

Devon, wrote that his list was “based on, and in fact consists of, an article written by K. G. Blair... under the heading of Braunton...”. Although he also included *P. subvillosus* from Lundy, he did not mention *P. varicornis* from Braunton, a curious omission. Hyman (1994) states that “in south-eastern England, this species has been recorded from chalky districts. It is usually found in leaf-litter and moss. Adults have been recorded in April and May.” This is interesting as Lundy is essentially a granite island and the area around Braunton is of Devon sandstone. I am grateful to Christopher Palmer, Keeper of Biology, for permission to examine the K. G. Blair Collection at Winchester.—Dr MICHAEL A. SALMON, Avon Lodge, Woodgreen, New Forest, Hampshire, SP6 2AU.

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Notes on the habitats of *Hebrus ruficeps* (Thomson) (Hemiptera: Hebridae)—*Hebrus ruficeps* is usually found amongst *Sphagnum* at the margins of acid water. So close and so frequent is this association that it sometimes seems to be exclusive. Brown (1948) for example, states that “*Sphagnum* appears to be an essential complement to a habitat for *Hebrus ruficeps*”. Southwood and Leston (1959) refer to the bug occurring in “*Amblystegia*” as well as *Sphagnum*, but consider that it is confined to the margins of acid waters. Macan (1965) places it “usually in wet *Sphagnum*” without specifying the alternatives. Butler (1932), while reporting *H. ruficeps* from *Sphagnum*, suggests that Kirkaldy had found the insect in association with *Lemna*, which would suggest a quite different type of water body. In fact, it is doubtful that Kirkaldy really intended to make this association. His writing on the subject (Kirkaldy, 1899) is ambiguous, and could refer to either of the British species of the genus. Savage (1989) makes no mention of the association with *Sphagnum*, but the entries for *H. ruficeps* in the table of geographical and ecological distribution suggest that it is confined to waters with a pH less than six and a conductivity less than 100 micro-Sieverts per centimetre. Some authors at least in mainland Europe seem to allow *H. ruficeps* a broader ecological range than has been usual amongst British authors. For example, Stichel (1955) says that it occurs amongst *Polytrichum*, and also that it can occur away from moss, amongst plant remains at water margins. Wachmann (1989), in a recent popular guide to the German Heteroptera, makes no distinction between the habitats of *H. ruficeps* and *H. pusillus* (Fallén), whereas in

Britain the latter, though rarer, has long seemed much more catholic in its environmental tastes. Chalkley (1998) comments on the variation in opinion as to the habitat preferences of *H. ruficeps*, and points to the finding of the species amongst brown mosses beside non-acid waters in Northern Ireland reported by Nelson (1995).

In fact, *H. ruficeps* occurs reasonably frequently in at least some parts of Britain beside non-acid waters, and in the absence not only of *Sphagnum*, but sometimes of any moss at all. I have previously reported (Kirby, 1990) the finding of *H. ruficeps* in a saltmarsh. It seems worthwhile now to report a number of other recent records of *H. ruficeps* which, though less extreme, place the species outside the ecological conditions with which it is most commonly associated in Britain.

I took a single specimen of *H. ruficeps* on 19. iv.1991 from marginal vegetation at Holywell Fishponds, Peterborough, Northamptonshire, TL169980, a series of spring-fed medieval fishponds severely modified over the years and now set in improved grassland in a public open space. The margins of the pools are abrupt and almost devoid of moss. Measurements in one of the ponds on the site by the National Rivers Authority in 1990 gave a pH of 7.7 and a conductivity of 1295 micro-Sieverts per centimetre (G. E. Young *pers. comm.*). *H. ruficeps* was found by working partially submerged grasses growing on a slightly overhanging bank. Accidental introduction cannot be entirely ruled out at this site; animals and plants have certainly been introduced to the site. The possibility seems remote, however, if only because the garden ponds and fish tanks of Peterborough seem less likely to have suitable conditions for *H. ruficeps* than the pond in which it was found.

On 17.v.1992 I found a single *H. ruficeps* amongst drifted plant material taken from the edge of a large shallow pool in Dogsthorpe Star Brickpit, Northamptonshire, TF215027, a disused clay working. At the point from which the sample was taken the drifted material, mostly fragments and whole small plants of *Juncus articulatus* L., formed a band some 30 centimetres wide and several centimetres deep along a gently shelving margin of almost bare clay. *H. ruficeps* could, of course, have drifted with the plant material from elsewhere around the margin of the pool. No part of the pool margin, however, supported any significant amount of moss of any species. The conductivity of the pool on 3.v.1992 was measured as 2200 micro-Sieverts per centimetre at 25°C (J. H. Bratton *pers. comm.*), the high conductivity resulting from seepage from a saline aquifer in the Kellaways Beds. I have found *H. ruficeps* at one other flooded clay pit in the Peterborough area: Norman Cross Pit, Huntingdonshire, TL162908, 16.viii.1997, again in the complete absence of moss. I have no records of conductivity or pH for the Norman Cross Pit, but it is certainly not acidic or of low conductivity.

I have found *H. ruficeps* at two other, definitely non-acid, localities in the Peterborough area in recent years: it was rather common at Stibbington Pits, Huntingdonshire, TL098993, on 30.vi.1993, amongst reed litter and marginal vegetation in a disused gravel working beside the River Nene. At Sutton Heath & Bog SSSI, Northamptonshire, TF089000, *H. ruficeps* emerged in small numbers from sedge litter taken from a large sedge bed in a limestone valley on 28. iv.1996.

A survey of East Anglian fens undertaken for the Nature Conservancy Council by A. P. Foster and D. A. Proctor between 1988 and 1990 recorded *H. ruficeps* in pitfall traps at eleven sites. Of these, three definitely had no *Sphagnum* (Badley Moor, West Norfolk, TG012118, 31.v–13.vi.1989; Foulden Common, West Norfolk, TL760994, 10.vi–8.vii.1988; Reedham Marshes, East Norfolk, TG361195, 12–26.vi.1989) and two more, though supporting carpets of moss, had no *Sphagnum* in the trapping area (Thompson Common, West Norfolk, TL937964, 13–27. xi.1989; Walberswick, East

Suffolk, TM462732, 1–15.vi.1988, 15–29.vi.1988, 1–15.vi.1989, 1–15.vi.1990, 15.vi–1.vii.1990). Andrew Foster has also taken *H. ruficeps* at the margin of a *Sphagnum*-free drainage ditch in grazing levels at Sizewell, East Suffolk, TM467643, 5.vii.1989.

It is far from clear what environmental constraints determine the occurrence of *H. ruficeps*. The records above clearly show that they do not include water pH or the presence of *Sphagnum* or other mosses. Nor is it apparently unduly restricted by poor mobility, as might be considered likely for an habitually wingless species: the clay and gravel workings in which it has been recorded near Peterborough are of recent origin. Its scarcer congener *H. pusillus*, despite being winged, seems far more tightly confined to old wetland sites. However, even allowing for the fact that it is small and easily overlooked, *H. ruficeps* is clearly decidedly local in non-acid localities. Moreover, it appears to be similarly local in acid waters with *Sphagnum*: it may occur in large numbers when found, but the majority of sites investigated in most areas, in my experience apparently do not support the species.

Thanks go to Andrew Foster and Deborah Proctor for their records of *H. ruficeps*, and to Andrew Foster also for extracting the information from their database and for permitting me to use his record of *H. ruficeps* from Sizewell.—P. KIRBY, 21 Grafton Avenue, Netherton, Peterborough PE3 9PD.

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The specialist Hemiptera associated with mistletoe—Concerns about a supposed decline in mistletoe (*Viscum album*) led to a new national survey over the winters of 1995/6 and 1996/7 (Briggs, 1995; 1997). As an adjunct to this survey it was decided to look for the insects specifically associated with mistletoe.

Mistletoe is host to three specialist herbivores; *Psylla visci* Curtis (Hem.: Psyllidae), *Orthops viscicola* (Puton) (Hem.: Miridae) and *Celypha woodiana* Barrett (Lep.: Tortricidae, Olethreutinae). The predatory species *Anthocoris visci* Douglas (Hem.: Cimicidae) is also restricted to mistletoe, apparently feeding exclusively on



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