

THE DISTRIBUTION OF AMPHIBIANS AND REPTILES IN
ENGLAND AND WALES, SCOTLAND AND IRELAND AND THE
CHANNEL ISLES: A REVISED SURVEY

By

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INTRODUCTION

A survey of the distribution of the British amphibians and reptiles has previously been published by the author (Taylor, 1948). The distribution maps for the various species used in that article have been reproduced by Smith in the two editions of his book (1951, 1954). Some of the original records on which these maps were based are over 50 years old, and it has become increasingly apparent that a revised survey is needed.

The new maps prepared for the present study are based on many additional records made since 1948. As before, the system of designating areas by vice-counties has been followed, but the county of London is regarded as a vice-county of its own. Different symbols are used to distinguish the areas referred to in the older records (before 1948) from those referred to in more recent ones. A list of the vice-counties shown in map 1 is given on page 100, and the symbols used on the other maps are explained on page 101.

It has unfortunately proved impossible to publish the full details of the records from which these new maps have been compiled. Some of the new records and data on distribution obtained since 1948 have appeared in published form; a selection of the more important and comprehensive studies is given in the bibliography (p. 99). For the majority of the new records, however, I am indebted to the kindness of individuals and the good offices of regional natural history societies who have personally communicated them to me; a list of these correspondents appears on page 99. Two typed manuscripts containing detailed particulars of the data on which this survey is based, including authorities and the localities to which they refer, have been prepared. One has been deposited in the archives of the Nature Conservancy, 19 Belgrave Square, London, S.W.1, and the other at the office of the Nature Conservancy in Scotland, 12 Hope Terrace, Edinburgh, 9. They can be seen on application to the appropriate authority. I also wish to thank the Royal Society for their grant which has enabled this paper to be published.

Notes on the various species have been added, summarising the distribution of each so far as it is known at the present time. There are still many areas on which information is scanty, and it is hoped that readers will help to remedy omissions and errors by sending in further observations to the author (address on page 100). Such contributions are of special interest since they make possible the accurate demarcation of areas in which species are now absent.

No maps have been prepared for the introduced forms.

NOTES ON THE SPECIES.

AMPHIBIA

1. *Hyla arborea* (Linn.). European or Green Tree-frog.

A colony of this frog was introduced into the Isle of Wight in 1906 and is still present. Another colony exists in Hampshire South.

2. *Hyla ewingii* Dum. & Bibr. Ewing's Frog.

This species was successfully introduced from Tasmania into West Cornwall in 1951.

3. *Bufo bufo* (Linn.). Common Toad. Map 2.

Although absent from Ireland, the Common Toad is otherwise widely distributed, ranging from the Channel Isles to the Orkneys. Ponds, canals and ditches where the water is deepish are selected for spawning. Hibernation takes place on land, often far from the breeding sites.

4. *Bufo calamita* Laurenti. Natterjack. Map 3.

The Natterjack is gregarious and mainly confined to the coastal areas of East Anglia, Lincolnshire, Liverpool Bay and Solway Firth. Its numbers have decreased, particularly in the Liverpool Bay area. It is also found at the head of Dingle Bay in County Kerry. Its distribution inland is now more or less restricted to the boundary between Surrey and Hampshire.

This toad is a burrower and is always found on sandy soil. During hibernation it often buries itself to a depth of about a foot. Unlike the common toad, it spawns in shallow water.

5. *Bufo viridis* Laurenti. European or Green Toad.

A number were introduced into the Isle of Wight in 1958.

6. *Alytes obstetricans* (Laurenti). Midwife Toad.

Colonies have been introduced into Bedfordshire in about 1900, into Yorkshire Mid West in 1933 and Yorkshire South West in 1947. All still exist.

7. *Rana temporaria* Linn. Common Frog. Map 4.

The Common Frog is the most widely distributed of our amphibians and there are few areas where it is not found. Recent reports show, however, that it is not as abundant in many districts as it used to be. The capture of frogs for laboratory work, and changes in methods of agriculture involving the filling in of many ponds are probably responsible. Shallow water in ponds and ditches is preferred for spawning. After the spawning season the frog spends most of its time on land.

8. *Rana esculenta* Linn. Edible Frog.

This frog was first introduced into East Anglia in the first half of the 19th century. The original colonies have now died out. A few colonies, also resulting from introductions, are still holding their own in southern England. This frog is very aquatic; the adults hibernate in the mud in or beside their ponds.

9. *Rana ridibunda* Pallas. Marsh Frog.

This frog was introduced at Stone in Oxney (East Kent) and has established itself most successfully. It is now distributed over a large area, including the Romney, Welland and Denge Marshes and the Rother and Pett Levels. It appears to have ousted the Common Frog from these areas.

10. *Rana dalmatina* Bonaparte. Agile Frog.

This frog is a native of Jersey where it was previously mistaken for the Common Frog. It is not found further north.

11. *Triturus vulgaris* (Linn.). Smooth Newt. Map 5.

This newt is very widely distributed and is the only newt found in Ireland. It does not usually occur in mountainous country, and for this reason is rare or absent in West Wales and West and North Scotland. It is also absent in Cornwall. It is the least aquatic of the three British newts. The winter is spent near the pond; hibernation in the water is rare.

12. *Triturus cristatus* (Laurenti). Great Crested or Warty Newt. Map 6.

This newt is widely but locally distributed over England and East Scotland. It is rare or absent in Cornwall, in the area around the Wash, in West Wales and West and North Scotland. It is absent in Ireland and the Channel Isles. It is the most aquatic of the three British newts and prefers reasonably deep ponds. It appears to like clay and chalk rather than a sandy soil. It usually hibernates on land.

13. *Triturus helveticus* (Razoumowski). Palmate Newt. Map 7.

This newt is a montane species and it is in hilly country that it is most frequently found. With the exception of a few localities it is absent in the East of England from the Thames to Mid Yorkshire and throughout the Midlands. Its reported presence in East Norfolk and Suffolk is still awaiting confirmation as it may have been confused with the Smooth Newt. The colony in the north of Northamptonshire was introduced about 1953. It is not present in Ireland. Any size of pond appears to suit it, and in coastal areas it has been found in brackish water.

REPTILIA

- 1-5. Marine turtles. Map 8.

Records of species stranded on our shores or captured at sea in home waters include: *Eretmochelys imbricata* (Linn.), Hawksbill; *Caretta caretta* (Linn.), Atlantic Loggerhead; *Lepidochelys kempi* (Garman), Kemp's Loggerhead or Atlantic Ridley; *Chelonia mydas* (Linn.), Green Turtle; *Dermochelys coriacea* (Linn.), Leathery Turtle.

- 6-9. Terrapins.

The following terrapins have been introduced at several places during the last 70 years: *Emys orbicularis* (Linn.), European Pond-terrapin; *Chrysemys picta* (Schneider), Painted Terrapin; *Chelydra serpentina* (Linn.), Snapper. *Emys orbicularis* is still to be found in the Isle of Wight and Surrey.

10. *Anguis fragilis* Linn. Slow-worm. Map 9.

The Slow-worm is widely distributed in England, Wales, Scotland and the Channel Isles. It likes dry country, but otherwise is not particular as to its habitat.

The Blue-spotted Slow-worm (var. *colchica*) appears to have a greater range than was previously thought. The most northerly record is from South Aberdeenshire.

11. *Lacerta vivipara* Jacquin. Common or Viviparous Lizard. Map 10.

The Viviparous Lizard is widely distributed and there are few areas in England, Wales, Scotland and Ireland from which it has not been recorded. It is to be found in all types of country from mountainous districts to coastal sand dunes.

12. *Lacerta agilis* Linn. Sand Lizard. Map 11.

The Sand Lizard used to inhabit the coastal sand dunes from Devon to Sussex, and also those of East Anglia, Lincolnshire, Northumberland, Lancashire, Cheshire and North Wales. Owing to urbanisation the areas where it can now be found are greatly reduced. It also occurs in decreasing numbers on the sandy heathlands of Hampshire and Surrey. There is considerable doubt as to whether it exists on the Isle of Man. The record for Cornwall West is for a single specimen in 1949; none has been seen there since. This lizard is a burrower, but also uses the abandoned workings of voles and field mice.

13. *Lacerta muralis* (Laurenti). Wall Lizard.

The Wall Lizard is native to Jersey. Colonies have been successfully introduced into South Devon, the Isle of Wight and Surrey.

14. *Lacerta viridis* (Laurenti). Green Lizard.

The Green Lizard is native to Jersey and Guernsey. Its introduction into Southern England and Wales has not been very successful and it is doubtful if any now exist.

15. *Coronella austriaca* Laurenti. Smooth Snake. Map 12.

The Smooth Snake inhabits heathlands and wooded areas where the soil is sandy. It is said to be fond of water. Its distribution in England is very limited and it is now confined to Dorset, Hampshire, Surrey and the Isle of Wight.

16. *Natrix natrix* (Linn.). Grass or Ringed Snake. Map 13.

This snake is widely distributed over England and Wales. Its northern limit now appears to be Westmoreland and South Northumberland. It is very doubtful whether specimens in a wild state are to be found in Scotland. Records from Scotland have either been labelled by observers as 'escapes' or have turned out to be based on wrong identification.

The Grass Snake lives principally in open woodlands, hedgerows and marsh land. It prefers districts near water, but is also found on heaths and chalk downs. Eggs are usually deposited in places where warmth is generated, such as manure and compost heaps, and hay-ricks.

17. *Vipera berus* (Linn.). Adder or Viper. Map 14.

The adder is widely distributed over England, Wales and Scotland. In recent years, however, it has become rare in Central England owing to urbanisation and land clearance. Except in a few areas, where it is rare, the Adder is now absent over a wide belt running north from Hertfordshire to North Lancashire.

It is found in both marshy and dry localities. Open moorlands, heaths, woodlands and hillsides that catch the sun are often chosen. Its distribution is often very local, but in those places where it occurs it is frequently abundant.

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PERSONAL COMMUNICATIONS

I am indebted to the following for the receipt of personal communications:—
Ackworth School Nat. Hist. Soc., Adams, B. A., Adams, S. N., Adler, K. K., Allen, D. E., Ambleside Field Soc., Annand, J. K., Annfield Plain & Stanley Nat. Club, Armagh Field Nats. Soc., Baal, H. J., Bacup Nat. Hist. Soc., Baker, J. P., Ballard, J. O., Bardsey Bird & Field Observatory, Barnsley Nat. & Sci. Soc., Battersby, J. C., Beebee, T., Bishops Stortford Coll. Nat. Hist. Soc., Blackwell, K., Bloxham, N., Botanical Soc. of the Brit. Isles, Boyce, F., Boyce, G., Brewis, A., Bristol Nats. Soc., Brit Nat. Assoc. (Northumberland & Durham Branch), Brit. Nat. Assoc. (Torridge & Dist. Branch), Brown, E. R., Bryanston School Nat. Hist. Soc., Bull, P., Burden, G. S., Burke, N., Burton-on-Trent Nat. Hist. & Arch. Soc., Bustard, H. R., Buteshire Nat. Hist. Soc., Butler, R. H., Buxton, E. M., Callan, H. G., Canford School Nat. Hist. Soc., Carlisle Nat. Hist. Soc., Carter, H., Carter, M., Christian, G., Clarke, A. S., Cleveland Nats. Field Club, Clifford, P. J., Cohen, E., Cooper, J. E., Corby Young Nats. Club, Coventry & Dist. Nat. Hist. & Sci. Soc., Cowcill, L. A., Crosshills Nats. Soc., Dale Fort Field Centre, Davis, T. A. W., Denham, D., Dennis, R. A., Derby Nat. Hist. Soc., Donaldson, L. L., Dumfriesshire & Galloway Nat. Hist. & Antiq. Soc., Eastwood, D. T., Eden Field Club, Edinburgh Nat. Hist. Soc., Essex Field Club, Faris, R. C., Fitter, R. S. R., Fletcher, F., Flower, W. U., Floyd, C. M., Frazer, J. F. D., Freeman, D., Freshwater Fisheries Laboratory (Pitlochry), Frost, R., Giffard, W. H., Gilbert, J. L., Green, M., Green, V. A., Gush, G. H., Hadden, N. G., Hancock Museum (Newcastle-upon-Tyne), Harper, G. H., Harrogate & Dist. Nat. Soc., Haslemere Nat. Hist. Soc., Hayward, A. F., Hayward, R. F., Hazelwood, E., Heath, A. W., Hewitt, D. R., Hogan, B., Hook, O., Hopkins, P. W., Hull Sci. & Field Nats. Club, Hunter, W. R., Hurrell, H. G., Isle of Man Nat. Hist. & Antiq. Soc., Jackson, J. S., Jones, I., Kaulback, R., Kendal Nat. Hist. Soc., Kilmarnock Glenfield Ramblers, Kimbolton School Nat. Hist. Soc., King Edward VI Grammar School, Birmingham Nat. Hist. Soc., Lambert, D. G., Lambert, M. R. K., Larking, L. M., Latuskie, J. F.,

Lawson, R., Lees, E., Leicester City Museum, Lennox, W. T., Lester, J., Lincolnshire Nat. Trust, Lincolnshire Nat. Union, Lingard, J., Long, A. G., Loughborough Nats. Club, Lucas, B., Macdonald, W., McGregor, J., Mackie, D. W., Mance, J. H. F., Marling School, Stroud, Nat. Hist. Soc., Mercer, I., Merlewood Research Station, Merseyside Nats. Assoc., Michelmores, A. P. G., Middle Thames Nat. Hist. Soc., Milne-Redhead, H., Montgomeryshire Field Club, Morison, G. D., National Museum of Wales, Nature Conservancy (Coed Gorswyn), Nature Conservancy (Cors Tregaron), Nature Conservancy (Scotland), Newell, J. P., Noble, P. D., Norfolk & Norwich Nats. Soc., Northern Nats. Union, North Gloucestershire Nats. Soc., North Staffordshire Field Club, Norwich Castle Museum, Overand, E. D., Panting, P., Parsons, A. G., Payne, R. M., Perry, M. M., Perth City Museum, Preston Montford Field Centre, Pritchard, P. C. H., Queen's University, Belfast, Rankin, W. T. C., Read, P. M., Redshaw, E. J., Riches, R. J., Richter, R., Romer, J. D., Ruffle, W. G., Ruislip Local Nature Reserve, Sage, B., Salisbury & Dist. Field Club, Saunders, D. R., Savage, R. M., Sell, P. D., Shorrocks, H., Simms, C., Simpson, F. W., Skinner, R. V., Slapton Ley Field Centre, Smith, A. J., Smith, K. P., Smith, M. E., Societ  Guernesaise, Spittle, R. J., Stelfox, G. W., Stephen, A. C., Steward, J. W., Stove, W. K., Stranmillis Museum, Belfast, Stranmillis Training College, Belfast, Suffolk Nats. Soc., Swansea University College of, Taylor, E. W., Terry, K., Torquay Nat. Hist. Soc., Turk, F. A., Turner, M. G., Tynan, A. M., Venables, L. S. V., Viney, C. A., Wakefield Nat. Hist. Soc., Wallace, T. J., Walters, G. J., Walton, K. C., Warwick Nat. Hist. Soc., Warwick, T., Waterston, A. R., Watson, D., Watson, G. G., Wilmslow Guild, Wiltshire Arch. & Nat. Hist. Soc., Woollacott, C. A., Worcestershire Nats. Club, Wright, W. J., Wye College Nat. Hist. Soc., Yalden, D. W., Yunge-Bateman, E. G.

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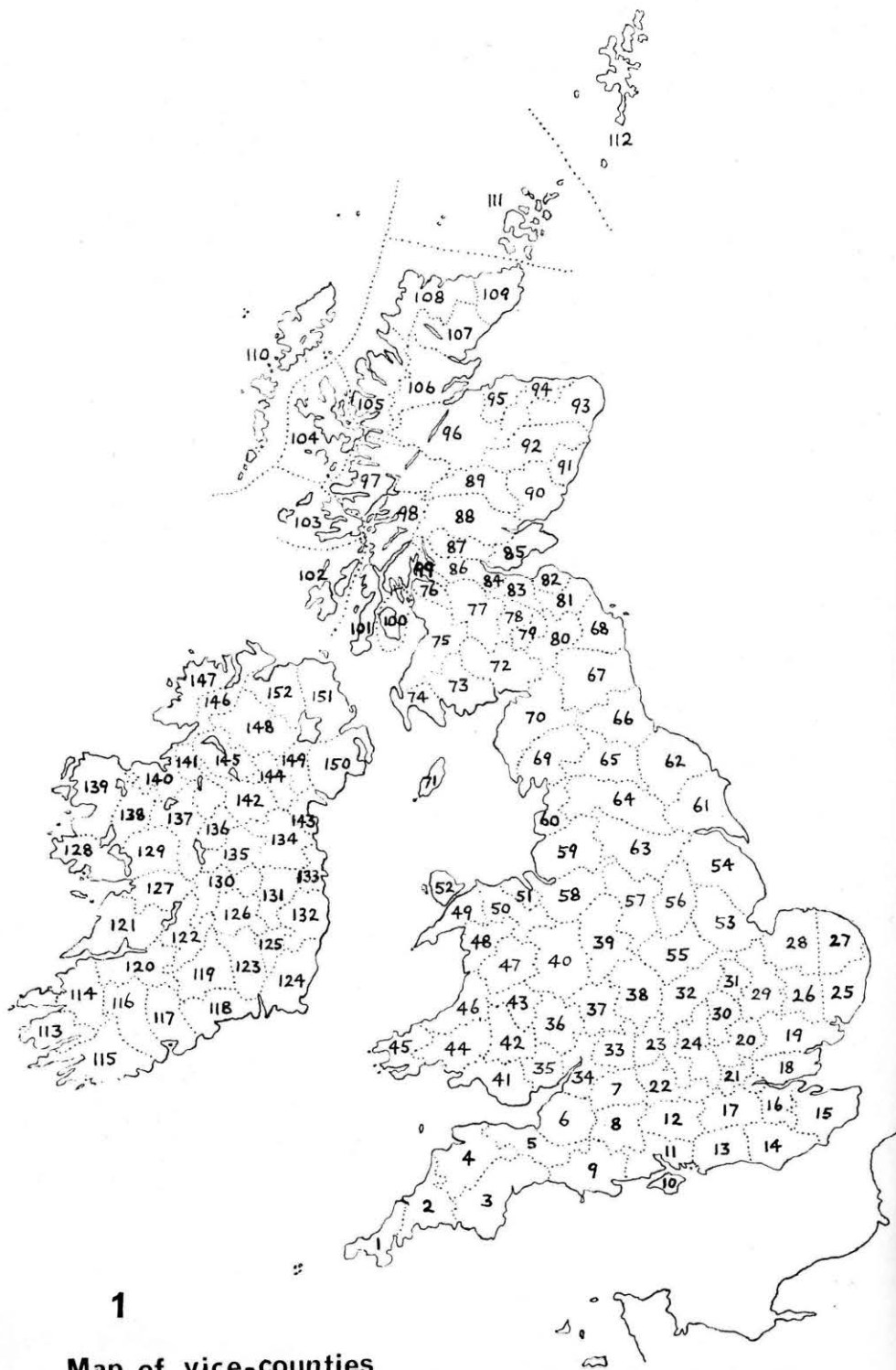
LIST OF VICE-COUNTIES

ENGLAND AND WALES	<i>Anglia</i>	49 Caernarvon
<i>Peninsula</i>	25 East Suffolk	50 Denbigh and parts of Flint and Caernarvon
1 West Cornwall with Scilly	26 West Suffolk	51 Flint
2 East Cornwall	27 East Norfolk	52 Anglesey
3 South Devon	28 West Norfolk	<i>Trent</i>
4 North Devon with Lundy	29 Cambridge	53 South Lincoln
5 South Somerset	30 Bedford and detached part of Hunts	54 North Lincoln
6 North Somerset	31 Hunts	55 Leicester with Rutland
<i>Channel</i>	32 Northampton	56 Nottingham
7 North Wilts	<i>Severn</i>	57 Derby
8 South Wilts	33 East Gloucester	<i>Mersey</i>
9 Dorset	34 West Gloucester	58 Cheshire
10 Isle of Wight	35 Monmouth	59 South Lancashire
11 Hants, South	36 Hereford	60 Mid Lancashire
12 Hants, North	37 Worcester	<i>Humber</i>
13 West Sussex	38 Warwick	61 South-east York
14 East Sussex	39 Stafford and Dudley	62 North-East York
<i>Thames</i>	40 Shropshire	63 South-west York
15 East Kent	<i>South Wales</i>	64 Mid-west York
16 West Kent	41 Glamorgan	65 North-west York
17 Surrey	42 Brecon	<i>Tyne</i>
18 South Essex	43 Radnor	66 Durham
19 North Essex	44 Carmarthen	67 Northumberland, South
20 Herts	45 Pembroke	68 Cheviotland, or Northumberland, North
21 Middlesex	46 Cardigan	
22 Berks	<i>North Wales</i>	
23 Oxford	47 Montgomery	
24 Bucks	48 Merioneth	

<i>Lakes</i>	95 Moray or Elgin	118 Waterford
69 Westmoreland with North Lancashire	96 Easternness (East Inverness with Nairn)	119 South Tipperary
70 Cumberland		120 Limerick
71 Isle of Man	<i>W. Highlands</i>	121 Clare with Aran Isles
SCOTLAND	97 Westernness (West Inverness with North Argyll)	122 North Tipperary
<i>W. Lowlands</i>	98 Argyll (Main)	123 Kilkenny
72 Dumfries	99 Dunbarton	124 Wexford
73 Kirkcudbright	100 Clyde Isles	125 Carlow
74 Wigtown	101 Kintyre	126 Leix
75 Ayr	102 South Ebudes (Islay etc.) and Scarba	127 South-east Galway
76 Renfrew	103 Mid Ebudes (Mull etc.)	128 West Galway
77 Lanark	104 North Ebudes (Skye etc.)	129 North-east Galway
<i>E. Lowlands</i>	<i>N. Highlands</i>	130 Offaly
78 Peebles	105 West Ross	131 Kildare
79 Selkirk	106 East Ross	132 Wicklow
80 Roxburgh	107 East Sutherland	133 Dublin
81 Berwick	108 West Sutherland	134 Meath
82 East Lothian	109 Caithness	135 Westmeath
83 Midlothian	<i>North Isles</i>	136 Longford
84 West Lothian	110 Outer Hebrides	137 Roscommon
85 Fife with Kinross	111 Orkney	138 East Mayo
86 Stirling	112 Shetland	139 West Mayo
87 South Perth with Clackmannan and parts of Stirling	IRELAND	140 Sligo
88 Mid Perth	113 South Kerry	141 Leitrim
89 North Perth	114 North Kerry	142 Cavan
90 Angus or Forfar	115 West Cork	143 Louth
91 Kincardine	116 Mid Cork	144 Monaghan
92 South Aberdeen	117 East Cork	145 Fermanagh
93 North Aberdeen		146 East Donegal
94 Banff		147 West Donegal
		148 Tyrone
		149 Armagh
		150 Down
		151 Antrim
		152 Derry

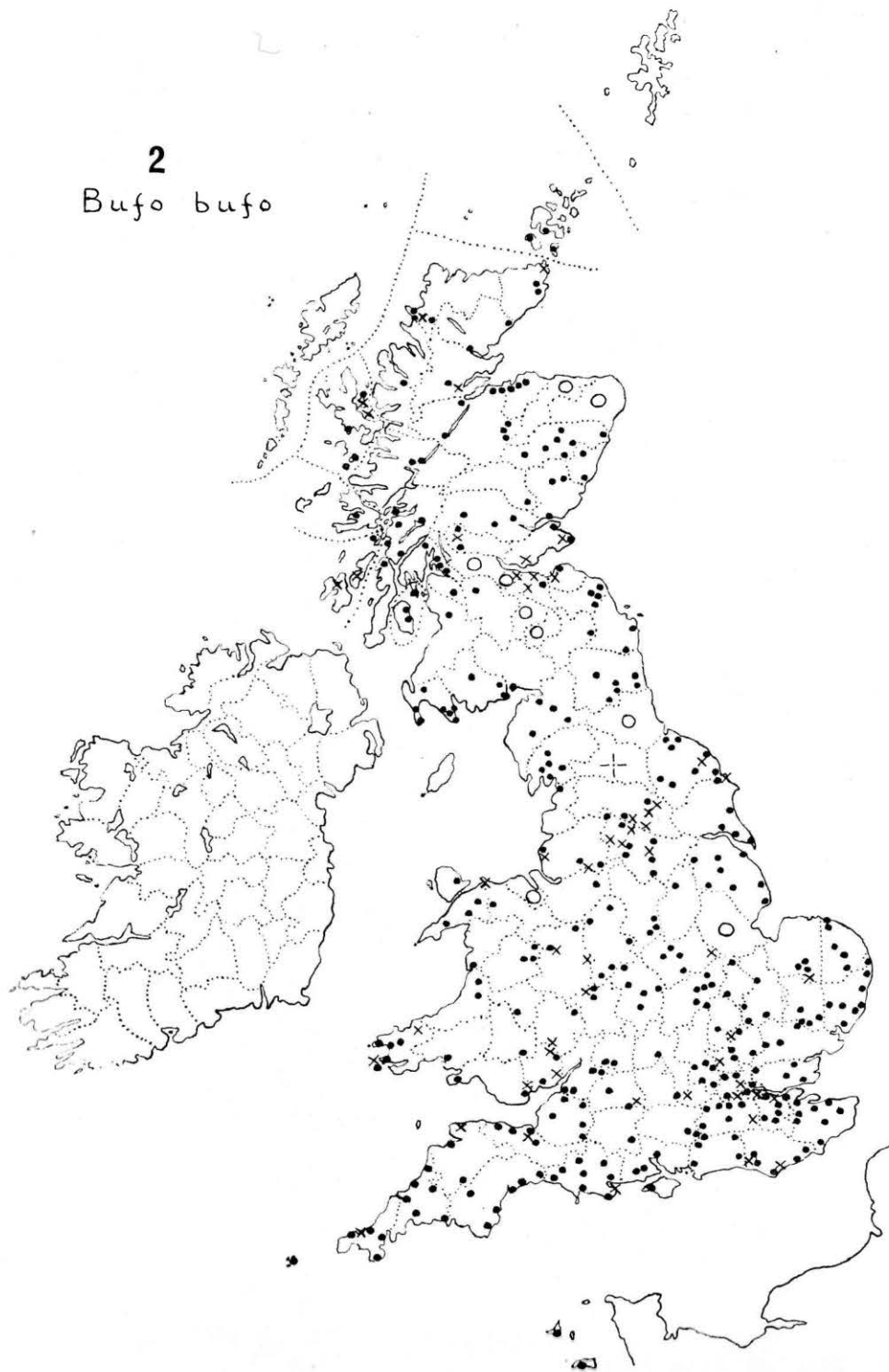
Symbols used on maps

- | Stated to be present in records prior to 1948. No locality given.
- × A definite locality where species was found prior to 1948.
- Stated to be present in records since 1947. No locality given.
- A definite locality where the species has been found since 1947.
- ? Doubtful record.



1
Map of vice-counties

2
Bufo bufo



3

Bufo calamita



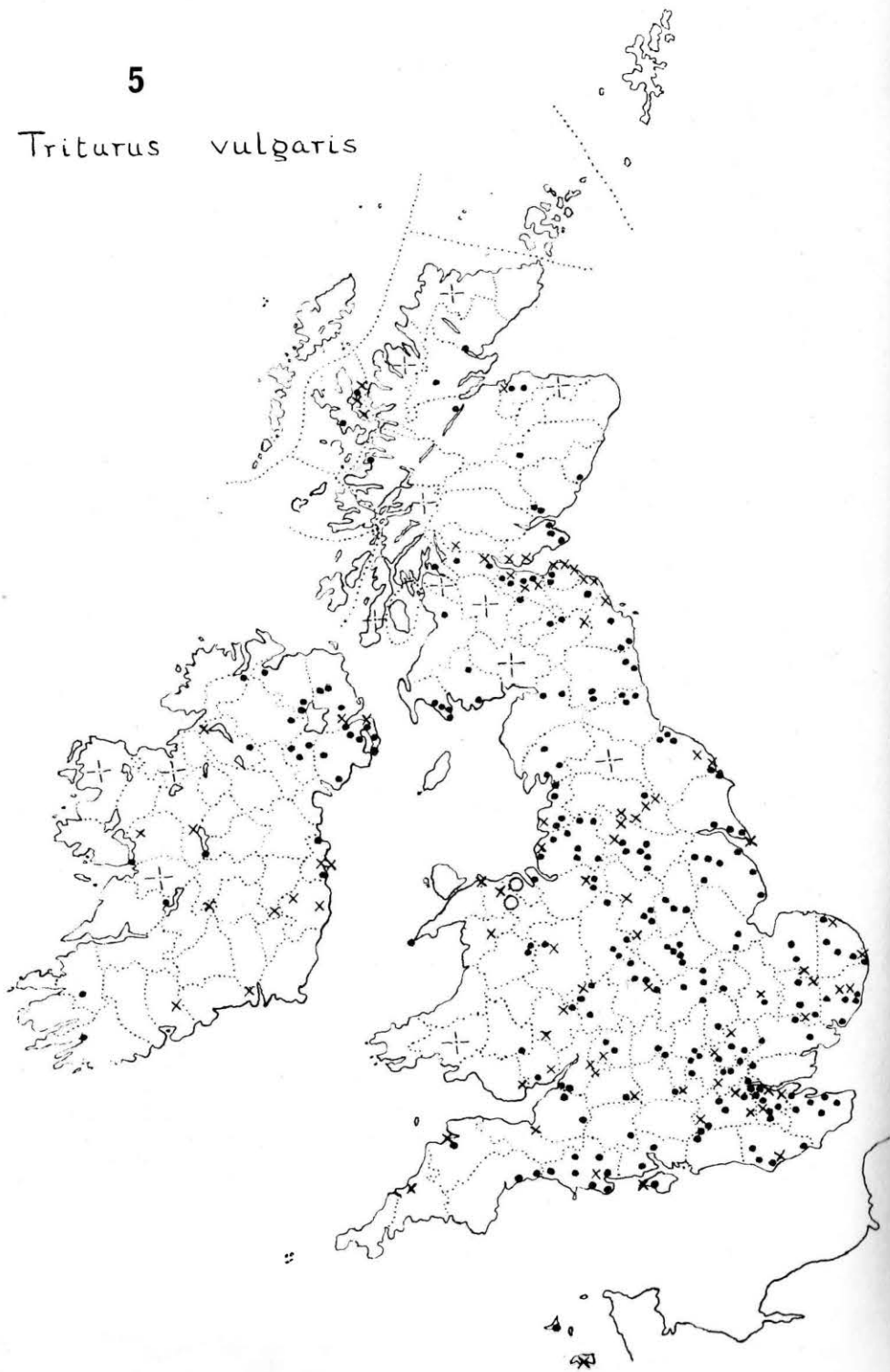
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Rana temporaria



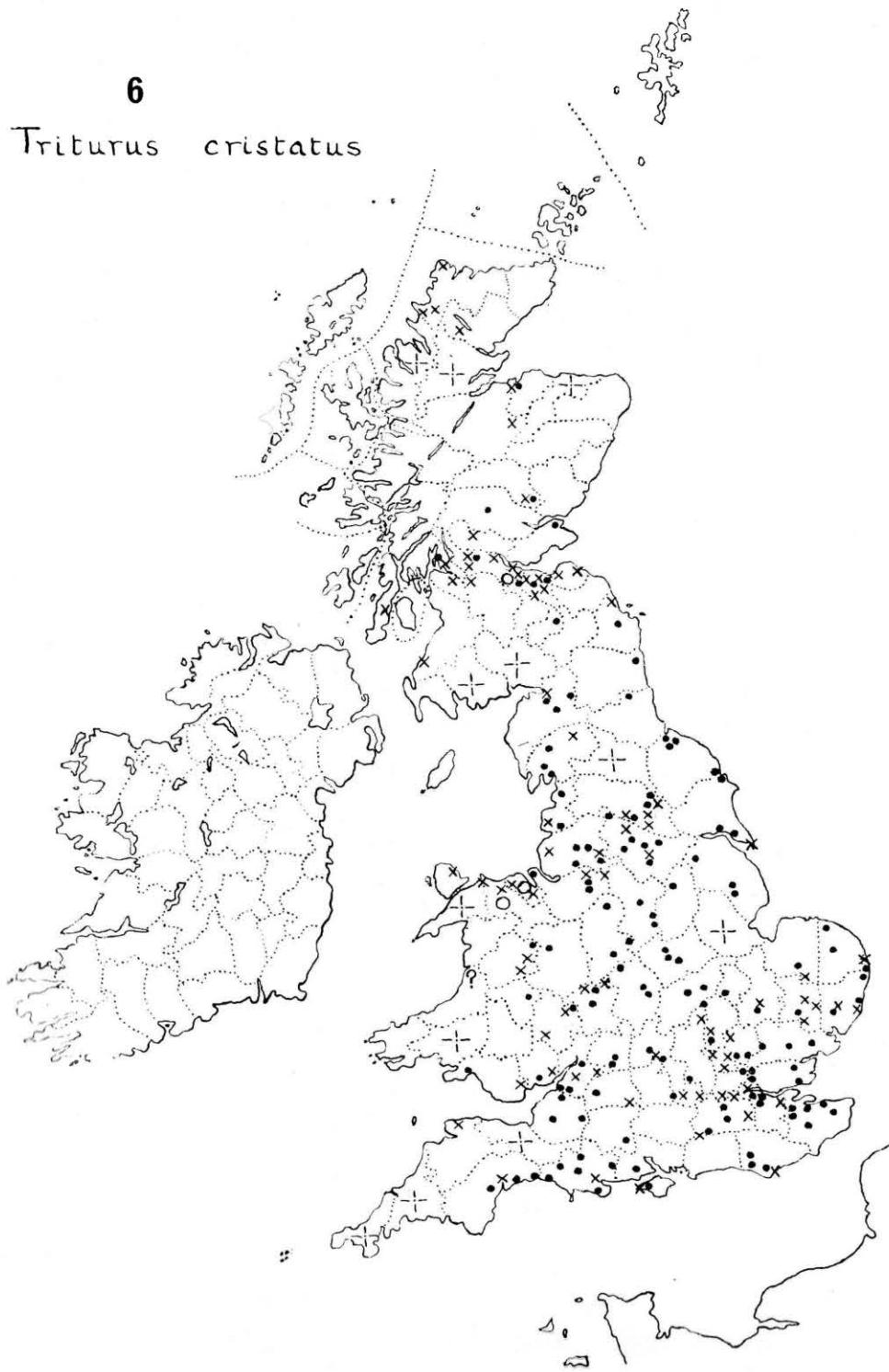
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Triturus vulgaris



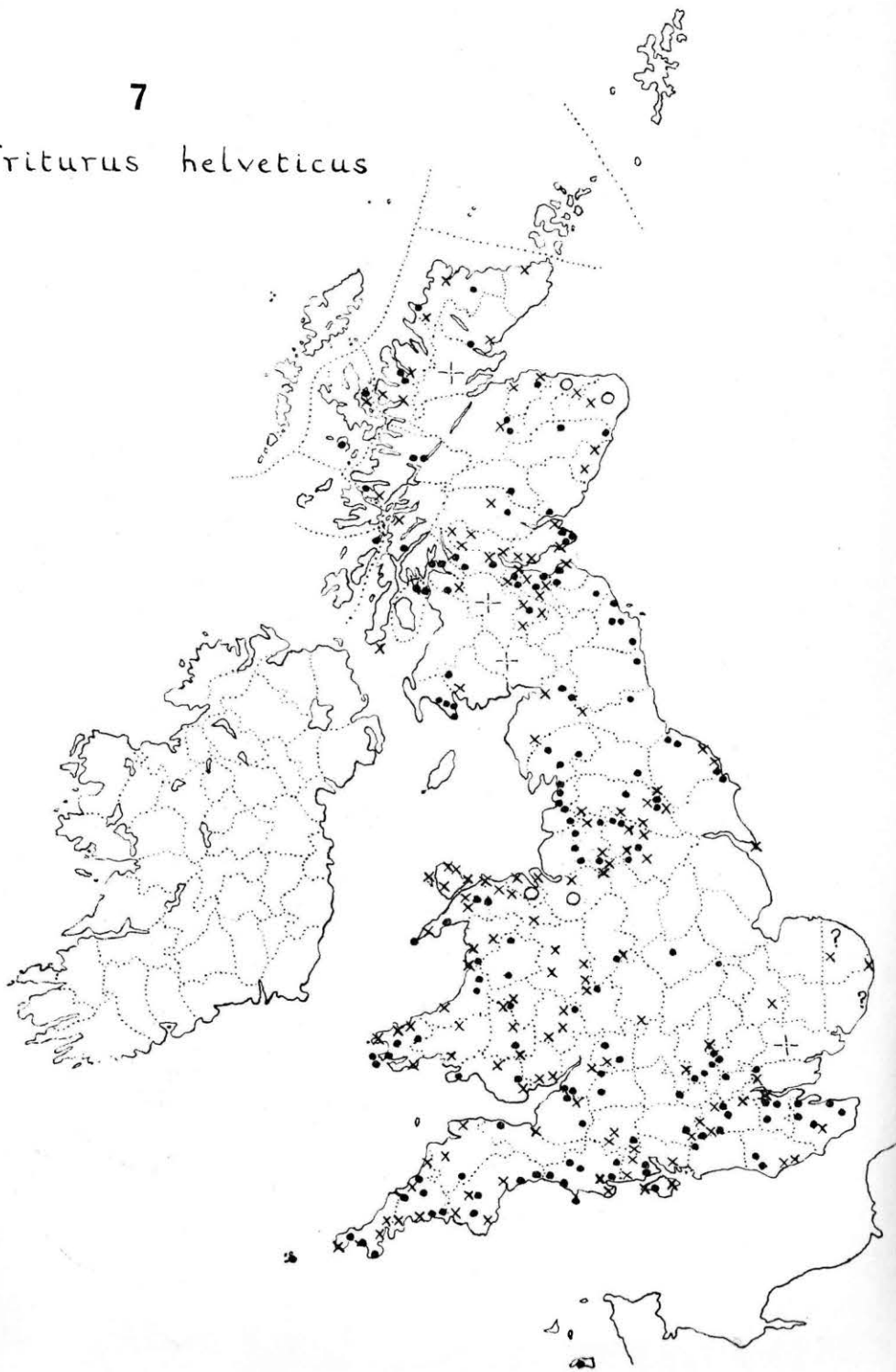
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Triturus cristatus



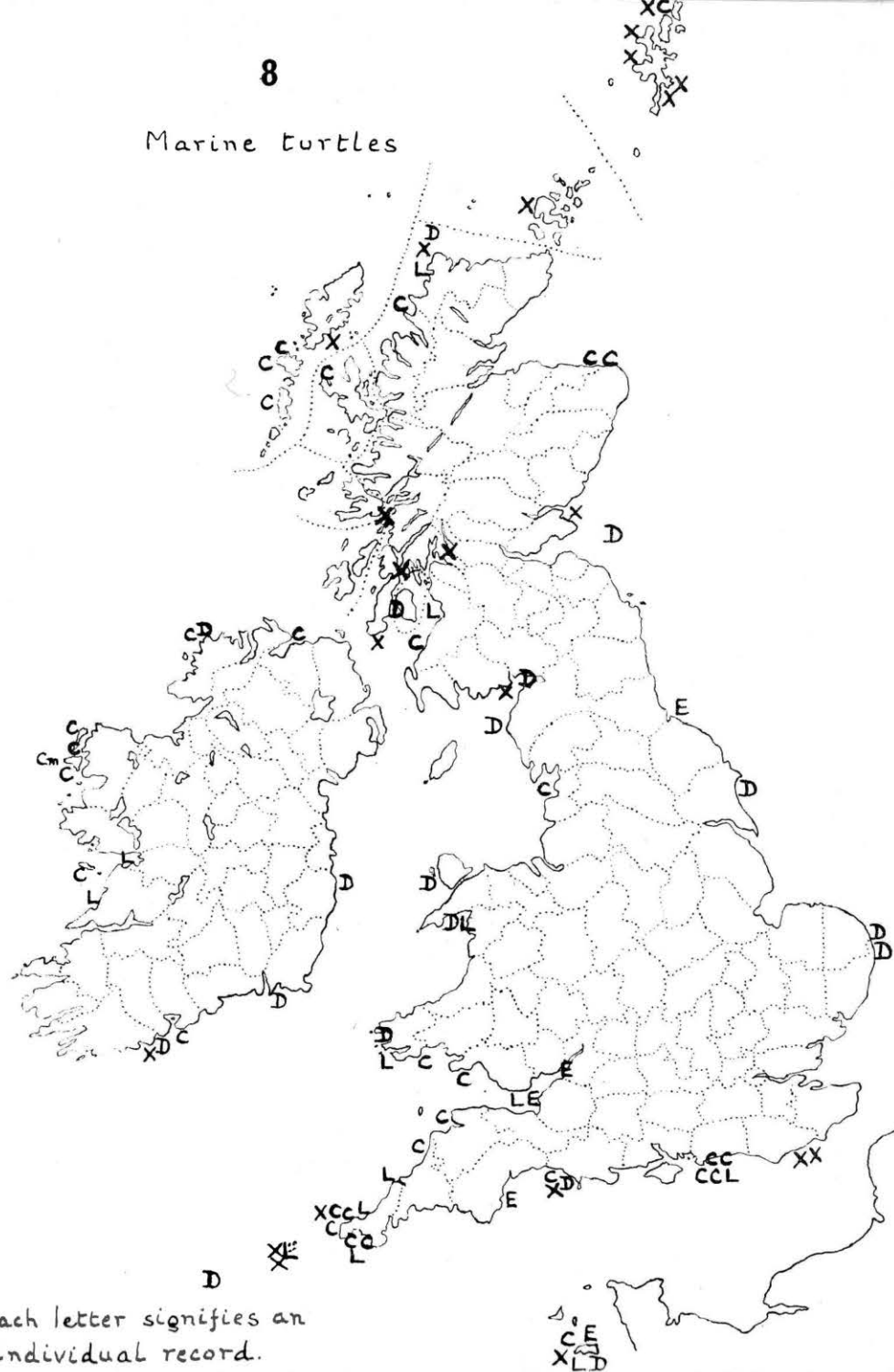
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Triturus helveticus



8

Marine turtles



Each letter signifies an individual record.

E *Eretmochelys imbricata*.

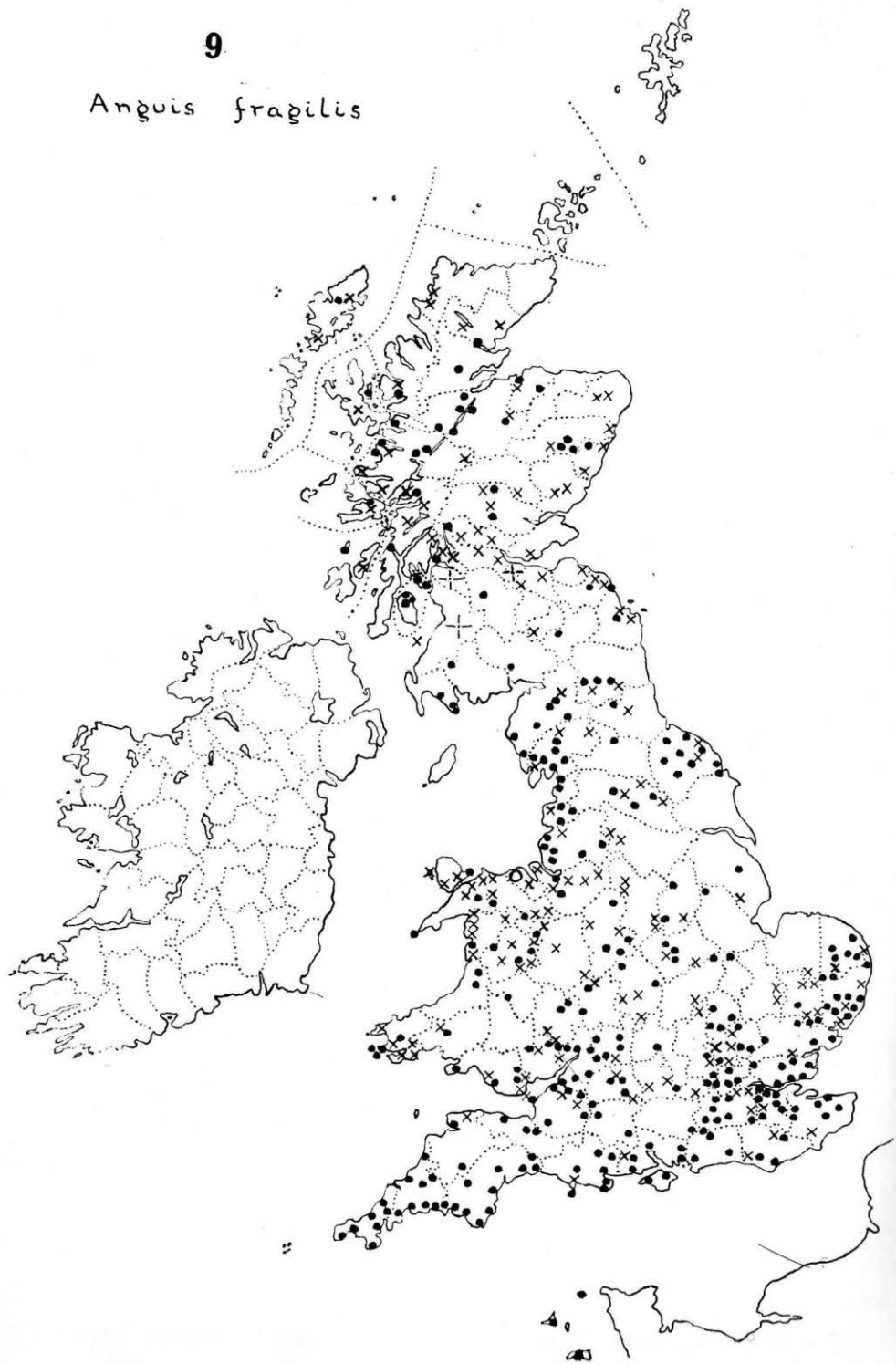
C *Caretta caretta*.

D *Dermochelys coriacea*.

Cm *Chelonia mydas*.

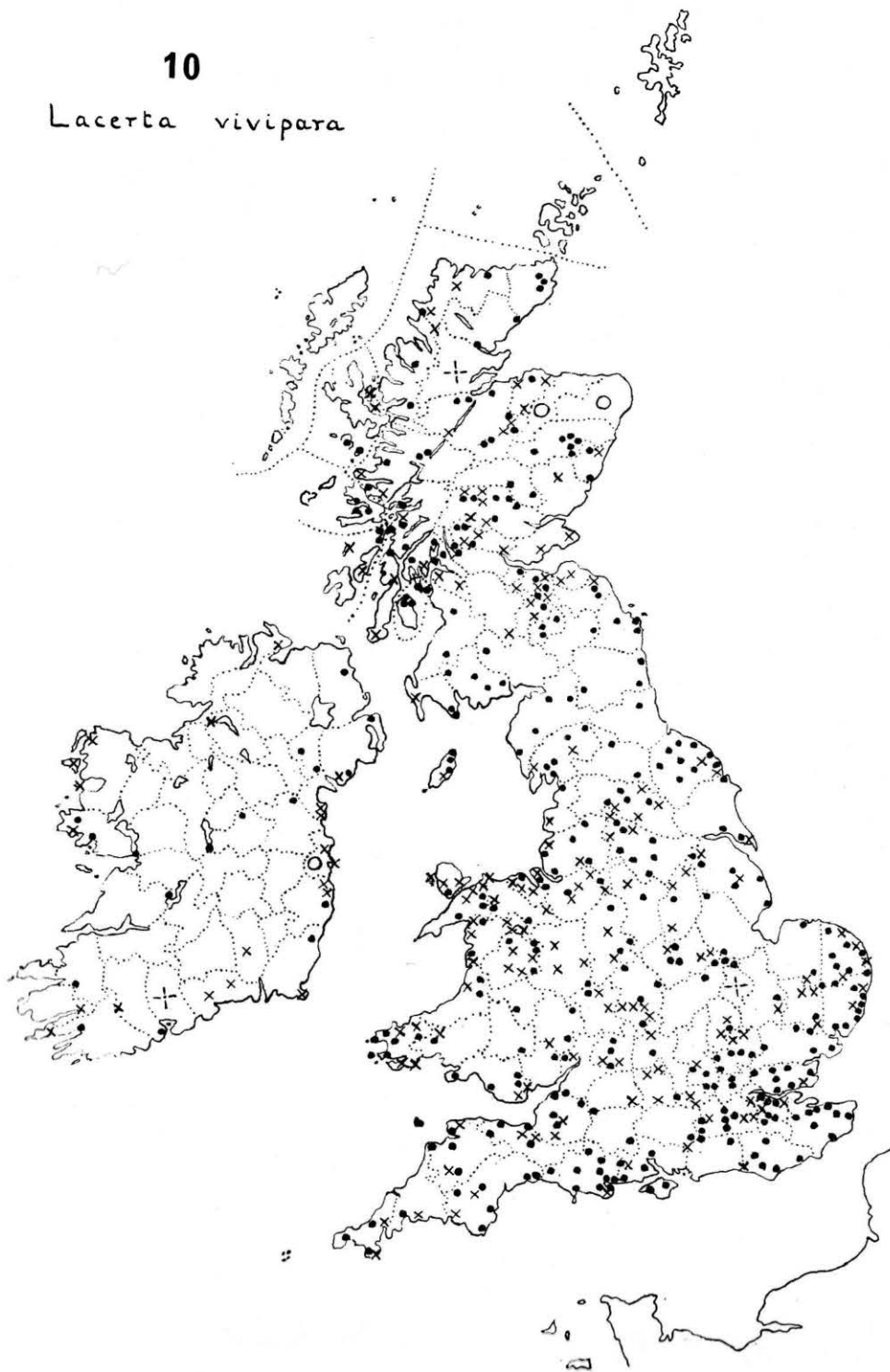
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Anguis fragilis



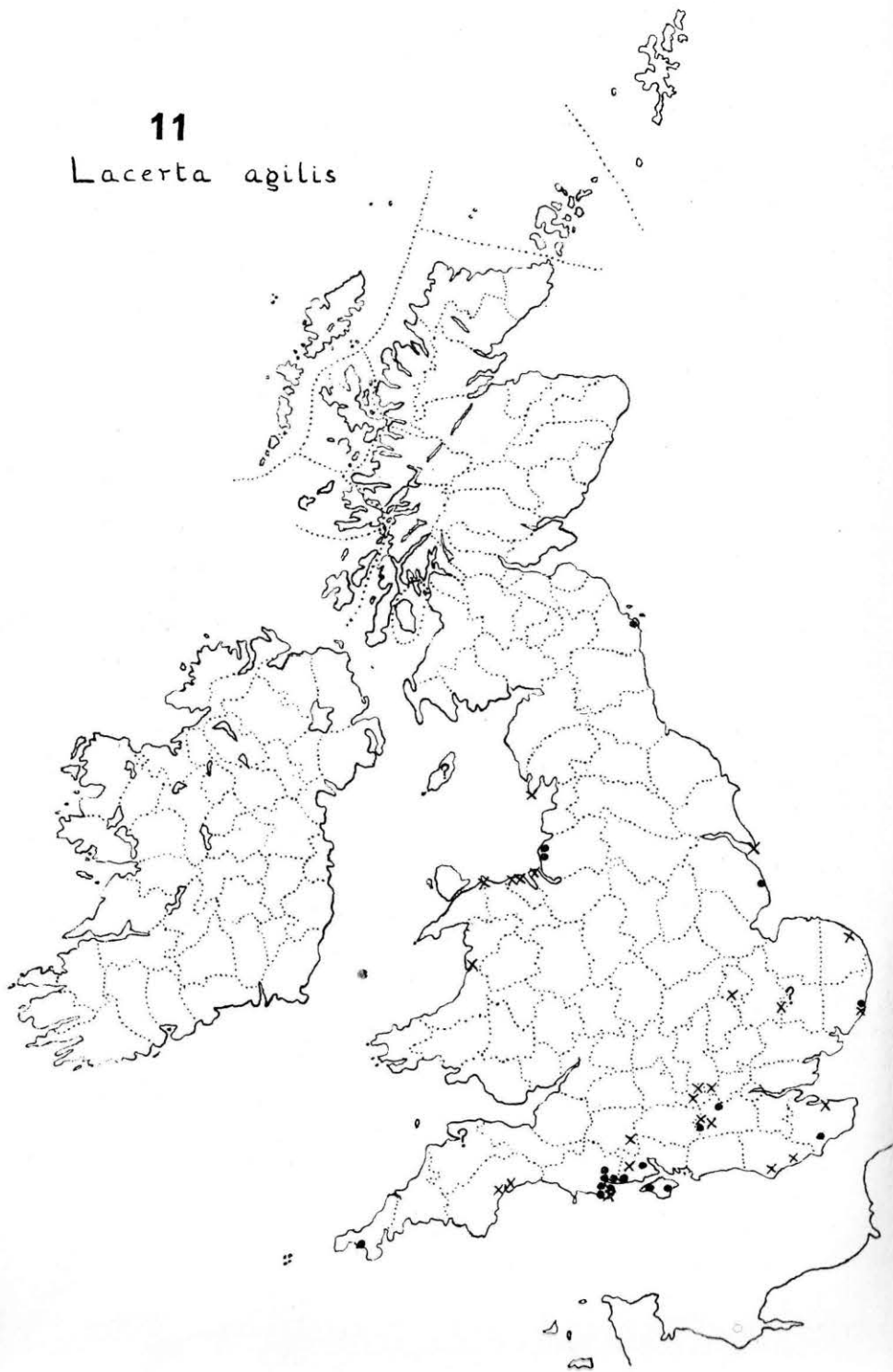
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Lacerta vivipara



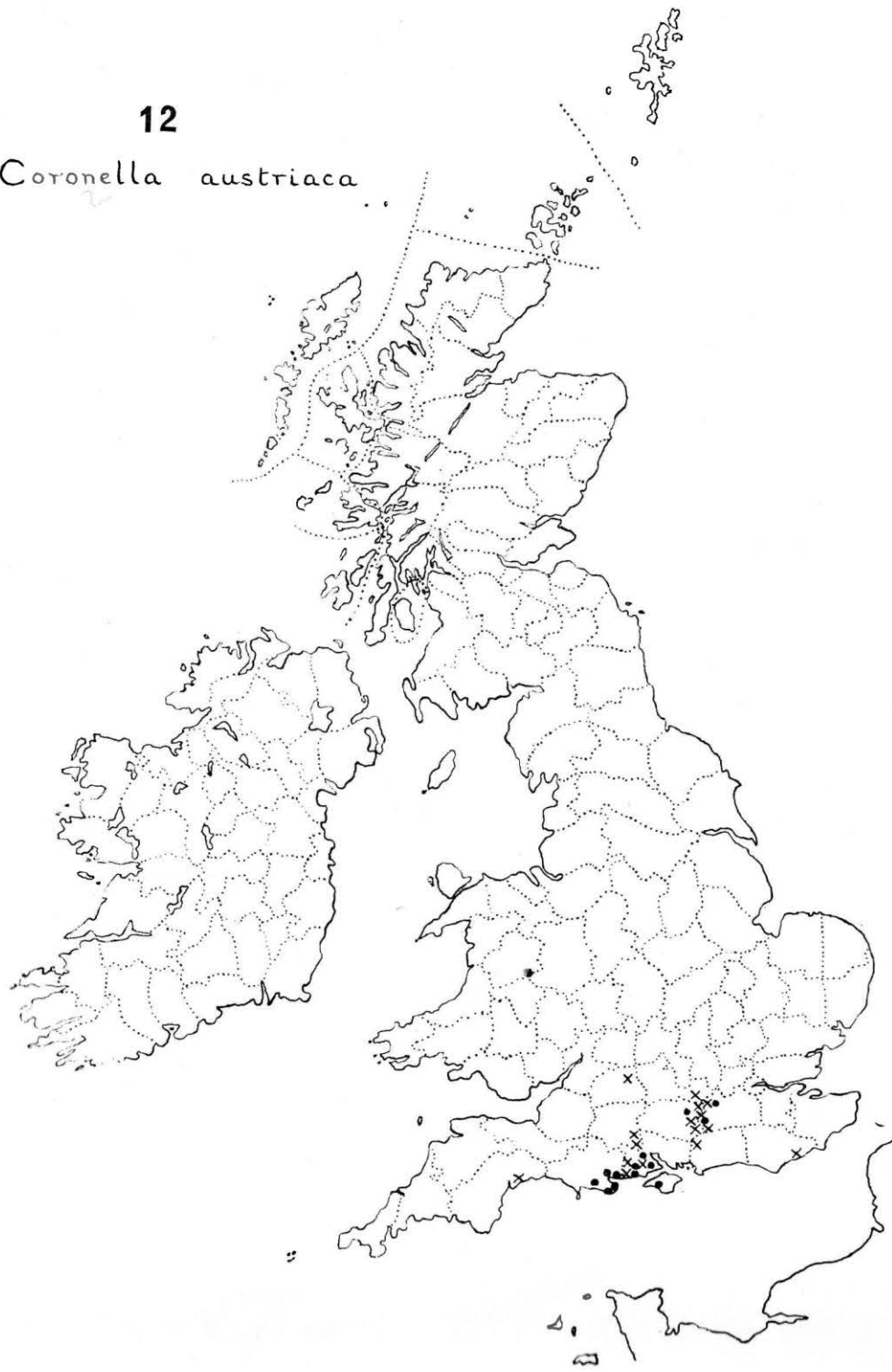
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Lacerta agilis



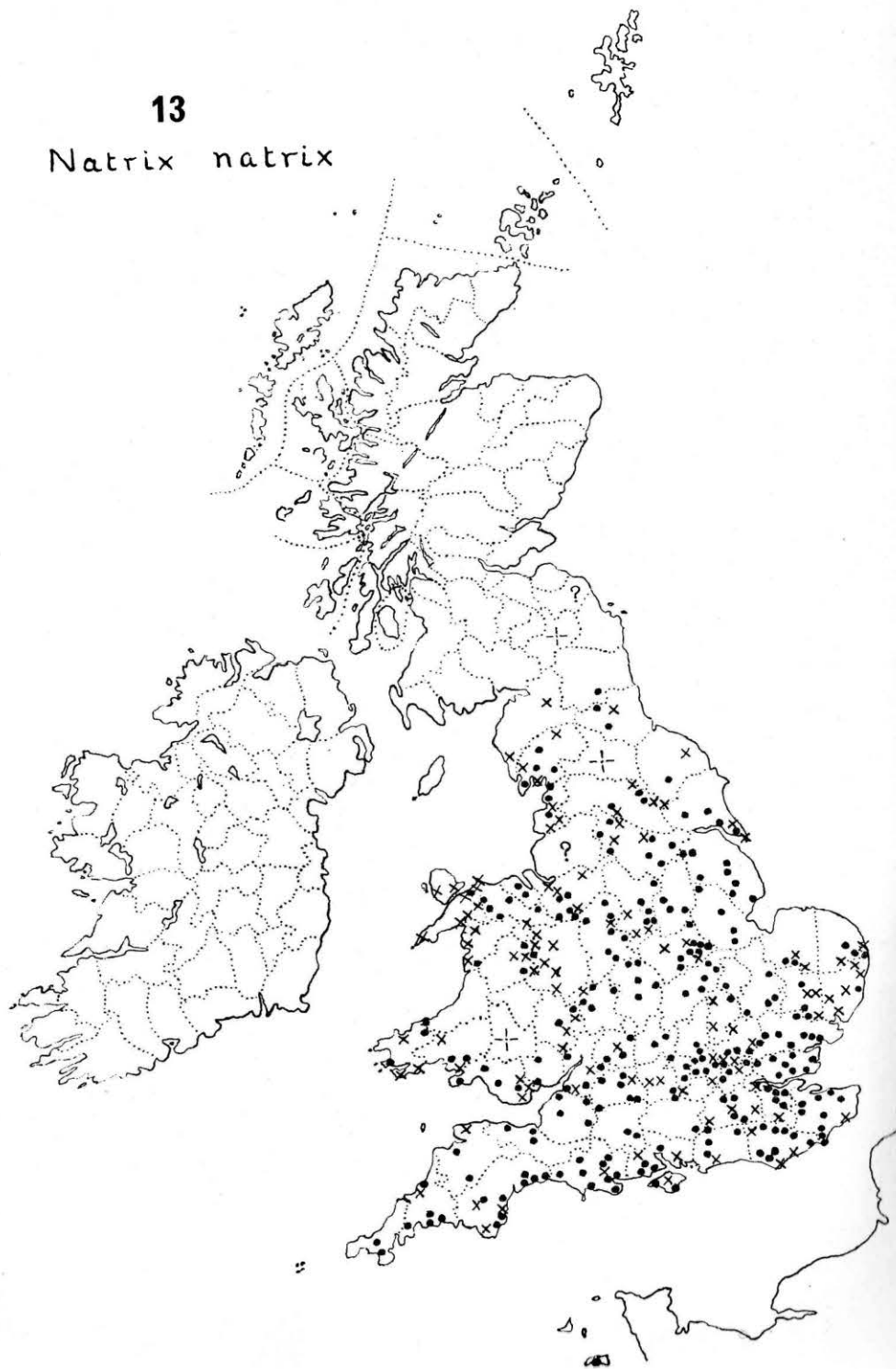
12

Coronella austriaca



13

Natrix natrix



14

Vipera berus

