**Colletes**

There are nine species in this genus in the UK, eight of which occur in Norfolk. *Colletes* look superficially like *Andrena*, but differ in having a characteristic curved vein on the forewing and a lobed tongue rather than a pointed one. There are prominent white marginal bands on the tergites of all but one of the Norfolk species. The tongue is used to spread a cellophane-like layer round the nest cell, inside which the food store is semi-liquid. Pollen is collected on the hind legs and under the propodeum.

Several *Colletes* species nest in large aggregations numbering in the hundreds or even thousands. Nests are made in the ground and are often attended by cleptoparasitic bees of the genus *Epeolus*. *Colletes* are generally difficult or impossible to separate without microscopic examination. There is a tendency for each species to specialise in a particular pollen source. This and phenology can give a clue to identification, but is far from foolproof.
**Colletes cunicularius**

**Females** are about the size of a honeybee with pale brown hairs on the clypeus and thorax. The abdomen lacks the prominent marginal hair bands seen in all other UK species of *Colletes* making it relatively easy to identify. **Males** are similar in colour to females but smaller and slimmer.

![Colletes cunicularius female at nest site, Stoke Ferry, 28th April 2015. Females were excavating nest holes on this date but none were yet bringing in pollen.](image)

**Habitat** Sites with willows near suitable nesting areas.

**Flowers visited** Oligolectic on Willows and Sallows.

**Nesting behaviour** Both Norfolk nesting sites are in loose sand: the banks of the Cut-off Channel and a worked out sand pit.

**Parasites** No cleptoparasitic bees have been recorded in the UK.

**Flight times** April-May.

**Distribution** This species has historically been more or less confined to coastal dunes of Wales, Lancashire and Cumbria, but in recent years colonies have turned up in some southern and midland counties. The species was first seen in Norfolk in 2015 when large nesting aggregations were discovered at Stoke Ferry (NO and TB) and at Lynford Water (GN). From the colony size it seems likely that they had been present for several years undiscovered.
Colletes daviesanus

**Females** have pale clypeal hairs and reddish brown hairs on the head and thorax. There are broad pale marginal bands on the abdomen. Under a microscope, the sparse punctures on T1 are diagnostic. **Males** are similar in colour pattern to females.

**Habitat** Less confined to light soils than *Colletes fodiens*. Frequent in gardens, including those in Norwich.

**Flowers visited** Garden Anthemis, garden Dog Daisy, Hogweed, Scentless Mayweed, Tansy, Yarrow,

**Nesting behaviour** Often nests in aggregations. Sites recorded include lime mortar of wall (Briston), cliffs (Gorleston), root plates (Hoe Rough, Marsham Heath, Sutton Fen) and a sand face (Snettisham Common).

**Parasites** *Epeolus variegatus* (BWARS).

Flight times June-September

Distribution Widespread in the county but seemingly avoiding the Fens and the claylands south of Norwich, but present in the Broads, for example at Sutton Fen and Strumpshaw.
**Colletes fodiens**

**Females** have pale clypeal hairs and bright reddish brown hair on the thorax. There are broad white marginal bands on the abdomen. T1 is more hairy with denser punctures than in *Colletes daviesanus*, but they are difficult to separate in the field. **Males** are similar in colour pattern to females, but greyer.

**Habitat** Sandy soils with abundant Ragwort.

**Flowers visited** Bramble, Creeping thistle, Field Scabious, Heather (Ling), *Hebe*, Hogweed, Ragwort, Tansy, Yarrow.

**Nesting** Not observed in Norfolk. Does not form large nesting aggregations (SF).

**Parasites** *Epeolus sp.* (BWARS).

**Flight times** July-September.

**Distribution** Confined to light soils on the coast, around Norwich and in the Brecks. Recorded at Snettisham, Scolt Head, Weybourne Camp and on the dunes from Winterton southwards but apparently absent from the soft cliffs between Weybourne and Happisburgh, perhaps because they are northeast facing and receive too little sun.
**Colletes halophilus**

**Females** are large with pale hairs on the clypeus and vivid orange-red hair on the top of the head and thorax. The broad marginal bands on the tergites have a slightly orange tint. **Males** have pale buff-brown hair on the clypeus and thorax.

![Colletes halophilus mating pair. Blakeney Point 28th August 2011.](image)

**Colletes halophilus** two females and one male. Blakeney Point 28th August 2011

**Habitat** Saltmarshes and sand dunes.

**Flowers visited** Pollen is taken largely from **Sea Aster**. Also recorded on Sea Lavender, Ragwort, Sea Rocket, Sheepsbit.

**Nesting** Forms very large nesting aggregations, either on the edges of creeks or on dunes with a sparse covering of grass. The aggregations can cover many square meters, and some stretch for 50m along the sides of creeks. They are capable of withstanding inundation by high tides.

**Parasites** *Epeolus variegatus* recorded at nest aggregation, Breydon Water eg 07.09.2014 (TS).

**Flight times** August-October

**Distribution** The main populations are at Morston/Blakeney/Blakeney Point and at Breydon Water/Great Yarmouth North Denes, with further records from Titchwell and pre-2000 records from Snettisham/Wolferton and Scolt Head.
**Colletes hederae**

**Females** are up to 15mm in length. It is possible that dispersing females are larger than average. The orange tint to the marginal bands is characteristic, though *Colletes halophilus* can show similar colouration. **Males** have whiter marginal bands.

![Colletes hederae female, Weybourne 14th October 2014](image1)

**Flight times** September-November

**Distribution** First recorded in Norfolk in October 2013 at Snettisham. In 2014 it appeared at Weybourne and Sheringham and in 2015 at Great Yarmouth and in the Brecks.

**Habitat** Ivy on walls beside a grassy paddock, adjacent to heathland and beside a railway track.

**Flowers visited** Ivy, Prickly Sowthistle, Ragwort (males).

**Nesting** Nesting at the same site as *Colletes halophilus* (which had finished nesting) on 29th September 2015 on an eroding east facing slope of a road embankment (TS).

**Parasites** *Epeolus cruciger* (BWARS).
Colletes marginatus

The smallest British Colletes. **Females** The sparse, short hair on the face and thorax allows the cuticle to shine through, giving a dull appearance. The anterior of T1 has a covering of long hair and T2 – T4 have prominent terminal white bands. **Males** have a similar colour pattern to females.

**Habitat** Coastal dunes and cliffs. Inland associated with sandy areas.

**Flowers visited** Polylectic and not strongly associated with Asteraceae unlike other small Colletes, but has been recorded on Ragwort. Females observed on Sea Holly at Scolt Head (AM) and on **Wild Mignonette** at Weybourne and the Brecks.

**Nesting** No nest sites observed in Norfolk. Nests in small aggregations (BWARS).

**Parasites** *Epeolus cruciger* (BWARS)


**Flight times** June-August

**Distribution** Generally a coastal species nationally with the only British inland records occurring in the Brecks, where it is widespread as far west as Stoke Ferry. On the coast it has been recorded at Scolt Head, Weybourne and Winterton post-2000 and at Holme Dunes in 1970.
*Colletes similis*

**Females** have pale hairs around the antennae but the clypeus has very sparse hair. There is reddish hair on the thorax. The first tergite is bare apart from tufts of hair at the forward margins. The pale band on the hind margin of the first tergite is interrupted in the middle. **Males** have a similar colour pattern.

![Colletes similis female (faded) on Tansy. Weybourne 12th August 2015](image)

**Habitat** Prefers light soils and has a similar distribution to *Colletes fodiens*. Not so closely linked to sandy sites as that species (BWARS).

**Flowers visited** Recorded on Wild Mignonette, Ragwort, **Tansy**. Generally specialises in Asteraceae.

**Nesting** No nest sites observed in Norfolk.

**Parasites** *Epeolus variegatus* (BWARS).

**Flight times** June-September

**Distribution** Recorded on the north and east coasts, around Norwich, the Brecks (though apparently not post-2000 and not on the Norfolk side) and from Ling Common in the west.
**Colletes succinctus**
A medium sized species. **Females** have pale hairs on the clypeus and orange hairs on the head and thorax. The bands on the tergites are white with an orange transparent band of cuticle on the margin of T1 (also seen in *Colletes halophilus* and *Colletes hederae*). **Males** resemble females.

**Flowers visited** Strongly associated with Heather (*Calluna vulgaris*). It also visits garden Heathers. Ivy and Asteraceae pollen are also used. Males also recorded on Bramble, Fennel, Hemp Agrimony, Thrift, Wild Mignonette.

**Nesting** Can nest in large aggregations, for example on Weybourne Cliffs, where thousands of nest holes occur both on a cliff face (which gets the morning sun) and on the horizontal cliff top. In mid-August 2015 around 2000 males were swarming on the cliffs and females were beginning to dig nest holes. During the second half of August and early September, females were bringing Heather pollen from Kelling Heath, 1.5km distant. By 10th September the Heather flowers had largely dried up and the bees switched to collecting Ivy pollen.

**Parasites** Nest sites are commonly attended by the cleptoparasitic bee *Epeolus cruciger* and sometimes by the cleptoparasitic fly *Miltogramma punctata*. Adults are predated by the wasp *Cerceris rybyensis*.

**Flight times** August-October

**Distribution** Found wherever there is heather, but also occurs on sites well away from any heather. Locally abundant on the western heaths, the Cromer Ridge, the east coast and the Brecks.

**Habitat** Heathland, sandy cliffs and coastal dunes, gardens.