species. In comparison, there are only about 2500 species on the British list. This first ever all-Austrian check-list fills one of the largest gaps in our knowledge of the distribution of the European Lepidoptera and therefore is most welcome. It is closely modelled on the familiar Danish list (Schnack *et al.*, 1985) and, following its example, records the presence or absence of each species in each of the ten federal *Länder* of Austria. Over 40 species incorrectly recorded in Austria are expressly eliminated (pp. 11–12) and numerous annotations (pp. 141–149) call attention to dubious and unconfirmed records.

As can be expected, the taxonomy takes full account of the most recent publications on the subject; however, whilst it is understandable that authors want their lists to be as up-to-date as possible – and this is to be encouraged as far as the current status and nomenclature of the species are concerned – there is no need for local lists to reflect controversial generic splitting or the idiosyncratic views of various authors on the higher classification of the Lepidoptera. A slightly more conservative approach with greater adherence to *established* wisdom in this respect would surely be of significant benefit to the bewildered user of such lists. I for one find it irritating that each new list differs from its predecessors sufficiently to make it difficult to use without reference to the index.

In contrast to the French and Spanish lists, no generic synonymy is given and synonyms in the species-group are restricted to a maximum of three per species. Whilst synonymy is not an essential part of such faunistic lists, the total absence of all generic synonymy has its disadvantages. For example, replacing (unnecessarily) the familiar name *Scrobipalpa* by *Ilseopsis* (p. 57) without referring to the former at least in synonymy is confusing.

In this age of electronic data processing it is no longer acceptable to alter the endings of names every time a species is transferred from one genus to another. Whatever the current edition of the *Int. Code zool. Nom.* may say, to make the endings of species names agree with the gender of their respective genus does nothing to help stabilise the nomenclature and is an expensive burden carried over from days gone by when every scientist was familiar with the classical languages. Mercifully, the authors have kept deviations from the original endings of species names to a minimum.

The work includes a brief German introduction, which confines itself to a few essential explanations and includes an overview of the family-group names, a comprehensive bibliography and separate alphabetic indexes to family-group/genus-group names and species-group names.

Except for some weaknesses in proof-reading the list is well produced and attractive; printing and format are clear, although in places the clarity of the layout would have benefited from wider spacing between subfamilies.

The Orthoptera of Jersey, Channel Islands

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The orthopterous fauna of Jersey is remarkable in its composition because of the large proportion of relatively warmth-loving species present, the absence of several of the most widespread species from Britain and northern France and the presence of special island races. Two Jersey Orthoptera species are absent from Britain. A comprehensive treatment of the Jersey Orthoptera was published by Zeuner (1940a, 1940b), who reviewed the existing literature, gave species and locality lists, described a new subspecies of Platycleis albopunctata (De Geer) (as P. occidentalis jerseyana) and a new species, Euchorthippus elegantulus, and discussed the origin of the Jersey fauna. Since then there have been some adjustments to the Jersey list, including the discovery of more species (Griffin, 1953; Le Quesne, 1954; Pickard, 1954; Le Sueur, 1976), the rejection of doubtful records (Pickard, 1954, 1955) and the relegation of Euchorthippus elegantulus to a subspecies of E. pulvinatus (Fischer de Waldheim) (Ragge & Reynolds, 1984). Distribution maps of Channel Island Orthoptera were included in Marshall & Haes (1988). During the last two weeks of September 1981, I collected Orthoptera in Jersey, from as many localities as possible. In August 1991, I returned to Jersey and collected further material and made comparisons of my Jersey collections with specimens from Britain and France. What follows is an updated account of the Jersey Orthoptera, drawing attention to the small Jersey race of Chorthippus vagans (Eversmann) and to the Jersey population of Platycleis albopunctata which, on closer examination, appears not to constitute a distinct subspecies.

List of Jersey Orthoptera

All records are my own (ix.1981 and viii.1991), unless otherwise stated.

TETTIGONIIDAE

K. S.

Meconema thalassinum (De Geer). Longueville (Zeuner, 1940a). Not found during my visits.

Tettigonia viridissima (L.). St. Ouen's Pond, Val de le Mare, Grand Vingtaine. Trees and shrubs.

Platycleis albopunctata (De Geer). Five Mile Road, Blanches Banques, Quennevais, St. Ouen's Pond, La Pulente, Corbière, Pt. le Grouin, Ouasiné Common, Grève de Lecq, Grosnez Pt., Gorey Common. Common by the coast on dunes, heathland and wasteland.

Zeuner (1940a) described *P. albopunctata jerseyana* as a subspecies of *P. occidentalis* Zeuner, separating it from British and continental material on the strength of the following characteristics: small size; more slender, shorter elytra, not extending beyond the hind knees; more slender, straighter ovipositor, more

than half as long as the hind femur. He gave measurements of two Jersey females, comparing these with three typical females from Germany, France and England, showing Jersey examples to have somewhat shorter pronota, tegmina and hind femora than in the typical form but to have ovipositors of comparable length. Baccetti (1992) compared one male and two females from Jersey with Pyrenean material and agreed with Zeuner that Jersey harbours a dwarf race. Baccetti (1992) included reproductions of electronmicrographs of the titillators of Jersey and Pyrenean P. albopunctata in his paper. When I saw Platycleis albopunctata in Jersey, I was disappointed to find that it was not noticeably different in dimensions from the British form and began to suspect that Zeuner had used small and unrepresentative samples in his study. I have measured and compared randomly collected specimens of P. albopunctata in my collection from Jersey and three other regions: England, the Channel coast of northern France and inland areas of southern France.

Table 1. Dimensions of Platycleis albopunctata females from Jersey, England and France.

Region	Minimum, mean and maximum values of lengths (mm) of:				
	Pronota	Elytra	Hind femora	Ovipositors	
Jersey England N. France	4.3-4.8-5.2 4.8-5.1-5.8 4.4-5.1-5.5	17.2-18.9-21.7 15.7-17.1-20.2 19.4-20.1-23.2	18.3-19.9-21.7 16.3-17.8-20.0 18.0-20.0-21.0	9.4-10.0-10.2 8.1- 8.9-10.5 9.2- 9.7-10.1	
S. France	4.9-5.1-5.3	19.6-21.2-23.9	18.3-20.0-21.7	8.4- 9.6-10.4	

Table 2. Dimensions of *Platycleis albopunctata* males from Jersey, England and France.

Region	Minimum, mean and maximum values of lengths (mm) of:			
	Pronota	Elytra	Hind femora	
Jersey	4.1-4.4-4.6	14.5-16.8-18.1	15.9-17.6-19.0	
England	4.3-4.8-5.3	14.8-17.1-19.0	14.8-17.3-19.2	
N. France	4.5-4.8-5.4	17.2-18.8-20.2	18.3-19.0-20.7	
S. France	4.7	18.8	17.7	

Tables 1 and 2 allow comparison of Jersey *P. albopunctata* with those from England and northern and southern France. On average, Jersey females have a shorter pronotum and longer ovipositor than English and French examples, whilst the elytra and hind femora are intermediate in length between those of England and France. On average, Jersey males have shorter pronota and elytra than English and French specimens and hind femora that are similar in length to English specimens and shorter than French ones. However, there is considerable overlap between specimen dimensions from the four regions. Scatter plots of pronotum, elytron and hind femur lengths against ovipositor length (Figs 1–3) show that in Jersey specimens, ovipositors are long, regardless of differences in the other variables. Specimens from England and southern France show more variability in ovipositor length, there being an approximate linear relationship between ovipositor length and elytron length. Northern French specimens resemble Jersey examples in having relatively long ovipositors, the lengths of

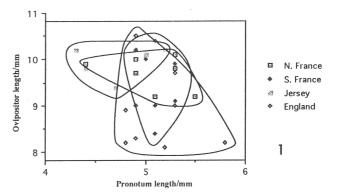


Fig. 1. Ovipositor and pronotum lengths of Platycleis albopunctata.

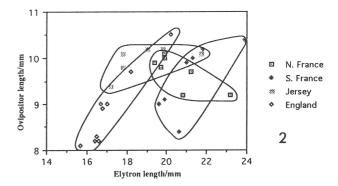
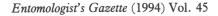


Fig. 2. Ovipositor and elytron lengths of Platycleis albopunctata.



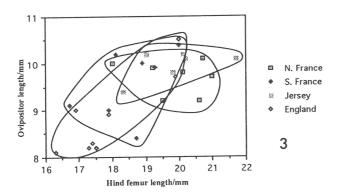


Fig. 3. Ovipositor and hind femur lengths of Platycleis albopunctata.

which are not associated with the other variables. Figures 4 and 5 shows that for both male and female *P. albopunctata*, there is an approximate linear relationship between hind femur length and elytron length within each regional group, that southern French examples have relatively long elytra and that English specimens are usually the smallest. The scatter plots show trends and none of them allows discrimination of Jersey material, although English specimens can be separated from southern French by elytron length and ovipositor or hind femur length. Thus, there are subtle differences in the morphology of *P. albopunctata* from Jersey and neighbouring regions but there is also intraregional variation and Jersey specimens appear not to be especially distinctive to the point of deserving subspecific status.

An unusually brightly coloured example of this species was collected from a thicket of burnet rose on the Blanches Banques, Jersey, with a cream-yellow dorsal pronotal surface and reddish purple sides of the body. The insect was thus

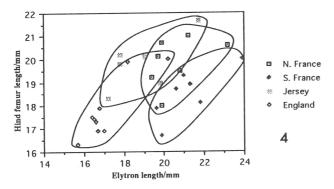


Fig. 4. Dimensions of Platycleis albopunctata females: hind femur and elytron length.

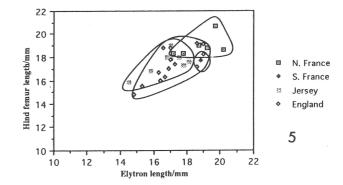


Fig. 5. Dimensions of *Platycleis albopunctata* males: hind femur and elytron length.

beautifully attuned to its habitat. After 12 years' preservation, the specimen has become a sombre brown.

Pholidoptera griseoaptera (De Geer). Bonne Nuit Bay, neglected field; La Hague, by stridulation only, roadside nettles.

Conocephalus discolor (Thunberg). Five Mile Road, St. Ouen's Pond, Le Port, Le Braye, La Pulente, Blanches Banques, Quennevais, Corbière, Ouaisné Common, Goose Green Marsh, Gorey Common, Queen's Valley, Grève de Lecq Common, especially by the coast.

Conocephalus dorsalis (Latreille). Le Sueur (1976) describes how D. J. Clennett discovered this species in the Samarés Marsh. The marsh has since been drained and built upon and I failed to find this insect at Samarés or elsewhere.

Leptophyes punctatissima (Bosc). Bonne Nuit Bay, Queen's Valley, Ouaisné Common.

GRYLLIDAE

Gryllus campestris L. Frances Le Sueur (pers. comm., 1981) confirmed the continued presence of the Field Cricket at Val de la Mare (Le Sueur, 1976). I failed to find nymphs during my visits. In May 1986, Mr R. D. Hawkins found it at Val de la Mare, St. Brelade, the Quennevais and Le Grouin (per E. C. M. Haes, 1993).

Nemobius sylvestris (F.). Valley des Vaux (Pickard, 1954). Recorded from Trinity by Mrs M. L. Long during the 1980s (per E. C. M. Haes, 1993).

GRYLLOTALPIDAE

Gryllotalpa gryllotalpa (L.). Zeuner (1940a) refers to old records. The Mole Cricket has not been reported from Jersey for many years.

TETRIGIDAE

Tetrix ceperoi Bolívar. Blanches Banques, common on dry stream bed; Ouaisné Common. This species was added to the island's list of Orthoptera by Zeuner (1940b) having mistaken it at first for T. subulata (Zeuner, 1940a).

Tetrix subulata (L.). Not found during my visits but the species is recorded by Le Quesne (1954) from St. Catherine. More recent records are those of Le Quesne from Ouaisné Common in August 1986 and D. J. Clennett from St. Ouen's Pond from 1969–1972 (per E. C. M. Haes, 1993).

Tetrix undulata (Sowerby). Queen's Valley, adult male by pond; Ouaisné Common. The first published record of this insect from Jersey is that of Griffin (1953).

ACRIDIDAE

Oedipoda caerulescens (L.). Five Mile Road, La Pulente, Le Port, Le Braye, St. Ouen's Pond, Ouaisné Common, Blanches Banques, Quennevais. Dunes.

Zeuner (1940a) stated that Jersey specimens were smaller than continental ones. My 7 Jersey specimens are smaller than examples from southern France, Spain and Greece but of comparable dimensions to 13 examples from the dunes at Plouharnel, Morbihan. The wings of Jersey specimens are sometimes less vividly blue than those from France.

Omocestus haemorrhoidalis (Charpentier). Burr (1899) recorded a single specimen received from Jersey that may have been a misidentified *Chorthippus vagans* (Eversmann) (Pickard, 1954); the record is considered to be doubtful.

Chorthippus brunneus (Thunberg). Five Mile Road, St. Ouen's Pond, Quennevais, Corbière, Ouaisné Common, Noirmont, Gorey Common, Bonne Nuit Bay, Grève de Lecq, Grosnez. Common.

The presence of small Jersey specimens of this species, which can be confused with *C. mollis* (Charpentier), was mentioned by Pickard (1955). In the field, most Jersey *C. brunneus* do not look unduly small and 5 Jersey voucher specimens in my collection are of unremarkable size: 3 males with total lengths of 16.9, 17.3 and 16.8 mm and two females with total lengths of 20.4 and 22.2 mm. Only one female, from Grève de Lecq, is rather small, being of total length 18.3 mm and outside the reference ranges given by Ragge (1965) for British *C. brunneus*. Dwarf island races of this insect are known from Skokholm (Duncan, 1960) and the Isles of Scilly (pers. obs., 1977).

One female, collected at Grosnez Point, is a bright colour form, not included in Ragge's (1965) key to colour variations, with green wings and dorsal head and pronotal surfaces and with reddish purple legs and sides of the body.

Chorthippus mollis (Charpentier). Recorded by Zeuner (1940a). Pickard (1955) has investigated Zeuner's record and rejected C. mollis from the Jersey list.

Chorthippus biguttulus (L.). Baccetti (1992) recorded C. biguttulus from St. Brelade, Jersey and from Guernsey. A male from each locality has been examined

by Dr D. R. Ragge and by me. The Jersey material is C. vagans and the Guernsey specimen is C. brunneus.

Chorthippus vagans (Eversmann). Five Mile Road, Quennevais, Grève de Lecq, La Pulente, Grosnez Point, Noirmont, Gorey Common, Corbière, West Park, Bonne Nuit Bay, Quaisné Common.

On Jersey, this insect occurs as a small form which was described and illustrated by Zeuner (1940a). A comparison was made of *C. vagans* in my collection from Jersey, England and France. Measurements of total lengths given relate to distance from front of head to wingtips and not to tip of abdomen which protrudes beyond the wingtips in some females.

Collection data of material studied. **Jersey**: 21 °C, 25 °Q; ix.1981 and viii.1991; Ouaisné Common; Five Mile Road; Gréve de Lecq; La Pulente; Grosnez Point; Noirmont; Gorey Common; Corbière; West Park. **England**: 11 °C, 8 °Q; 1979–1990; Studland Heath; Canford Heath; Bourne Bottom; Talbot Heath; Sopley Common; Kingston Great Common. **France**: 11 °C, 15 °Q; viii.1983; Fontainebleau, Seine et Marne.

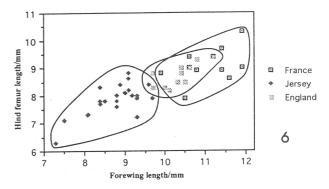


Fig. 6. Dimensions of Chorthippus vagans males from France, Jersey and England.

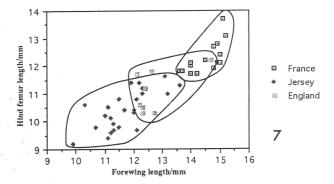


Fig. 7. Dimensions of Chorthippus vagans females from France, Jersey and England.

As seen in Tables 3 and 4 and Figs 6 and 7, Jersey C. vagans are generally rather smaller than British and French examples. There is some degree of overlap in sizes of females from the three regions but it is especially noticeable how small Jersey males are, the longest specimen being shorter than any British and French examples in my series.

Table 3. Dimensions of Chorthippus vagans females from Jersey, England and France.

Region	Minimum, mean and maximum values (mm) of: Total length Forewing length Hind femur length		
Jersey	15.0–16.9–20.6	9.9–11.8–14.7	9.2–10.5–12.2
England	17.4–18.4–20.3	12.1–12.7–14.7	10.3–11.1–12.2
France	19.8–20.7–21.7	13.6–14.5–15.2	11.2–12.3–13.7

Table 4. Dimensions of Chorthippus vagans males from Jersey, England and France.

Region	Minimum, mean and maximum values (mm) of: Total length Forewing length Hind femur length		
Jersey	Total length 10.5–12.7–13.8 14.0–14.8–15.8 14.7–15.6–16.5	7.3- 8.8- 9.7	6.3- 7.9- 8.8
England		9.7-10.3-11.2	8.3- 8.7- 9.4
France		9.9-11.1-11.9	7.9- 9.1-10.7

Besides dwarfism of Jersey C. vagans, there appear to be differences in the biology of this insect on the island as shown by its adaption to a wide range of habitats. In England, C. vagans is a most local insect, being restricted to dry heathland in Dorset and Hampshire; it is absent from dunes, grassland and heavily grazed areas. In Jersey, C. vagans is the dominant grasshopper in most open areas near the coast, being more abundant than C. brunneus even on trampled grassland. In France, C. vagans is widespread but quite local, C. biguttulus and C. brunneus being the dominant members of the genus in most coastal areas of the Channel coast.

A small proportion of Jersey C. vagans and some French specimens are purplebrown in colour. Others, like all English specimens, are grey-brown in colour.

Chorthippus parallelus (Zetterstedt). Bonne Nuit Bay, Grève de Lecq, St. Ouen's Pond.

Euchorthippus pulvinatus elegantulus (Zeuner). La Pulente, Le Port, Le Braye, Blanches Banques, Quennevais, Five Mile Road, Ouaisné Common.

Burr (1910) and Lucas (1920) listed this insect (as *Chorthippus pulvinatus*) doubtfully from Jersey. Zeuner (1940a) described it as a new species, related to *E. declivus* (Brisout). Ragge & Reynolds (1984) have shown that the Jersey population and similar populations from Morbihan and Loire-Atlantique are

isolated small forms of the more southerly *E. pulvinatus* and have placed them as *Euchorthippus pulvinatus elegantulus* (Zeuner).

In Jersey, the insect appears to be restricted to the dry, sandy terrain of Ouaisné Common and St. Ouen's Bay, often in association with P. albopunctata, C. discolor, O. caerulescens, C. brunneus and C. vagans. In 1991 I saw the French form in visually similar open dune habitat at Plouharnel, Morbihan, but in association with O. caerulescens, Calephorus compressicornis (Latreille), O. rusipes Zetterstedt, Myrmeleotettix maculatus (Thunberg), C. brunneus and C. biguttulus.

NATIVE DICTYOPTERA

Ectobius lapponicus (L.). Recorded from Jersey by Pickard (1954) but the presence of this cockroach on the island is doubted by Marshall & Haes (1988).

Ectobius pallidus (Olivier). Ouaisné Common.

Ectobius panzeri (Stephens). Ouaisné Common.

Notable localities

St. Ouen's Bay. St. Ouen's Bay forms the western boundary of a huge Orthoptera-rich dune system. The Five Mile Road runs along the seaward flank of this system which is a mosaic of open sandhills, marram hills, scrub, woodland and cultivated plots. Unusually for Jersey, the area is sparsely inhabited and there is much natural and semi-natural vegetation. It includes St. Ouen's Pond in a permanently damp hollow with reed beds and the large raised arid areas of the Blanches Banques and the Quennevais. Orthoptera include T. viridissima, P. albopunctata, C. discolor, O. caerulescens, C. brunneus, C. vagans and E. pulvinatus. C. parallelus appears to be confined to the damp hollows by the pond and T. ceperoi occurs in damp places in the Quennevais.

Ouaisné Common. This is a small, low-lying sandy common facing St. Brelade's Bay. Dry open areas with gorse and heather have P. albopunctata, C. discolor, O. caerulescens, C. brunneus, C. vagans and E. pulvinatus. Both E. pallidus and E. panzeri occur here. There are numerous damp hollows, those that are well vegetated containing L. punctatissima, those that are open and mossy, T. ceperoi and T. undulata. The impression of a southern and continental fauna is enhanced by an abundance of the ant Formica pratensis Retzius, by the presence of the Jersey Tiger moth, Euplagia quadripunctaria (Poda), the Agile Frog, Rana dalmatina Bonaparte and Grass Snakes, Natrix natrix (L.), that lack the yellow collar.

Gorey Common. This is on the east coast and consists of dry, low-lying dunes, much of which is a golf course. Orthoptera include *P. albopunctata*, *C. discolor*, *C. brunneus* and *C. vagans*.

Bonne Nuit Bay. North-facing granite cliffs with grassland, woodland, bracken and heather. Species include *P. griseoaptera*, *L. punctatissima*, *C. brunneus*, *C. vagans* and *C. parallelus*.

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References

Grève de Lecq. A sheltered north-facing cove with scrub, woodland and some open wasteland. P. albopunctata, C. discolor, C. brunneus, C. vagans and C. parallelus.

West Park, St Helier. This manicured, urban park is remarkable for harbouring a population of *C. vagans* which seems quite at home on the grassy margins of tarmac paths between the main A1 and A2 roads immediately west of St. Helier.

Composition of the Jersey Orthoptera fauna

Eighteen species of outdoor Orthoptera Saltatoria have been reliably recorded from Jersey. All of them are known from northern France and all but two of them are native to southern England. Many of them in Britain are very localised, with Platycleis albopunctata, Gryllus campestris, Tetrix ceperoi and Chorthippus vagans restricted to exceptionally warm and sunny areas near the south coast; there is a general bias of warmth-loving species in the Jersey fauna. More curious is the absence from Jersey of some of the most widespread and tolerant of British and French acridids, notably Omnocestus viridulus (L.) and Myrmeleotettix maculatus and C. biguttulus (L.) which is the dominant grasshopper along much of the Channel coast of France. Absence of these hardy species may explain the adaptation of the dwarf Jersey C. vagans to a wide range of habitat. Two other grasshoppers occur as small forms on Jersey: there is a subpopulation of dwarf C. brunneus and E. pulvinatus occurs as a small subspecies E. p. elegantulus. Dwarfism is a well-known phenomenon in isolated island populations: during the last interglacial a tiny race of the Red Deer, Cervus elephas L., evolved in isolation on Jersey, to disappear when the island was united with the continent at the start of the last glacial (Lister, 1989). Platycleis albopunctata occurs on Jersey as an illdefined island race, which shows subtle differences in series from English and French material. Several geographical forms and subspecies of this insect have been described and are listed by Harz (1969). The situation around the English Channel is similar to that of southern Scandanavia, whence several local forms have been described (Ander, 1948). The majority of the present Jersey Orthoptera must have colonised the island before it became cut off from the continent as conditions improved after the last glacial, although a few species may have been introduced since or may have flown to the island. The colonising stock included many warmth-loving forms. The absence of O. viridulus and M. maculatus, which occur on remote Scottish islands and which must have been amongst Britain's early post-glacial colonists, is hard to explain. Either these species never reached Jersey or they were extinguished by warm, dry conditions during the climatic optimum between the last glaciation and today.

Acknowledgements

I thank Dr D. R. Ragge for checking the text, for drawing my attention to Baccetti's records and for investigating the Channel Island records of *C. biguttulus*, Prof. B. Baccetti for sending his specimens for examination, and Mr E. C. M. Haes for supplying recent records held by the Orthoptera Mapping Scheme of some of the rarer species.

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