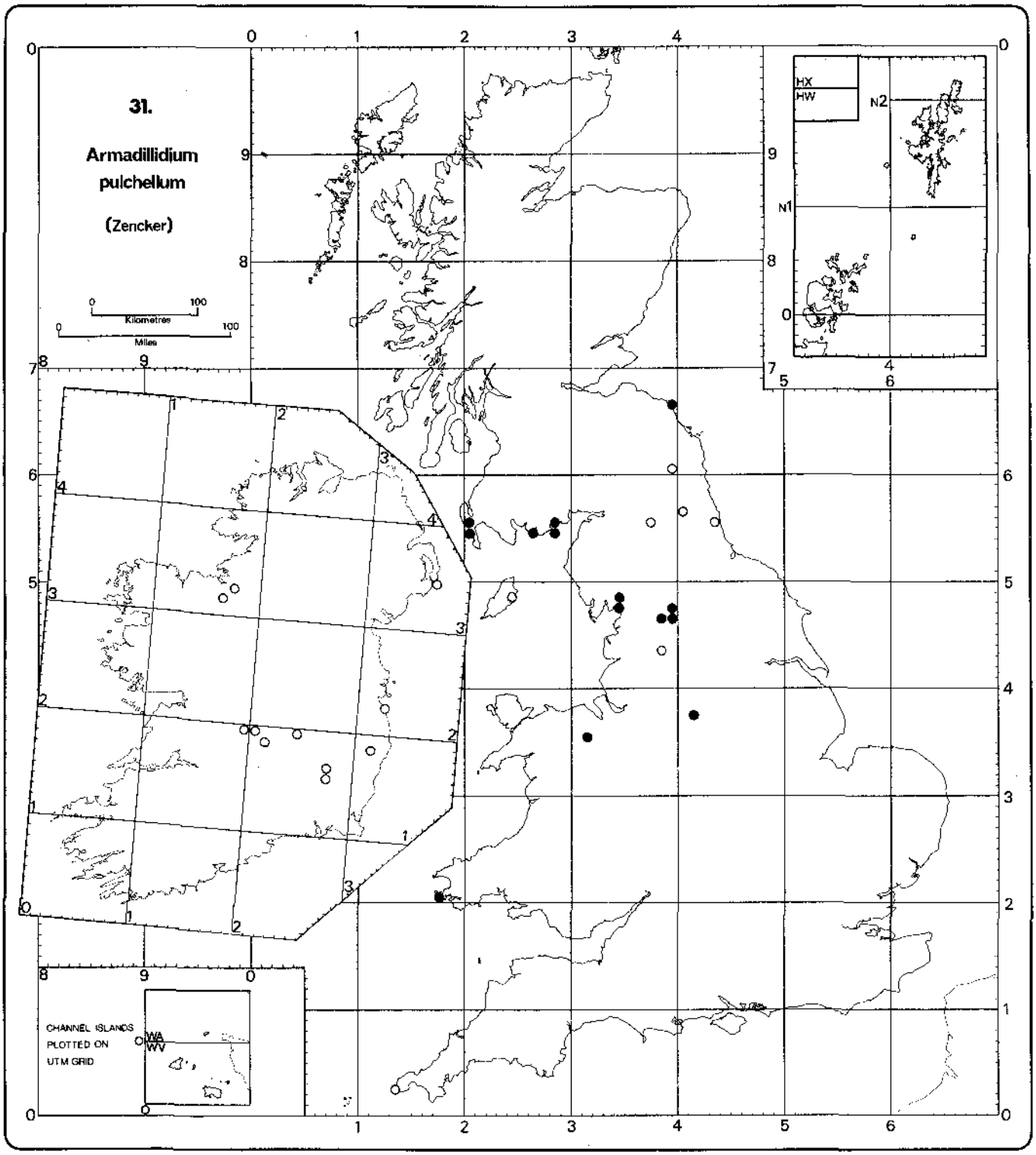

26.
Eluma purpurascens
Budde-Lund
0 100
Kilometres
0 100
Miles
HX
HW
N2
N1
CHANNEL ISLANDS PLOTTED ON UTM GRID
WA
WV

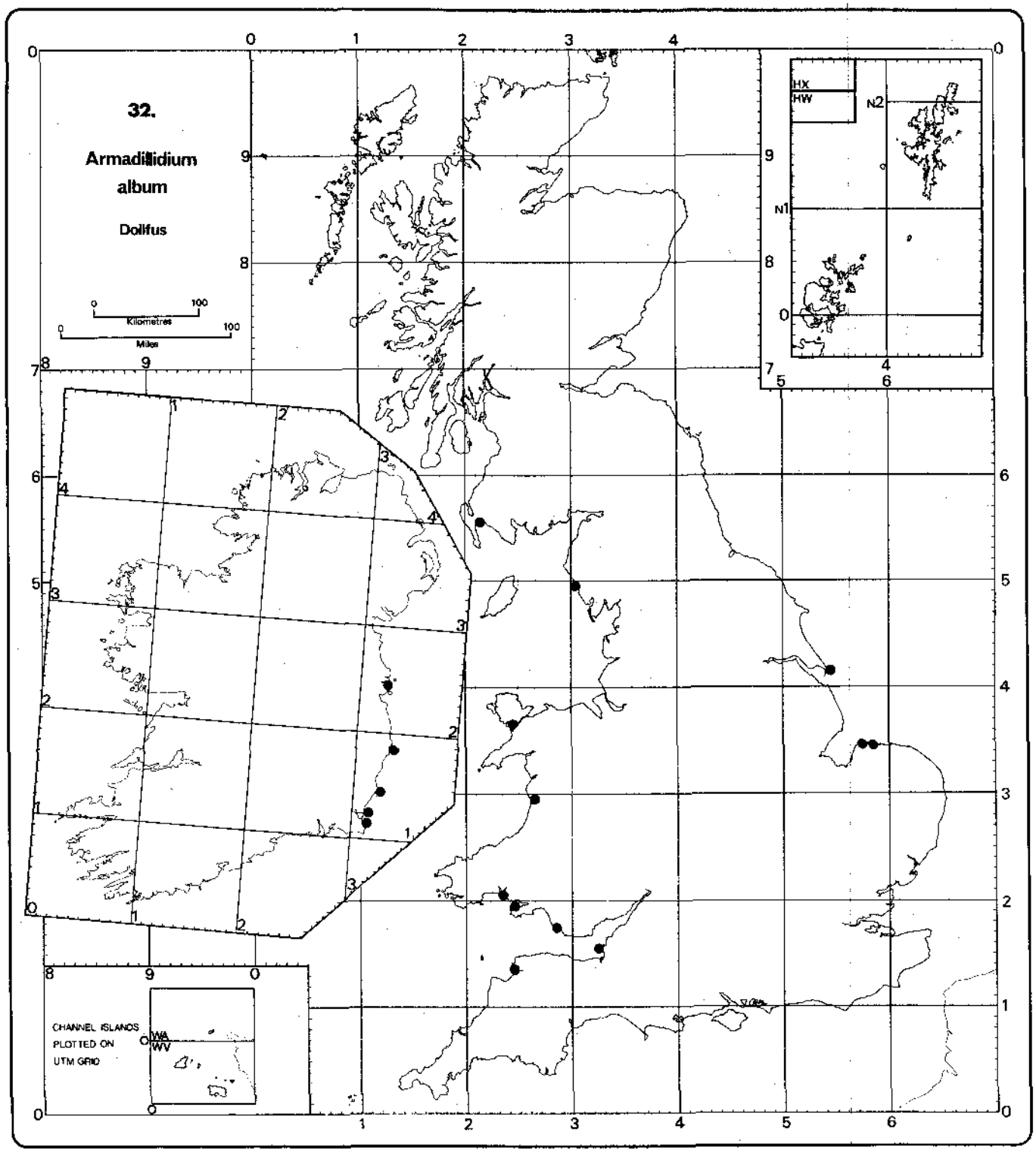

27.
Armadillidium nasatum
Budde-Lund
0 100
Kilometres
0 100
Miles
HX
HW
N2
N1
CHANNEL ISLANDS PLOTTED ON UTM GRID
WA
WV


28.
Armadillidium depressum
Brandt
0 100
Kilometres
0 100
Miles
HX
HW
N2
N1
CHANNEL ISLANDS PLOTTED ON UTM GRID
WA
WV


29.
Armadillidium vulgare
(Latreille)
0 100
Kilometres
0 100
Miles
HX
HW
N2
N1
CHANNEL ISLANDS PLOTTED ON UTM GRID
WA
WV


30.
Armadillidium pictum
Brandt
0 100
Kilometres
0 100
Miles
HX
HW
N2
N1
CHANNEL ISLANDS PLOTTED ON UTM GRID
WA
WV


31.
Armadillidium pulchellum
(Zencker)
0 100
Kilometres
0 100
Miles
HX
HW
N2
N1
CHANNEL ISLANDS PLOTTED ON UTM GRID
WA
WV


32.
Armadillidium album
Dollfus
0 100
Kilometres
0 100
Miles
HX
HW
N2
N1
CHANNEL ISLANDS PLOTTED ON UTM GRID
WA
WV