Introduction to the Irish Atlas

The *Distribution Atlas of Woodlice in Ireland* was the product of six years of intensive recording by a small group of active recorders recruited and led by Declan Doogue (DD) from 1975, augmented by some recording and background work on collections and publications by Paul T. Harding (PTH) beginning in 1967.

The Isopod Survey Scheme (ISS) had been launched publicly by Dr Stephen Sutton and John Metcalfe in 1969, intending to cover both Britain and Ireland. The overall Scheme was organised by PTH from 1972 to 1982. Initially, progress had been slow in Ireland but, beginning in 1974, the Irish Biological Records Centre (IBRC) at An Foras Forbartha in Dublin helped to publicize the Scheme to naturalists in Ireland. Several recorders became involved, including DD and Niall M. Reardon (NMR), and in November 1975 Éanna ní Lamhna of IBRC brought together DD, NMR and PTH for the first time. By the end of 1975 DD had taken on organising the Scheme in Ireland, although in the meantime Dr Roy Anderson in Northern Ireland had begun to contribute records direct to PTH.

The recording card used by the Scheme not only helped focus recorders on considering the habitat in which species were recorded, but gave a method for them to systematically record habitat details. This departure from the narrow practice of recording mainly to map distribution was somewhat controversial at the time. But it enabled DD and PTH to analyse the results and compile text to provide a completely new understanding, not only of where woodlice occurred in Ireland, but also to describe the comparative habitat affiliation of individual species.

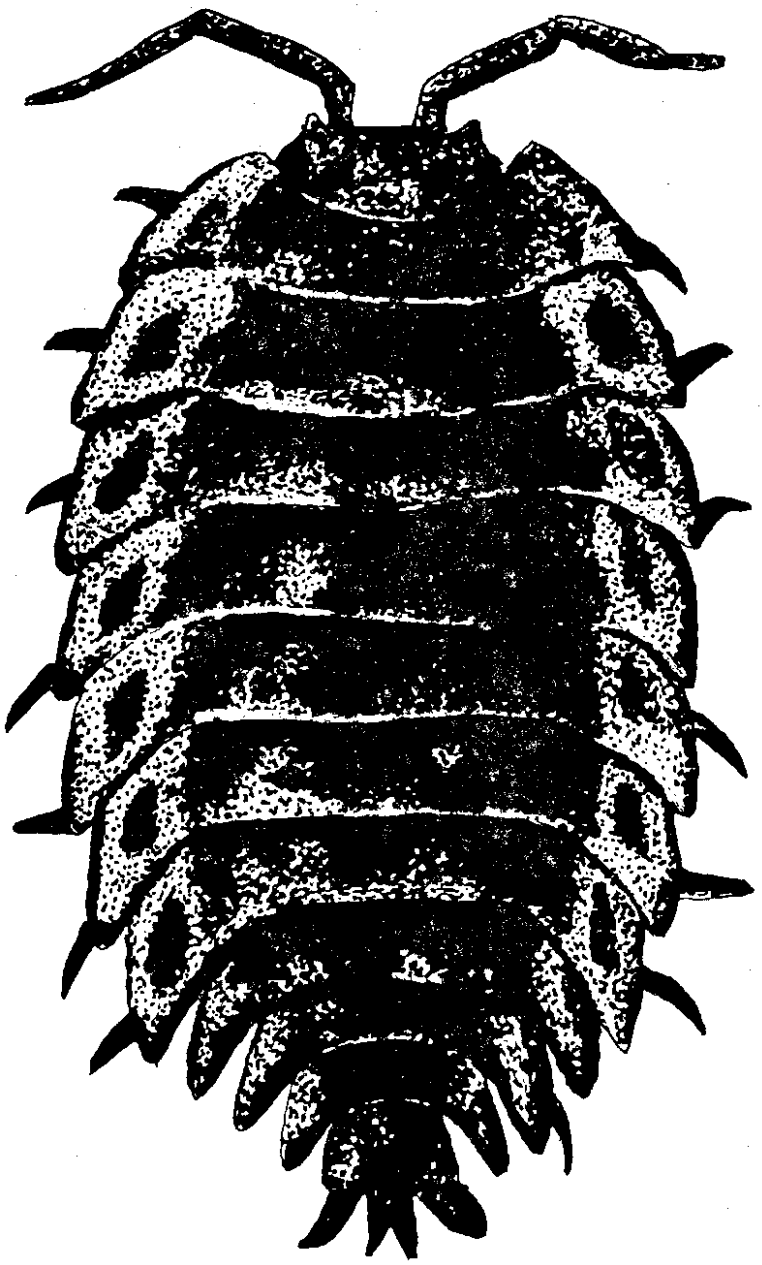
By the end of 1980, all but one of the species that had been known from Ireland at the time of the previous comprehensive review (published in 1911) had been rediscovered, and eight species had been added. Only *Acaeroplastes melanurus* evaded rediscovery until 2002. Over the period of six years (1975-80), DD, ably supported by NMR in Cork, organised the recorders and hosted several memorable field trips which helped encourage and train less experienced recorders. Roy Anderson also continued recording actively, mainly in Northern Ireland. Recording in Ireland operated fully in conjunction with the existing ISS, with records and specimens for critical examination flowing to PTH. The progress of the Scheme in Ireland after six years indicated that the production of a separate atlas for the island was warranted, with sufficient records to provide meaningful results. Also, DD and PTH individually wanted to move on to other priorities. The overall coverage map (page 15) demonstrates the extent to which recorders, especially DD, had made every effort to explore even the most remote and potentially unproductive areas of the island of Ireland.

Numerous practical and administrative difficulties delayed the production of the Atlas for over a year, so that it was finally published by An Foras Forbartha in early 1983. The reprographic facilities at that time were limited and the maps were produced at IBRC on a printer designed for text but not for graphics. Nevertheless, this was a landmark publication in terms of the new information on distribution and habitats. It provided a sound basis, backed up by digital data, for future recording, but the apparent scarcity and elusive nature of several species still requires specialised fieldwork.

Declan Doogue & Paul Harding
June 2017

Distribution Atlas of Woodlice in Ireland

An Foras Forbartha



Distribution Atlas of Woodlice in Ireland

Declan Doogue and Paul T. Harding

SERIES EDITOR

ÉANNA NÍ LAMHNA

IRISH BIOLOGICAL RECORDS CENTRE

1982

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ABSTRACT

The distribution of woodlice in Ireland is described and mapped showing the presence of 28 species in the 10 km. squares of the National Grid. The sources of records used to compile the maps are described and the environmental factors affecting the distribution of woodlice in Ireland are discussed. Also included is a check list of Irish woodlice and a bibliography of the occurrence of woodlice in Ireland.

CONTENTS

FOREWORD

This Distribution Atlas of Woodlice in Ireland is one of a series of distribution atlases published by An Foras Forbartha.

This atlas was produced in a different way to previous atlases from the Centre. A Woodlouse recording scheme in Ireland was set up by Paul Harding of the Biological Records Centre of the Institute of Terrestrial Ecology in Britain. This scheme was run by Declan Doogue, who was the organiser and recorder. Final data for maps together with the atlas text were presented by them to the Centre for publishing.

The maps were produced in the Centre where the data collected during the recording scheme are now stored. The atlas is being published as one of a series of distribution atlases produced in the Centre.

The Irish Biological Records Centre was established by An Foras Forbartha in 1971 with financial support initially from the Carnegie United Kingdom Trust. The Department of Fisheries and Forestry has been interested in the work of the Centre since its foundation. In 1976, the Forest and Wildlife Service decided that it would contribute annually towards the running of the Centre. This assistance coincided with the termination of the Carnegie grant.

ÉANNA NÍ LAMHNA

IRISH BIOLOGICAL RECORDS CENTRE.

PREFACE

This Atlas summarises our knowledge of the occurrence of woodlice in Ireland. It is a combination of a fairly objective view - the maps, and a subjective view - the text. The data used to compile the maps were collected by over 50 people although 85% of the records were collected by only 4 people. Therefore even the maps reflect the collecting bias of the principal contributors. However, any attempt to achieve a realistic picture of the distribution of a group of organisms must be subject to similar constraints and no apology is offered for these deficiencies.

Occasionally we have asked ourselves the inevitable question - "Why study woodlice?" - but have not come up with a wholly convincing answer. They interest us and offer opportunities for adding to the store of knowledge about the wildlife of Ireland. Woodlice, at least the commoner species, are familiar to most people and are potentially useful in biological education. Also, we hope to have made a small contribution to the store of knowledge of woodlice which will be of value to other biologists interested in them.

Acknowledgements

Although the opinions expressed are ours, and ours alone, we are deeply indebted to several people for their contributions to the survey that have resulted in this Atlas. In particular, we would like to thank Dr Roy Anderson of Belfast and Mr Niall Reardon of Cork for the large number of records they submitted. Without their contributions the present coverage would be much less complete and would reflect a more limited range of expertise. We are very grateful to all those who contributed records to the survey - without their help too, the coverage would be even less complete. A full list of contributors to the scheme is given on page 9. Without the support of the British Isopoda Study Group, (particularly Dr S.L.Sutton), the Irish Biological Records Centre and the Biological Records Centre at Monks Wood, the survey would not have been begun. We are very grateful to Éanna Ní Lamhna for her help in many ways, but particularly with launching the survey in Ireland and, of course, with the production of this Atlas. The help of Dr Colin Fairhurst with the analysis of habitat information is gratefully acknowledged. We are particularly grateful to Mr Arthur Chater for constructive comments on the draft text of this Atlas.

Financial assistance towards the costs of some field work and the work on the collections of the National Museum of Ireland was received from the Royal Irish Academy. The Forest and Wildlife Service of the Department of Fisheries and Forestry provided finance for surveys of some areas.

Work on the Irish survey has been undertaken by P.T. Harding as part of his work for the Institute of Terrestrial Ecology (Natural Environment Research Council).

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March 1982

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INTRODUCTION

Woodlice are one of the few groups of Crustaceans to have colonised land successfully - most of the class Crustacea, such as crabs, prawns and water fleas, live in the sea or in freshwater. As a group, woodlice have tended to be neglected by both amateur and professional naturalists, but intensive work by a comparatively small number of authorities has led to them being probably no less well known taxonomically than any other group of larger invertebrates.

In common with most groups of plants and animals, the number of species of woodlice in Ireland is small compared, for example, with the numbers of species in the countries of southern Europe or the tropics. However, the moist, generally mild climate of Ireland permits the survival of 27 species in the open air. One other species which occurs mainly in glasshouses, but also outside in association with them, is included in the following maps. This Atlas reviews and summarises knowledge of the distribution and habitats of woodlice in Ireland.

Anyone interested in the biology of woodlice is recommended to read S.L. Sutton's book "Woodlice". This excellent introduction to the group is of particular interest to those concerned with the use of woodlice in education. Several species are sufficiently common and robust to be excellent material for use in simple student experiments and projects; indeed Sutton gives several examples of investigations, looking at many aspects of the biology and ecology of woodlice.

CHECK LIST OF IRISH SPECIES OF WOODLICE

The nomenclature and systematics follow those of Sutton, Harding & Burn (1972), which was adapted from Vandel (1960, 1962, 1965). Some changes in nomenclature have been suggested by later authors but, as the check list provided by Sutton *et al* is the only one currently available in Britain and Ireland, we have decided not to incorporate these later changes. A list of the additional species recorded from Britain follows the list of Irish species. Four species have been added to the list given by Sutton *et al*, although only one has been recorded from Ireland; these have been inserted at the appropriate places following the order of Vandel. Synonymies from earlier Irish lists are included in the species accounts. "Alien species" recorded in Ireland only from glass-houses, etc. are marked with an asterisk.

TRICHONISCIDAE

Androniscus dentiger Verhoeff 1908
Oritoniscus flavus (Budde-Lund 1906)
Trichoniscoides albidus (Budde-Lund (1879) 1885)
T. saeroeensis Lohmander 1923
T. sarsi Patience 1908
Trichoniscus pusillus Brandt 1833
T. pygmaeus Sars 1899
**Cordioniscus stebbingi* (Patience 1907)
Miktoniscus patiencei Vandel 1946
Haplophthalmus danicus Budde-Lund (1879) 1885
H. mengei (Zaddach 1844)

LIGIIDAE

Ligia oceanica (Linnaeus 1767)

SQUAMIFERIDAE

**Trichorhina tomentosa* (Budde-Lund 1843)
Platyarthrus hoffmannseggi Brandt 1833

ONISCIDAE

Halophiloscia couchi (Kinahan 1858)
Philoscia muscorum (Scopoli 1763)
Oniscus asellus Linnaeus 1758

CYLISTICIDAE

Cylisticus convexus (De Geer 1778)

PORCELLIONIDAE

Nagurus nanus Budde-Lund 1908
Metoponorthus cingendus (Kinahan 1857)
M. pruinosus (Brandt 1833)
Acaeroplastes melanurus (Budde-Lund (1879) 1885)
Agabiformius lentus (Budde-Lund 1908)
Porcellio laevis Latreille 1804
P. dilatatus Brandt 1833
P. spinicornis Say 1818
P. scaber Latreille 1804

ARMADILLIDIIDAE

Eluma purpurascens Budde-Lund (1879) 1885
Armadillidium nasatum Budde-Lund (1879) 1885
A. vulgare (Latreille 1804)
A. pulchellum (Zencker 1799)
A. album Dollfus 1887
Reductoniscus costulatus Kesselyak 1830

Additional species recorded from Britain

TRICHONISCIDAE

Metatrichoniscoides celticus Oliver & Trew 1981
Cordioniscus spinosus (Patience 1907)
Miktoniscus linearis (Patience 1908)

BUDDELUNDIELLIDAE

Buddelundiella cataractae Verhoeff 1930

LIGIIDAE

Ligidium hypnorum (Cuvier 1792)

ONISCIDAE

Halophiloscia zosterae Verhoeff 1928
Chaetophiloscia meeusei Holthuis 1947
C. patiencei (Bagnall 1908)
*(At least 2 unidentified species, close to *Chaetophiloscia*)

PORCELLIONIDAE

Trachelipus rathkei (Brandt 1833)
T. ratzeburgi (Brandt 1833)
Nagurus cristatus (Dollfus 1881)

ARMADILLIDIIDAE

Armadillidium depressum Brandt 1833
A. pictum Brandt 1833

RECORDING

Historical background

The earliest records of woodlice from Ireland were those of R. Templeton (1836), who listed 5 species (Table I). In 1856 W. Thompson added *Philoscia muscorum* and, in 1857 and 1858, J.R. Kinahan added 6 species, including *Metoponorthus cingendus* new to science. The first figures illustrating all the species recorded from Britain and Ireland were given by Bate & Westwood (1868), and R.F. Scharff (1894) published an account of the Irish species, figuring each, and adding a further three species. *Haplophthalmus mengei* was added by W.F. de V. Kane in 1900 and *Armadillidium pulchellum* by Scharff in 1901, both being the first records from Britain or Ireland. Knowledge of the Irish woodlice was summarised by Webb & Sillem (1906).

In 1909 D.R. Pack Beresford and N.H. Foster publicised their plans to collaborate in examining the distribution of woodlice in Ireland. Pack Beresford had been interested in woodlice since 1895 and had been in correspondence with Scharff since that date. His collaboration with Foster began in 1908 and the two were in regular correspondence until Foster's death in 1926. Foster was an active field naturalist working mainly in the north-eastern counties. Pack Beresford had homes in Co. Carlow and on Howth, Co. Dublin; he seemed to collect relatively little himself except in the vicinity of his homes. Instead he set himself up to provide an identification service for anyone willing to collect for him. The result of the collaboration between Pack Beresford and Foster was their highly original paper (1911) which included keys to species, notes on habitats and distribution, distribution maps using Praeger's vice-counties, and an extensive bibliography. The assistance of over 50 collectors was acknowledged, the list reading like a roll call of the most able Irish naturalists of the period. A supplement to this paper was published in 1913. Thereafter they published little on woodlice and Pack Beresford went on to continue his work on spiders, but the flow of specimens of woodlice did not stop and he seems to have received material up to about 1935, mainly from R.A. Phillips and also from R.J. Welch and A.W. Stelfox. This material, deposited at the National Museum of Ireland (Harding 1977), contained many new vice-county records which were never published. Pack Beresford died in 1942.

After 1935 woodlice suffered neglect in Ireland except from W.E. Collinge, who published 9 short notes on Irish records between 1942 and 1947. A.W. Stelfox rightly criticised some of Collinge's statements and records of rare species - this is discussed later in the appropriate species accounts. The next 20 years saw the publication of only four papers even mentioning woodlice, this despite the publication by Edney (1954) of an up to date synopsis of the British and Irish species.

TABLE I. THE CHRONOLOGICAL GROWTH OF THE IRISH SPECIES LIST

Date of Publication	Author	Species Added
1836	Templeton	*Armadillidium vulgare* *Ligia oceanica* *Oniscus asellus* *Porcellio laevis* *P. scaber*
1856	Thompson	*Philoscia muscorum*
1857-58	Kinahan	*Metoponorthus cingendus* *M. pruinosus* *Oritoniscus flavus* *Porcellio dilatatus* *P. spinicornis* *Trichoniscus pusillus*
1894	Scharff	*Androniscus dentiger* *Cylisticus convexus* *Platyarthrus hoffmannseggi*
1900	Kane	*Haplophthalmus mengei*
1901	Scharff	*Armadillidium pulchellum*
1908	Foster	*Armadillidium nasatum* *Trichoniscus pygmaeus*
	Pack Beresford	*Eluma purpurascens* *Halophiloscia couchi*
1909	Bagnall	*(Cordioniscus stebbingi)* *Haplophthalmus danicus*
1910	Scharff	*Acaeroplastes melanurus*
1911	Foster	*(Nagurus nanus)* *(Trichorina tomentosa*
	Pack Beresford & Foster	*Trichoniscoides sp.* (identity uncertain)
1968	Harding	*Armadillidium album*
	Sheppard	*Trichoniscoides saeroeensis*
1976	Doogue & Harding	*T. albidus*
1982	Doogue & Harding	*(Agabiformius lentus)* *(Reductoniscus costulatus)* *Trichoniscoides sarsi*
	Oliver & Sutton	*Miktoniscus patiencei*

Note Species names in brackets are considered to be alien species

Non-Marine Isopoda Recording Scheme

Recent work on woodlice in Ireland has been organised as part of the Non-Marine Isopoda Recording Scheme run 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 and R.J.A. Metcalfe in 1968, and Sutton and Metcalfe continued to organise the scheme until 1972. Thereafter the scheme was organised by P.T.H. A recording card for the scheme was printed in 1970 by the Biological Records Centre at Monks Wood. The design of the card differed from that of most other recording cards by including a detailed habitat classification. This meant that a recording card was completed for each microsite in which specimens were collected, so that detailed ecological information was recorded as well as geographical distribution. The card was designed in collaboration with the British Myriapod Group, so that an identical habitat classification for recording centipedes, millipedes and non-marine Isopoda could be used (Barber & Fairhurst, 1974).

Progress in the first 6 years of the scheme was good in Britain but poor in Ireland, with only a thin scatter of recent records, mainly the result of 4 visits by P.T.H. between 1967 and 1972 (Harding 1975). The assistance of the Irish Biological Records Centre was sought in 1975 and, thanks to the help of Éanna Ní Lamhna, an organiser for the Irish scheme (D.D.) was appointed at the end of 1975. This was part of a more general devolution of responsibility within the scheme, coinciding with the publication of the provisional atlas (Harding, 1976).

Initially all records were supported by voucher specimens identified or checked by the Irish or British organisers of the scheme. In many cases, recorders gained experience of identification using named reference collections returned to them by the organisers. As a result, the scheme built up a small team of recorders competent at identifying all or most of the material they collected. Working mainly from Cork, Dublin and Belfast the group of recorders managed to obtain records from almost every 10 km. square.

Although the survey had a good foundation in the work of Pack Beresford and Foster, it was hampered by a lack of information on the habitats of the species. This resulted in some rarer species evading rediscovery for some time until recorders became aware of the habitats of these species. Several field outings were organised, at which recorders were made familiar with the most favourable sites to search for species. The most memorable of these was in October 1976 when a weekend was spent by a party of 12, based on a monastery at Roscrea, Co. Tipperary, attempting to rediscover *Armadillidium pulchellum*; the search was eventually successful. Advice on a few species, based on knowledge of their habitats in Britain, was not very helpful because the sites occupied in Britain were often different from those occupied in Ireland.

Material of some species which are difficult to identify was referred to Drs. S.L. Sutton and R.J. Lincoln. Dr. P.G. Oliver has given invaluable help with sorting out our confusion over specimens of *Trichoniscoides* and *Miktoniscus*. However, the identification of most of the difficult material has been done by us and any errors must be our responsibility.

We are pleased to be able to thank the following contributors to the scheme:

R Anderson
C Birch
A O Chater
J Chatfield
D C F Cotton
M Dooley
C P Fairhurst
R P Finnegan
S Fleming
M Fogan
K Grace
D Hanson
M Hennessy
D Higgins
M V Hounsome
R P Jagoe
D Kiernan
H Kearns
R A Lass
P N Lawrence
D Levinge
D Lynch
R McDonald
D McGrath
O McGuirk
B Moran
C Moriarty
M G Morris
C Mothersill
E Ni Lamhna
A Norris
J P O'Connor
N O'Donnell
P O'Mahony
M O'Meara
M O'Neill
E J Pearce
L R M Railton
M Redmond
O W Richards
A J Rundle
C Scotter
G Sharkey
A Short
R W Smith
E C Southward
G G Spencer
S L Sutton
W B Thomas
S Warburton
A R Waterson
R Watson

Two of the above recorders deserve special mention and thanks. Dr Roy Anderson produced species lists from virtually every 10 km. grid square in North-East Ireland and Niall M Reardon surveyed extensively in Munster, especially in Counties Cork, Kerry and Tipperary. Both recorders managed to survey areas seldom visited by naturalists and without their efforts, the degree of coverage that has been achieved would never have been attained.

STORAGE OF RECORDS

The present Atlas provides only a partial summary of the information available from the survey. The original record cards, or copies, have been deposited with the Irish Biological Records Centre at An Foras Forbartha, and in Britain with the Institute of Terrestrial Ecology's Biological Records Centre at Monks Wood. A complete set of record cards is held by one of us (D.D.). All the records collected by the Non-Marine Isopoda Recording Scheme prior to 1975 (when the Irish organiser was appointed) were copied and incorporated with the records gathered after that date.

The data on record cards have been processed into a numerical form for input to computers. These data are now stored on computing systems accessible through the Irish Biological Records Centre, the Biological Records Centre at Monks Wood and Salford University.

IDENTIFICATION

The identification of specimens collected during the survey has been made using several keys and monographs. Almost all species are adequately described and figured in Edney (1954) and Sutton *et al* (1972). In addition two continental works have been very useful, Vandel (1960, 1962) and Gruner (1966). Specimens of the most difficult genus, *Trichoniscoides*, were identified using Vandel (1960) and Sheppard (1968). The description and figures of *Miktoniscus patiencei* in Vandel (1960) have been improved upon by Oliver & Sutton (in press).

Neither Edney (1954) nor Sutton *et al* (1972) cover all the alien species in sufficient detail; for the identification of these, the following were used:

Cordioniscus stebbingi - Gruner (1966), Edney (1954)

Trichorhina tomentosa - Gruner (1966)

Nagurus nanus - Foster (1911)

Agabiformius lentus - Vandel (1962)

Reductoniscus costulatus - Kesselyak (1930), Holthuis (1947)

ENVIRONMENTAL FACTORS AND DISTRIBUTION

The twenty-eight species maps presented in this Atlas represent the culmination of the main phase of an extensive recording scheme which involved a large number of naturalists going into the field to collect data on the geographical distribution and habitat preferences of the various species of Irish woodlice. Each recorder had his own collecting methods. Some of the participants had an extensive background in some other natural history discipline and collected in their own favoured habitats; others collected in less orthodox habitats and discovered interesting species in very uninteresting locations! After a short period of collecting and recording, the scheme member begins to realise that certain habitats tend to show a better return (in terms of species diversity) than others, and he then concentrates on these, tending at the same time to neglect other habitats that he considers to be less rewarding. Experimental scientists may shudder at such methods, but it must be rembembered that recording schemes are not experiments. They are attempts by naturalist to lay down the broad outline of the geographical distribution of given species within a defined area.

The maps in this Atlas exhibit various forms of bias. Firstly, they sometimes reflect the recorder's preconceptions of where certain species *should* occur. If a recorder is told (or discovers) that the easiest way to find species X is to sieve out the soil beneath Alder leaf-litter, he will then, given his limitations of time, mobility, interest, temperament and finance, search such habitats, neglecting other potentially more interesting habitats. As a result, he may or may not record the species X well, but a disproportionately high percentage of his records for other species will also have been made in the Alder leaf-litter.

Secondly, they reflect the individual recorder's collecting skills. Certain recorders are gifted at locating quite tiny species (often less than 3 mm) and can distinguish them from other similar-sized individuals of other species. The experienced recorder recognises certain habitats as being "good" - although he may be unable to explain the precise factors that make them so. Some recorders will work their (uninvited) way through a farmer's manure heap in search of *Metoponorthus pruinosus*, while others, to avoid the embarrassment of explaining what they are *really* doing, will forego the opportunity of examining a promising piece of ground rather than ask permission of the owners to visit the site. It would appear that a most useful adjunct to a good "nose" for habitat is a generous measure of "hard neck".

Thirdly, they reflect the environmental conditions at the time of recording. It is tempting to suggest that the average terrestrial isopod's concern of a "nice" day is inversely proportional to that of a human. Unfortunately, such appears to be the case. On wet days most species may be found up near the soil surface, often in considerable quantity, while in dry sunny conditions many species, especially the tiny subterranean ones, are virtually impossible to locate. When drought threatens they are thought

to retreat into the lower moister soil layers. Such a strategy enables them to avoid desiccation but also enables them to avoid detection by woodlouse recorders!

Nonetheless, a number of generalisations regarding woodlouse distribution can be made;

1. Species diversity is highest in the south and east of the island and decreases markedly as one travels north and west.

2. The richest habitats are those that are associated with limestone - either as exposed solid limestone or as calcareous drift.

3. A small group of species is closely associated with coastal habitats. In some cases this may reflect a dependence on some chemical factor; in others physical and climatic factors may also operate.

4. Many species appear to exhibit an ecological rather than a geographical distribution. If their favoured habitat is widespread or if they are able to exploit a wide variety of habitats they will be widely distributed. Species associated with certain uncommon habitat types exhibit correspondingly restricted distributions.

5. Man has extensively modified the distribution of virtually all the non-coastal species by the creation of new habitats such as gardens and grassland, and the destruction of others such as woodland and various wetlands. The maps to some extent reflect the varying abilities of the different species to cope with these changes. The influence of man has been so extensive that it is now almost impossible to decide whether certain species are truly native in Ireland.

DISTRIBUTION MAPS AND SPECIES ACCOUNTS

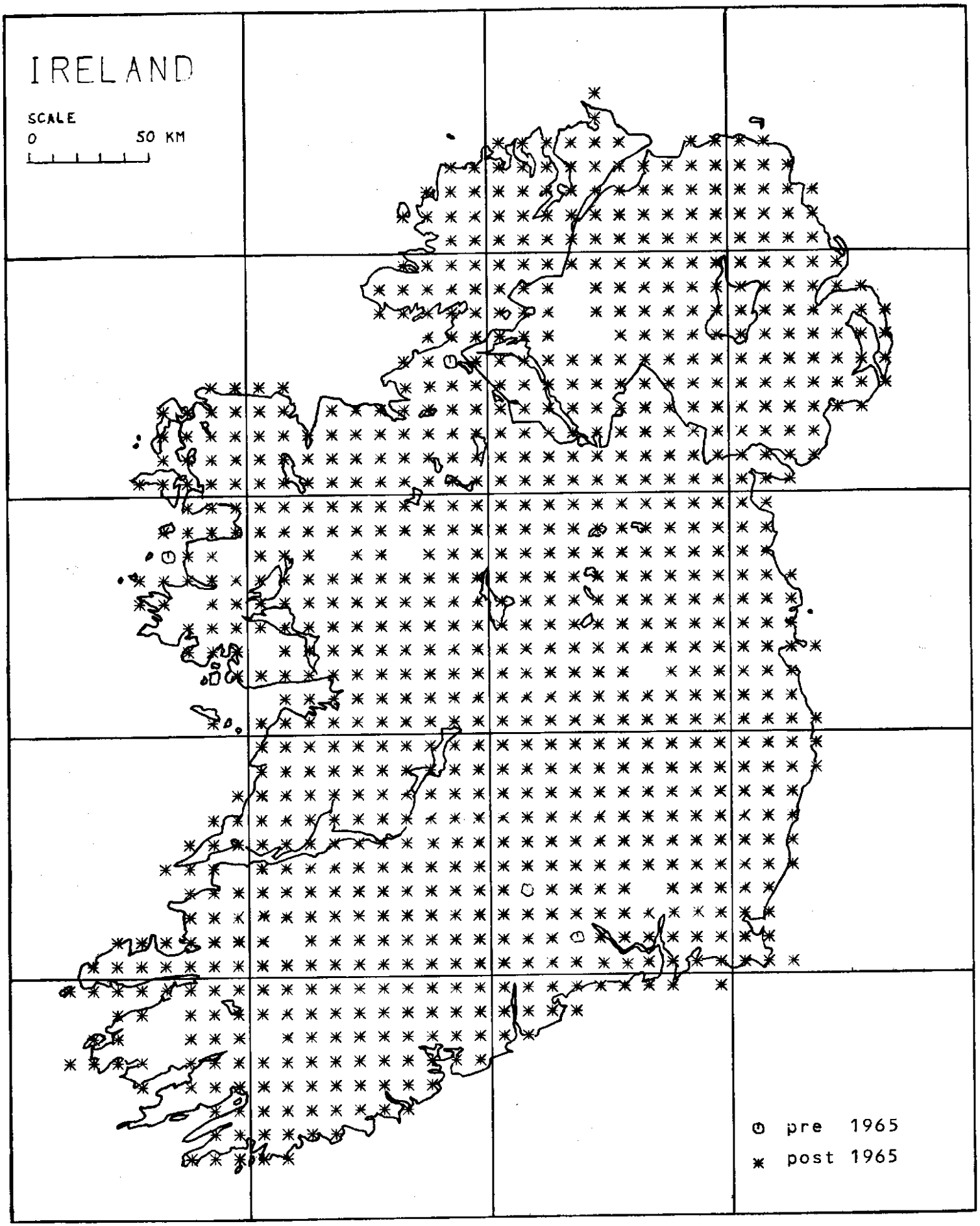
The following maps show the distribution of the 28 species of woodlice considered by us to be native or naturalised in Ireland. The maps are arranged in systematic order (see List on p.p. 4 and 5) and each map is accompanied on the facing page by an account of the species.

The maps summarise the data collected by the present survey to show the presence of species in the 10 km. squares of the National Grid. Records before 1965 are marked with a ⊙ and records since 1965 are marked ✱.

The account of each species is headed with the species name followed by the synonym used by Pack Beresford & Foster (1911), where this differed from the present nomenclature. Each account includes a brief note of any distinctive field characters and goes on to give information on the occurrence, including habitat, in Ireland, and the distribution outside Ireland. Also included under Irish Bibliography is a numbered index to references to the species in the Bibliography of the Occurrence of Woodlice in Ireland (p.75). Under Vice-County Occurrence, a list is given of the numbers of the vice-counties from which the species has been recorded. This includes records from the recent survey as well as earlier records. In some cases the vice-county occurrence may not correspond with the distribution as shown by 10 km. squares. This is because it has not been possible to attribute a valid vice-county record, from a publication or museum collection, to a 10 km. square of the National Grid.

The map on the facing page (Fig 1) shows the coverage of recording. This shows every 10 km square from which any species has been recorded.

Following the maps and species accounts are two sections : one lists the occurrence of 5 species considered to be aliens and which have been recorded only in glasshouses etc.; the other deals with two species which we consider should not be regarded as having occurred in Ireland.


IRELAND
SCALE
0
50 KM
pre 1965
post 1965

ANDRONISCUS DENTIGER Verhoeff 1908

T. roseus auct., non (C.L. Koch)

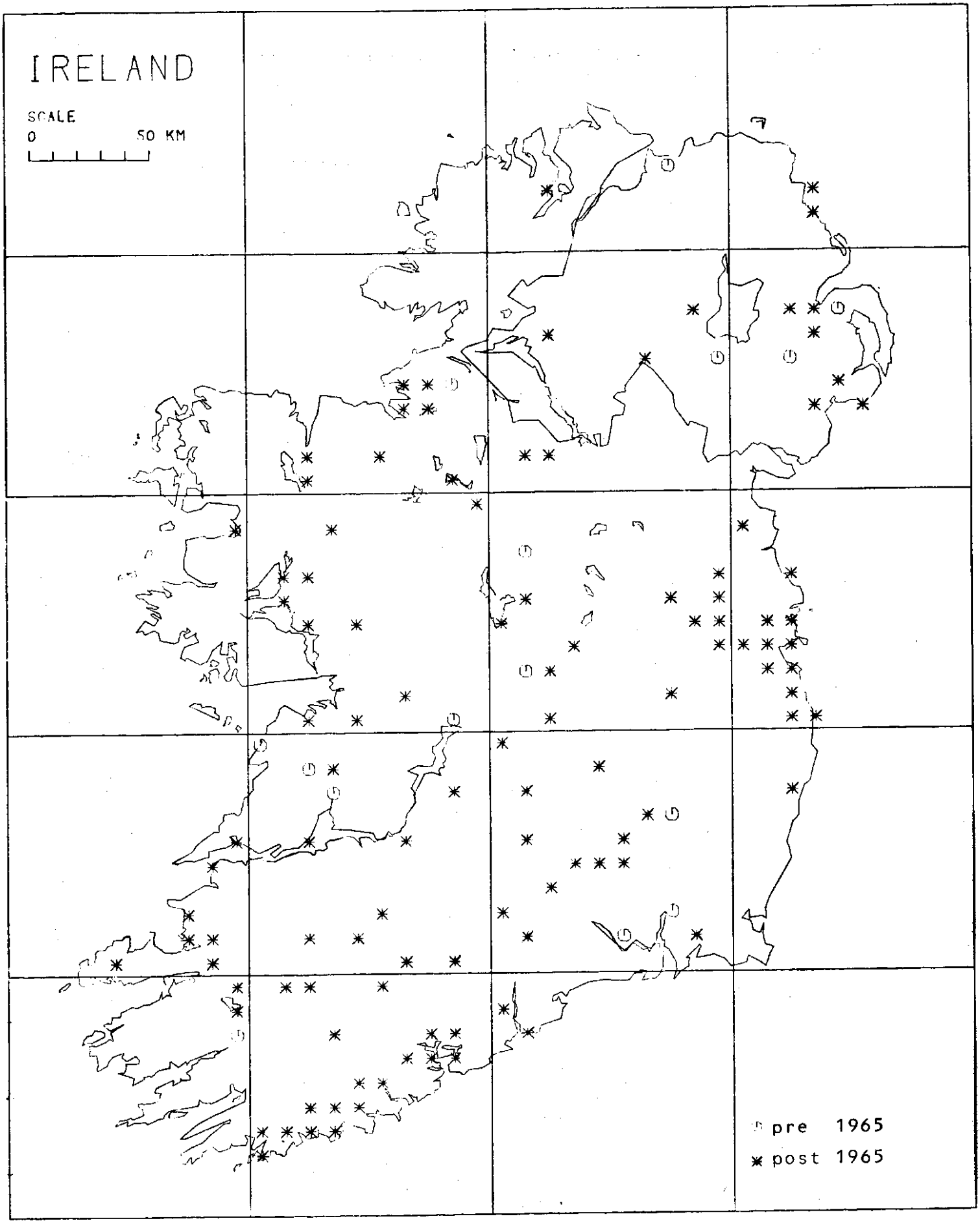
A strikingly coloured species varying from palest flesh-pink to rich rosy red, but always with a distinct broad yellow dorso-median stripe.

A. dentiger has been recorded widely throughout the country in both synanthropic and natural locations. Most frequently recorded in gardens, glasshouses, old churchyards and ruins, it is usually found under paving slabs or stones and beneath gravel or cinders on paths. At such sites it is found only where conditions are moist. Its occurrence in more natural locations is closely linked with exposures of Carboniferous limestone; under stones in the driftline of several lake shores in limestone areas (e.g. Lough Gill, Co. Sligo (G.73); Glencar Lake, Co. Leitrim (G.74) and Lough Carra, Co. Mayo (M.17); on bare limestone pavement in the Burren, Co. Clare, where it is locally common, and at Cong, Co. Mayo (M.15) where it occurs in ash/hazel woodland. It has been recorded from several coastal localities, on cliffs and salt-marshes, and is one of the few species to be found regularly in inland caves and tunnels.

The occurrence of *A. dentiger* in Britain is very similar to that in Ireland, although there are more records from coastal sites, especially clay and limestone cliffs where it may be found in quantity in the open at night. The affinity of this species for old churchyards, especially those of derelict Protestant churches, first noted by Niall Reardon, has been found to be true in Britain also. *A. dentiger* is widely distributed in central and southern Europe.

IRISH BIBLIOGRAPHY: 5, 11, 24, 26, 32, 33, 35, 36, 37, 40, 43, 48, 49, 53, 56, 58, 60, 62, 63, 65, 66, 67, 68, 70, 84, 86, 93, 94, 95, 97, 100, 119, 120, 122, 125, 126, 127, 128, 129, 130.

VICE-COUNTY OCCURRENCE: All except 34.


IRELAND
SCALE
0
50 KM
pre 1965
post 1965

ORITONISCUS FLAVUS (Budde Lund 1906)

Trichoniscus vividus (Koch)

This is a very fast-moving species; it is purple-maroon in colour, and at first glance looks like a large *Trichoniscus pusillus*. In alcohol the colour soon fades to yellowish-white, hence the misleading name (*flavus* = yellow).

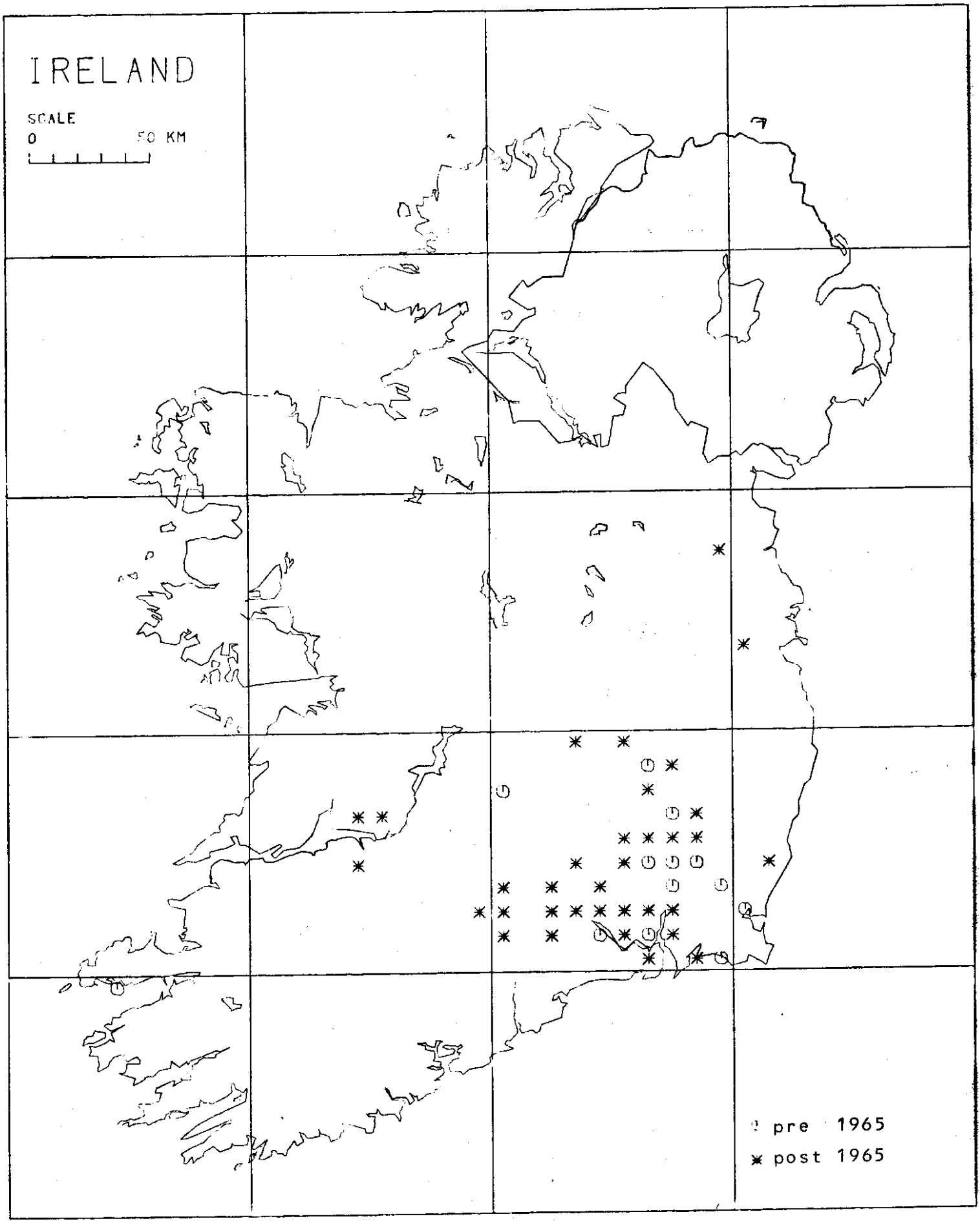
O. flavus is of considerable biogeographical interest, being widespread and often common in south-east Ireland but unknown in Britain. It occurs along most of the river valleys of counties Wexford, Carlow, Kilkenny, Waterford and South Tipperary and has been found recently on the Liffey in Co. Dublin and the Boyne in Co. Meath. Also there are several recent records from the Limerick area and a record in 1914 from Burnham Woods (Colaiste Ide), Dingle, Co. Kerry (V 39). A record from Co. Antrim (Collinge, 1942) is considered to be an error; the late A.W. Stelfox (personal communication to P.T.H.) stated that the supposed collector of the relevant specimens (J. Litster) had never collected in the locality and Harding (1977a) has shown that Collinge was unable to identify this species reliably.

It has been found mainly in leaf litter or under gravel and stones on the banks of rivers, also in driftline debris on salt marshes on the Wexford coast and near Shannon. It is often found in rank riverside vegetation dominated by butterbur (*Petasites hybridus*) and hemp agrimony (*Eupatorium cannabinum*). Although it can be found occasionally at the bases of walls and bridges, the occurrence of *O. flavus* in mainly natural sites does not indicate that it is an introduced species as was suggested by Harding (1976).

O. flavus has not been recorded in Britain, but it occurs in south-western France, south of the Loire, and in Catalonia in Spain. A superficially similar-looking species, *Ligidium hypnorum*, occurs in southern and eastern England in damp woodland, riverside carr and fens.

IRISH BIBLIOGRAPHY: 7, 13, 23, 24, 25, 29, 30, 33, 34, 35, 36, 47, 58, 60, 62, 63, 76, 81, 84, 86, 87, 91, 93, 94, 95, 100, 103, 107, 117, 118, 120, 125.

VICE-COUNTY OCCURRENCE: 1, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 19, 21, 22.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TRICHONISCOIDES ALBIDUS (Budde Lund (1879) 1885)

In life this species resembles a small, dull *Trichoniscus pusillus*, with which it usually occurs. It is reddish-purple in colour but this is lost rapidly in alcohol, unlike *T. pusillus* which retains its colour. Not an active species, it usually remains still when uncovered, clinging to the undersides of stones, or moves very slowly when sieved out of soil.

T. albidus was recorded in the past from several localities in Ireland but some of the old records seem to refer to *T. saeroeensis*, a coastal species. However, there are several early records from built-up areas which may be of *T. albidus*, but the specimens, which are in the National Museum, cannot be identified with certainty. It has been confirmed as an Irish species at two localities; a roadside verge near Durrow, Co. Laois (S.37) and an old garden on The Strawberry Beds, near Lucan, Co. Dublin (O.03), in both cases under stones. It appears to be difficult to find in dry weather and was found at the latter site only after a long period of rain. It would appear to be a soil-dwelling species and is presumably able to retreat deep into the soil in dry weather.

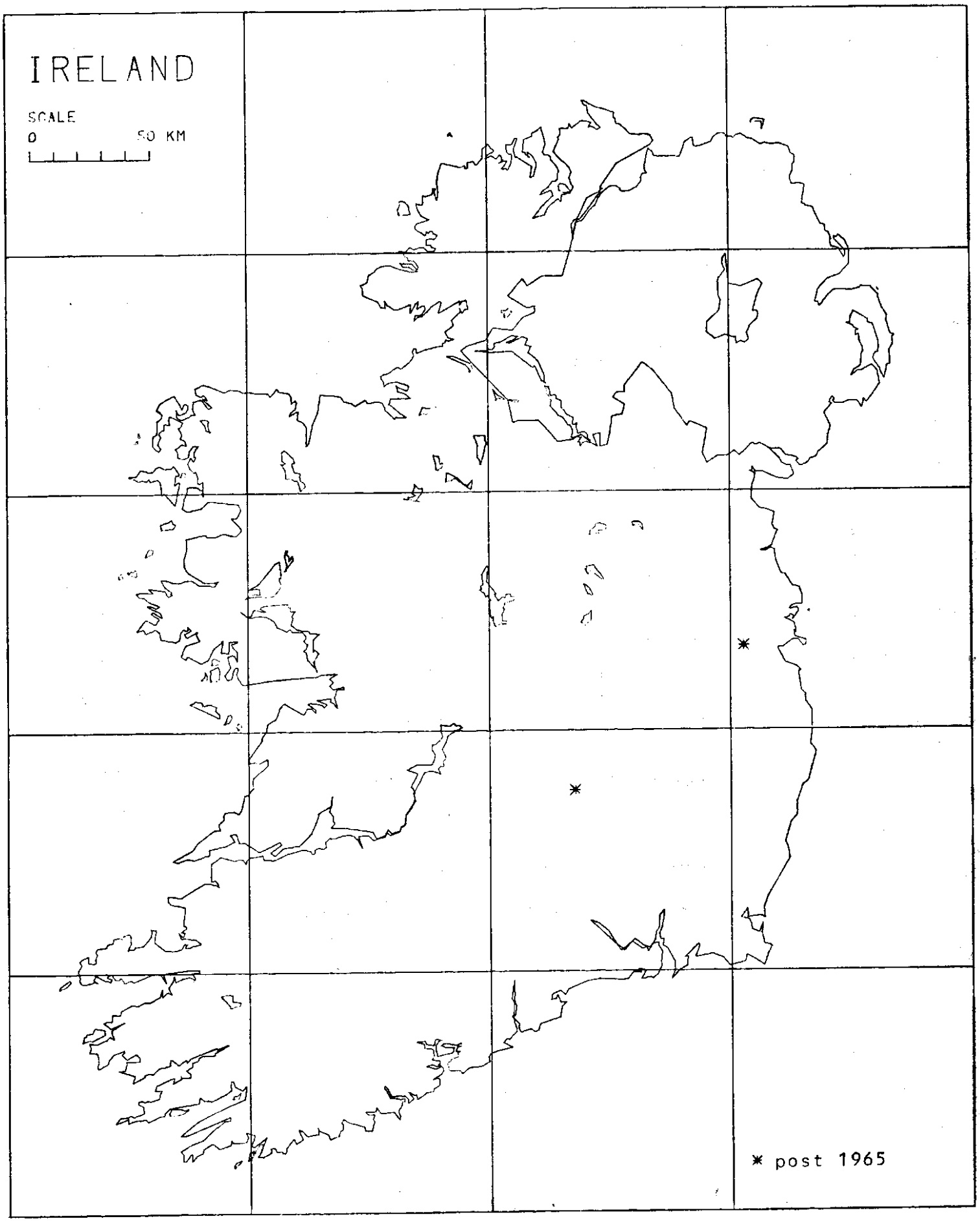
Formerly recorded quite widely in Britain, it is now known to occur only as far north as Yorkshire. It has been recorded mainly by sieving friable loamy soils in ditches, beside streams and on sea cliffs, and also from peat in fens. It is almost certainly under-recorded in Britain, and may occur quite widely where suitable soils occur.

This species has been recorded from western France, Belgium, the Netherlands, the Rhineland of West Germany, Denmark, and Scania in Sweden.

IRISH BIBLIOGRAPHY: 33, 36, 46, 49, 58, 60, 62, 63, 84, 94, 95, 119, 120.

VICE-COUNTY OCCURRENCE: 14, 21*.

*Recent records only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TRICHONISCOIDES SAEROEENSIS Lohmander 1923

In life *T. saeroeensis* resembles *Trichoniscus pygmaeus*, but is less broad and usually has distinct orange/pink ocelli and similar colouration at the hind end. This colouration is variable and occasionally absent, and it is always lost once specimens are preserved in alcohol.

First recorded from Ireland in 1968 from limestone caves in Co. Clare, it had in fact been collected at least as early as 1913 and confused with *T. albidus*. Although closely related, *T. saeroeensis* and *T. albidus* are distinctly different in appearance and occupy different habitats. *T. saeroeensis* is usually found in sheltered areas near the sea, in or on moist soil under stones. It has been recorded during the survey at or above the drift line on sea cliffs in Cos. Louth and Dublin, on salt marshes in Cos. Louth, Wexford and Cork, in estuarine conditions in Co. Waterford and in coastal grassland in Cos. Donegal and Galway. Records of *T. sarsi* from the cliffs of Doldrum Bay, Howth, Co. Dublin (O.23) (Doogue & Harding, 1976) and Fota Island, Co. Cork (W.77) (Doogue, Reardon & Harding, 1977), are in fact referable to *T. saeroeensis*.

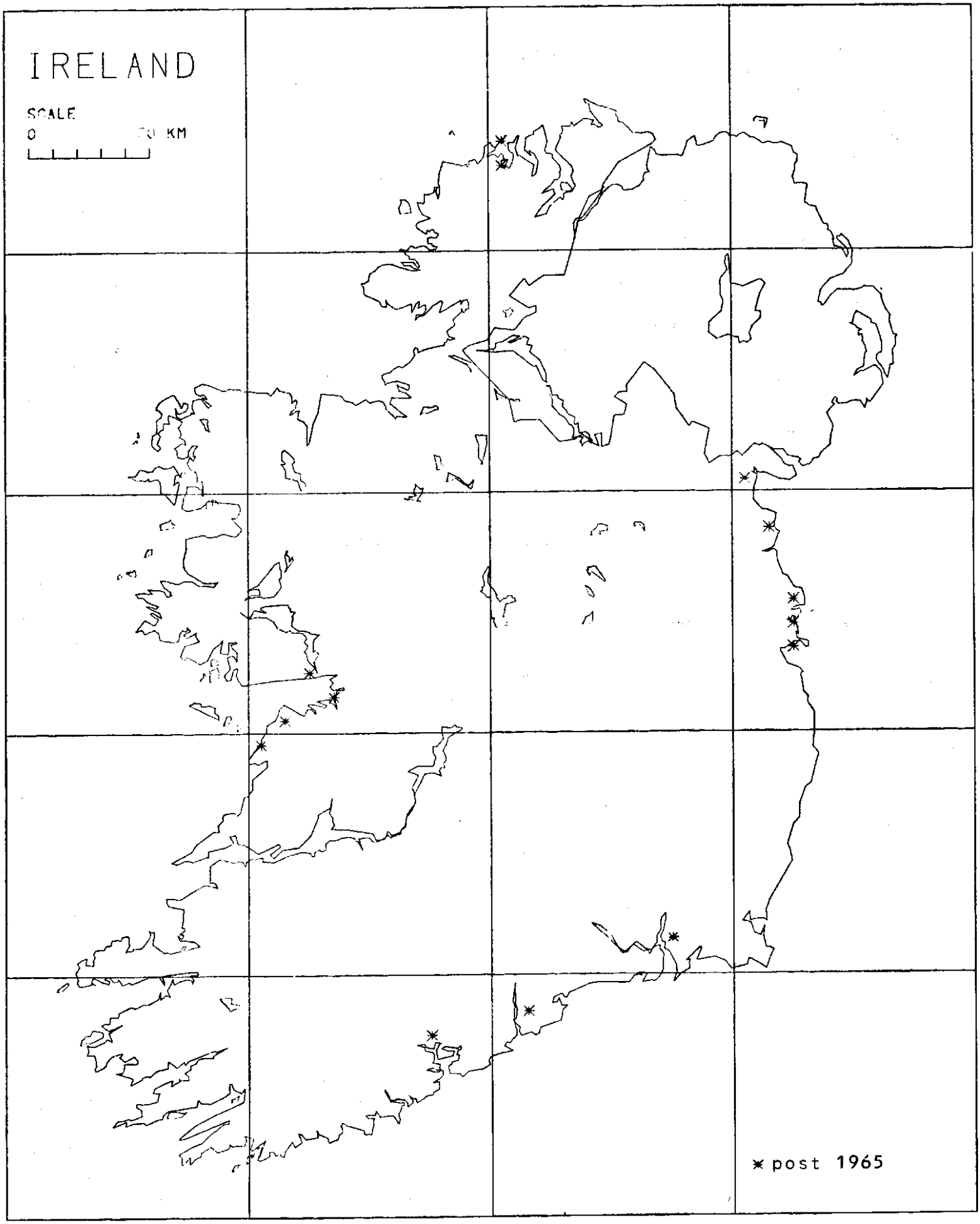
Material labelled as *T. albidus* from early collections, where it has survived, has been checked for the presence of *T. saeroeensis*. Unfortunately only two specimens were identifiable with any certainty, from Mallaranny, Co. Mayo (L.89), collected in 1913. These were indeed *T. saeroeensis*. However, the description given by Foster (1912) of *T. albidus* from Clare Island, Co. Mayo (L.68) is almost certainly of *T. saeroeensis*. Edney (1953) suggested that Irish records of *T. albidus* probably referred to *T. sarsi*. It seems more likely that at least the coastal records of *T. albidus* in earlier publications are of *T. saeroeensis*.

T. saeroeensis is now known to occur widely around the coasts of Britain, from the Outer Hebrides to south Wales, in similar locations to those in Ireland. It is known from disused mine shafts in Lancashire. It is also known in Europe from southern Sweden, Denmark and from France on the coast of Brittany.

A related but even smaller species, *Metatrichoniscoides celticus*, has been recorded with *T. saeroeensis* at several sites on the coast of south Wales (Oliver & Trew, 1981).

IRISH BIBLIOGRAPHY: 33, 34, 58, 60, 62, 65, 66, 67, 68, 110, 120.

VICE-COUNTY OCCURRENCE: 5, 6, 9, 12, 16, 21, 27, 31, 35.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TRICHONISCOIDES SARSI Patience 1908

T. sarsi is similar in appearance to *T. saeroeensis* (q.v.); this has led to confusion over these two species in the past. However, *T. sarsi* is broader than *T. saeroeensis* and is considerably more active. It has a more distinctly orange-coloured hind end and orange ocelli.

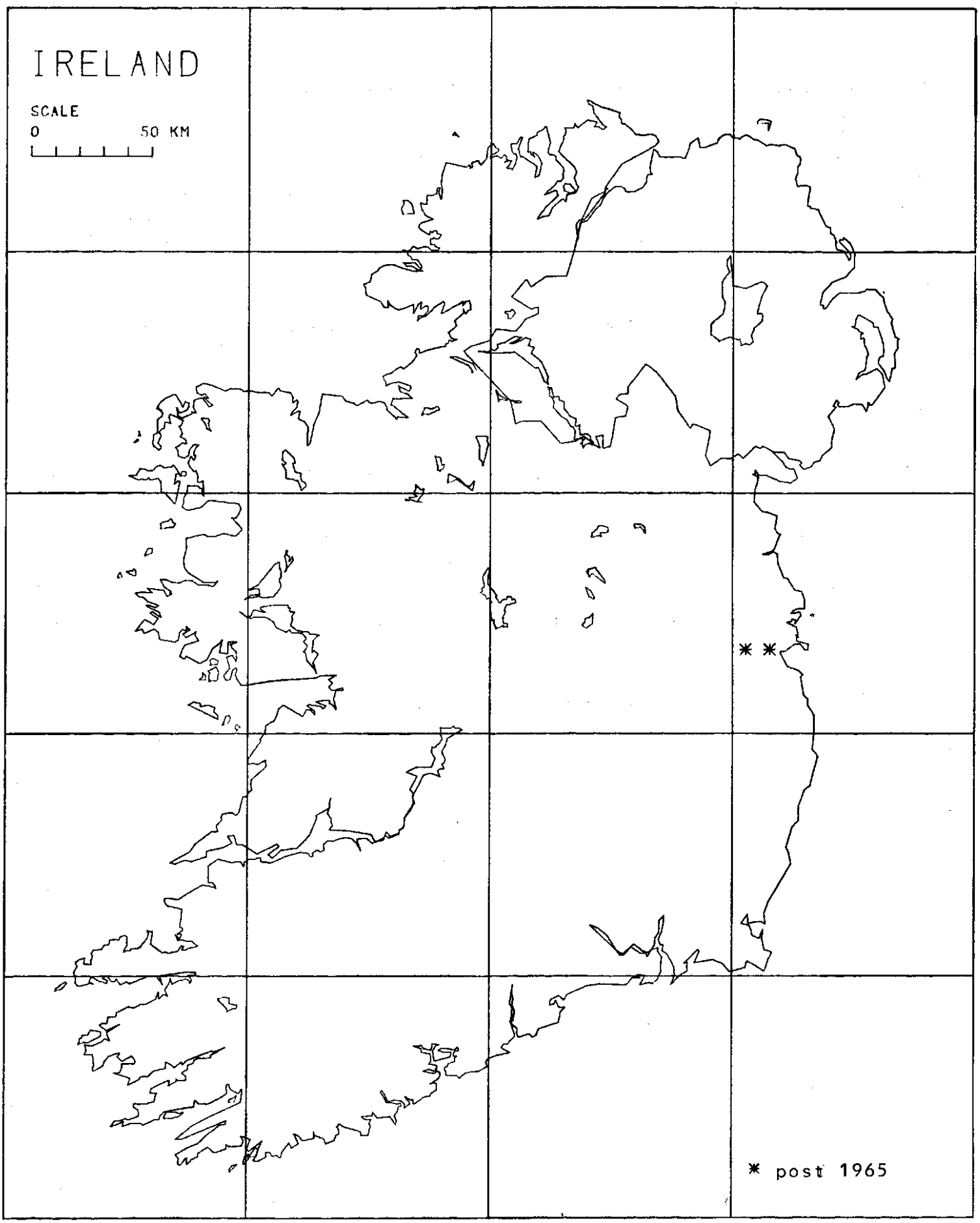
Although recorded from Co. Down (Collinge 1944), Co. Dublin (Doogue & Harding, 1976) and Co. Cork (Doogue, Reardon & Harding, 1977), these records are now believed to be errors. This species has now been recorded in Ireland from two sites, both long-neglected gardens in Dublin. On this evidence it seems unlikely that it is native to Ireland although it is well established at both sites. It has been collected from the undersides of medium-sized stones, usually following wet weather. It is difficult to find in dry weather, when presumably it retreats deep into the soil. At one site it was found crawling actively on the undersides of stones when the air temperature was below freezing-point and most other species of woodlice observed were moribund or dead.

There probably has been confusion over the identity of this species in the early British records and recent records are very few, mainly from chalk soils. It has been recorded in western France, Denmark, Sweden and Norway. Also recorded from Newfoundland, probably as an introduction.

IRISH BIBLIOGRAPHY: 27, 33, 34, 36, 58, 60, 120.

VICE-COUNTY OCCURRENCE: 21*.

*Recent records only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TRICHONISCUS PUSILLUS Brandt 1833

The commonest small woodlouse occurring in Ireland. It is brownish in colour with mottled patterning.

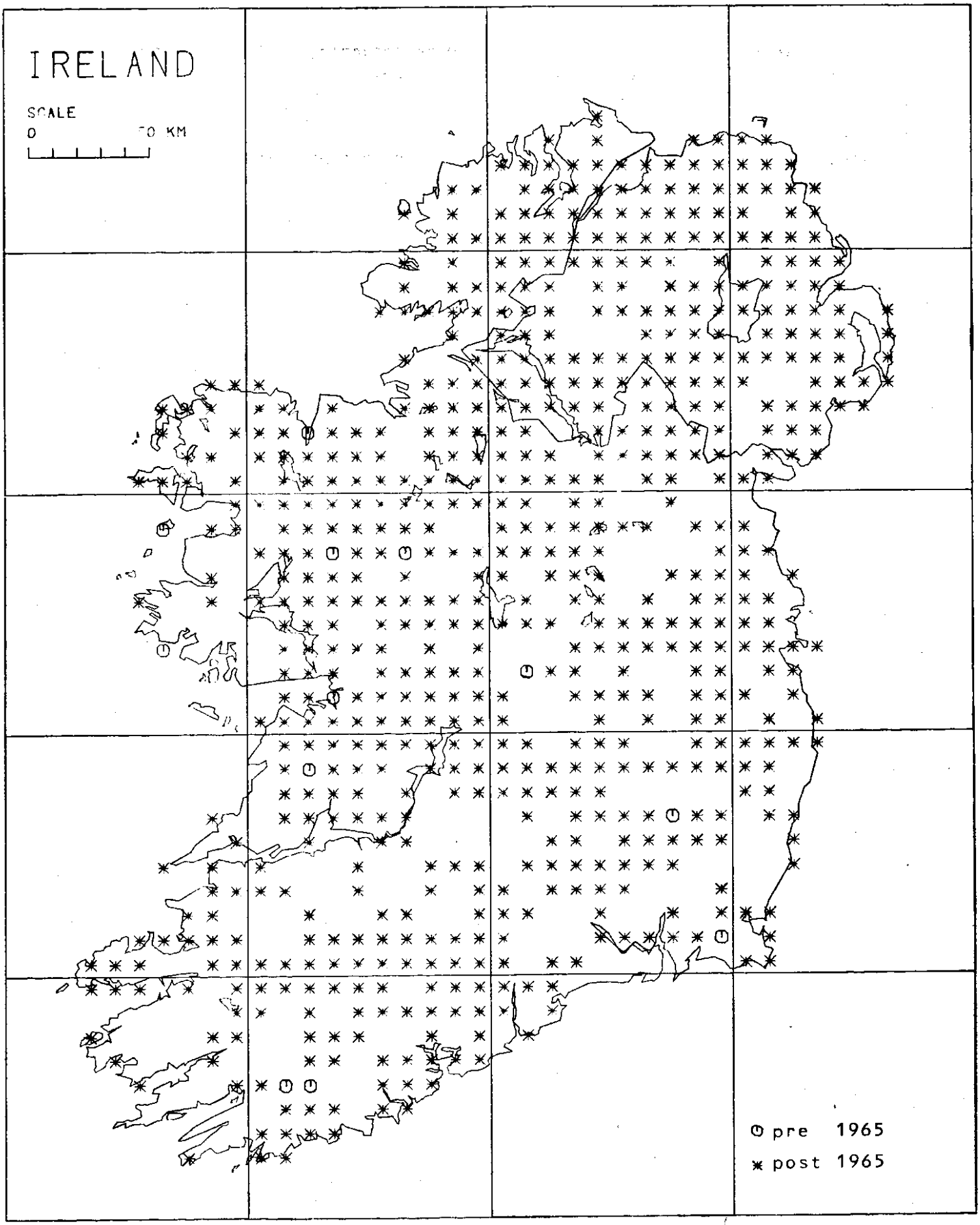
T. pusillus is abundant throughout Ireland even where soils are lime-deficient. Most commonly recorded in grassland and leaf litter, it is often the most plentiful and frequently encountered species. Inexperienced recorders tend to overlook this species because of its small size, but this has not been a problem with recording in Ireland. It occurs also in gardens and ruins, and under logs and large stones, but is usually less common in these locations than *Oniscus asellus* or *Porcellio scaber*. It is often the only species present in sparse upland oakwoods and if leaf litter is scarce it can usually be found in tussocks of *Luzula sylvatica*.

Two forms of *T. pusillus* occur in Ireland. *T. pusillus* f. *pusillus* Brandt, which is parthenogenetic, is probably predominant over much of Ireland but the bisexual form, *T. pusillus* f. *provisorius* Racovitza, seems to be associated with coastal limestone areas in the Burren, Co. Clare and in Co. Antrim (Fussey & Sutton, 1981). The two forms have not been differentiated in the present survey.

T. pusillus is equally common and widespread in Britain and both forms occur there. The species is widespread in Europe and North America, but the distribution of the two forms appears to differ, with f. *pusillus* occurring north to Iceland, Trondheim in Norway, and southern Finland, and f. *provisorius* occurring east to Turkey and Lebanon, and south to Algeria.

IRISH BIBLIOGRAPHY: 2, 10, 11, 13, 17, 19, 20, 25, 32, 36, 38, 39, 42, 43, 46, 48, 49, 50, 51, 54, 58, 60, 62, 63, 65, 66, 67, 68, 70, 75, 76, 81, 86, 94, 99, 100, 103, 104, 113, 114, 119, 120, 122, 125, 127.

VICE-COUNTY OCCURRENCE: All vice-counties.



TRICHONISCUS PUSILLUS

TRICHONISCUS PYGMAEUS Sars 1899

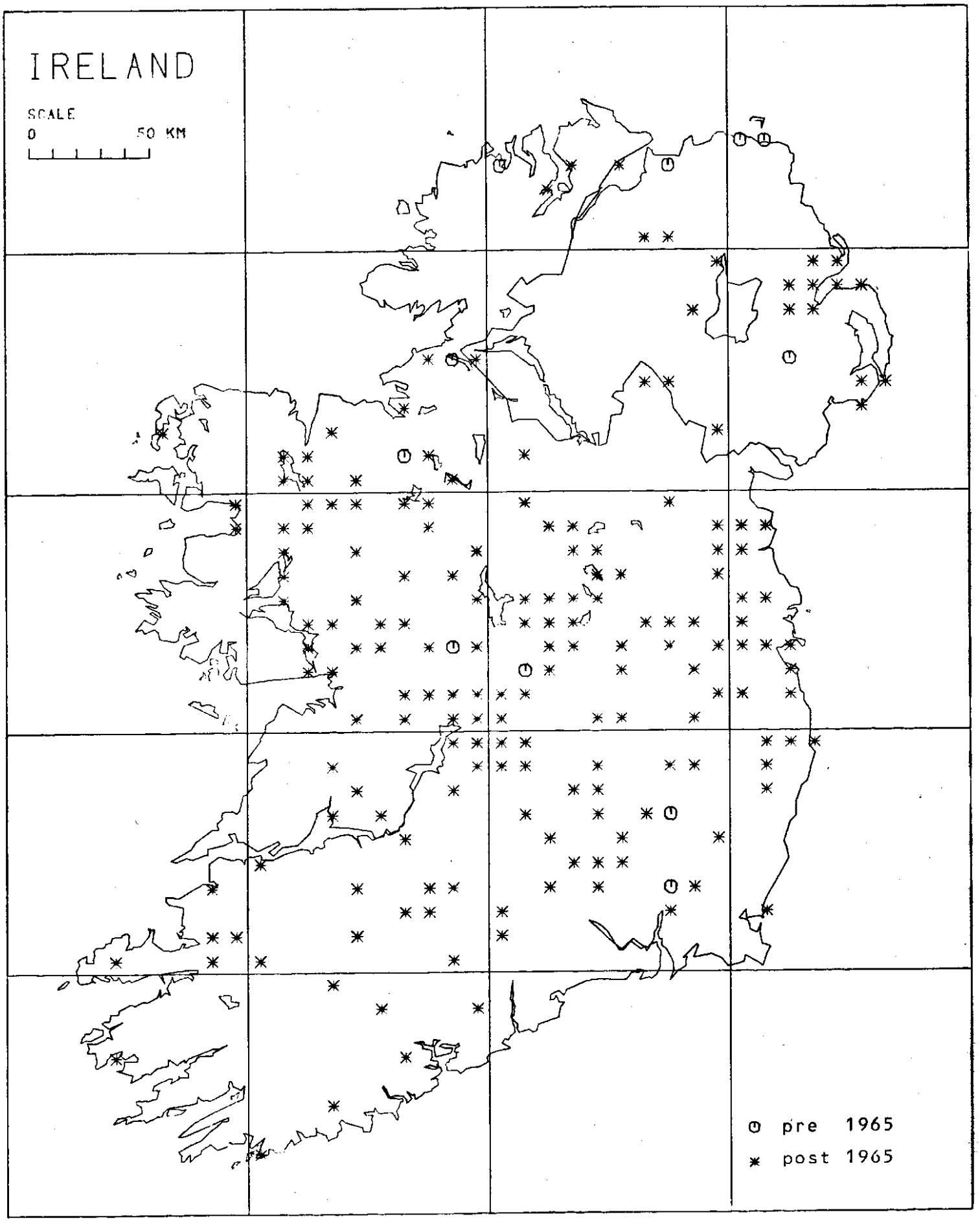
This is the smallest species of woodlouse occurring in Ireland, and is likely to be confused with juvenile *T. pusillus*. Examination of the eye with a microscope is normally required to check the identity, but experience makes *T. pygmaeus* readily distinguishable in the field.

T. pygmaeus has been recorded from many synanthropic sites - gardens, glasshouses, ruins and gravel paths. At such sites it may often be found on the moist undersurface of embedded stones and flowerpots. It has been recorded in more natural sites associated with the limestone gravels and sandy soils of the central plain. It is found commonly in sandpits, lime-rich grassland and woodland on eskers, and also in moist sandy situations at the base of sea cliffs. It has not been recorded in areas of granite and Old Red Sandstone and seems to be absent from much of the south coast. It is probably still under-recorded in the Midlands. Because of its small size it is able to retreat into the soil in dry conditions, and is therefore difficult to locate and record in summer.

This species is under-recorded in Britain except in a few areas. It occurs in friable soils on limestones, in neutral sands and in calcareous clays. In parts of the country it has been recorded most frequently from woodland. It has been recorded very widely in the rest of Europe and in North America.

IRISH BIBLIOGRAPHY: 11, 32, 33, 35, 36, 39, 42, 43, 48, 49, 53, 54, 58, 60, 62, 63, 70, 91, 94, 95, 119, 120.

VICE-COUNTY OCCURRENCE: All vice-counties except 6 and 16.



TRICHONISCUS PYGMAEUS

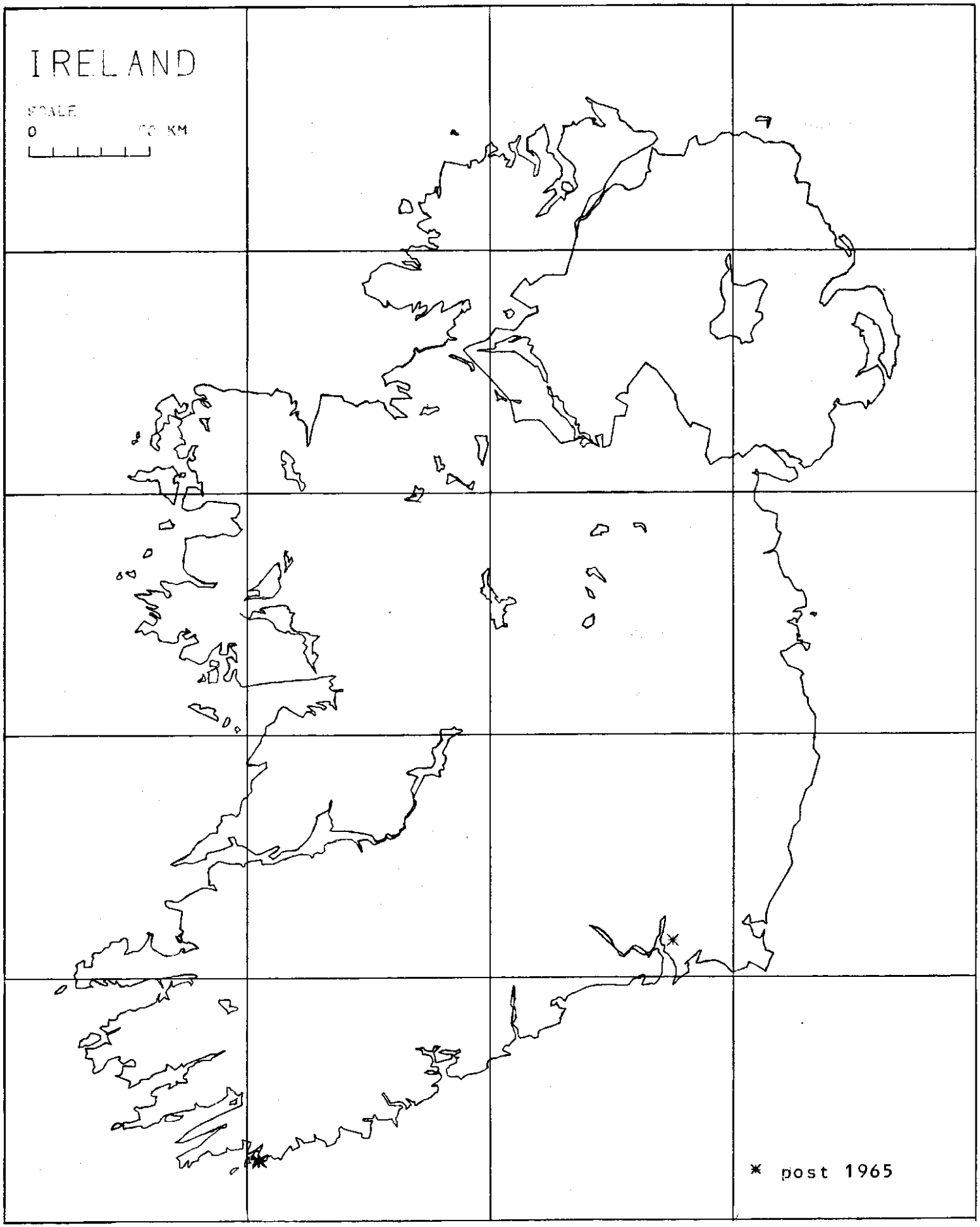
MIKTONISCUS PATIENCEI Vandel 1946

This is a small but distinctive species. It is white, with the dark central stripe of the gut showing through, heavily tuberculate, and with eyes composed of a single large black ocellus. A detailed description is given by Oliver and Sutton (in press).

First recorded in Ireland in 1977 at Dunbrody Abbey, Co. Wexford (S.71), where it was found under a log on a salt marsh and also under stones among salt marsh drift line material. It has been recorded at Sherkin Island, Co. Cork (W.04), on sea cliffs a few metres above high water mark, in damp, humus-rich soil beneath grass litter (mainly *Festuca rubra*). These two sites are fairly typical of the types of sites at which *M. patiencei* has been found in Britain (on the south coast from Cornwall to Kent), Guernsey and Brittany. At several sites in Britain it has been possible to find large numbers of individuals in a small area but usually only where the soil is damp. The discovery of this species at over 10 localities in Ireland and Britain since it was first found in 1976 suggests that it may well be widespread, at least on the southern coasts.

IRISH BIBLIOGRAPHY: Oliver and Sutton (in press).

VICE-COUNTY OCCURRENCE: 3, 12.



MIKTONISCUS PATIENCEI

HAPLOPHTHALMUS DANICUS Budde Lund (1879) 1885

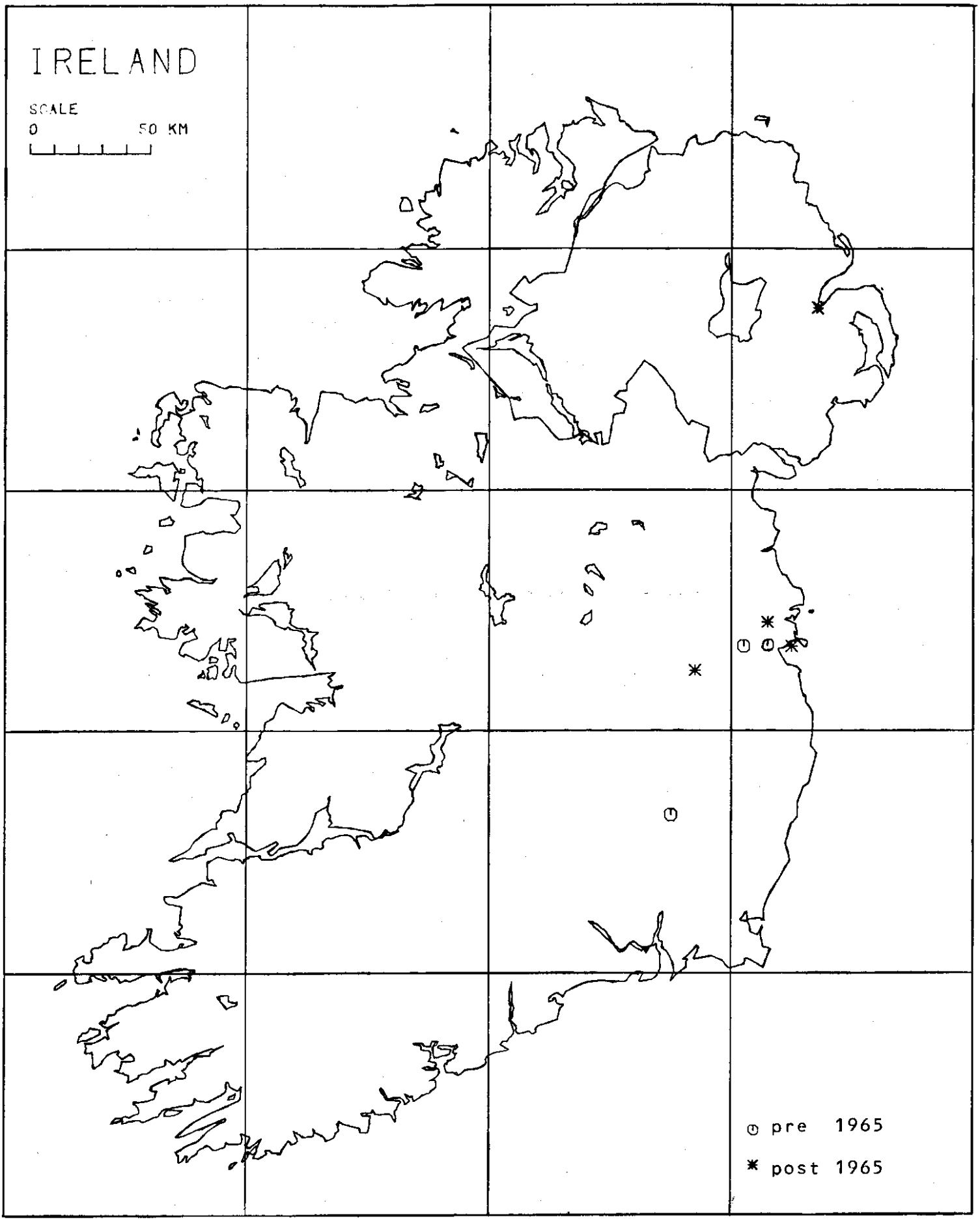
This is a small greyish-white species with large tubercles on the ridges of the upper surface. It moves very slowly.

It has been recorded in Ireland at only eight localities. At four of these the site was fairly natural - under stones at the base of a sea cliff on Howth, Co. Dublin (O.23), at two sites in decaying vegetation cleared from the Grand Canal near Prosperous, Co. Kildare (N.82) and in a decomposing log below Knocksedan Bridge, Co. Dublin (O.14). Other occurrences recorded by Pack Beresford & Foster were from the Botanic Gardens at Glasnevin, Co. Dublin (O.13) and in garden rubbish at Fenagh, Co. Carlow (S.76). There is a specimen from Abbotstown, Co. Dublin (O.03) in the National Museum of Ireland, donated by Pack Beresford. It was found recently in a compost heap in a suburban garden in Belfast, Co. Down (J.37).

This species is quite widespread in southern and eastern Britain; it has been recorded most commonly in decaying logs, particularly in woodland, and in gardens, where records have been mainly from rockeries and compost heaps. It is possible that it is widespread in parts of Britain and Ireland but occurs in very small numbers but is detected only at particularly favourable, often temporary, sites which provide shelter and a source of food. It occurs widely in the Northern Hemisphere.

IRISH BIBLIOGRAPHY: 11, 24, 25, 26, 28, 33, 34, 35, 36, 49, 58, 60, 62, 63, 93, 94, 120.

VICE-COUNTY OCCURRENCE: 13, 19, 21.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HAPLOPHTHALMUS MENGEI (Zaddach 1844)

A small translucent white or buff coloured species with small tubercles on the ridges of the upper surface. It appears rather narrow and moves slowly when disturbed.

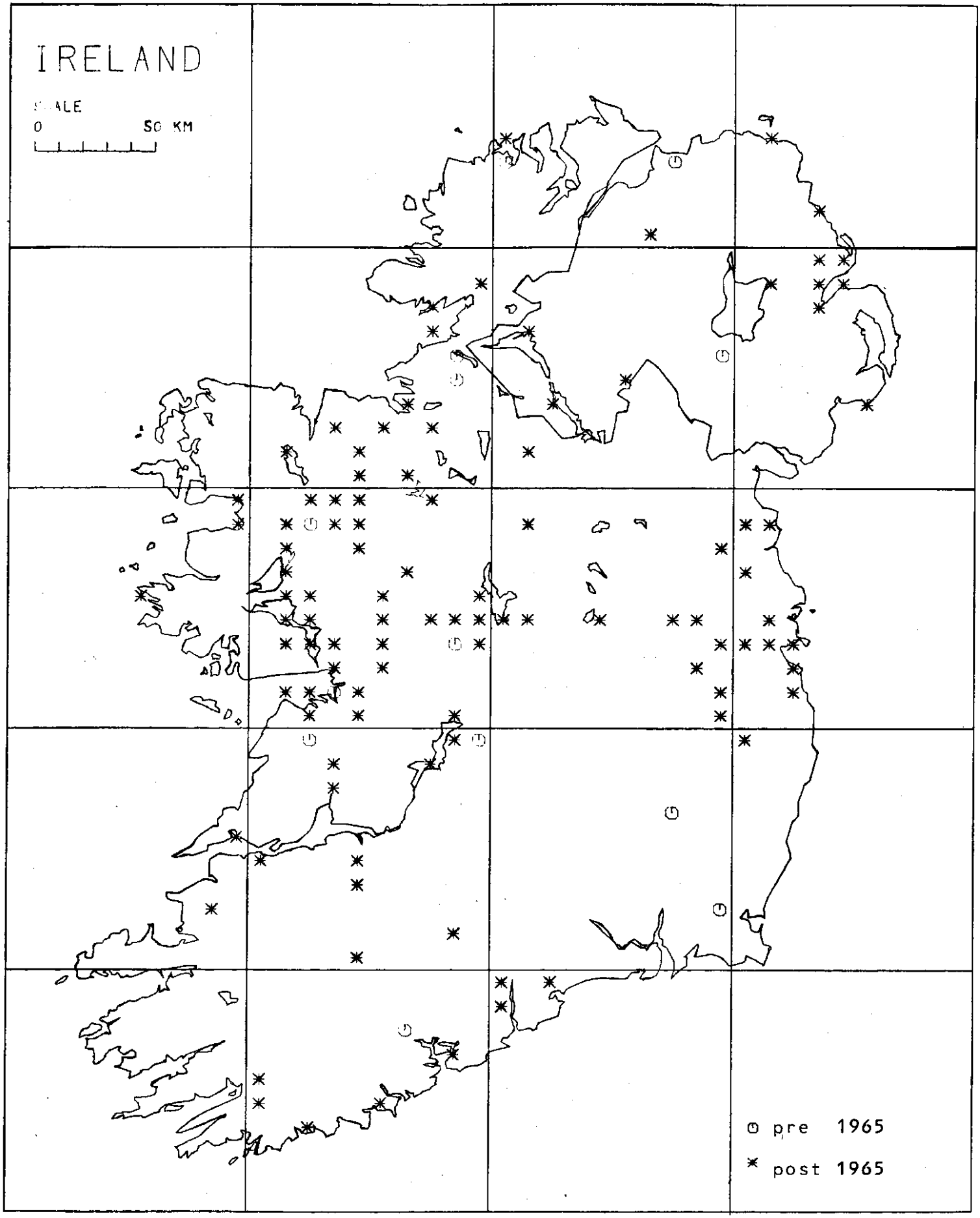
This species is widespread in Ireland and has been found in a variety of mainly natural sites. It appears to be dependent upon moist soil conditions and is probably vulnerable to desiccation. It is often difficult to find in dry weather. Occurrences have been under stones and in the litter of maritime vegetation at the base of coastal cliffs and on blown shell sands, under stones on the shores of calcareous lakes and associated grasslands, particularly in Connaught, in the leaf litter and soil of ash/hazel scrub-woodland on limestone outcrops in the Burren, in Sligo/Leitrim and in Fermanagh. In the central plain it is closely associated with the sandy glacial soils of eskers and moraines. *H. mengei* has been found occasionally around ruins and in gardens, but it cannot be considered to be mainly synanthropic in Ireland.

Its distribution correlates closely with the occurrence of limestone, occurring particularly where limestone outcrops in areas of base-poor superficial deposits. Despite considerable searching, it has been found to be very scarce in the south-east; this may be due to the infrequent occurrence of limestone outcrops and also to the relative dryness of soils in the area. It occurs on several isolated areas of limestone, e.g. the eastern coast of Clew Bay, Co. Mayo (L.98, L.99) and at St. John's Point, Co. Donegal (G.76, G.77).

In Britain it is most commonly found in soils derived from Carboniferous limestones and, to a lesser extent, other limestones. It has been recorded in Scotland, mainly at coastal sites, right up to the north coast of Caithness. Its distribution in the rest of Europe is unclear due to various confusions of nomenclature, but Vandel (1960) considered it to be widespread in eastern Europe and most of central Europe.

IRISH BIBLIOGRAPHY: 7, 11, 24, 25, 28, 32, 33, 35, 36, 42, 48, 49, 58, 60, 62, 63, 74, 81, 91, 93, 94, 95, 119, 120, 125.

VICE-COUNTY OCCURRENCE: All vice-counties except 11, 14, 18, 30.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LIGIA OCEANICA (Linnaeus 1767)

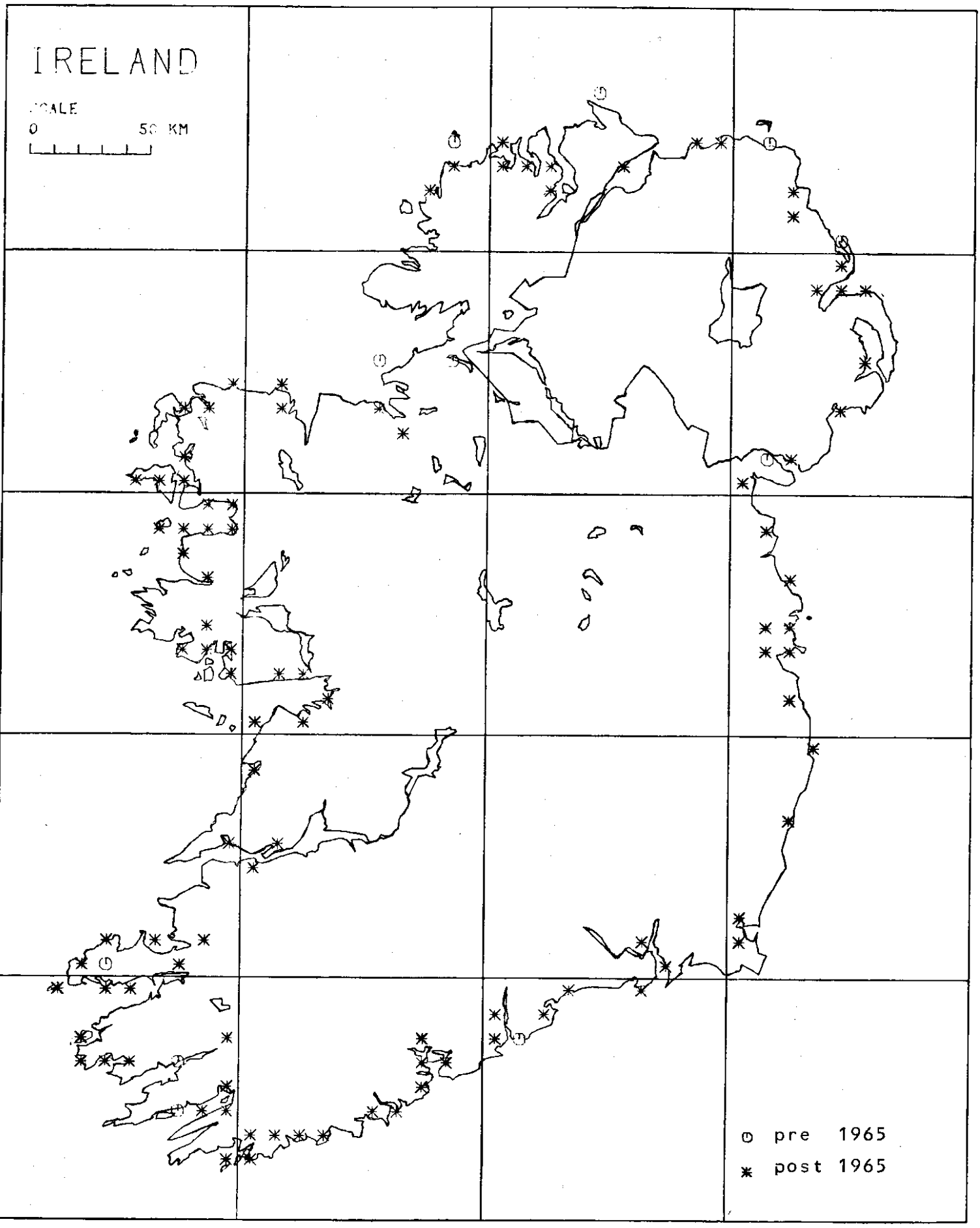
The Sea Slater is well known to anyone who has searched on rocky shores. It is the largest woodlouse in Ireland and has probably as much claim to being a marine animal as it has to being a terrestrial one.

L. oceanica is distributed all around the coast on rocky shores and cliffs where it may be found, by day, under stones and in crevices, and by night, in the open on the rock surface. It occurs also on sea and harbour walls, and should be sought in such places in areas with a sandy coastline. It is virtually impossible to find on sandy shores. It can be found in some estuaries and the tidal parts of rivers if suitable rocks or walls are present. Until recently (1970), *L. oceanica* was known to occur in central Dublin, on the enclosing wall of the River Liffey at Bachelor's Walk, above O'Connell Bridge.

It is certain that this species is under-recorded, particularly on the west coast. It is able to survive even on the most exposed coasts provided that there are crevices in rock faces to provide shelter sites. It is similarly widespread but under-recorded in Britain; as in Ireland, it is limited, on the sandy coasts of the east, to sea and harbour walls. *L. oceanica* has been recorded from the Atlantic coasts of Europe, as far as the Straits of Gibraltar, and from the north-western coast of Morocco. According to Vandel (1960) it does not occur on the coasts of the Mediterranean Sea.

IRISH BIBLIOGRAPHY: 14, 15, 16, 17, 20, 21, 36, 38, 42, 46, 48, 49, 52, 54, 58, 60, 62, 63, 70, 72, 79, 80, 83, 84, 90, 94, 95, 96, 100, 101, 111, 120, 121, 122, 123, 124, 125, 131.

VICE-COUNTY OCCURRENCE: All coastal vice-counties, not 7, 10, 13, 14, 18, 19, 23, 24, 25, 26, 30, 32, 33, 36.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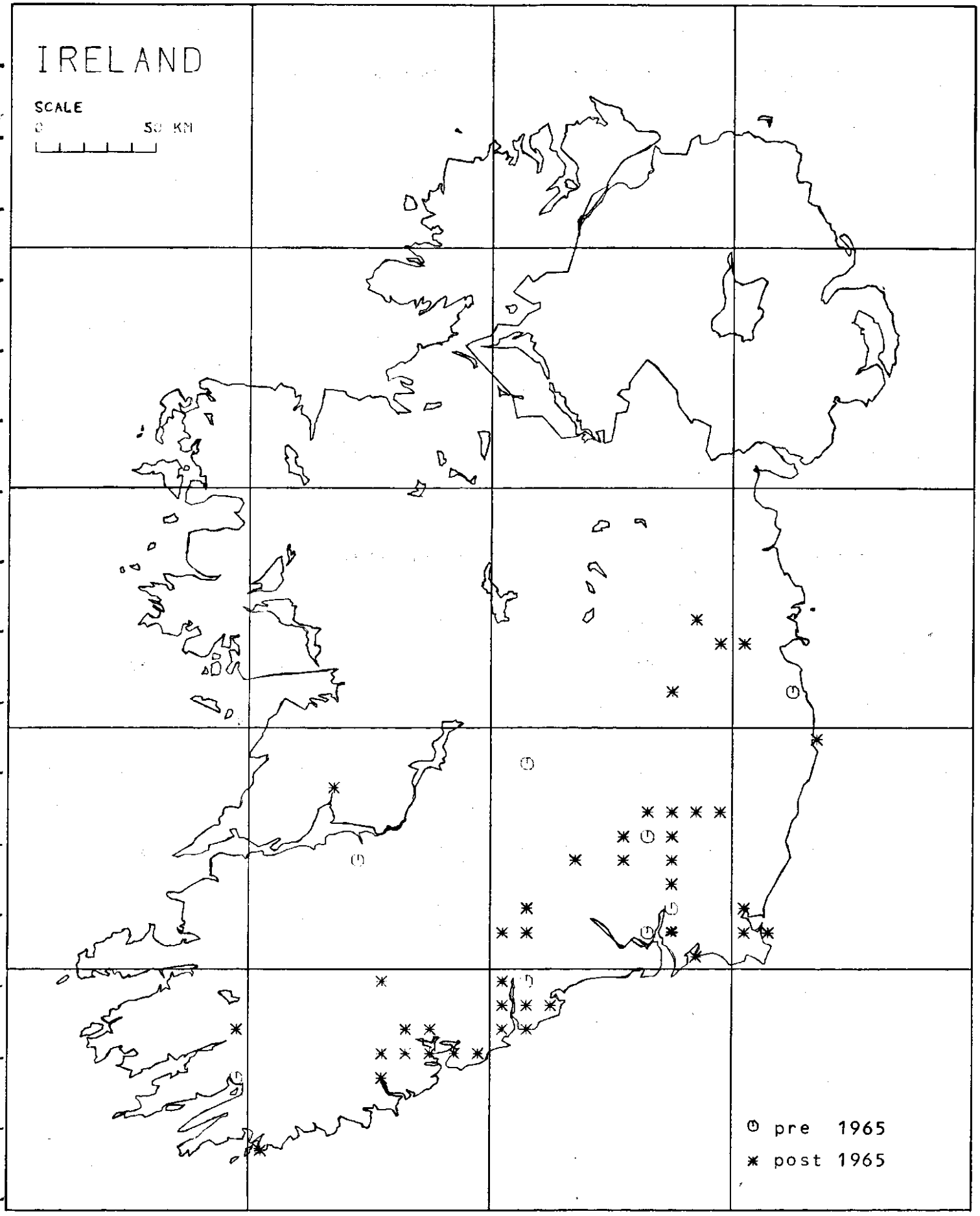
PLATYARTHRUS HOFFMANNSEGGI Brandt 1833

Platyarthrus hoffmannseggi is a small eyeless white woodlouse normally found in the nests of the common yellow ant, *Lasius flavus* and sometimes other species, especially *Lasius niger*. Its distribution, like that of the ants with which it associates, shows a distinct south-easterly bias. Typically, it is found in undisturbed lime-rich grassland, on open southerly free-draining slopes, often where the soil is slightly sandy and where grazing pressure is slight. In the south, especially in Cos. Cork and Waterford, it is particularly common and may be found occasionally in urban and suburban areas. Towards the limits of its known range it is strictly confined to limestone outcrops as at Kenmare, Co. Kerry (V.97) and near Killene Lough, Co. Clare (R.37). The cluster of records in Cos. Dublin and Kildare is from grasslands with calcicole floras, including species such as *Leontodon hispidus*, *Ononis repens*, *Origanum vulgare*, *Carlina vulgaris*, *Gentianella amarella* and *Blackstonia perfoliata*.

In Britain this species is known to occur in lowland areas south of a line from North Yorkshire to Morecambe Bay. It has been recorded in association with many species of ants, including some *Myrmica* species on base-poor soils. It is commonest on chalk and limestone in grassland and on the coast. It has been recorded frequently in gardens, even in urban areas. The distribution of this species in Europe is centred, as with other species of the genus, on the Mediterranean region. It occurs throughout France and is also known from the Netherlands, Denmark and Southern Sweden.

IRISH BIBLIOGRAPHY: 3, 4, 24, 25, 26, 31, 33, 34, 35, 36, 38, 53, 58, 60, 62, 63, 85, 93, 94, 100, 103, 115, 120, 122, 125.

VICE-COUNTY OCCURRENCE: 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 19, 20, 21.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HALOPHILOSCIA COUCHI (Kinahan 1858)

Philoscia couchi Kinahan

H. couchi occurs on the shore of rocky coasts and can be confused with pale-coloured, juvenile *Ligia oceanica*. It is almost never seen in the open in daylight, seeks shelter very rapidly when disturbed and is therefore very difficult to capture.

It was first recorded in Ireland by Pack Beresford on the rocky shore of the southern side of Howth Head, Co. Dublin (0.23) and shortly after was recorded in the same area by Bagnall. It seems to have been recorded on few occasions subsequently. It has been found only once during the present survey, during routine collecting of *L. oceanica*, from a cove just north of the Baily lighthouse, Howth. Subsequent searches at this and other sites on Howth have failed to reveal additional specimens.

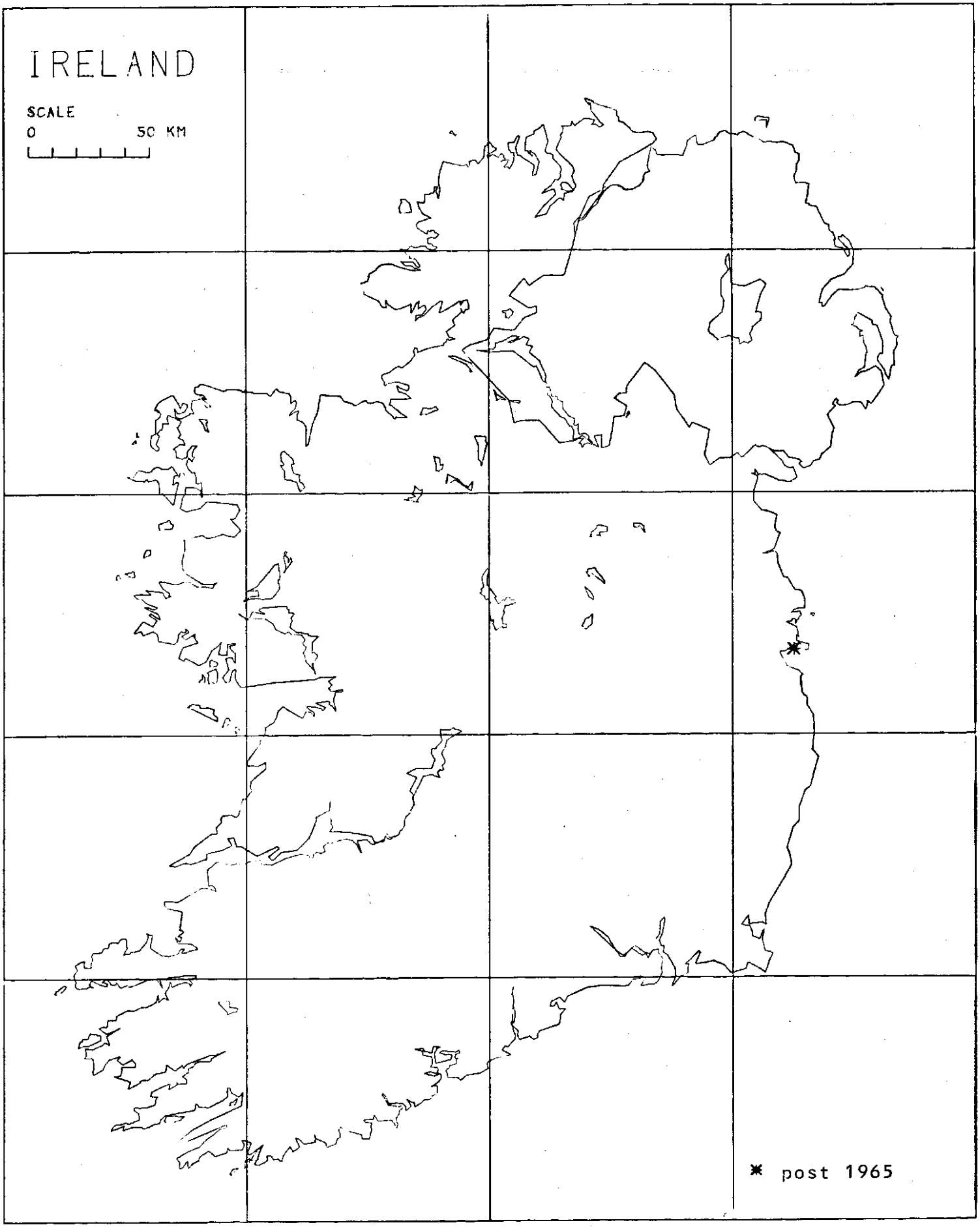
Experience with collecting *H. couchi* in Britain (Harding, 1975) has shown that it is found most easily at night when the tide is full or rising. It has been found in numbers only during rain or shortly afterwards. Most British records are from boulder beaches or the bases of cliffs, in rock-fall debris. In these situations it occurs on the bases of the cliffs, on concrete steps and walls and among boulders and drift material. Although recorded from several rock-types it seems to be most plentiful on limestones.

It seems improbable that this species is limited to Howth, occurring as it does quite widely on coasts in south-western Britain. It should be sought on the coasts of the south and south-west, where apparently suitable habitats are quite common. This species occurs on the Atlantic coasts of Europe and north-west Africa and on the coasts of the Mediterranean and Black Seas, also on the Azores, Madeira, Canaries and Cape Verde Islands. Its occurrence at Howth is particularly notable, being the northernmost record in the world of the genus.

A second species of *Halophiloscia (H. zosterae)* has been recorded recently in Britain (Harding, Cotton & Rundle, 1980). It has been found on three beaches composed mainly of shingle and was collected by use of pitfall traps.

IRISH BIBLIOGRAPHY: 10, 24, 26, 33, 36, 58, 60, 62, 63, 73, 84, 89, 90, 94, 120.

VICE-COUNTY OCCURRENCE: 21 only.



HALOPHILOSCIA COUCHI

PHILOSCIA MUSCORUM (Scopoli 1763)

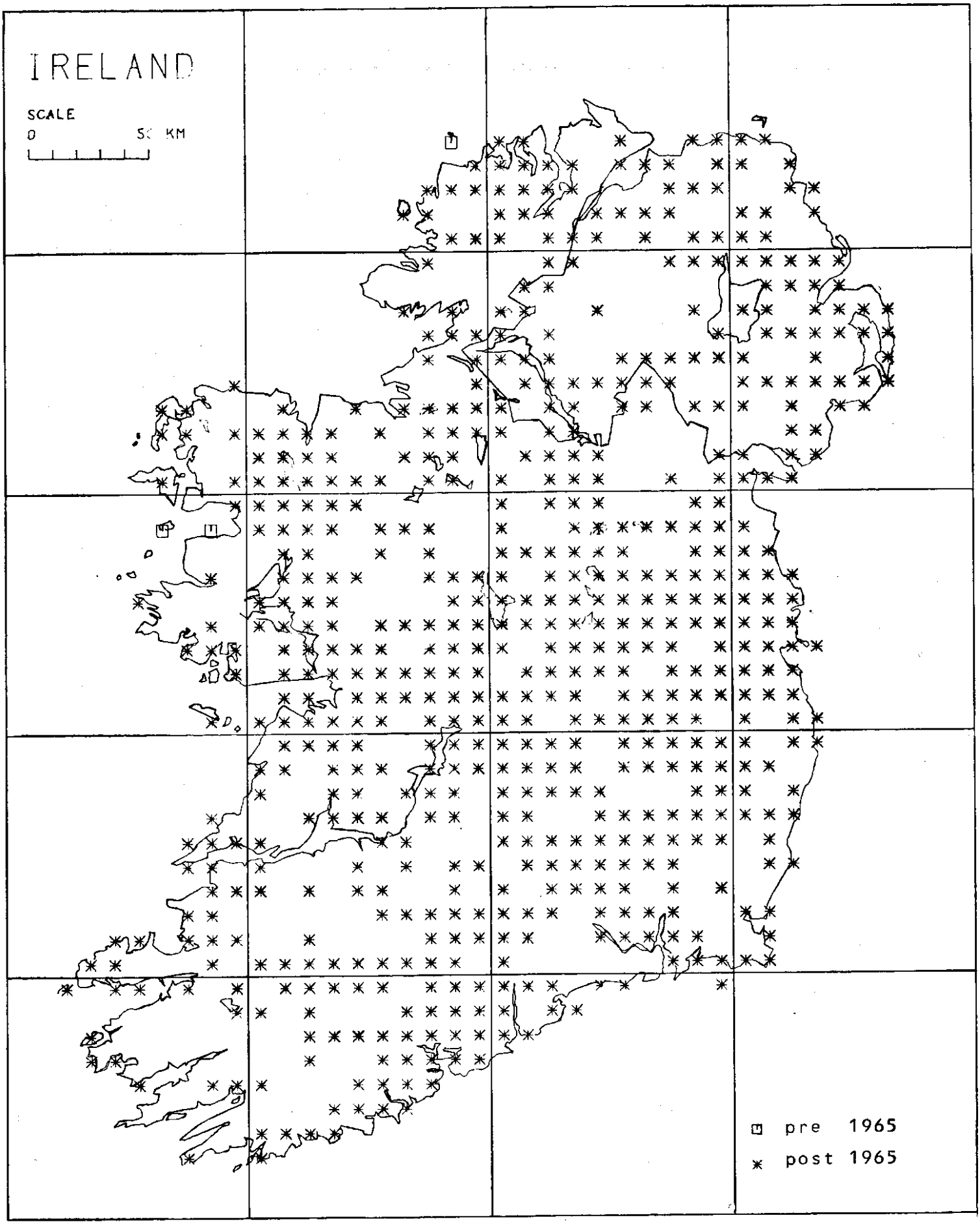
An attractively marked species showing considerable variation in colour from brown to yellow. It has long legs and can move quite rapidly when disturbed.

Geographically widespread in Ireland, *P. muscorum* occurs in a wide range of situations, but is perhaps commonest in grassland and in leaf litter. On some of the exposed sand dunes of the west coast it is often the only species of woodlouse and may be found only in shelter-sites, such as under cow-pats and fallen fence posts. Although it occurs in gardens, it is never as common or numerous as *Oniscus asellus* or *Porcellio scaber*; also it seems to be less tolerant than those species of conditions where lime is scarce. The conditions favouring *Metoponorthus cingendus* (q.v.) in the south-west may not be so favourable for *P. muscorum*. In this area the former species seems to occur where *P. muscorum* would otherwise be expected.

P. muscorum is common and widespread in Britain, although it seems to be scarce in much of Scotland and is limited mainly to coastal sites and river valleys. It occurs widely in Europe, but is replaced in the south by *P. affinis*. It has been introduced by man to North America and South Africa.

IRISH BIBLIOGRAPHY: 2, 10, 13, 14, 15, 17, 19, 20, 32, 36, 38, 42, 46, 48, 49, 50, 54, 58, 60, 62, 63, 69, 70, 71, 75, 76, 77, 78, 81, 84, 86, 94, 100, 103, 104, 112, 113, 114, 120, 122, 124, 125.

VICE-COUNTY OCCURRENCE: All vice-counties.



PHILOSCIA MUSCORUM

ONISCUS ASELLUS Linnaeus 1758

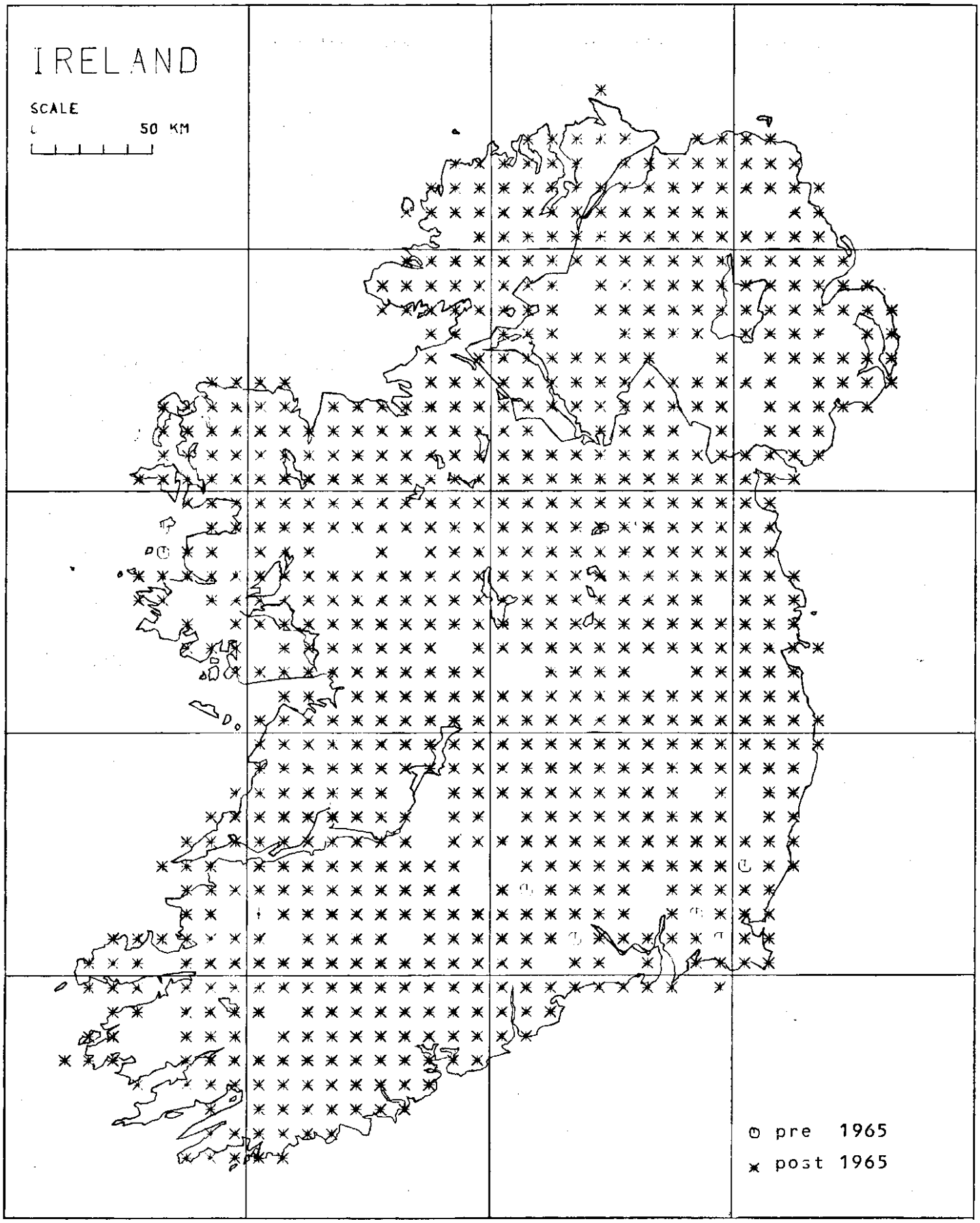
This is probably the most conspicuous Irish woodlouse. It occurs in large numbers in all but the driest areas. In places where there is little lime in the environment it is often the only species to be found, provided some dead wood or other suitable site to provide shelter is available. It is often the only species found in areas of blanket bog. A successful colonist of synanthropic locations, it is common in gardens, parks, glasshouses and around buildings and ruins. At night, *O. asellus* can be found climbing walls where it grazes on the green algae growing there.

Although not as variable in colour as some species, it is very variable in size. Exceptionally large specimens have been found at some coastal sites. There is some variation in shape and shininess, a feature which has been noticed also in south-west Britain.

This species is widespread and common in Britain and throughout most of western and northern Europe. It has been spread by man to eastern Europe and to North America.

IRISH BIBLIOGRAPHY: 2, 10, 11, 13, 14, 15, 16, 17, 19, 20, 32, 36, 38, 42, 43, 46, 48, 49, 50, 54, 58, 60, 62, 63, 65, 66, 67, 68, 70, 75, 77, 78, 81, 86, 94, 96, 99, 100, 103, 104, 113, 114, 119, 120, 122, 123, 124, 125.

VICE-COUNTY OCCURRENCE: All vice-counties.



ONISCUS ASELLUS

CYLISTICUS CONVEXUS (De Geer 1778)

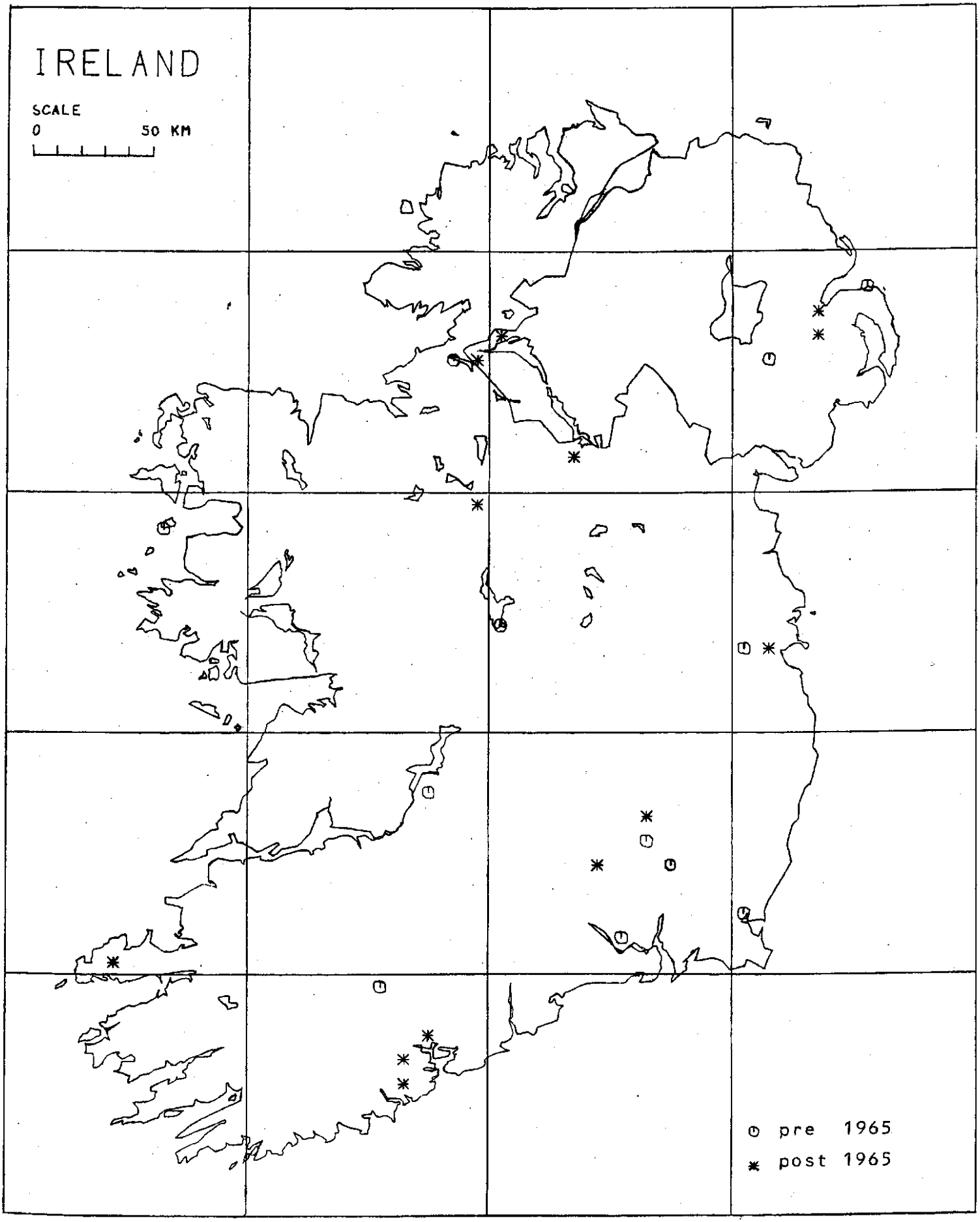
An attractive and distinctively marked species with a deeply arched body similar to a species of *Armadillidium*. It has long antennae and uropods and rarely rolls into a ball. The animal is usually pale grey in colour, very shiny, with an orange or yellow patch around and including the telson.

There is a thin scatter of records throughout Ireland, many of which are from synanthropic sites such as glasshouses, gardens and derelict walls. It has been recorded from more natural sites - the sea shore at Clare Island, Co. Mayo (L.68) and Dingle Quay, Co. Kerry (Q.40) and from lake shores at Killaloe, Lough Derg (R.77) and Lough Melvin, Co. Fermanagh (G.95). There are some records from roadside verges, remote from urban areas or buildings which may indicate a wider distribution in natural situations than is indicated by the map.

Equally widely and sparsely recorded in Britain, *C. convexus* has been found in similar situations, but also from quarries, ruins, tunnels, soak-away drains and urban waste ground. It has been recorded from several coastal sites, either on cliffs, often at night, or among drift material on the shore. The distribution of this species is very wide in Europe, partly as a result of having been spread by man. It occurs as far north as southern Scandinavia but in southern Europe, especially Italy, the genus is represented by several species. *C. convexus* has been spread by man to North Africa and to North and South America.

IRISH BIBLIOGRAPHY: 10, 26, 33, 34, 35, 36, 46, 49, 58, 60, 62, 63, 81, 88, 93, 94, 95, 100, 103, 105, 120, 122, 125.

VICE-COUNTY OCCURRENCE: 1, 4, 5, 6, 10, 11, 12, 13, 19, 20, 21, 25, 27, 30, 33, 34, 36, 38, 39, 40.



CYLISTICUS CONVEXUS

METOPONORTHUS CINGENDUS (Kinahan 1857)

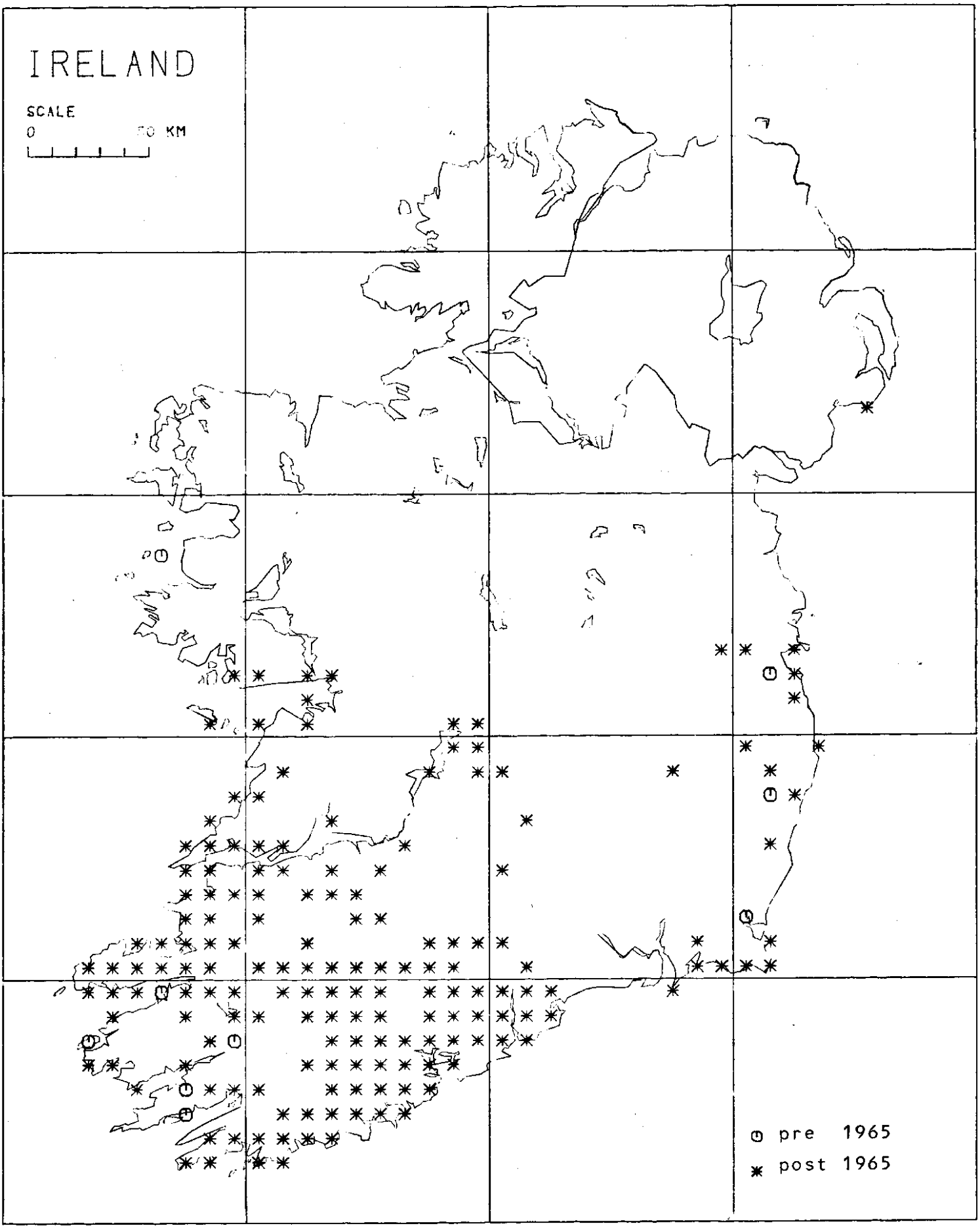
Metoponorthus cingendus was described by Kinahan as new to science from specimens collected in Dublin. It is similar in overall size and shape to a small *Philoscia muscorum* but is easily distinguished in the field by the irregular patterning of colour, shorter legs and narrower outline.

This species is widespread and abundant in south-west Ireland, where it is found in a wide variety of natural and synanthropic sites. In some favourable situations in Co. Cork and Co. Kerry it appears to be the commonest species. Most frequently found under stones in grassland close to the sea shore, it has been recorded well inland, although seldom in upland areas. At inland sites it is frequently recorded on grassy banks and overgrown walls. In the south and west it has been recorded from a variety of rock types - sandstone, shale and limestone - but towards the north of its range it is increasingly confined to the coast or to limestone grassland. Also, there appears to be a geographical bias in the colour and size of specimens; a variety of colour forms is found in the south-west, but these are rarely found in the north and large specimens have been found only in the south-west.

A geographical distribution such as this suggests that climatic factor may limit its range. Sensitivity to low winter temperatures or frost may be important, but it seems that this is offset by the presence of lime-rich soils. The northernmost Irish locality, St. John's Point, Co. Down (J.53), is the most northerly occurrence in the world of this species. It occurs in Britain mainly in the south-west, and is restricted much more to the coast than in Ireland. It has been recor from the Isle of Man, but not from north-west England or from north Wa It occurs on the Atlantic coasts of France, Spain and Portugal.

IRISH BIBLIOGRAPHY: 1, 33, 34, 35, 36, 38, 53, 54, 58, 60, 62, 63, 75, 81, 94, 100, 119, 120, 122, 125.

VICE-COUNTY OCCURRENCE: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 14, 15, 16, 17, 18, 19, 20, 21, 27, 38.



METOPONORTHUS CINGENDUS

METOPONORTHUS PRUINOSUS (Brandt 1833)

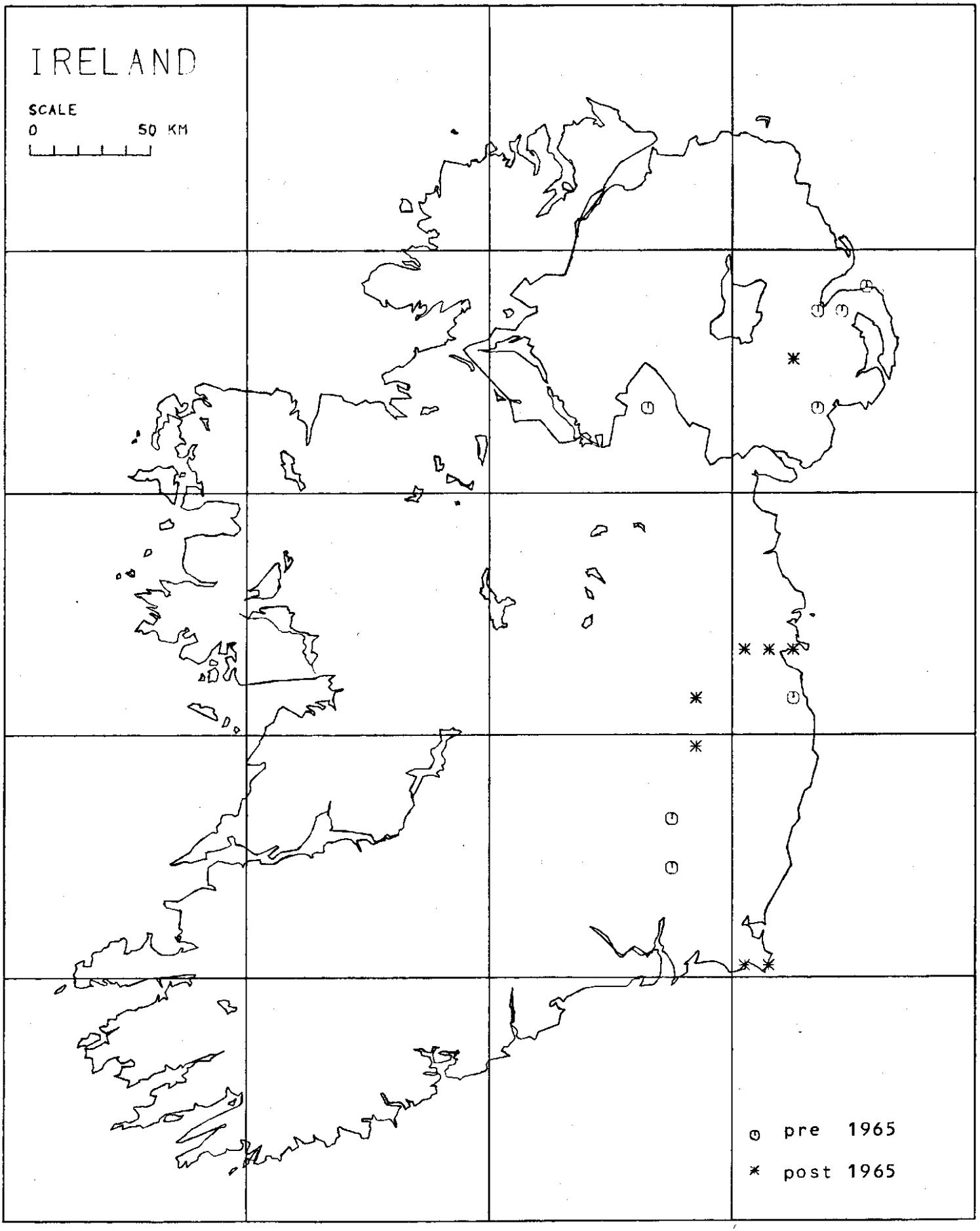
A distinctive species, purplish-brown in colour, with a pruinose (dusty-looking) bloom on the surface and with very pale legs.

This species was considered by Pack Beresford & Foster to have been introduced into Ireland by man. This view is supported by the present survey as most records have been from gardens, glasshouses and farmyards. However, it has been recorded in woodland, under the bark of a fallen tree, north of Baltinglass, Co. Wicklow (S.89), and under stones and logs at two sites near Lady's Island Lake, Co. Wexford (T.00 and T.10). It has not been possible to search for *M. pruinosus* at most of its former sites, because these are mainly on private estates. Its association with compost and dung heaps and with heated glasshouses, all of which are less plentiful than formerly, may have led to a decline in its occurrence, as with *Porcellio laevis* (q.v.).

Although more widespread in Britain, it is almost invariably associated with gardens and farmyards, often in compost or dung heaps, and with glasshouses. It has been identified from Roman remains in Britain. (Girling, 1979), suggesting that it may be long established in Britain. This species occurs widely in Europe and has been spread by man to many parts of the world.

IRISH BIBLIOGRAPHY: 6, 11, 20, 34, 35, 36, 40, 43, 49, 58, 60, 62, 63, 70, 75, 81, 93, 94, 95, 100, 104, 120, 122, 125, 127.

VICE-COUNTY OCCURRENCE: 2, 12, 13, 16, 17, 19, 20, 21, 22, 30, 32, 34, 36, 37, 38, 39.



METOPONORTHUS PRUINOSUS

ACAEROPLASTES MELANURUS (Budde Lund (1879) 1885)

Metoponorthus melanurus Budde-Lund (1879) 1885

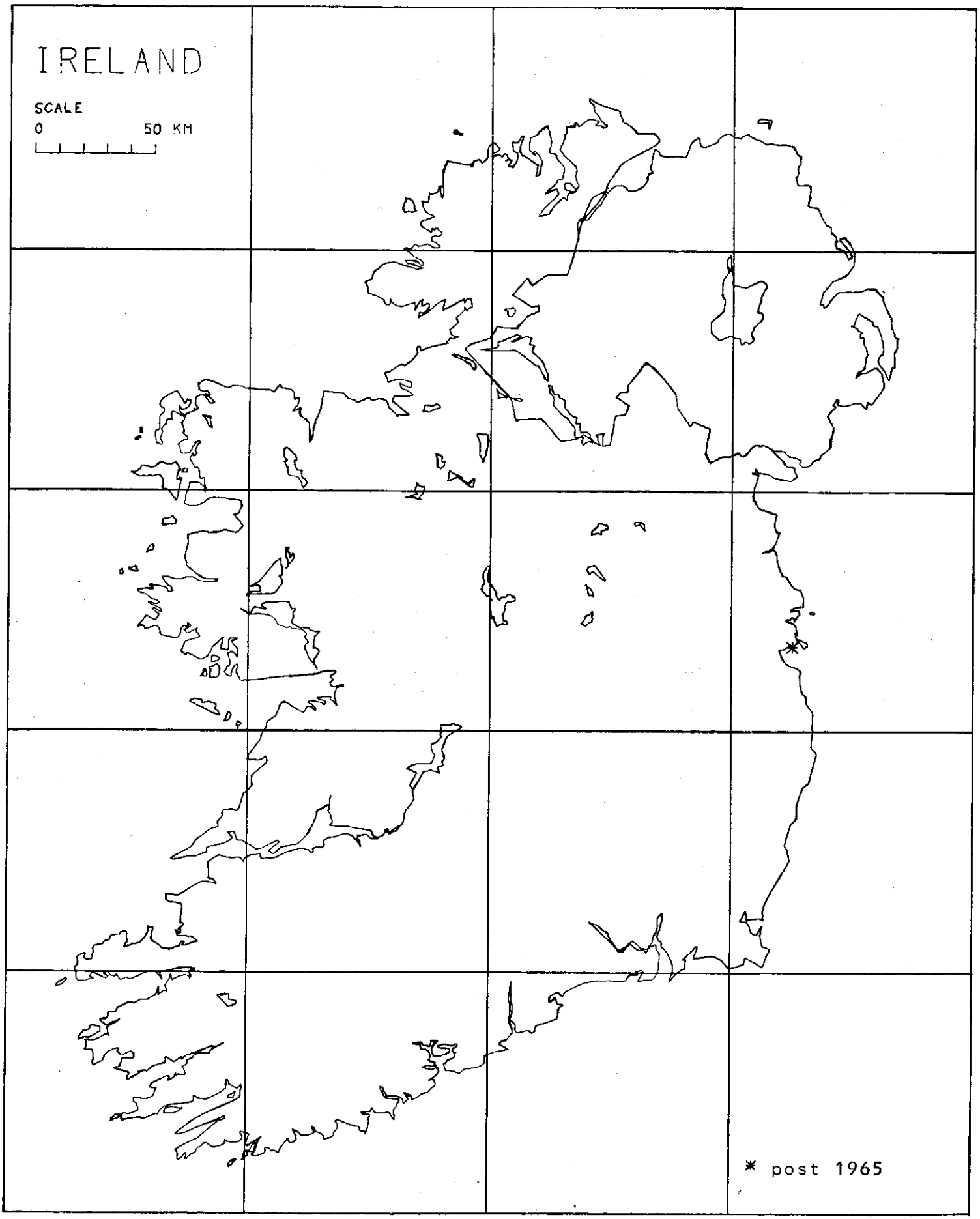
It is not possible to provide field characters for this species as it has not been seen alive by us.

This species was originally found by J.N. Halbert "under stones at Knox's Bay, Howth, Co. Dublin" (0.23) in October 1909. This material was identified by the author of the species, G. Budde-Lund. Subsequently, additional specimens were collected on Howth by Pack-Beresford, Stelfox and O'Mahony at various dates between 1911 and 1929 from "Broad Strand, Howth", "Knox's Bay, Howth" and "Howth Cliffs". The National Museum of Ireland has 32 specimens, and the British Museum (Natural History) 6 specimens, collected during this period. Most of these specimens are in poor condition. There is a later record in the field journal of Eugene O'Mahony, dated 24th September 1934, from "Millionaire's". From the context this is taken to refer to Millionaire's Pool on the southern coast of Howth. These place names all apply to a 1 kilometre stretch of the southern coast of Howth (Doldrum Bay on maps).

Repeated searches of cliffs and shore on this part of the coast of Howth from 1972 onwards have failed to reveal any trace of this species. Searches have been made in all weather conditions, at various times of day and night, and in every month of the year. It seems probable therefore that this species no longer occurs on Howth. Whether it was an introduction to Ireland or was native at Howth can only be a matter for speculation. It does not occur in Britain, but has been recorded on the Atlantic coast of France and northern Spain, also from the Mediterranean coasts of France and northern Italy. If the species was an introduction (possibly with soil on imported plants), it is possible that it became extinct as a result of over-collecting or because it was unable to withstand the very cold winter of 1947. It is perhaps worth noting that *Halophiloscia couchi*, also known in Ireland only from Howth, still survives there, and that the bush-cricket *Leptophyes punctatissima*, which is known from only 7 localities in Ireland, is still common on the southern cliffs of Howth.

IRISH BIBLIOGRAPHY: 25, 26, 36, 58, 60, 62, 63, 73, 94, 109, 120.

VICE-COUNTY OCCURRENCE: 21 only.



ACAEROPLASTES MELANURUS

PORCELLIO LAEVIS Latreille 1804

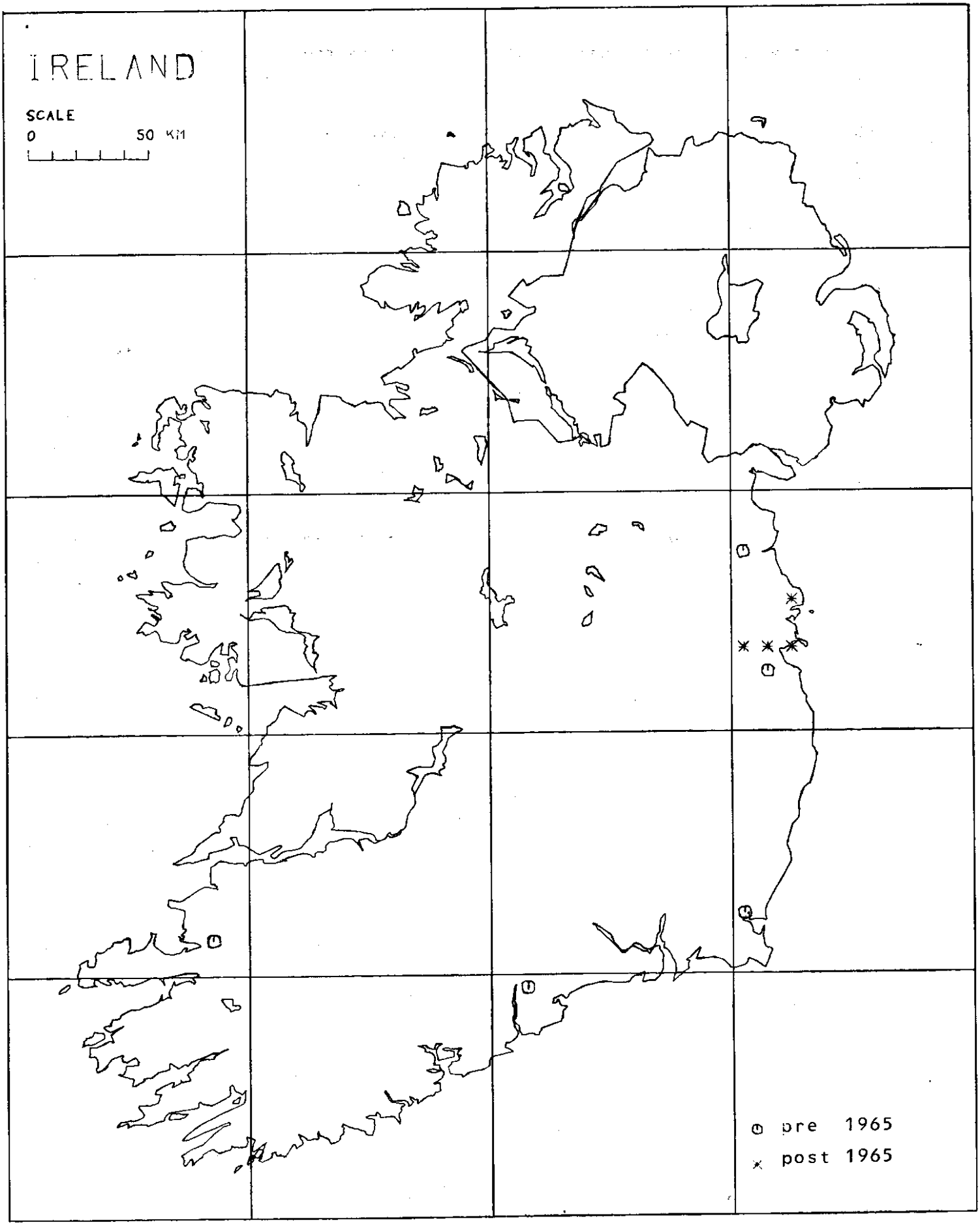
This large, broad species is shiny brown in colour with a smooth dorsal surface. It is consistently larger than other *Porcellio* species, although Irish material seems to be smaller than some British specimens.

With the exception of a few specimens found at the base of a sea-cliff at Howth, Co. Dublin (O.23), *P. laevis* appears to be confined to synanthropic locations in Ireland. It rarely occurs in large numbers except in association with compost and dung heaps. Formerly it was recorded quite widely in the Dublin area and also at several other localities, mainly in the south. It was one of only 5 species listed by Thompson from Ireland in 1856 and was considered by Scharff to be fairly common in the neighbourhood of Dublin in the 1890s. This is certainly not the case now, and it seems unlikely that one of our largest and most distinctive species could have been overlooked by contributors to the present scheme. A possible explanation for this apparent decline, in view of the frequent occurrence of this species in dung heaps, is the progressive loss of horses from the urban scene this century.

P. laevis is equally common and widely scattered in Britain, and again seems to be a declining species. It has been recorded mainly from compost and dung heaps, farm outbuildings and municipal refuse tips. It has been recorded from 13th century remains in Britain (Girling, 1979), but, despite this, is probably an introduced species in Britain and Ireland. It is widespread in warmer parts of the world, where it has been spread by man, and occurs as far north as Denmark and southern Sweden in association with buildings, especially farms. Vandel (1962) considered it to have originated in the area of the Mediterranean.

IRISH BIBLIOGRAPHY: 13, 20, 34, 35, 36, 49, 58, 60, 62, 63, 75, 81, 94, 100, 106, 119, 120, 122, 123, 124, 125.

VICE-COUNTY OCCURRENCE: 2, 6, 11, 12, 16, 20, 21, 31, 37, 39.



PORCELLIO LAEVIS

PORCELLIO DILATATUS Brandt 1833

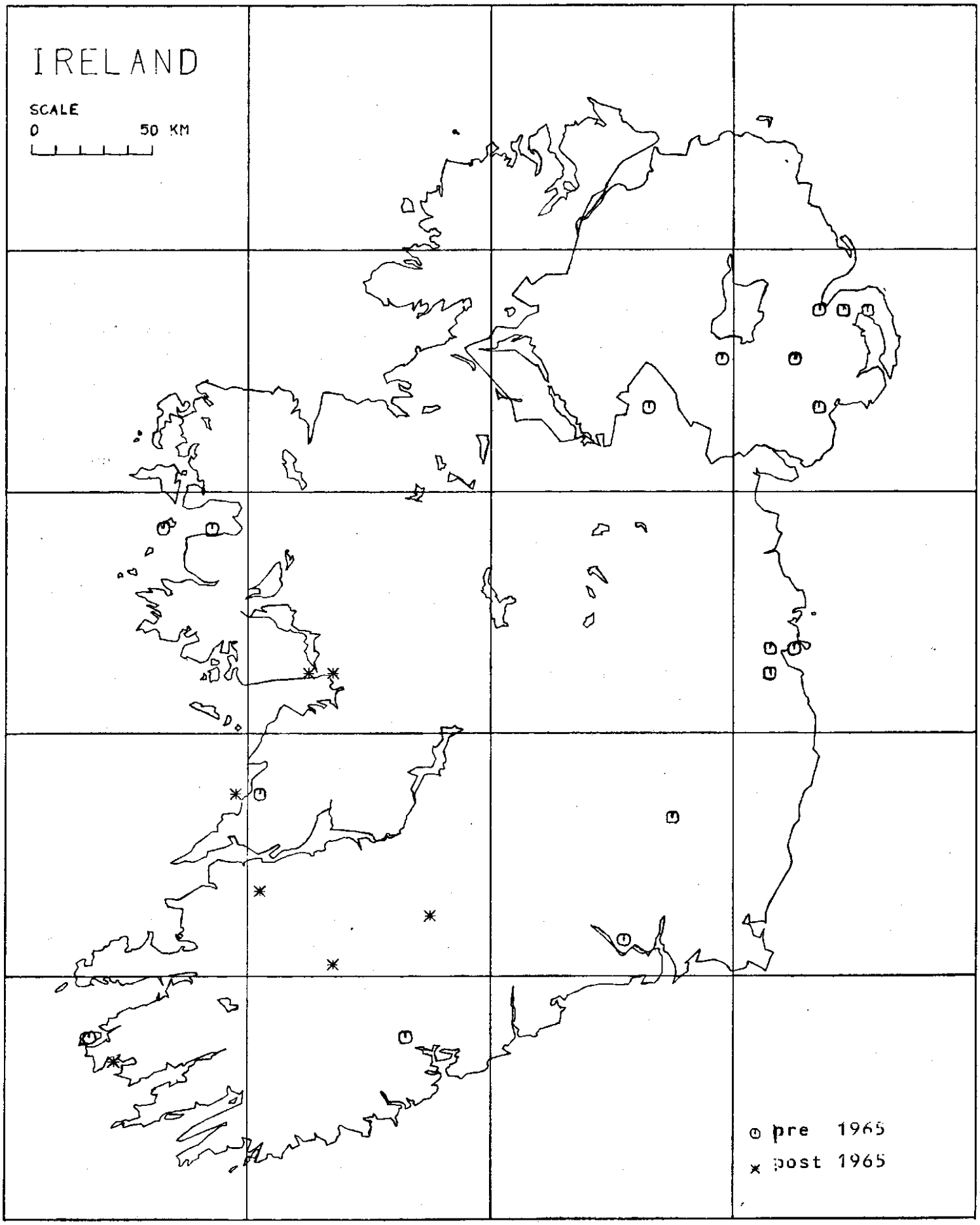
This is a large, broad species with a distinctive rounded tip to the telson. The dorsal surface is distinctly tuberculate and the whole animal is a dull dusty-brown colour.

P. dilatatus was formerly recorded in the north and east in gardens, glasshouses and nurseries, and from the south and west in natural situations on the coast. During the present survey it has been found in the Botanic Gardens of Trinity College, Dublin (O.13), from 4 open-air synanthropic sites - all ruins, and in two natural sites - under a log recently washed up on the shore near Milltown Malbay, Co. Clare (Q.97), and on the shore at Castle Cove near Waterville, Co. Kerry (V.46).

In Britain this species has been recorded mainly from synanthropic sites, especially ruins, although it has been recorded from chalk downland and from a few coastal sites. It has been spread by man to many parts of the world, although its range is greatly extended by being able to survive in glasshouses - it has been recorded from one in Iceland, for example. Vandel (1962) considered that it originated in the area of the western Mediterranean, but is now known from most European countries.

IRISH BIBLIOGRAPHY: 11, 13, 18, 20, 34, 35, 36, 40, 43, 46, 49, 58, 60, 62, 63, 75, 81, 86, 94, 95, 100, 106, 119, 120, 122, 125, 127.

VICE-COUNTY OCCURRENCE: 1, 2, 4, 6, 8, 9, 13, 16, 17, 20, 21, 22, 27, 31, 32, 33, 34, 36, 37, 38, 39.



PORCELLIO DILATATUS

PORCELLIO SPINICORNIS Say 1818

Porcellio pictus Brandt 1833

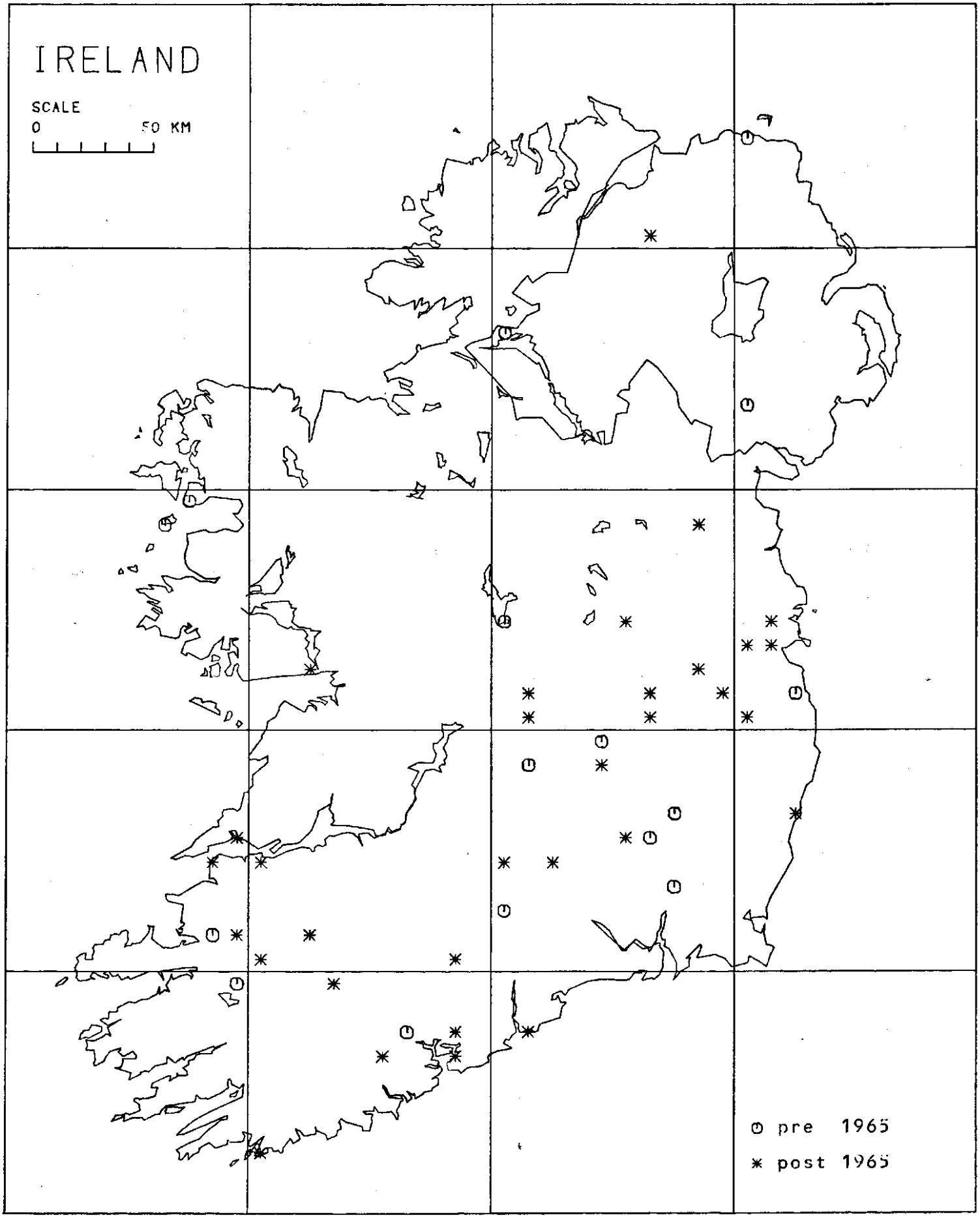
An attractively marked species with a double row of yellow flecking on the body and dark purplish colouration on the head and telson areas. It can be confused with *Oniscus asellus* but is much less broad than this common species.

It has been found most commonly on old mortared walls in the southern half of Ireland and seems to be associated particularly with old ecclesiastical ruins, both on walls and among rubble. It has also been found in more modern structures, usually unheated outbuildings. It tends to shelter in crevices by day but emerges at night onto the surface of walls. Although its occurrence seems to be limited mainly to synanthropic sites, it has been recorded under loose stones on eskers near Navan, Co. Meath (N.86), and Kilcormac, Co. Offaly (N.11), in the dried up bed of a river south of Monasterevin, Co. Kildare (N.60), and in a quarry at Feeny, Co. Derry (C.60).

P. spinicornis occurs in Britain in buildings, especially ruins, in drystone walls made of limestone and on limestone cliffs and screes, both on the coast and inland. Its occurrence on cliffs and screes almost certainly represents natural sites from which the species has been able to colonise synanthropic sites. It occurs widely in Europe but is absent from the Iberian peninsula and south-west France. In Scandinavia it occurs as far north as Trondheim and Uppsala, and also southern Finland. It has been spread by man to North America.

IRISH BIBLIOGRAPHY: 13, 17, 20, 33, 34, 35, 36, 46, 48, 49, 58, 60, 62, 63, 75, 81, 84, 86, 93, 94, 95, 100, 101, 119, 120, 122, 125.

VICE-COUNTY OCCURRENCE: 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 27, 30, 31, 32, 33, 36, 37, 38, 39, 40.



PORCELLIO SPINICORNIS

PORCELLIO SCABER Latreille 1804

This species is very variable in colour ranging from the most common form, grey and grey-brown, to very pale forms. Orange and flecked forms are found commonly near the coast and an attractive form, with a distinctive pale margin to the body, is often found near the coast and in dry grassland. This species has a rough tuberculate surface.

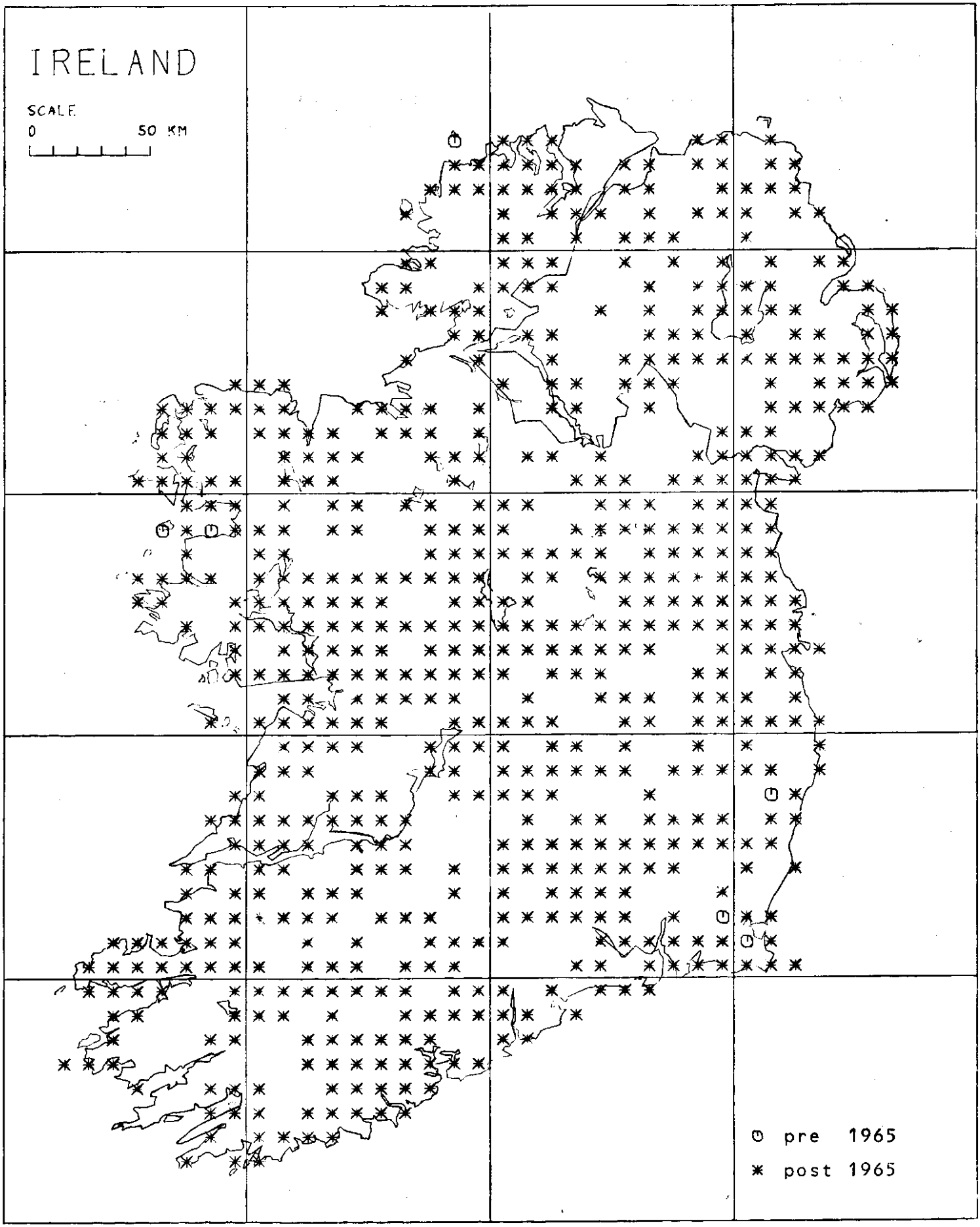
P. scaber occurs widely on the coast and seashore, in deciduous woodland, on moorland and heathland. It has been a successful colonist of gardens and has become one of the commonest species there. At night it is easily found on walls and on the bark of trees, grazing on algae, etc. It is often found in very large numbers under the bark of dead trees. It seems to be tolerant of dry conditions and is often found by day in shelter sites which have very little moisture; on dry heathland it is often the only common species. On the coast it is often very plentiful, particularly around the high-tide mark on rocky or boulder shores.

This species is common and widespread in Britain, occurring in situations similar to those in Ireland. It is believed to have originated in Western Europe, but it is now known to have been transported by man to many parts of the world, as far north as Iceland and the north of Scandinavia, as well as to South Africa and South America.

A similar looking species, *Trachelipus rathkei* (q.v.) occurs in southern Britain in damp calcareous grassland and scrub invaded areas, also occasionally in gardens.

IRISH BIBLIOGRAPHY: 10, 11, 13, 14, 15, 16, 17, 19, 20, 32, 36, 38, 42, 43, 46, 48, 49, 54, 58, 60, 62, 63, 69, 70, 72, 77, 78, 80, 81, 84, 86, 90, 94, 96, 98, 100, 103, 104, 108, 113, 114, 116, 120, 122, 123, 124, 125.

VICE-COUNTY OCCURRENCE: All vice-counties.


IRELAND
SCALE
0
50 KM
pre 1965
post 1965

ELUMA PURPURASCENS Budde Lund (1879) 1885

An attractive pill woodlouse, usually purplish-brown in colour with eyes composed of a single large ocellus,and a triangular telson.

E. purpurascens was first discovered in Ireland by Pack Beresford in August 1908 in considerable numbers on the southern cliffs of Howth, Co. Dublin. In the following month R.S. Bagnall found it under vegetable refuse in hedgerows near Portmarnock Railway Station, Co. Dublin. These discoveries aroused considerable interest because, at the time, it had not been recorded from Britain. It was known from W. Algeria, Spain, Portugal and France, a distribution similar to that of many "Lusitanian" species occurring in Ireland. In time it became popularly known as "the Howth woodlouse".

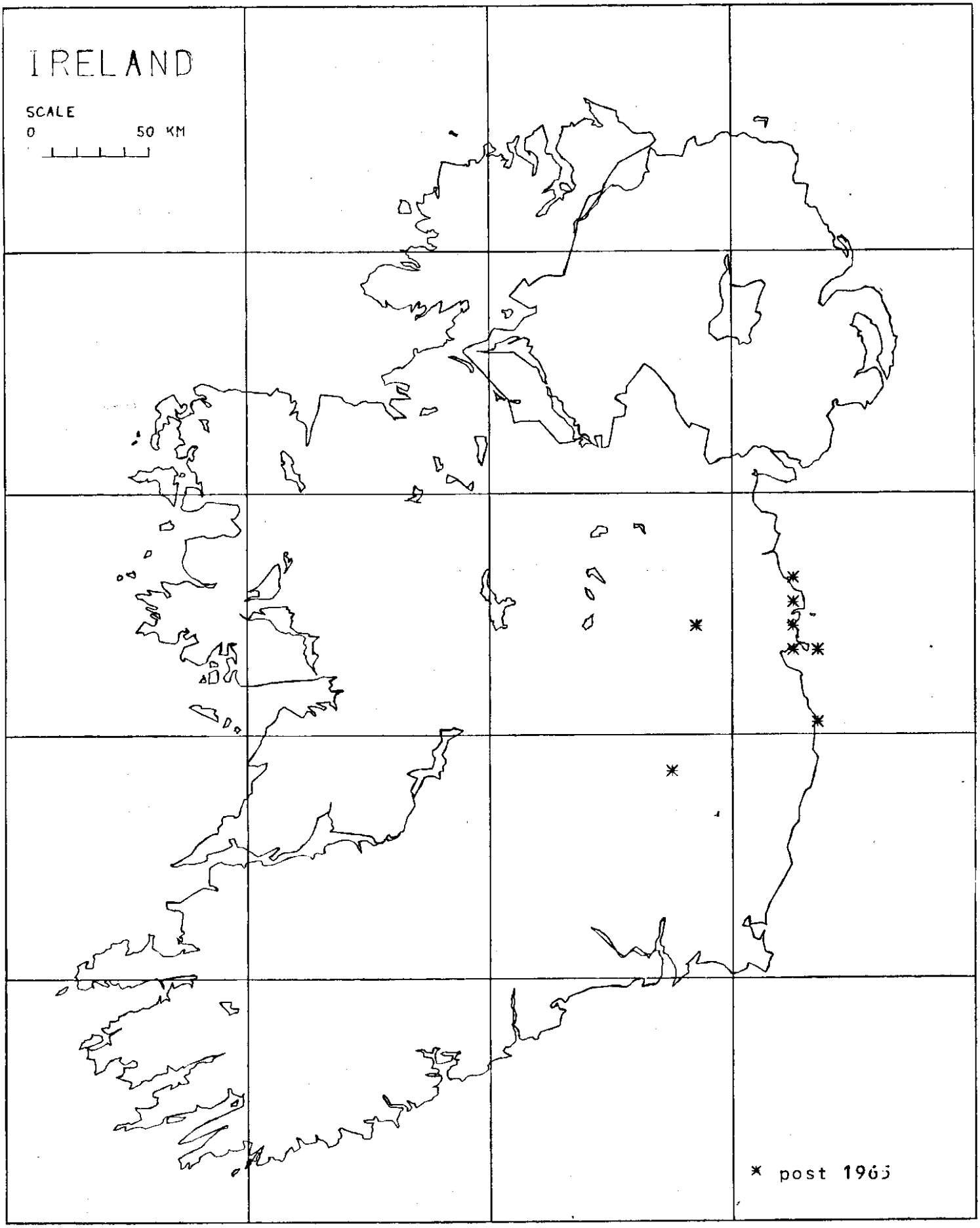
It is known now from many parts of the Co. Dublin coast between Skerries and North Bull Island, at a variety of coastal sites - salt marsh drift lines, sand dunes, bases of sea cliffs and to a lesser extent, waste ground near the sea. Careful searching of apparently suitable dunes on the coast, north of the Delvin River, Co. Meath, has failed to locate the species and it has not been recorded from Ireland's Eye or Lambay Island.

In 1977, in the course of an Irish Biogeographical Society field trip it was found under ballast and old railway sleepers on the Carlow line at Maganey, Co. Kildare (S.78), and later in isolated colonies on the Galway line at Kilcock, Co. Kildare (N.84), and the Wicklow line at Newcastle, Co. Wicklow (T.30). Its absence from similar areas on these and other railway lines suggests that it has not made its way by invasion to these sites and possibly may be dispersed by man with railway ballast.

This species is now known to occur in Britain at sites on the coast of Norfolk and Kent. It has been recorded from northern Brittany and western-central France, western and southern Spain, Portugal, Morocco, Algeria, the Azores, Canaries and Madeira.

IRISH BIBLIOGRAPHY: 10, 25, 26, 33, 35, 36, 56, 58, 60, 61, 62, 63, 69, 70, 71, 73, 89, 90, 94, 112, 120.

VICE-COUNTY OCCURRENCE: 13, 19, 20, 21.



ELUMA PURPURASCENS

ARMADILLIDIUM NASATUM Budde Lund (1879) 1885

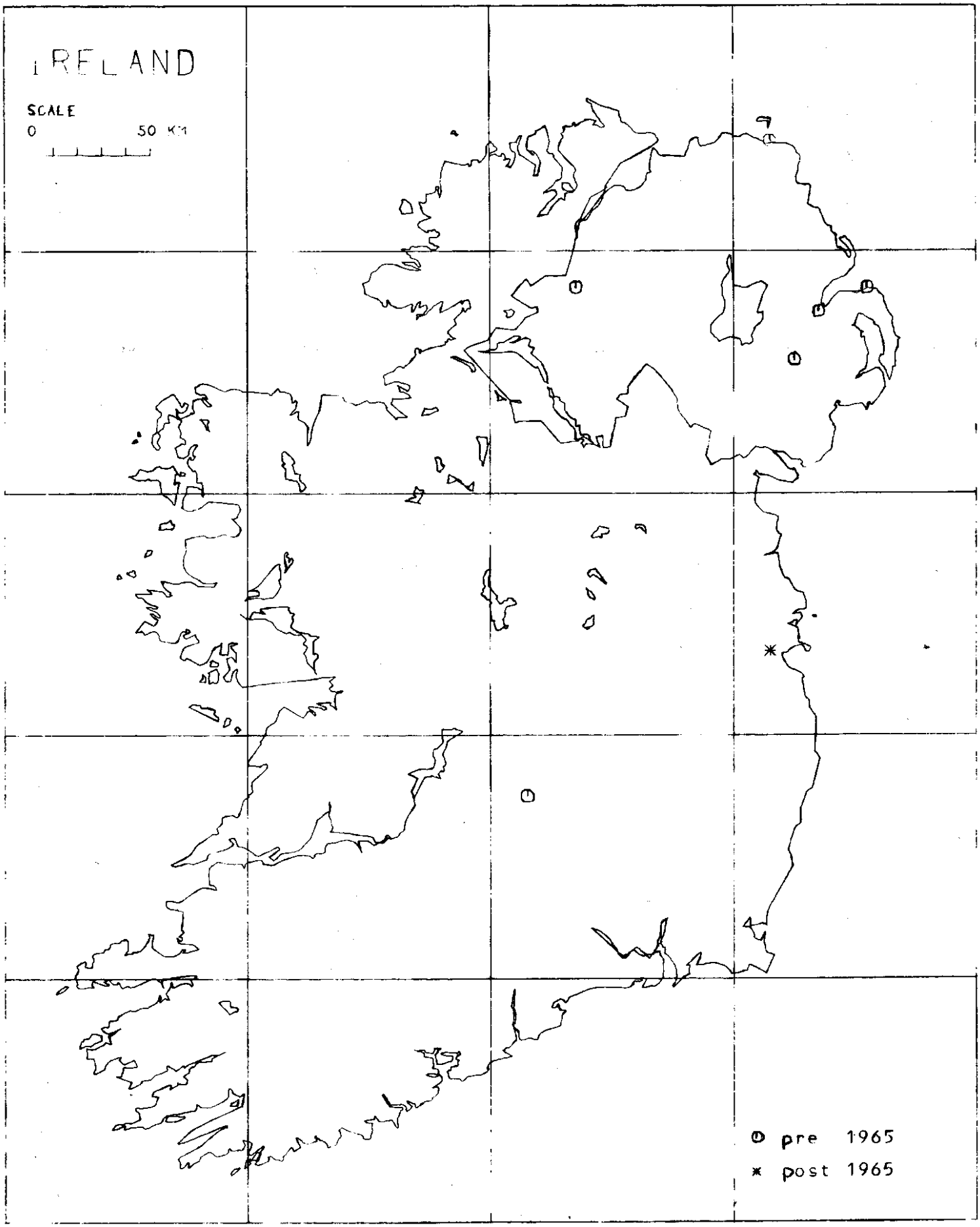
This is a deeply arched species with a distinctive head and telson. The colour is usually grey, with some mottling, but it does not exhibit the range of colours found in *A. vulgare*.

Originally discovered in Ireland, almost simultaneously, in Belfast and Dublin, it was recorded in error as *A. pictum* but the error was soon corrected. It was recorded from glasshouses and conservatories, gardens and parks, mainly in Down and Dublin. It has been found recently only at the Botanic Gardens, Glasnevin, Dublin (O.13), in the heated Palm House and nearby in the open. Searches of some of its former localities have not been possible, although a search at one site, Templemore, Co. Tipperary (S.17), where it was recorded by R.A. Phillips in 1922, has failed to reveal it. It is quite possible that it occurs still at some of its former localities, or at similar sites.

From its close association with man, especially large estates and glasshouses, it seems probable that *A. nasatum* is not native to Ireland. Its status in Britain is not clear, being common in quarries and gardens, but also occurring in some calcareous grasslands in the south west. It occurs widely in southern and central Europe and has been introduced by man to parts of North America.

IRISH BIBLIOGRAPHY: 9, 11, 12, 26, 35, 36, 40, 41, 43, 58, 60, 62, 63, 94, 95, 120.

VICE-COUNTY OCCURRENCE: 15, 21, 36, 38, 39.


IRELAND
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0 50 KM
pre 1965
post 1965

ARMADILLIDIUM VULGARE (Latreille 1804)

This is the largest and most widely distributed *Armadillidium* (pill woodlouse) in Ireland. It is variable in colour, although black and grey forms predominate. It is one of the few woodlice that is active in the day and may be seen even in quite sunny weather in the open on sand dunes.

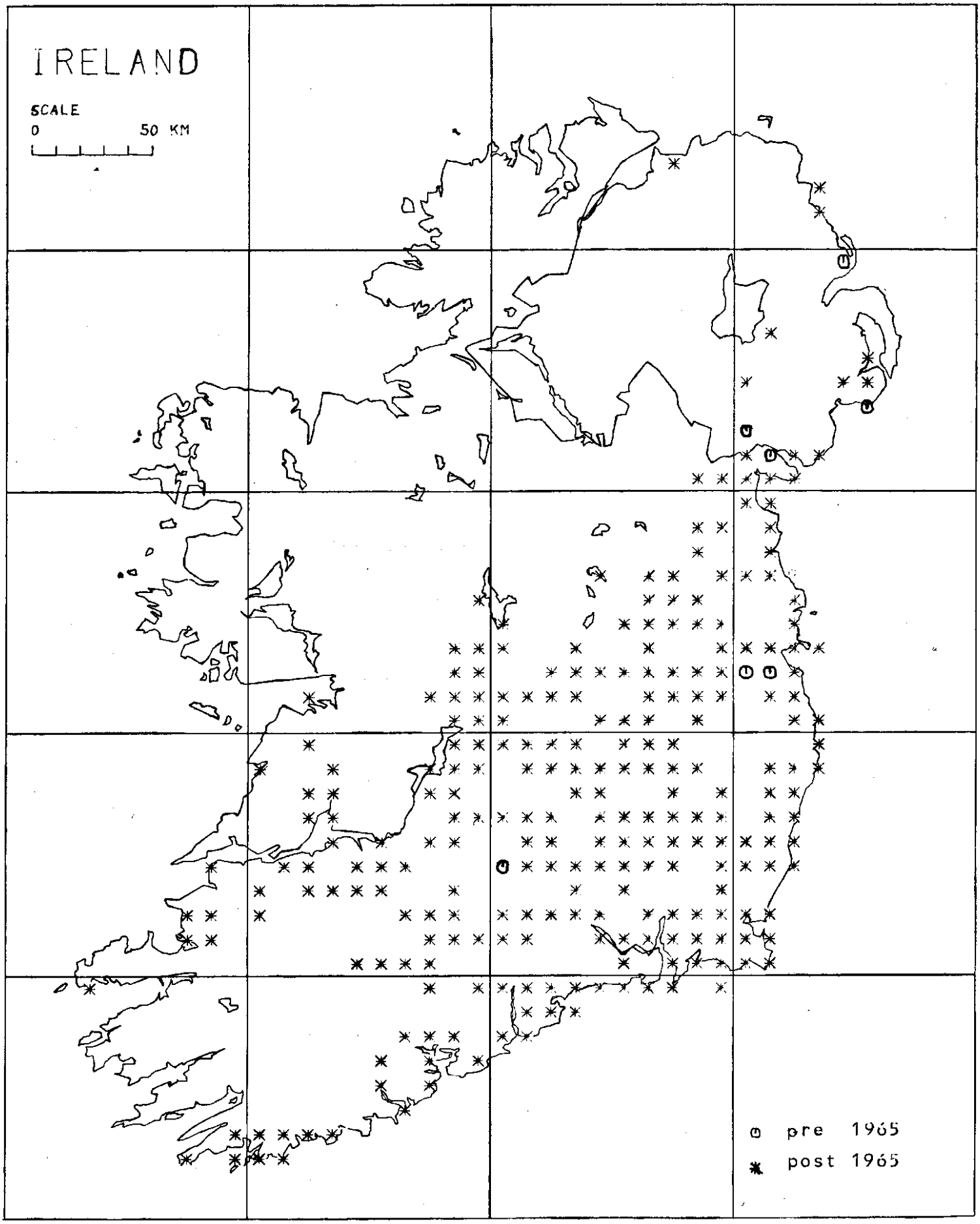
A. vulgare shows a distinct south-eastern distribution in Ireland, although there are outlying sites on the coast beyond this main area. It favours sunny, well-drained, lime-rich sites. It occurs at some apparently unfavourable sites in association with walls and buildings which afford both shelter and a source of lime. Within its range in the south-east it has not been recorded in upland areas or from areas on Old Red Sandstone. Very similar limits to the range of *A. vulgare* were noted in 1921 by N.H. Foster.

The distribution of *A. vulgare* in Britain also is mainly southern and eastern, with similar coastal occurrences beyond the main range. The species is widespread in Europe and has been introduced to many parts of the world.

An additional species, *A. depressum*, which is similar to *A. vulgare*, has been recorded from sites in south-west Britain, most of which are coastal or on limestones. It is particularly common around Cardiff and Ilfracombe, and can occur in gardens.

IRISH BIBLIOGRAPHY: 2, 10, 14, 15, 17, 32, 33, 35, 36, 38, 48, 50, 53, 54, 56, 58, 60, 62, 63, 69, 70, 71, 75, 77, 81, 84, 86, 94, 95, 100, 103, 112, 120, 122, 123, 124, 125, 131.

VICE-COUNTY OCCURRENCE: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 25, 31, 32, 37, 38, 39, 40.



ARMADILLIDIUM VULGARE

ARMADILLIDIUM PULCHELLUM (Zencker 1799)

As its scientific name suggests, this is an attractively marked species, usually being a mottled chocolate and orange colour. It is the smallest species of pill woodlouse in Ireland.

First recorded in either Britain or Ireland from Ballymote, Co. Sligo (G.61) by R.F. Scharff, it was recorded quite widely over the southern midlands mainly by R.A. Phillips. It eluded re-discovery until 1976 when a survey party of 12 went to the Roscrea area to search for it at several of the old sites discovered by Phillips. Although not found at any of the Phillips sites on that trip, it was found at Kilgarvan Quay, Co. Tipperary (R.89). Subsequently it has been found at three former sites Lough Dargan, Co. Sligo (G.72); Kiltoom, Co. Roscommon (M.94); Ballyquinton Point, Co. Down (J.64) and several new localities. Notable extensions of range include Lough Inchiquin, Co. Clare (R.29) and St. Helens, Co. Wexford (T.10).

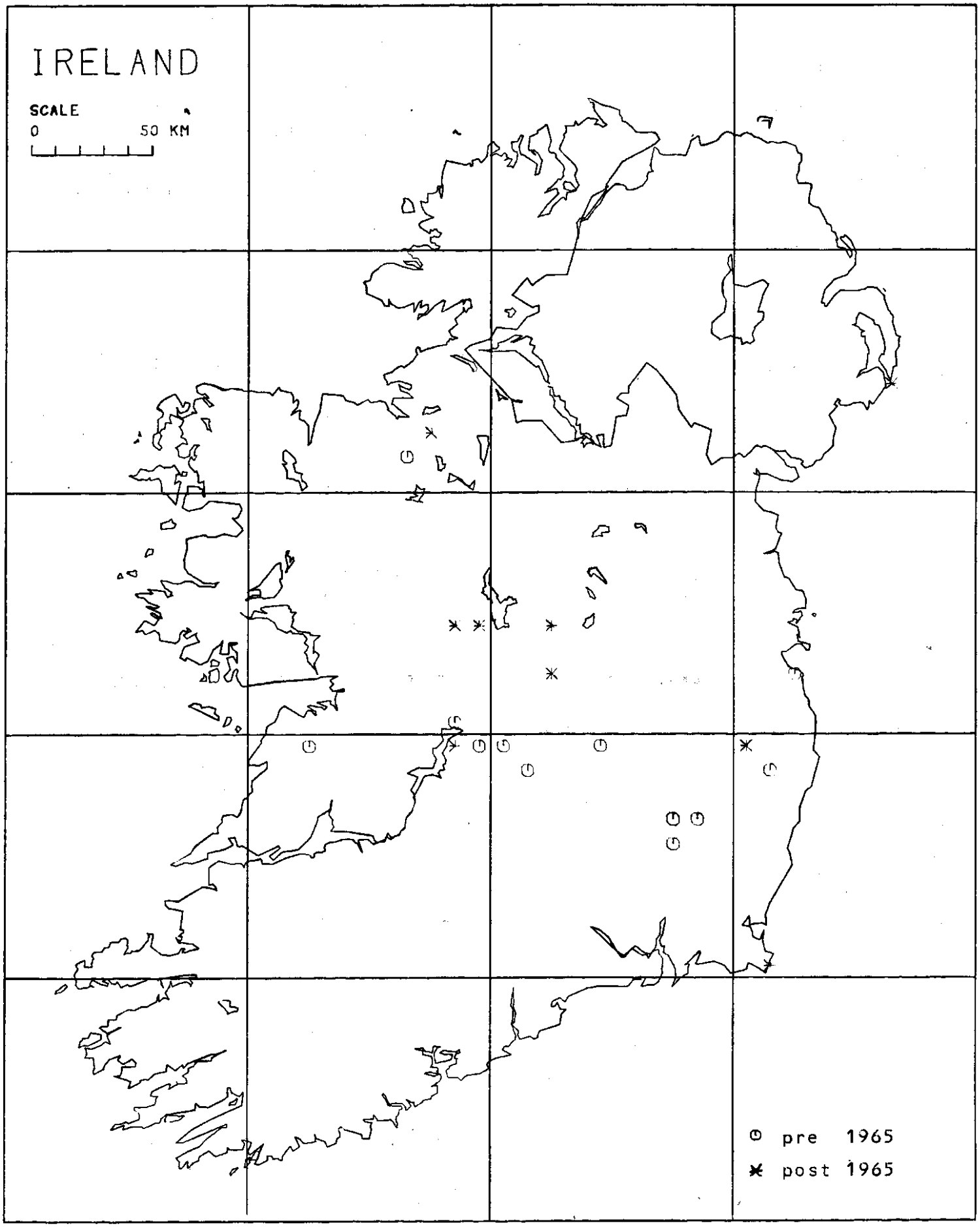
At many of the sites at which it has been recorded by the survey it is closely associated with glacial deposits (eskers and moraines), occurring in dense mats of thyme (*Thymus praecox*) from which it may be extracted by sieving. In Sligo it was found in moss on rock outcrops and in Wexford it occurred in mats of *Sedum anglicum*.

A. pulchellum occurs in Britain, mainly in association with Carboniferous limestone screes and pavements, and on the coast at several sites on other rock types. It appears to be limited to western and northern Europe, but is rare in France.

Armadillidium pictum occurs in Britain and is similar to *A. pulchellum* but slightly larger; it has been recorded from limestone and tufa screes.

IRISH BIBLIOGRAPHY: 2, 8, 9, 35, 36, 58, 60, 62, 63, 81, 82, 87, 94, 108, 120.

VICE-COUNTY OCCURRENCE: 9, 10, 12, 13, 14, 15, 17, 18, 20, 21, 23, 25, 38.



ARMADILLIDIUM PULCHELLUM

ARMADILLIDIUM ALBUM Dollfus 1887

This is small and pale coloured, often resembling the colour of sand. Rarely seen to be active in daylight it usually does not move if revealed and remains still and slightly arched with one or two pairs of legs protruding at either side. This is the only *Armadillidium* in Ireland with a spiny surface to the body.

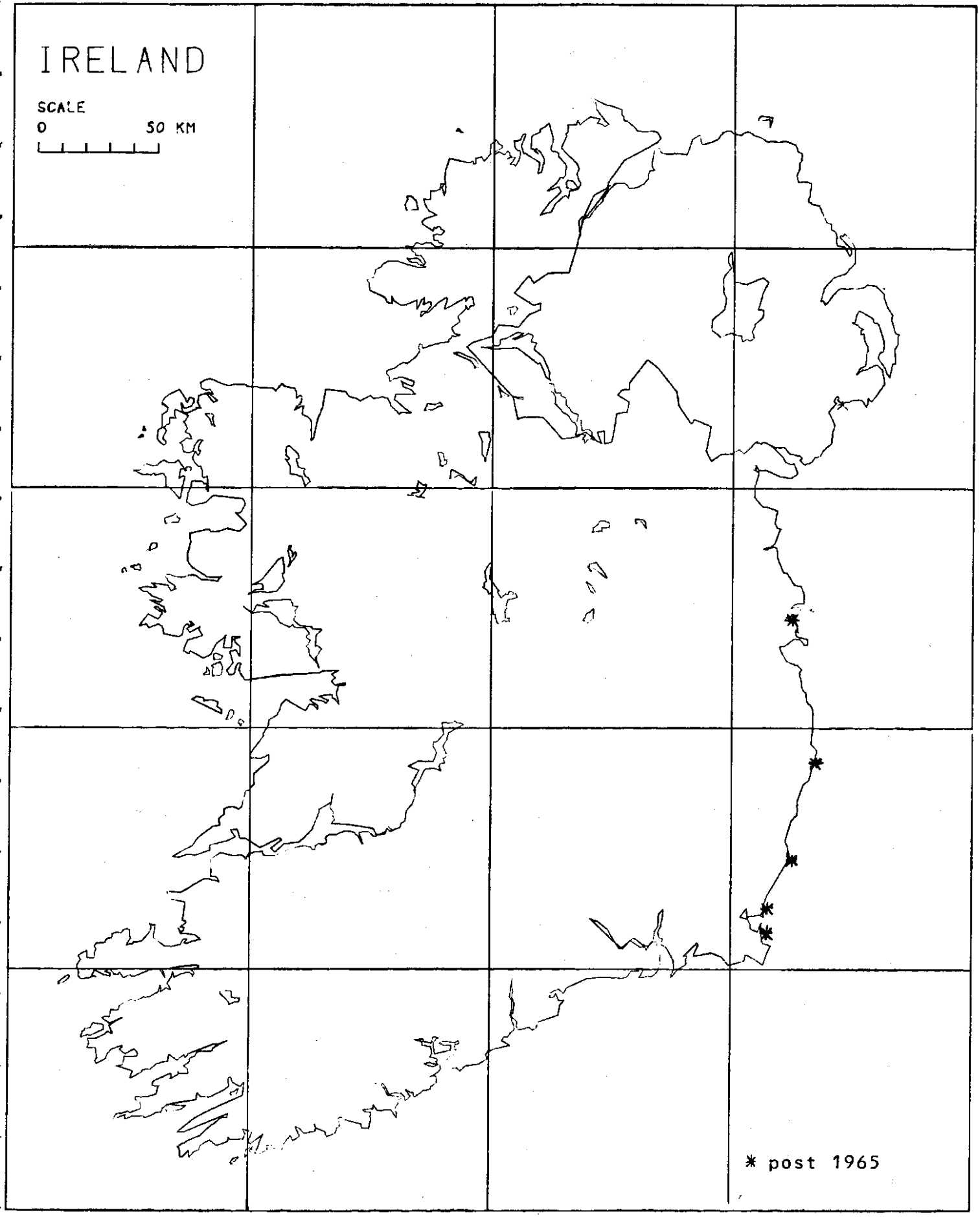
It has been recorded from the undisturbed parts of a few sand dune systems, most typically occurring in the fore-dune zone (where *Cakile maritima, Salsola kali* and *Agropyron junceiforme* grow) under logs and drift wood. It is usually in the moist sand under such drift wood, clinging to the wood or burrowing into crevices in it. Frequently recorded with amphipods and occasionally with other woodlice including *Porcellio scaber, Eluma purpurascens* and *Armadillidium vulgare.*

Where it occurs on the east coast the sand dune systems are still relatively remote and undisturbed, but potential sites elsewhere on this coast are now so disturbed by public use that a suitable habitat is no longer available. Intensive searches of dune systems on the south coast in Wexford and Waterford have failed to reveal it; similarly searches at some west coast sites have been unsuccessful. All these sites seem to have much coarser sand than the east coast sites and therefore may not be suitable. At some of the east coast sites it occurs in semi-estuarine silty sands.

This species was first recorded in Ireland in 1967, not long after its re-discovery in Britain, after 59 years. It occurs on several dune systems in Britain, mainly on the west coast, and has been recorded from the Netherlands, western France, Italy and Madeira.

IRISH BIBLIOGRAPHY: 1, 33, 35, 53, 55, 56, 57, 58, 60, 62, 112, 120.

VICE-COUNTY OCCURRENCE: 12, 20, 21, 38.


IRELAND
SCALE
0 50 KM
* post 1965

ALIEN SPECIES

The following species have been recorded in Ireland only from heated glasshouses or other artificially heated locations. They are clearly alien and do not merit consideration as part of the Irish woodlouse fauna. All are known to occur in heated glasshouses elsewhere in Europe and, with the exception of *Nagurus nanus*, have been recorded in Britain. The increasing use of pesticides and soil sterilization in glasshouses, and the abandonment of some houses, probably threatens the survival of these alien species.

The recent records have not been published before and are the result of work in Belfast by Roy Anderson and in Dublin by D.D.

CORDIONISCUS STEBBINGI (Patience 1967).

Trichoniscus stebbingi Patience

Recorded from glasshouses at Glasnevin, Co. Dublin, Belfast Botanic Gardens and Downshire Gardens, Co. Antrim, and Hillsborough, Co. Down. Specimens supporting these records are in the National Museum of Ireland. Not recorded since 1911 Believed to have originated in South America.

IRISH BIBLIOGRAPHY: 11 26, 36, 43, 49, 58, 62, 63, 94, 95, 120.

TRICHORHINA TOMENTOSA (Budde Lund 1893)

Specimens from the Botanic Gardens, Belfast, Co. Antrim were identified by Budde-Lund; they are now in the National Museum of Ireland. Recorded in 1977 from Glasnevin, Co. Dublin, beneath the under-floor heating pipes in the Palm House. A tropical American species.

IRISH BIBLIOGRAPHY : 44, 49, 58, 62, 63, 92, 95, 120.

NAGURUS NANUS Budde Lund 1908

Nagara nana Budde Lund

Known from only a single specimen collected in a heated glasshouse at Belfast Botanic Gardens, Co. Antrim. The specimen was identified and retained by Budde-Lund.

IRISH BIBLIOGRAPHY : 44, 45, 49, 58, 63, 92, 95, 120.

AGABIFORMIUS LENTUS (Budde Lund 1885).

Collected in February 1979 from wet moss in a vivarium containing *Achatina fulica* (Mollusca) at a private house in Belfast. Probably imported with the snails from a vivarium in London. The species probably originated in eastern Europe.

REDUCTONISCUS COSTULATUS Kesselyak 1930

First recorded in Ireland from the Palm House at the Botanic Gardens, Glasnevin, Dublin in 1977. It was found beneath the under-floor heating pipes. Widely recorded from glasshouses in Europe.

SPECIES TO BE DELETED FROM THE IRISH LIST

TRACHELIPUS RATHKEI (Brandt 1833)

Porcellio rathkei Brandt

Recorded from Dublin by Collinge (1918) Specimens to support this record have been sought in the collections at the National Museum of Ireland, British Museum (Natural History) and Yorkshire Museum (which houses the W.E. Collinge collection) but nothing has been found. The record is therefore unsubstantiated. Evidence of Collinge's inability to identify this species accurately (Harding, 1977) makes it advisable to delete it from the Irish list until material to support the record is found.

T. rathkei is known to be associated with synanthropic sites, although only rarely in Britain; it could, therefore, have been introduced by man to Dublin (or elsewhere in Ireland). However, extensive collecting in Dublin by Scharff, Pack Beresford, Stelfox, O'Mahony and others, before and after the record by Collinge, failed to record this species and it has not been recorded in Ireland during the present survey. British specimens of *T. rathkei* were found in the Pack Beresford collection (Harding, 1977) suggesting that he would have been able to recognise the species. This species and *T. ratzeburgi* were included in a key to species by Pack Beresford and Foster (1911).

TRACHELIPUS RATZEBURGI (Brandt 1833)

Porcellio ratzeburgi Brandt

This species occurs in upland forests in central and southern Europe (Swiss Alps, Tyrol, Dolomites, Jura, etc.). It may also occur in a few sites further north, as far as southern Norway and Sweden. No British records of this species have yet been substantiated with reliably identified specimens. The occurrence of this species in Ireland was based on a single record by Collinge 1944. specimens supporting this record, in the W.E. Collinge collection at the Yorkshire Museum, were found to be *Porcellio scaber* (Harding, 1977). Regardless of the status of this species in Britain, *T. ratzeburgi* should be deleted from the Irish list.

A BIBLIOGRAPHY OF THE OCCURRENCE OF WOODLICE IN IRELAND

This bibliography is intended to provide a comprehensive survey of the works published in the period 1836 to 1981 referring to the occurrence and distribution of woodlice in Ireland. It extends and enlarges the bibliography given by Harding (1975), but does not include unpublished theses or dissertations.

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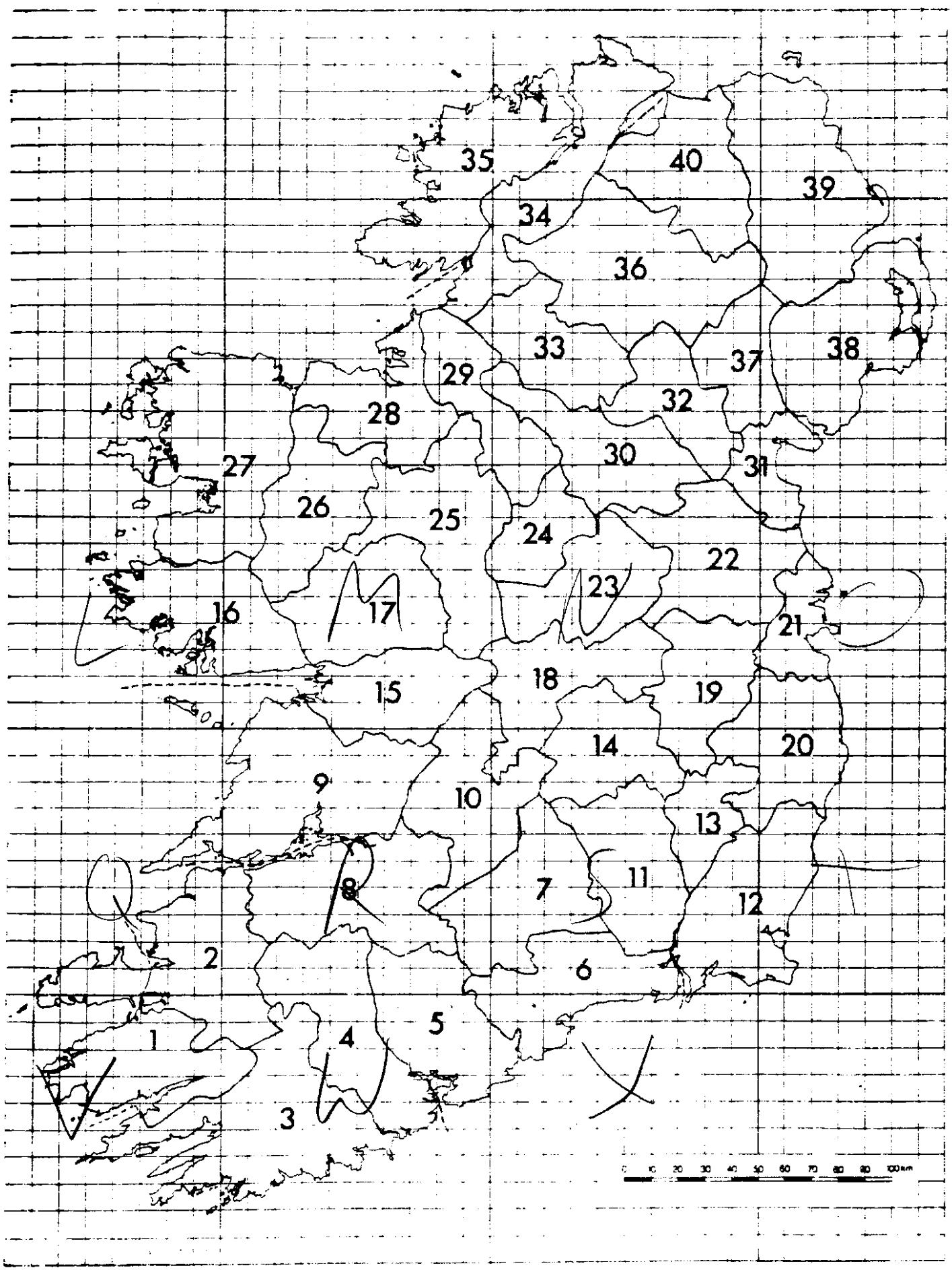

MAP OF IRISH VICE COUNTIES