

NOCTUIDAE

- 2080 (10282) Square-spot Dart *Euxoa obelisca* ([Denis & Schiffermüller], 1775)
spp. *grisea* (Tutt, 1902) **Nationally Scarce B****
- 2081 (10280) White-line Dart *Euxoa tritici* (Linnaeus, 1761) **Common****
- 2082 (10275) Garden Dart *Euxoa nigricans* (Linnaeus, 1761) **Common****
- 2083 (10284) Coast Dart *Euxoa cursoria* (Hufnagel, 1766) **Nationally Scarce B****

Diagnostic external characters

It is possible to safely identify many examples of these species using external characters, as summarised by Waring *et al.* (2009) and Skinner (2009). However, the extreme variation shown by *tritici* in colour, markings, size and shape means that it can be confused with any of the other three. Therefore, the external features should be studied closely and while it is not necessary to examine the genitalia in every case, where there is doubt it is advisable.

Probably the greatest potential source of confusion is between *obelisca* and *tritici*, and the former has probably been overlooked as a result, mainly inland where if convention is followed, it is not usually to be expected being considered predominantly a coastal species. The post-median line running along the outside of the reniform stigma, and absence of arrowhead marks beyond it are good indications of *obelisca*. Although *tritici* usually shows a clear gap between reniform and post-median line, and arrowhead marks beyond it, the latter can be reduced such that some individuals are indistinguishable.

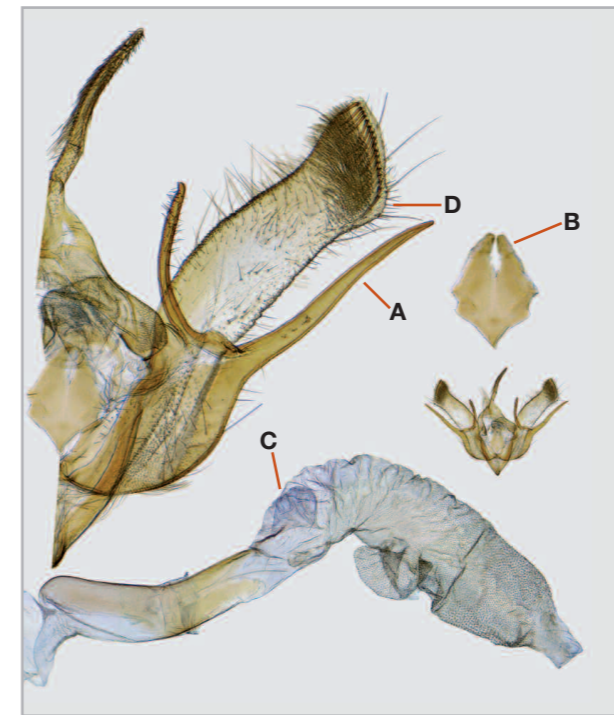
E. cursoria can often be distinguished by the sandy tint and the slightly more rounded forewing, especially the costa, which is more curved. However, it is very variable and this may not be clear in the field, and some *tritici* are similarly coloured and virtually identical in shape. Also, the large dark reniform stigma and dark outer band on the underside of the forewing of *cursoria* (plain, with reniform small on *tritici*) are helpful, but may not be clear.

E. nigricans usually has the forewing ground colour rather uniform, often with the claviform stigma indistinct (Skinner, 2009), but this can also be quite clear in outline.

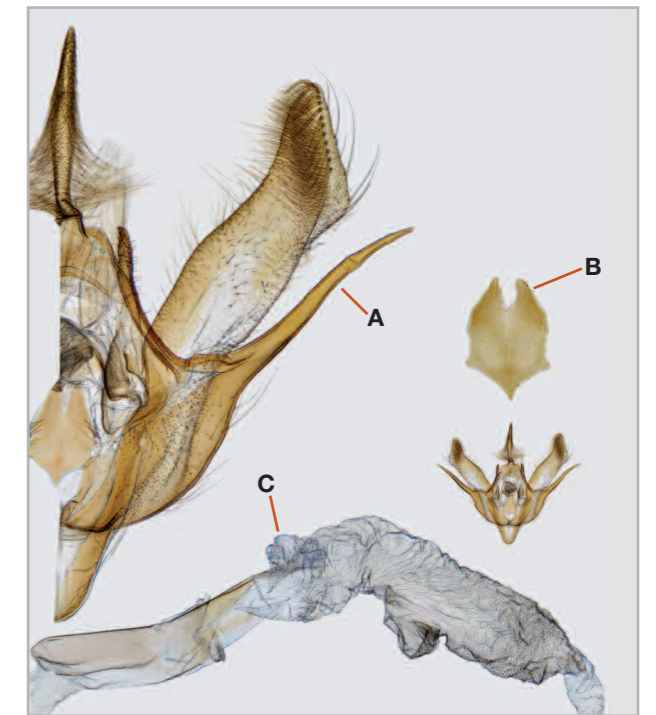
Key to diagnostic morphological characters of the males

A complex group with only minor differences in the genitalia.

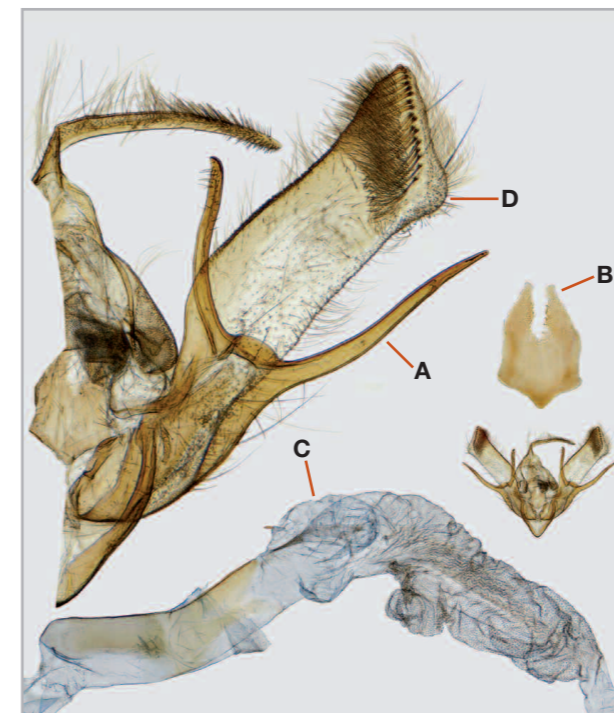
1. Extensions to sacculi asymmetrical, in ventral view that on right valva much longer than that on left valva (Fig. 53, A) and both only slightly longer than harpe (B).....*cursoria*
- Extensions to sacculi symmetrical, long and both extending beyond anal angle of cucullus (Figs. 50-52, A).....2
2. Notch at apex of juxta relatively shallow, less than one third of its length (Fig. 51, B).
Vesica, when everted, shows short sub-basal diverticulum (C).....*tritici*
- Notch at apex of juxta deep, one third to one half its length (Figs. 50, 52 B).....3
3. Sub-basal diverticulum of vesica longer, noticeably down-turned (in orientation as shown) (Fig 52, C).
Distinct bulge at anal angle of cucullus (D) (may be difficult to see).....*nigricans*
- Sub-basal diverticulum of vesica short (Fig. 50, C). On cucullus, bulge at anal angle slight or lacking (D).....*obelisca*



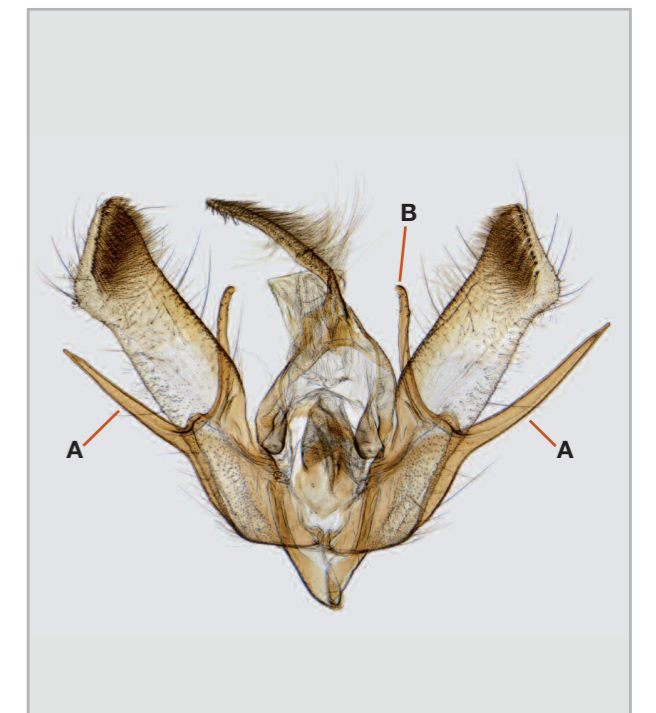
50. *Euxoa obelisca*



51. *Euxoa tritici*



52. *Euxoa nigricans*



53. *Euxoa cursoria*

Key to diagnostic morphological characters of the females

Very complex with extremely subtle and in some cases somewhat subjective differences. It is absolutely vital that the bursa copulatrix is inflated correctly to see its shape and ornamentation. If it collapses even slightly then this can be misleading. The following is provided as a guide, but it may not be possible to obtain a positive determination.

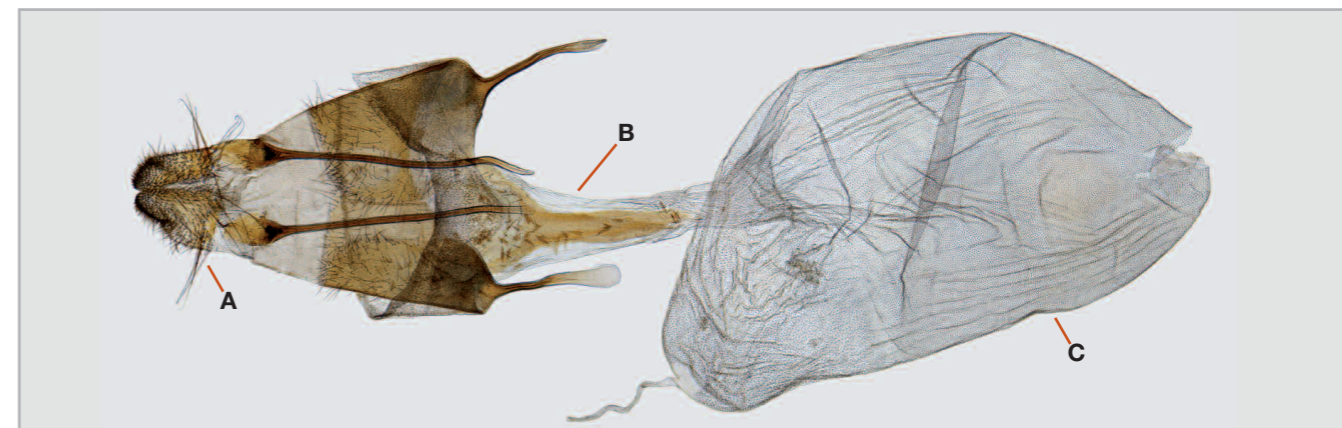
1. Basal spines on papillae anales short (Fig. 57, A). Ductus bursae short (B).
Bursa copulatrix long and roughly elliptical or cylindrical (C).....*cursoria*
- Basal spines on ovipositor longer (Figs. 54-56, A). Ductus bursae long (B).....2
2. Basal spines on ovipositor intermediate in length (Fig. 55, A).....*tritici*
- Basal spines on ovipositor longer, stronger (Figs. 54, 56).....3
3. Bursa copulatrix broad and rounded, sub-elliptical (Fig. 54, C).....*obelisca*
- Bursa copulatrix relatively narrow with left margin almost straight and relatively pointed anterior and posterior apices (Fig. 56, C).....*nigricans*

Given the difficulties of mounting the bursa copulatrix, it may not be possible to distinguish *obelisca* and *nigricans*, but in most cases they should be separable on external features.

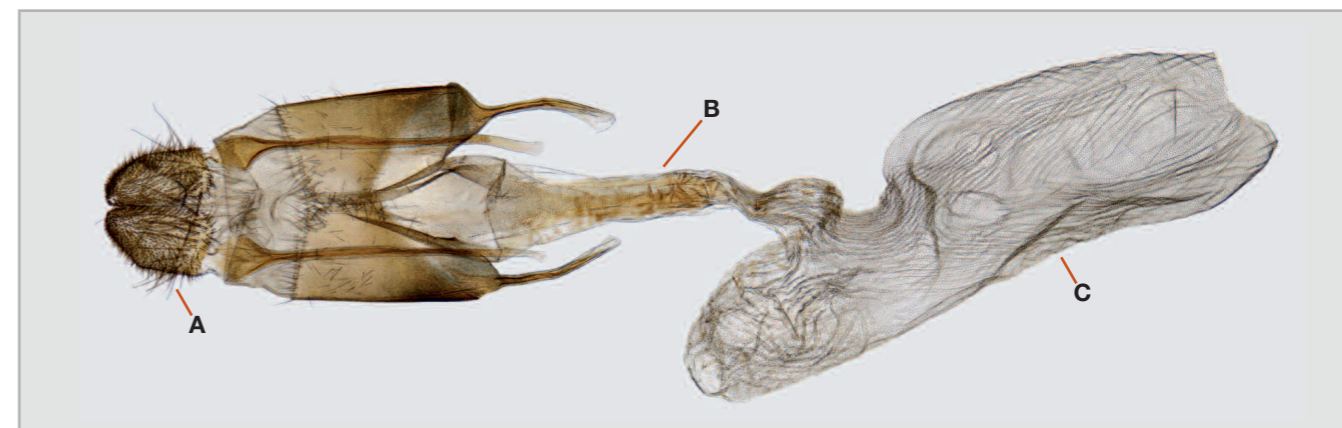
Recent developments

The possibility that other species within the genus are present in Britain is currently being investigated.

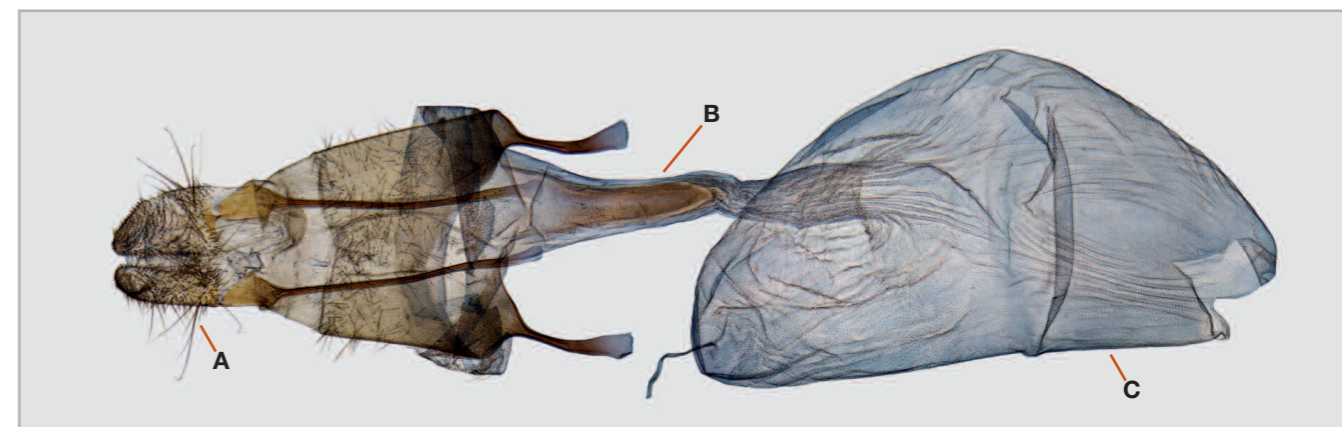
As we go to press, samples are being examined by experts in the group, but their findings are not yet available.



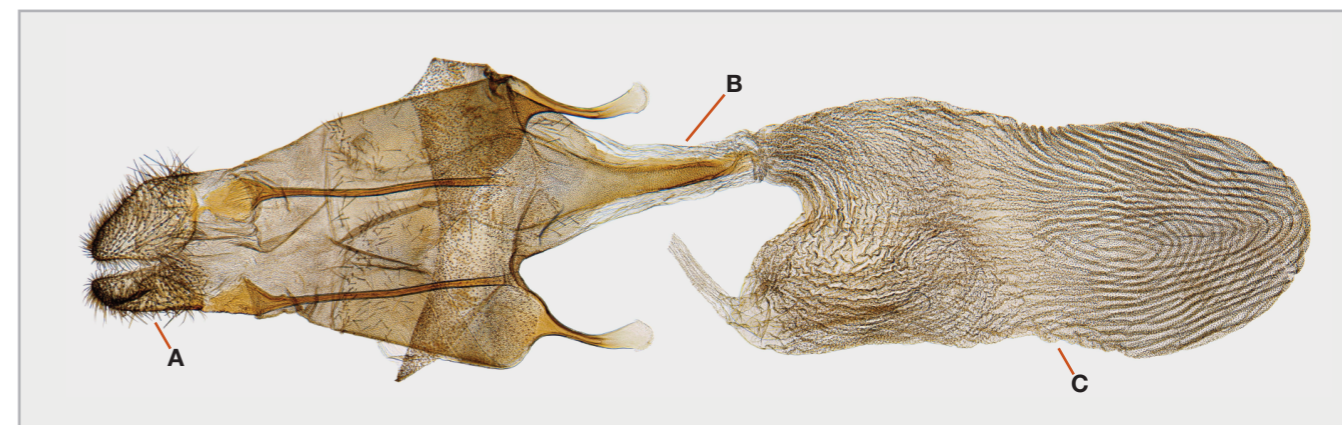
54. *Euxoa obelisca*



55. *Euxoa tritici*



56. *Euxoa nigricans*



57. *Euxoa cursoria*