

2283 (8776) **Dark Dagger *Acronicta tridens* [(Denis & Schiffermüller), 1775]**

2284 (8777) **Grey Dagger *Acronicta psi* (Linnaeus, 1758)**

Common

Common

Diagnostic external characters

Although quite distinct from all other resident British species in colour and markings, *psi* and *tridens* are virtually identical and show a similar range of variation. It is therefore, not considered safe to record them without examination of genitalia. However, certain trends exist (although there is considerable overlap) which can sometimes be used in the field to select likely specimens of each species for closer examination, if recording presence only, as described by Waring *et al.* (2009).

Diagnostic morphological characters of the males

With practice, the number of arms on the ventral surface of the valva can be seen on live moths by very gently pinching the tip of the abdomen and inspecting with a hand-lens. On freshly killed or anaesthetised moths this can be achieved by squeezing gently on the abdomen with a setting needle to extrude the valvae.

Ventral surface of valva with three protruding arms (Fig. 92, A).....*tridens*

Ventral surface of valva with two protruding arms (Fig. 94, A).....*psi*

Diagnostic morphological characters of the females

Appendix bursae larger (Fig. 93, A).....*tridens*

Appendix bursae smaller (Fig. 95, A).....*psi*

Larvae

When well-grown the larvae are quite distinct and provide a further means of distinguishing these two species. The chief difference is that *psi* has a broad yellow dorsal stripe (which becomes white before pupation), whereas in *tridens* the dorsal stripe is orange and white with a fine black line running through the centre. They are described in greater detail and illustrated by Porter (1997) and also illustrated by Waring *et al.* (2009). Females of both species are less frequently encountered, but if gravid willingly oviposit in captivity and the larvae are not difficult to rear.

Other similar species

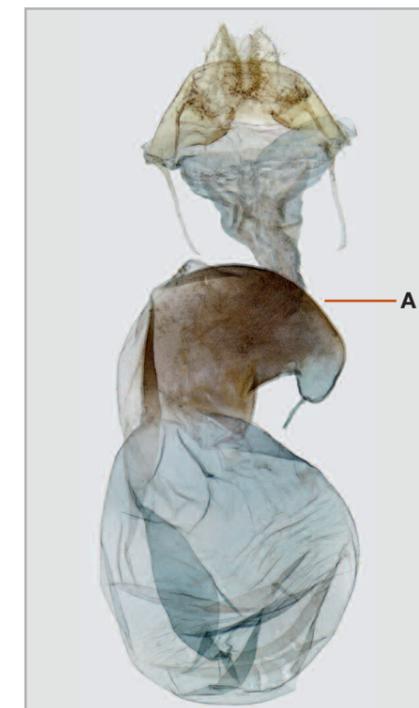
Although not reliably recorded in the British Isles, Large Dagger *Acronicta cuspis* (Hübner) occurs on the near continent and is very similar in appearance, such that immigrants could be overlooked as atypical *psi* or *tridens*.

Compared to *tridens* and *psi*, *cuspis* is stated to be usually larger, with the black basal streak and tornal dagger-mark on forewing also usually larger and broader. In the male, the hindwing is darker than in *tridens* and *psi*, being grey-brown (white or whitish in male *tridens* and *psi*). The male genitalia of *cuspis* are very similar to those of *tridens*, with 3 arms extending ventrally on the valva. However, in *cuspis* the distal half of the ventral margin of the sacculus is curved (straight in *tridens*) sweeping out in an arc to the ventral arm, which is longer than in *tridens*. In the female, the appendix bursae is stated to be larger than in *tridens* and *psi*. Fibiger *et al.* (2009) describe and compare external and genitalic features of the three species in detail. Their male specimen of *tridens* appears to have a rather blunt ending on the middle of the three valva arms, this arm normally being tapered and hooked at the apex.

If a female is suspected of being *cuspis*, eggs should also be obtained and adults reared. The larva of *cuspis* resembles that of *psi*, but compared to that species the anterior hump is shorter and the hairs arising from it are longer. Therefore, a combination of yellow-striped larvae and three arms of the valva of the males is diagnostic for *cuspis*.



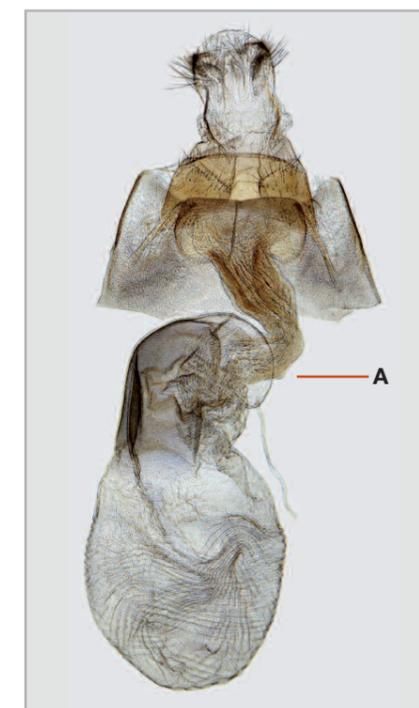
92. *Acronicta tridens* male



93. *Acronicta tridens* female



94. *Acronicta psi* male



95. *Acronicta psi* female