

**CHALANDEA PINGUIS (BROLEMANN) IN BRITAIN & SOUTHERN EUROPE**

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*Chalandea pinguis* was described (as *Geophilus pinguis*) by Brolemann (1898a) from Ahusquy in the canton of Tardets, Basses Pyrénées (Pyrénées Atlantique) from whence he said it was "rare". In a subsequent paper in the same year (Brolemann, 1898b) he gives the locations there as a couple from the bois d'Ithé, another from Naboleguy and a young female from Ustarila, all of which sites appear to be woodland. In his later account of the French chilopod fauna (Brolemann, 1930) he reported the species from "Pyrénées; Alpes Maritimes (Peira Cava); Corse". Demange (1981) quoted "Pyrénées, Alpes Maritimes, Corse".

Minelli (1985a) recorded the species from Crissolo (Cuneo) and Bardinetto (Savona) from the region of Liguria, Italy. He noted that Crissolo was the classic locality for *Chalandea cottiana* Verhoeff and concluded that it was likely that there was a single species of *Chalandea* occurring sporadically in the Pyrenees, Alps and Corsica and also in Great Britain ("dove forse non e autoctona"). In another paper (Minelli, 1985b) he refers to *C.cottiana* from a cave in the province of Bergamo, Lombardy and states that this is known as an epigeal species from Alpi Cozi (Cottian Alps) and again refers to the fact that it is likely to be spread over the best part of the Alps, Pyrenees and Corsica. He did not include the species in his Sardinian list (Minelli, 1982). There are, apparently, also two specimens in the Zoological Museum of the University of Zurich-Irchel labelled "Val Serrata - S.Giorgio", probably a locality in Ticino, Switzerland (A.Minelli, pers.comm.). Dr.Minelli (pers. comm.) is convinced that *C.cottiana* and its variety *castensis* are *C.pinguis*.

The first British records were made in 1970 by the British Myriapod Group from three sites in North Devon (Blower, 1972). It was later collected from a fourth site by M.J.Bishop in 1973 and found again in one of its original locations by the present author in 1976. A survey carried out on behalf of the Nature Conservancy Council in 1987 (Barber, unpub.1987) found it at two more sites (extending its known area of occurrence somewhat) but failed to discover the species in the Hartland - Clovelly area to the west or in Somerset to the east. At a field meeting of the British Myriapod Group/ British Isopod Study Group in 1989 a further seven locations were found for the species but, again, it failed to turn up in the Clovelly area. At present it is therefore recorded from 14 sites in 9 10km National Grid

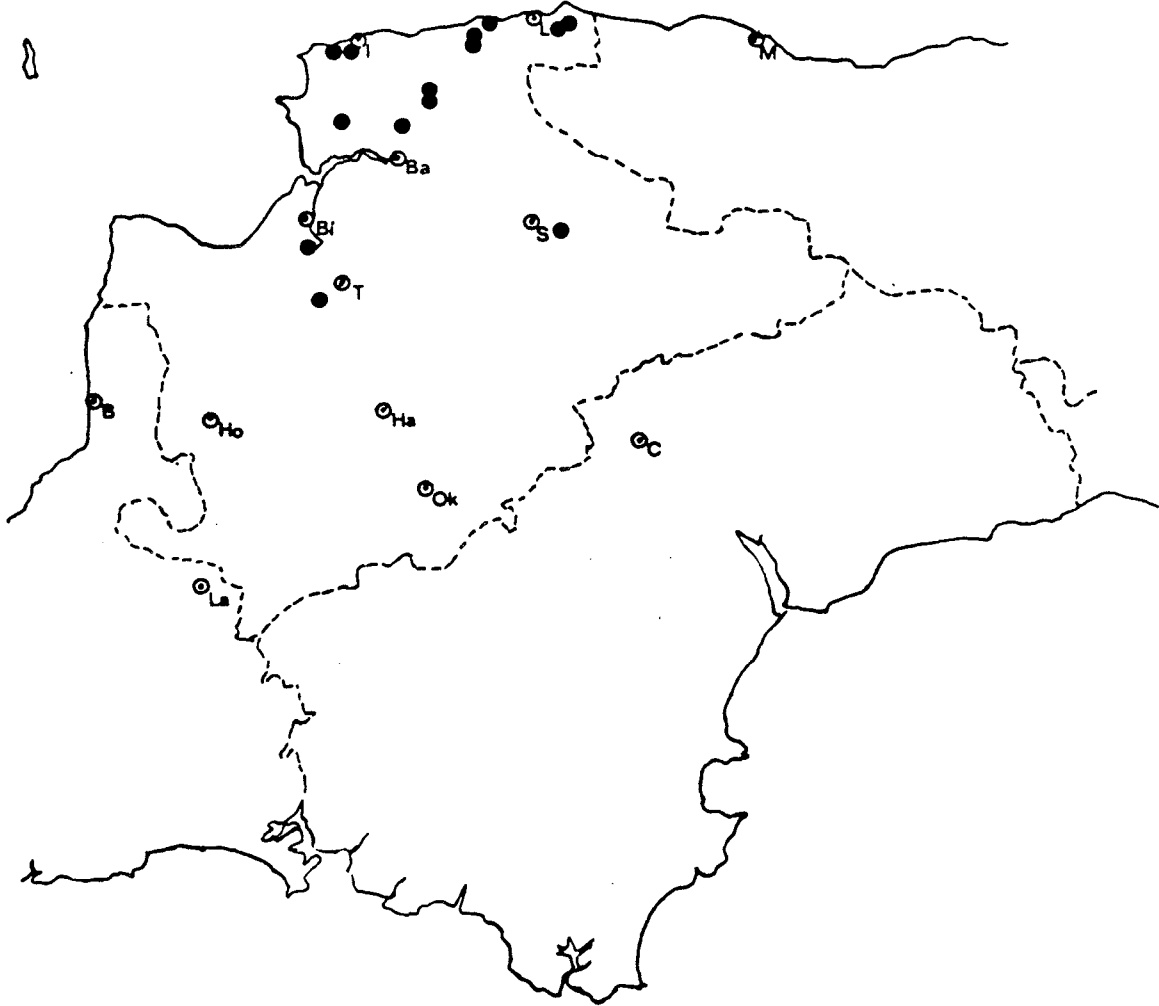


Fig.1 *Chalandea pinguis* Devon locations

Towns marked :

Bude (B), Barnstaple (Ba), Bideford (Bi), Crediton (C), Hatherleigh (Ha),  
Holsworthy (Ho), Ilfracombe (I), Lynton (L), Minehead (M), Okehampton  
(Ok), South Molton (S), Great Torrington (T)

squares. Extensive collecting has been carried out by J.G. Lewis and others in Somerset but it has not been found there. South Devon is an area that has been well collected over the years and from which it also seems to be absent but much of mid Devon remains virtually unknown as far as myriapods are concerned. It may therefore have a slightly larger area of distribution than that at present known but is clearly very local in its occurrence.

## DESCRIPTION

A description based on the literature was given in an earlier issue of this Bulletin (Barber, 1985) and little more need be added. Its most distinctive field characteristic is the extreme shortness of the body "like half a *Haplophilus subterraneus*" as someone said. Indeed Brolemann himself commented on this in his description, "Très reconnaissable à son aspect ramassé, qui ne tient pas, comme on pourrait le croire au premier abord, à la contraction de l'animal" (Brolemann, 1898b).

Trunk segment numbers of British specimens seem to conform to the original descriptions i.e. 35 pairs of legs in males, 37 in females. Brolemann also reported a young female, 8mm long with 47 pairs of legs, presenting the same structure as the adults but more attenuated. He also reports (1930) that rare individuals, all females, with 45-47 pediferous segments are known from Corsica and Alpes Maritimes. No specimens of this form have yet been found in Britain.

When found in leaf litter specimens may show a remarkable similarity to the habit of *Henia vesuviana* in being rolled up into a ball with sternites facing outwards. Possibly it uses its sternal pore secretions in a similar way to that species as, for instance, described by Hopkin (1987).

## ECOLOGY

Brolemann's original descriptions, as indicated above, were from bois d'Ithé (district of Pic des Vautours and the road from Ahusquy to Aussurucq), Naboleguy (forest of Arbailles, etc.) and Ustarila (wooded valley) all in the canton of Ahusquy, commune of Aussurucq, all seemingly wooded areas. Ahusquy is at 966m ASL. He collected a number of other species in the area, *Lithobius pilicornis* (very common), *L. tricuspis*, *L. piceus*, *L. aulacopus*, *L. bostryx*, *L. muticus*, *L. calcaratus*, *L. microps*, *L. crassipes*, *L. duboscqui*, *Cryptops hortensis*, *Geophilus longicornis*, *G. proximus*, *Scolioplanes crassipes*, *S. accuminatus*, *Chaetechelyne vesuviana*, *Stigmatogaster subterraneus*, *S. gracilis*.

In his 1930 account he gives no ecological information and I have not traced the original accounts describing the species from Alpes Maritimes or Corsica although Piera Cava is in an alpine area.

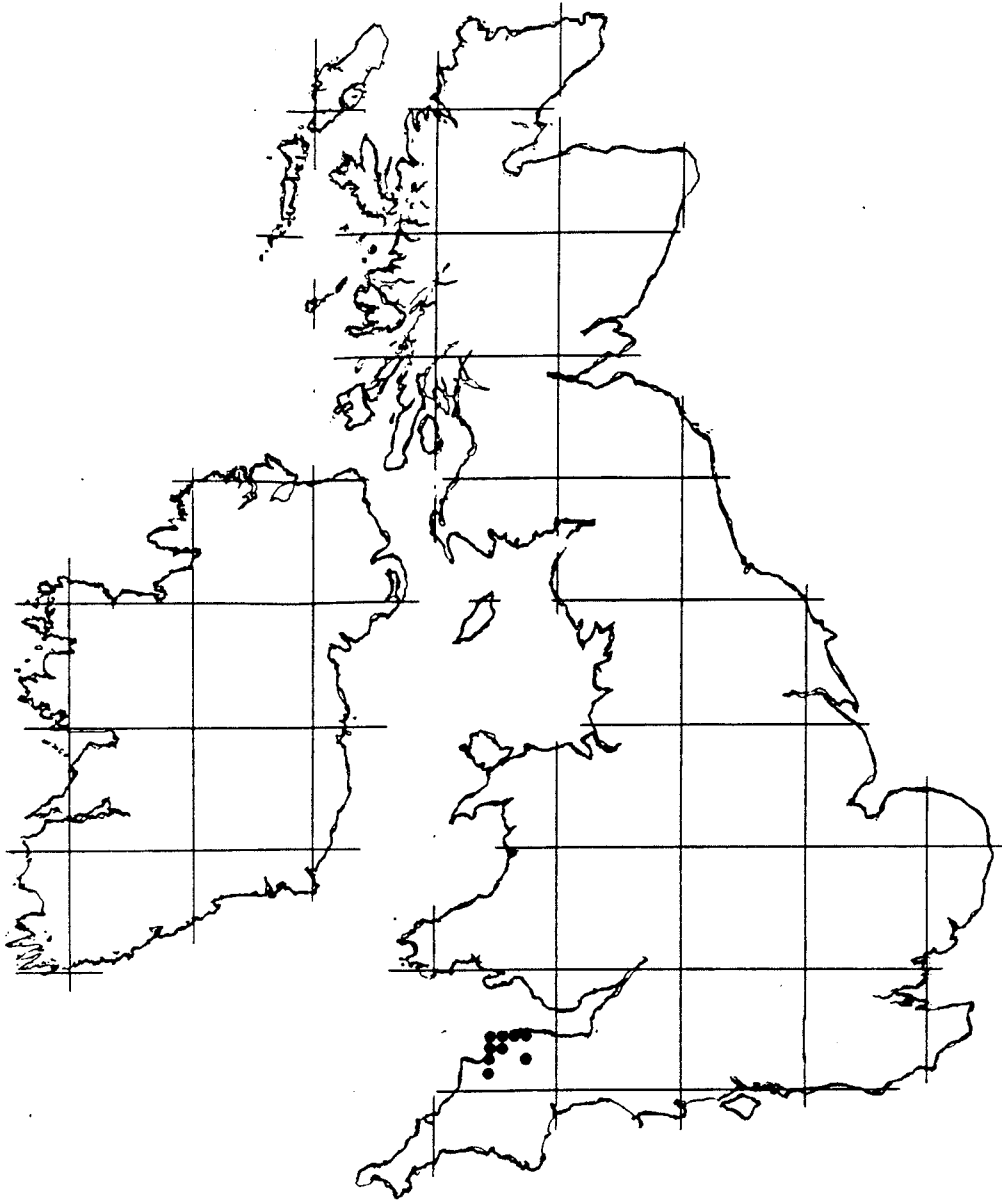


Fig.2. *Chalandea pinguis*, known British 10km NG square distribution

As indicated above, Minelli's (1985b) report of *Chalandea cottiana* is from a cave and he notes that it is known as an epigeal species from the Alpi Cozie from which area Verhoeff had first described it whilst he lists *C.pinguis* from Crissolo at 900m and from Bardinetto (no data) (Minelli, 1985a). It is in their later paper that Minelli & Iovane (1987) that report it as from 820-1500m with only one habitat record available, *Fagus*. Dr. Minelli informs me (pers.comm.) that he is convinced that *C.cottiana* and its variety *castensis* are *C.pinguis*. He also remarks that there is little woodland left in non-montane sites in the areas concerned and that this might account for the fact that there are no lowland records.

British records of *C.pinguis* seem to be all from areas with deciduous trees, either woodland, parkland or waste areas and in most cases records are from leaf litter (although it has been found under bark. At some sites (e.g. Arlington Court) it was quite abundant. All North Devon localities are "lowland" i.e. below 200m ASL, valley or coastal sites. The highest areas of Exmoor are open moorland up to little more than 500m and such woodland as has been planted on upland sites does not seem to contain the species. A total list of British sites is given in Table 1 and a map showing distribution in North Devon is Fig.1.

#### GEOGRAPHICAL DISTRIBUTION

The information available from Brolemann and Minelli would suggest that we are dealing with an alpine species of Southern Europe Alps and Pyrenees). Its occurrence in North Devon, in a lowland area, is therefore puzzling. Clearly it is well established here and is, from a conservation point of view, at little risk of being lost from its British sites. How it got there remains unclear. There are two main possibilities :

1. It is a relict population of a once more widespread distribution comparable with the very local distribution of a number of other species of invertebrates in Britain. Climatic change, competition or habitat destruction might account for this but none of these seems an obvious explanation.
2. It is an introduced species which has spread, either due to human influence (e.g. forestry practice) or of its own accord. The apparent rapid spread of the diplopod *Chordeuma proximum* or the amphipod *Talitroides dorrieni* show that significant changes in distribution can occur in a relatively short time. There are port areas around the Taw/ Torridge estuary (Bideford, Barnstaple, Appledore, etc.) through which chance introductions might occur.

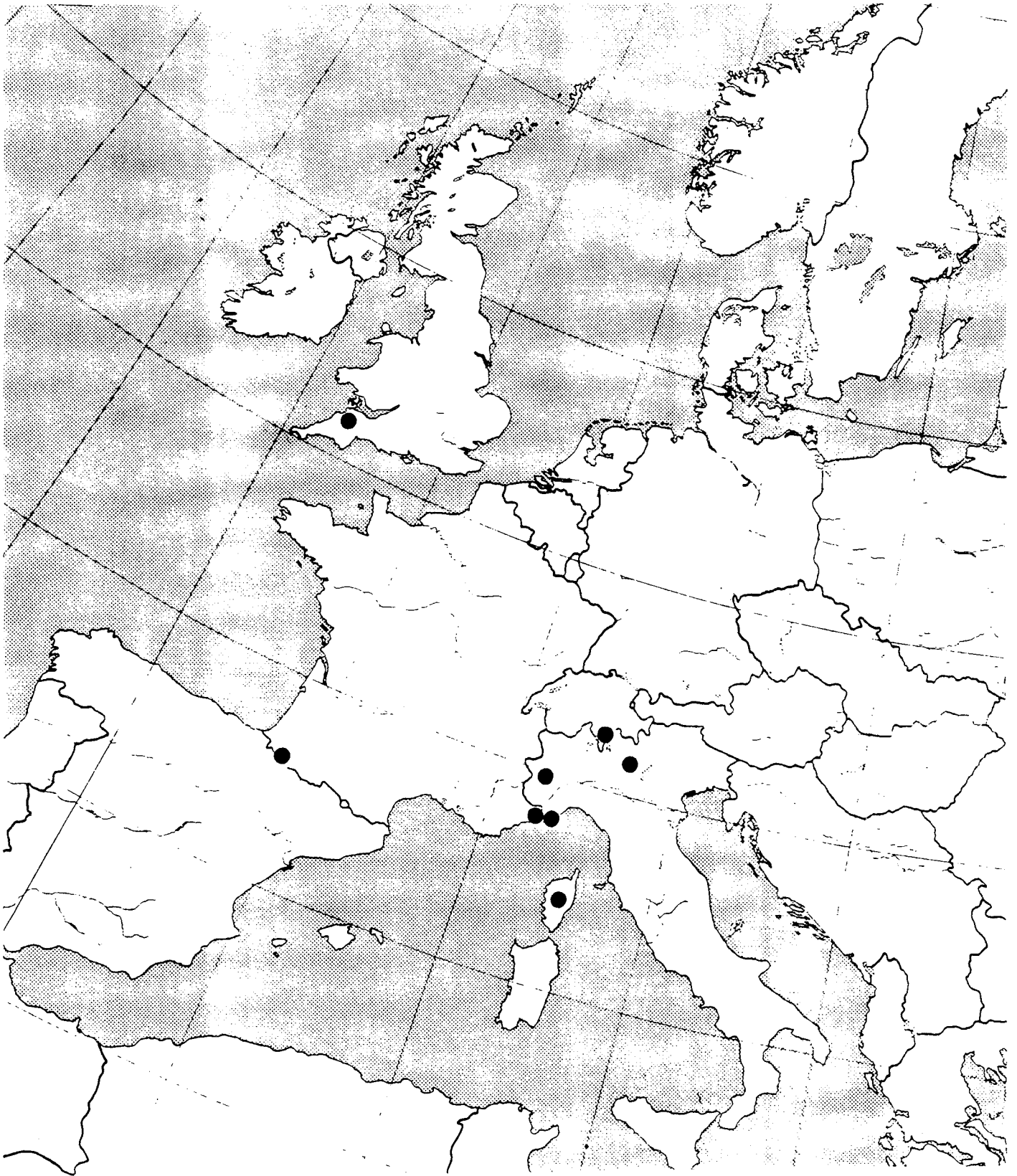


Fig.3. *Chalandea pinguis*, European records  
(In some cases, approximate location only can be given because of  
lack of detailed information.)

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## ACKNOWLEDGEMENTS

My sincere thanks to Professor A.Minelli for his information and comments and to members of the British Myriapod Group who provided me with data regarding specimens collected.

Table 1 British Records of *C.pinguis*

Location	NGR 1km square	Date	Collector
Watergate Bridge	21/4617	31.iii.89	REJ,ADB
Hallsannery FC	21/4524	31.iii.89	REJ,SPH
N of Braunton	21/4937	1.iv.89	ANK
Windcutter Hill	21/4846	18.x.87	ADB
S of Muddiford	21/5636	18.x.87	ADB
Ilfracome outskirts	21/5146	1.iv.89	REJ
near Clifton	21/6040	iv.73	M.J.Bishop
Arlington Court	21/6140	1.iv.89	REJ,ADB
Heddon Valley	21/6547	31.iii.89	IKM
	21/6548	31.iii.89	IKM
Woody Bay	21/6749	iv.70	JGB
	21/6548	iv.76	ADB
Barton Wd,Brendon	21/7547	iv.70	JGB
Mill Wood,Brendon	21/7648	iv.70	JGB
Bish Mill	21/7425	30.iii.89	REJ

ADB = A.D.Barber, ANK = A.N.Keay, IKM = I.K.Morgan,  
 JGB = J.G.Blower/British Myriapod Group,  
 REJ = R.E.Jones, SPH = S.P.Hopkin