

2116 (10236) Cousin German <i>Protolampra sobrina</i> (Duponchel, 1843)	Nationally Scarce A
2120 (10089) Ingrailed Clay <i>Diarsia mendica</i>	Common (Shetland)
	ssp. <i>mendica</i> (Fabricius, 1775)
	ssp. <i>thulei</i> (Staudinger, 1891)
	ssp. <i>orkneyensis</i> (Bytinski-Salz, 1930) (Orkney)
2123 (10093) Small Square-spot <i>Diarsia rubi</i> (Vieweg, 1790)	Common
2124 (10094) Fen Square-spot <i>Diarsia florida</i> (Schmidt, 1859)	Local

**Status**

The status of *Diarsia florida* remains uncertain and needs further study, and it is not illustrated in the present guide. No differences between the genitalia of either sex of *rubi* and *florida* have been found among British material, and according to Skinner (2009), fertile hybrids can readily be obtained between the two in captivity. Fibiger (1993) gives comparative characters, but *rubi* genitalia are variable. Nevertheless, if moths are encountered with the physical and ecological characteristics of *florida*, they should be noted as such. The situation with regard to recording is confused, but county and national recorders are aware of this.

**Diagnostic external characters**

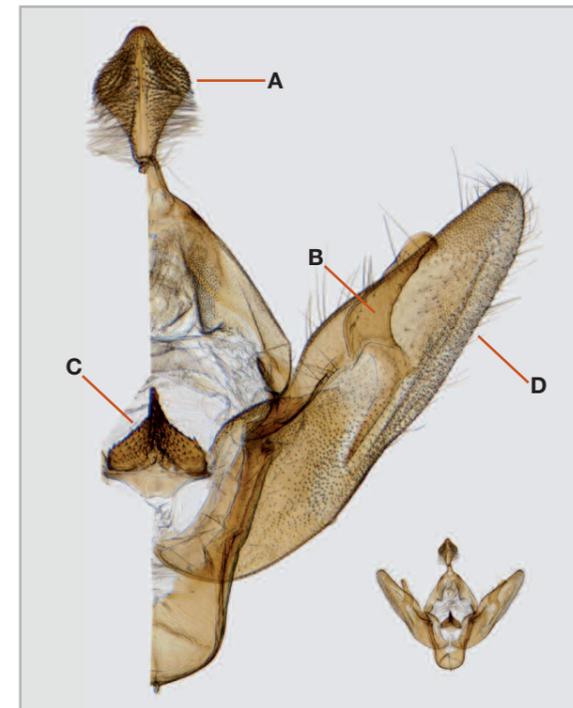
Differences between the first three species, as illustrated and described by Heath and Emmet (1979), Waring *et al.* (2009) and Skinner (2009) should be sufficient to determine most examples. Where there is doubt, genitalia should be examined for confirmation. Skinner (2009) describes the distribution in Britain of the populations that have been attributed to *florida*, and summarises the external and ecological characteristics that distinguish it from *rubi*.

Of the first three, confusion is most likely to occur between *sobrina* and *mendica* in the localised upland habitats of *sobrina* where *mendica* is abundant and extremely variable. *P. sobrina* is less likely to be confused with *rubi*, which may also be present. The absence of a reduced claviform stigma on the forewing should rule out *mendica* and *rubi* as this mark is a characteristic of the genus *Diarsia*, but it may be faint or worn. *D. mendica* is often more strongly marked than *sobrina* and more marbled in appearance than *rubi* with stronger black terminal dots. Some northern univoltine populations of *rubi* are larger and paler than in the south, and very closely resemble *florida*, although moths from Shetland are larger and duller than those from elsewhere. In southern Britain, where *mendica* is less variable, confusion with *rubi* is less likely. According to Skinner (2009), *florida* can be superficially similar to *mendica*.

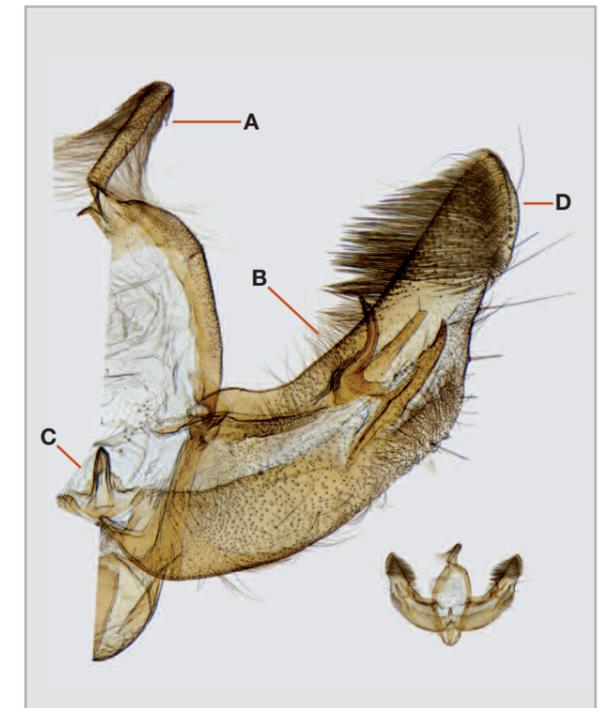
**Key to diagnostic morphological characters of the males**

Other than *rubi* and *florida* the genitalia are distinct. The uncus and valva can be seen in the field with a hand lens.

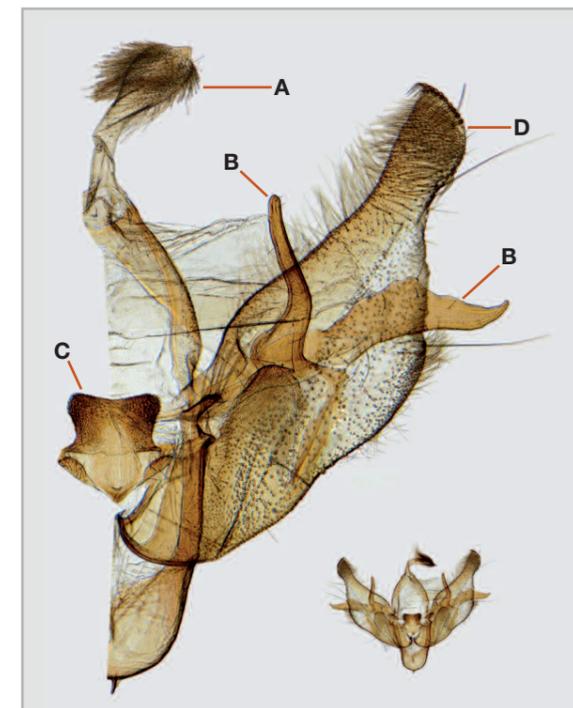
1. Uncus with sub-apical lobes, tapering to apex (Fig. 68, A). Process on ventral surface of valva (B) with a short broad stem, a long tapering arm and a short, pointed arm. Juxta broad, heavily sclerotised, with steep central ridge and numerous small teeth (C). Valva broad and evenly tapered to rounded apex, lacking distinct cucullus and corona (D).....*sobrina*
- Uncus and juxta not as above. Armature of medial area of valva not as above, more complex with 2 or 3 distinct processes. Cucullus and corona evident.....2
2. Uncus narrow to apex (Fig. 69, A). Valva broad, of roughly even width to two-thirds. Ventral surface with 3 distinct, elongated processes in medial area (B) - a narrow, very twisted and pointed ampulla arises from near costa; a rather prostrate, flattened central process (shape may not be fully evident under a cover-slip) and a long, pointed, knife-like harpe arising from closer to the basal margin. *In situ*, none of these protrude from under valva. Juxta narrow, pointed (C). Cucullus broad (D).....*mendica*
- Uncus with broad, flattened, rounded apex with small point (Fig. 70, A). Valva very broad, dilated medially. Ventral surface with two distinct elongated processes in medial area (B) - a long, narrow and slightly twisted ampulla and a flattened, antler-like harpe. Both processes protrude from under valva. Juxta broad, excavate (C). Cucullus narrow (D).....*rubi/florida*



68. *Protolampra sobrina*



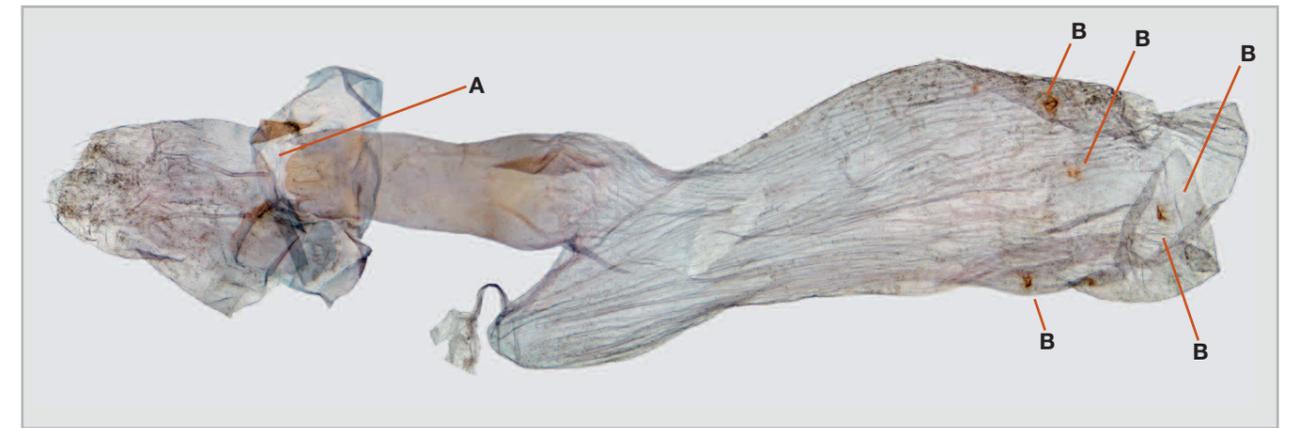
69. *Diarsia mendica*



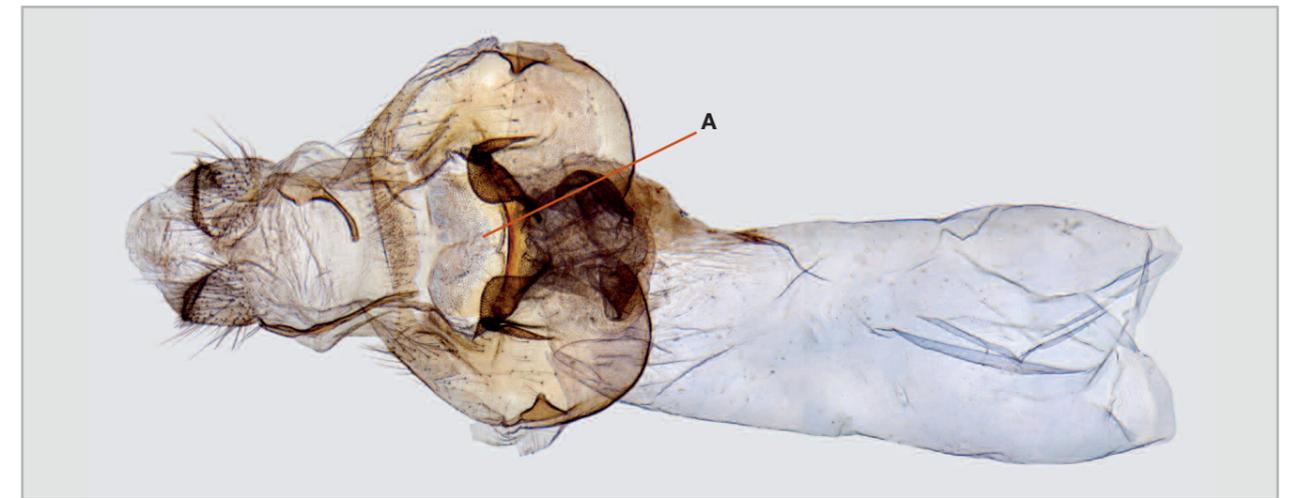
70. *Diarsia rubi*\*

**Key to diagnostic morphological characters of the females**

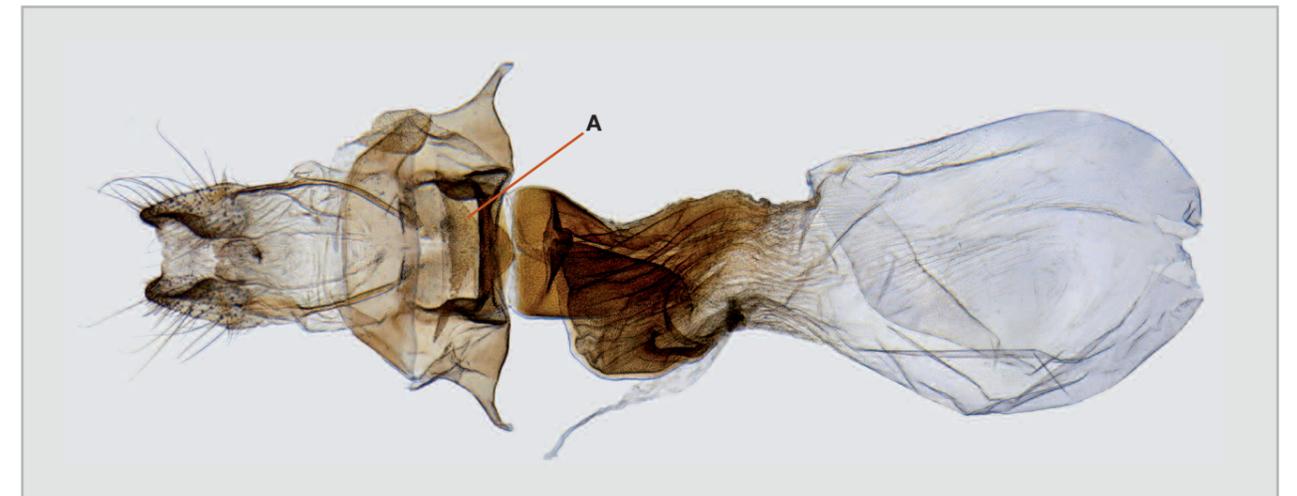
1. Ostium widely indented with large rounded sides (walls) (Fig. 71, A)  
 Bursa copulatrix with 4-6 small signa in apical third (B).....*sobrina*
- Bursa copulatrix lacking signa in apical third (Figs. 72, 73).....2
2. Ostium widely indented with broad, square sides (Fig. 72, A).....*mendica*
- Ostium widely indented with narrower sides and peaked edges (Fig. 73, A).....*rubi/florida*



71. *Protolampra sobrina*



72. *Diarsia mendica*



73. *Diarsia rubi*