

***BUCHANANIELLA CONTINUA* (B. WHITE) (HEMIPTERA: ANTHOCORIDAE) ESTABLISHED IN BRITAIN**

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Abstract. The anthocorid *Buchananiella continua* (B. White) has been found established in Buckingham Palace Garden, London. Characters for identification are given.

INTRODUCTION

Buchananiella continua (B. White) is a pan-tropical species, but has been reported quite widely in the western Palaearctic in recent decades, and in some places at least has established breeding populations. Péricart (1972) lists records from France, Portugal, Italy, Madeira and the Azores. *B. continua* has previously been reported from Britain only as a casual importation at Liverpool Docks (Péricart, 1972). Captures of a number of individuals from Buckingham Palace Garden, Middlesex, in 1995 and 1997 strongly suggest an established population in Britain. Single males were captured in malaise-traps operated by Mr C. W. Plant in the periods 3.viii.–7.ix.1995 and 7–22.ix.1995; I took a further three males and seven-females by active collecting on 21.viii.1997. No nymphs have been found, but the number of individuals captured and the time-span over which they have been found makes it almost certain that an outdoor breeding population has been established over at least a three-year period.

IDENTIFICATION

B. continua is a small and, to the naked eye at least, a rather undistinguished-looking bug. The length of the Buckingham Palace specimens varies from 2.2 to 2.35 mm for males and 2.25 to 2.4 mm for females. The coloration is a little variable. The lightest individuals are an almost uniform mid-brown, with the scutellum and cuneus rather deeper and more reddish in colour and the head darker black-brown. In the darkest individuals head, pronotum and scutellum are a deep rather shining brown-black in colour, the rear corners of the pronotum somewhat lighter, the forewings a somewhat lighter brown, the cuneus darker, somewhat reddish towards the tip. The wing membrane is dark grey. The legs are pale yellow-brown, the femora sometimes slightly infuscated. The first antennal segment is almost black and shining; the second pale at the base and darkened, almost black, at the tip; the third and fourth somewhat darkened. The second antennal segment is considerably broader than the third and fourth, more so in the male than the female. The males from Buckingham Palace Garden are, on the whole, somewhat lighter and more uniform in colour than the females, but with more extensively darkened second antennal segments, almost the entire segment being darkened in one individual. The whole of the dorsal surface has moderately long pale pubescence which, however, is sufficiently pale and fine not to be immediately conspicuous in some lights.

To the naked eye, the size and coloration give *B. continua* the appearance of a very dark *Cardiastethus fasciventris* (Garbiglietti). It is also somewhat similar to *Orius* spp., for which it could conceivably be passed over in the field. Under the microscope, however, it is immediately distinctive. The pronotum is of different appearance to that of any other British anthocorid. A central longitudinal furrow in the rear half of the pronotum divides into two widely spread arms running laterally

at approximately the mid-point of the pronotal length. *Cardiastethus fasciiventris* has a similarly placed transverse furrow, but only a trace, at most, of a longitudinal furrow; *Dufouriellus ater* (Dufour) has a longitudinal furrow, but lacks the transverse arms. The male genitalia of *B. continua* are also different to those of any other member of the British fauna. The shape of the genital capsule, if pulled only slightly clear from the abdomen, is sufficient for identification without the need for dissection. The overall appearance and chief distinguishing features of *B. continua* are shown in Fig. 1.

B. continua is keyed and illustrated in Péricart (1972). Attempting to identify it using the key in Southwood & Leston (1959) would probably lead to an unsatisfactory outcome; *B. continua* does not comfortably fit the couplets. The most likely end-point is probably *Xylocoridea brevipennis* Reuter, depending on what opinion were taken of its colour and the length of its pubescence, but since *X. brevipennis* is almost always brachypterous, whereas *B. continua* is always macropterous, there would be immediate cause for doubt. *B. continua* is a member of the tribe Dufouriellini (=Cardiastethini). If placed in taxonomic order in the checklist of Kloet & Hincks (1964) *Buchananiella* Reuter, 1884 would come immediately after *Cardiastethus* Fieber, 1860.

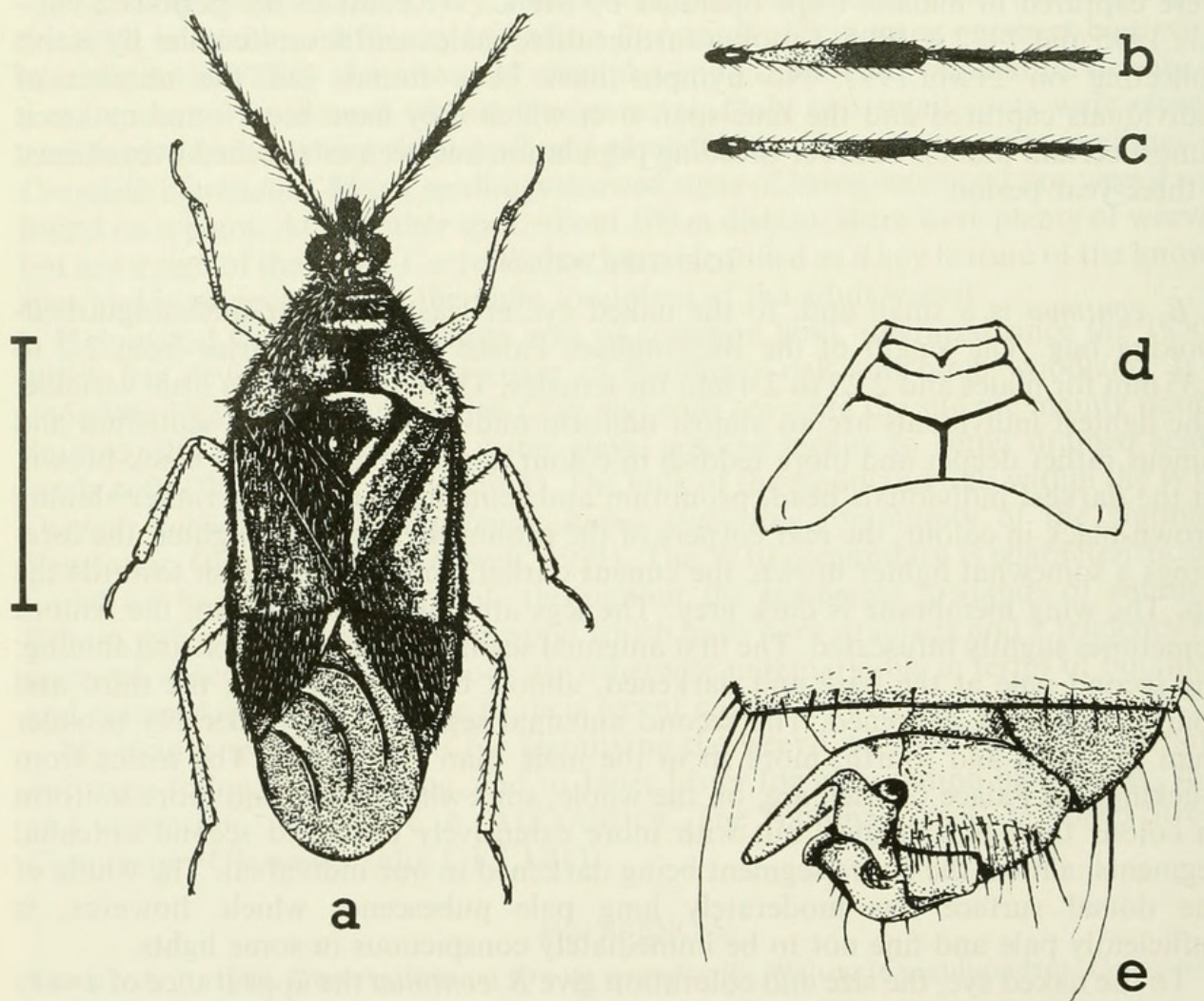


Fig. 1. a. *B. continua* female, dorsal view: scale bar = 1 mm. b. male antenna. c. female antenna. d. pronotum, dorsal view. e. tip of male abdomen, genital capsule pulled slightly back, dorsal view.

B. continua appears to live amongst accumulations of dry vegetation. Péricart records it amongst dry cut hay, where it was probably preying on Psocoptera. In Buckingham Palace Garden, *B. continua* was found in an area used for composting. All individuals captured were amongst stacked dry branches, still with leaves attached, though dry and brittle. The resultant vegetation formed a sizeable protected and sheltered volume, but with quite large internal spaces. Though this cut and stacked material probably represented the breeding site, there can be no guarantee that this was the case. Only adults were captured, and it is possible that the nymphs developed elsewhere, perhaps at a greater depth within the piled vegetation, and that only adults were active amongst the more accessible branches. However, no adults or possible nymphs of *B. continua* could be found in material of any other sort within the composting area, despite specific search by beating and sieving.

The bugs were readily beaten from the dry branches onto a plastic tray. Their behaviour, once on the tray, was quite different to that of any other British anthocorid I have encountered. They were very active, moving in a series of very short flights of a few centimetres, often with brief rests or short walks between. Such behaviour may well be an efficient method of escape from danger in the loosely packed dry vegetation where they lived, but is decidedly ineffectual on a plastic tray. In my experience, other anthocorids of similar size and shape usually either run to shelter, or, if they choose to fly, do so with more determination and are quickly lost. This behaviour may not, however, be an infallible method of recognition for *B. continua*: the captures were made on a warm day in August; the insects might well be less active and more inclined to run than fly in colder weather.

The long-term viability of *B. continua* as an established British species must be open to some doubt. It does not appear to be able to diapause in the winter (Péricart, 1972), which could pose problems in the British climate. The mid 1990s have been notable for a succession of mild winters. A single severe winter might pose a problem for *B. continua*. However, its adoption of artificial habitats may facilitate its finding conditions sheltered from extremes of climate, and the relatively warm climate provided by the urban complex of London is likely to provide outdoor conditions as suitable as can be found anywhere in Britain. *B. continua* could be considerably more widespread, at least in London and the south-east. Habitats similar to that in which it was found in Buckingham Palace Garden are by no means scarce in urban and suburban areas, and in the wider countryside, though suitable conditions may often be of short duration. Moreover, such habitats in urban areas are likely to receive rather little attention from heteropterists.

ACKNOWLEDGEMENTS

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REFERENCES

- Kloet, G. S. & Hincks, W. D. 1964. A check list of British insects. part 1. Second edition. *Handbooks for the identification of British Insects* 11(1).
 Péricart, J. 1972. Hemiptères Anthocoridae, Cimicidae, Microphysidae de l'Ouest Paléarctique. *Faune de l'Europe et du Bassin Méditerranéen* 7: 1-402.
 Southwood, T. R. E. & Leston, D. 1959. *Land and water bugs of the British Isles*. Warne, London.



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