

△ **Convolvulus Hawkmoth** *Agrilus convolvuli*. Grey thorax and speckled grey wings, with no pink on hindwings, distinguish this from Privet Hawkmoth (p. 140). It feeds on the wing, with a proboscis much longer than the body (the proboscis has a special sheath in the pupa, sticking out from the body like a jug handle). 6-11. Larva feeds on convolvulus leaves. Its ground colour may be apple green or purplish brown. A summer visitor to Europe from Africa, spreading to all parts but rare in N.

△ **Death's Head Hawkmoth** *Acherontia atropos*. The largest European hawkmoth, named for the skull-like pattern on the thorax. The proboscis is short and the moth, which is less streamlined than most other hawkmoths, settles to feed. It sometimes enters beehives to take honey. In the normal resting position, the wings are pulled back and held roofwise over the body. It squeaks when handled. 5-11. Larva feeds on potato and nightshades. It may be brown, green, or yellow. A summer visitor to Europe from Africa: sporadic in N, but more common in S, where it may survive the winter in the pupal state.

△ **Oleander Hawkmoth** *Daphnis nerii*. This unmistakable moth flies 6-10. Larva feeds on oleander and periwinkle, but is rarely found north of the Alps. Essentially a tropical and sub-tropical species, visiting Europe each year from Africa but not surviving the winter. Not uncommon in S, but only an occasional vagrant elsewhere.

△ **Spurge Hawkmoth** *Hyles euphorbiae*. Forewings are essentially greenish brown and buff, often with a clear pink tinge when freshly emerged. Resembles Bedstraw Hawkmoth, but hindwings are usually much pinker and there is no continuous brown band along the front edge of the forewing. 5-9 in 2 broods. The striking larva feeds on various spurges, especially the larger species. Common in S & C (southern); a rare summer visitor to N & B.

△ **Bedstraw Hawkmoth** *Hyles galii*. Resembles Spurge Hawkmoth in looks and habits, but can be distinguished by the continuous broad brown band along the front edge of the forewing. The hindwing also has a less extensive pink flush. 5-9 in 2 broods. Larva is greenish, brown, or black, with large cream spots, and feeds on bedstraws and willowherbs. Resident in most of S & C; summer visitor to N and B (rare).

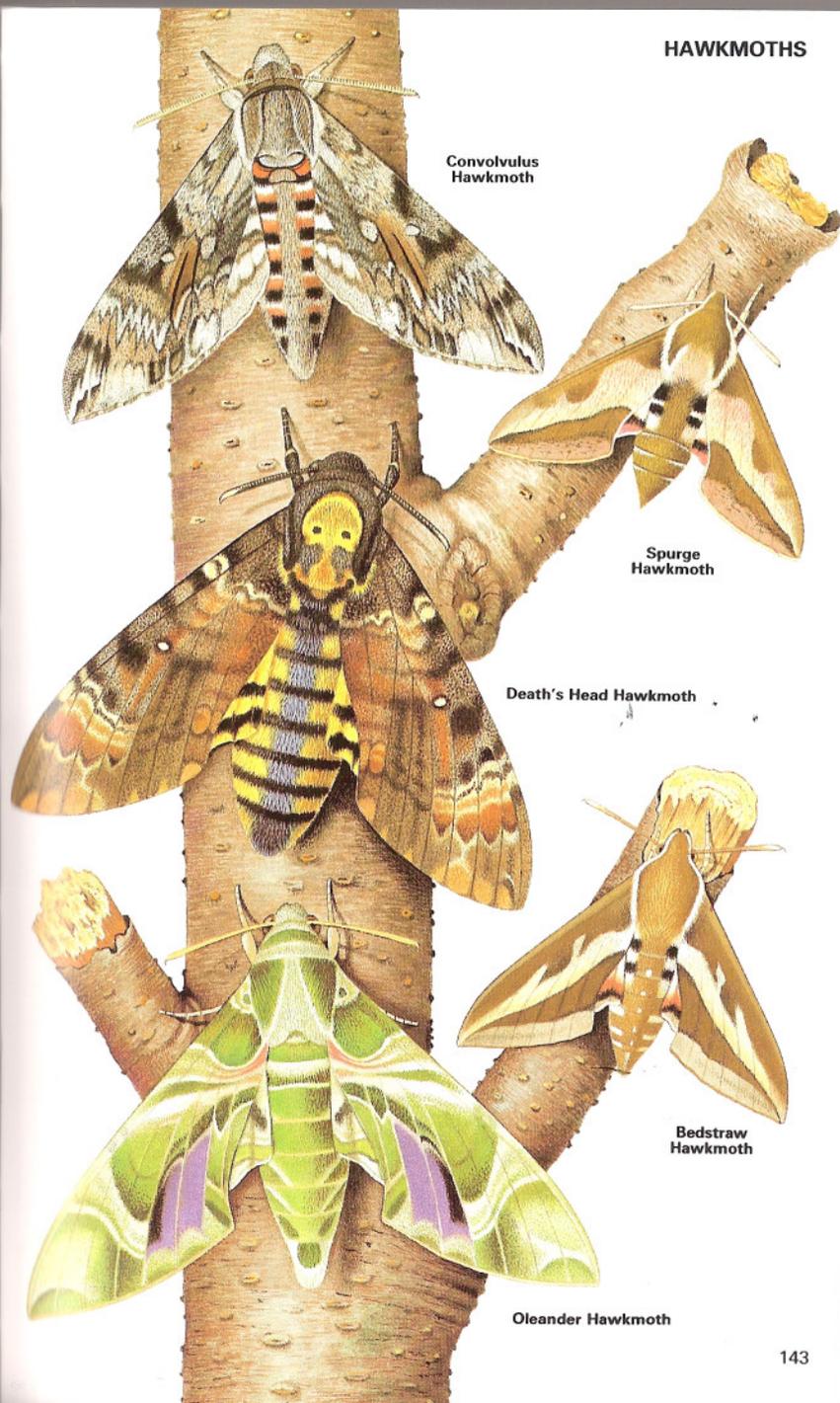


Spurge Hawkmoth hindwing



Bedstraw Hawkmoth hindwing

HAWKMOTHS



Convolvulus Hawkmoth

Spurge Hawkmoth

Death's Head Hawkmoth

Bedstraw Hawkmoth

Oleander Hawkmoth



△ **Silver-striped Hawkmoth** *Hippotion celerio* A very slim hawkmoth with prominent black veins on hindwing. The wings are swept strongly backwards at rest. 4-10 in 2 broods. Larva feeds on vines and bedstraws. When alarmed, the head and thorax can be pulled back into the abdomen, which swells up as in the Elephant Hawkmoth larva (p. 146) so that the eye-spots present a threatening appearance to any would-be predator. The larva becomes much darker just before pupation. A great migrant, it is a summer visitor to Europe from Africa. It occurs regularly, often in large numbers, in S, but appears sporadically further north – usually only in autumn.

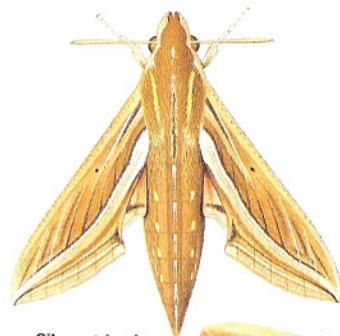
△ **Striped Hawkmoth** *Hyles lineata*. This is the European race (ssp *livornica*) of a species that occurs almost throughout the sub-tropical and temperate regions of the world. The white veins on the forewing clearly distinguish it from the Bedstraw Hawkmoth and Spurge Hawkmoth (p. 142). 4-9 in 2 broods, often flying by day as well as by night. Larva varies from green to black, with yellow spots and lines. It feeds on a wide range of plants, but especially bedstraws and vines. Resident in Mediterranean region, this is a great migrant, reaching far into the north each summer, often in great numbers, although it is a scarce and irregular visitor to B.

Hyles vespertilio. Flies mainly in hilly regions. Mainly 6-7, but may be earlier in warm valleys and there may then be a second brood 8-9. Larva is green at first, but becomes greyish brown as it grows. Spots may be red or yellowish. There is no horn. It feeds on willowherbs, especially the slender-leaved *Epilobium rosmarinifolium*. Local in S & C, from France eastwards.

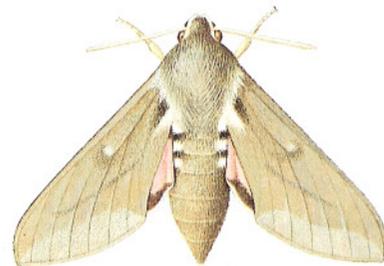
Hyles hippophaes. Resembles Bedstraw Hawkmoth (p. 142) but forewing is much darker. In addition, hindwing has a much broader pink patch and this is sometimes quite red. 6-7. Larva feeds on sea buckthorn, often basking on upper twigs. Local, from Spain and southern France through the Alps to Switzerland and southern Germany.

Hyles nicaea. Resembles Spurge Hawkmoth (p. 142), but larger and with no prominent white spot on the hindwing. 6-7. The unmistakable larva feeds mainly on spurge. Confined to the Mediterranean area and, unlike many other *Hyles* species, it does not make extensive migrations.

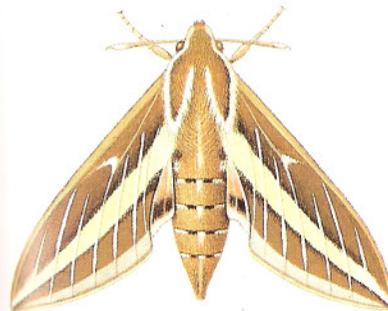
HAWKMOTHS



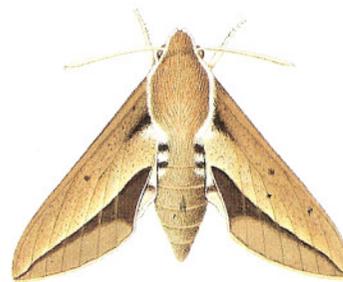
Silver-striped Hawkmoth



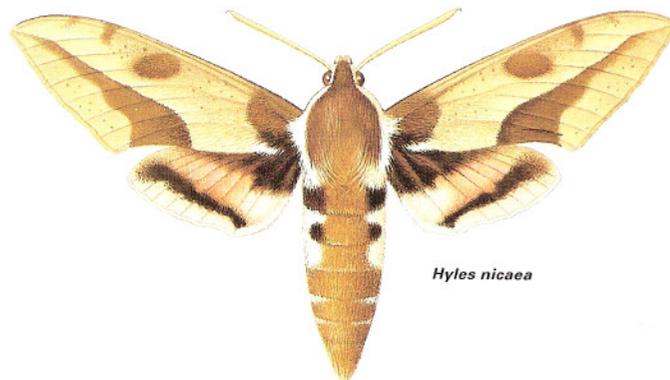
Hyles vespertilio



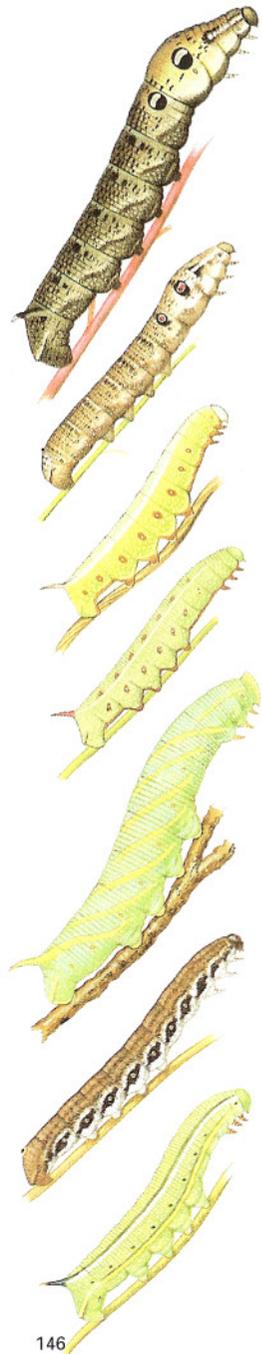
Striped Hawkmoth



Hyles hippophaes



Hyles nicaea



▲ **Elephant Hawkmoth** *Deilephila elpenor*. Bronzy green of forewing may become yellowish with age. Hindwing is pink and black. Often seen at honeysuckle at dusk. 5-7. The trunk-like snout of the caterpillar gives the insect its name. When disturbed, the snout is retracted into the eye-spot region, which swells up while the whole front end sways menacingly from side to side. The caterpillar is sometimes green. It feeds on willowherbs and bedstraws.

▲ **Small Elephant Hawkmoth** *D. porcellus*. Smaller and much yellower than its larger relative: hindwing yellow with a pink margin. It feeds at dusk, especially at honeysuckle and rhododendrons. 5-7. Larva is green or brown, with no horn. It feeds mainly on bedstraws and behaves like the previous species.

△ **Broad-bordered Bee Hawkmoth** *Hemaris fuciformis*. Day-flying. Resembles bumble bee at rest, but flight is much faster and more darting than bumble bee. Wings are lightly covered with scales at first, but most of the scales fall during first flight, leaving just the brown margins. Feeds in flight, especially at bugle flowers. 4-7, sometimes with a partial 2nd brood in late summer. Woodland clearings and margins. Larva feeds on bedstraws and honeysuckle.

△ **Narrow-bordered Bee Hawkmoth** *H. tityus*. Resembles the previous species but has narrower brown wing margins and a blacker abdominal belt. Day-flying, 5-6, in woodland clearings and margins, moors, and damp heaths and meadows. Larva feeds on devil's-bit scabious and field scabious.

Oak Hawkmoth *Marumba quercus* Less streamlined than most other hawkmoths and relatively slow-flying. Hindwings largely orange-brown. 5-7. Larva feeds on various oaks, especially cork oak. Confined largely to the cork oak forests of the Mediterranean region.

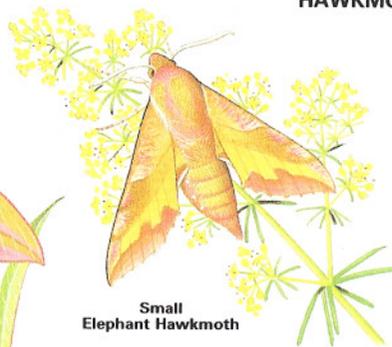
Proserpinus proserpina. Ground colour of forewings usually green, but may be brown or grey, always with a darker central band. Hindwings yellow with a brown margin. Size also varies: often much smaller than illustrated here. 6-8, often flying by day. Larva feeds on willowherbs and purple loosestrife. It is dull green at first and has a small horn at this stage. Mature larva has a prominent eye-spot on the rear in place of the horn. S & C (southern).

▲ **Hummingbird Hawkmoth** *Macroglossum stellatarum*. Day-flying and most often seen hovering in front of flowers to feed. Also 'sunbathes' by hovering in front of sunny walls. It makes an audible hum while hovering. Common in gardens. All year, especially in S, in 2 or more broods. Larva is green or brown and feeds on bedstraws. Resident in S, it is a strong migrant and reaches all parts of Europe in spring and summer. Hibernates as adult, but rarely survives the winter north of the Alps.

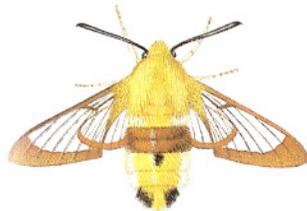
HAWKMOTHS



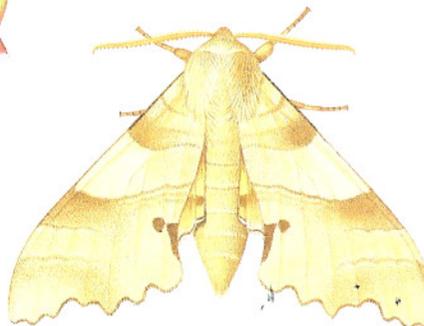
Elephant Hawkmoth



Small Elephant Hawkmoth



Broad-bordered Bee Hawkmoth



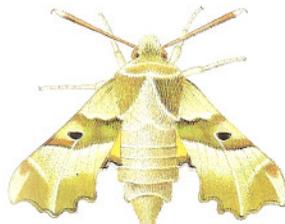
Oak Hawkmoth



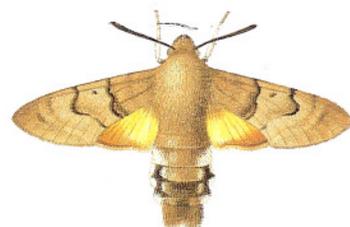
Narrow-bordered Bee Hawkmoth



gathering nectar

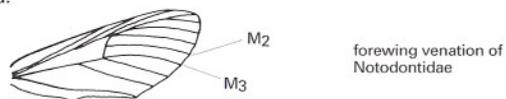


Proserpinus proserpina



Hummingbird Hawkmoth

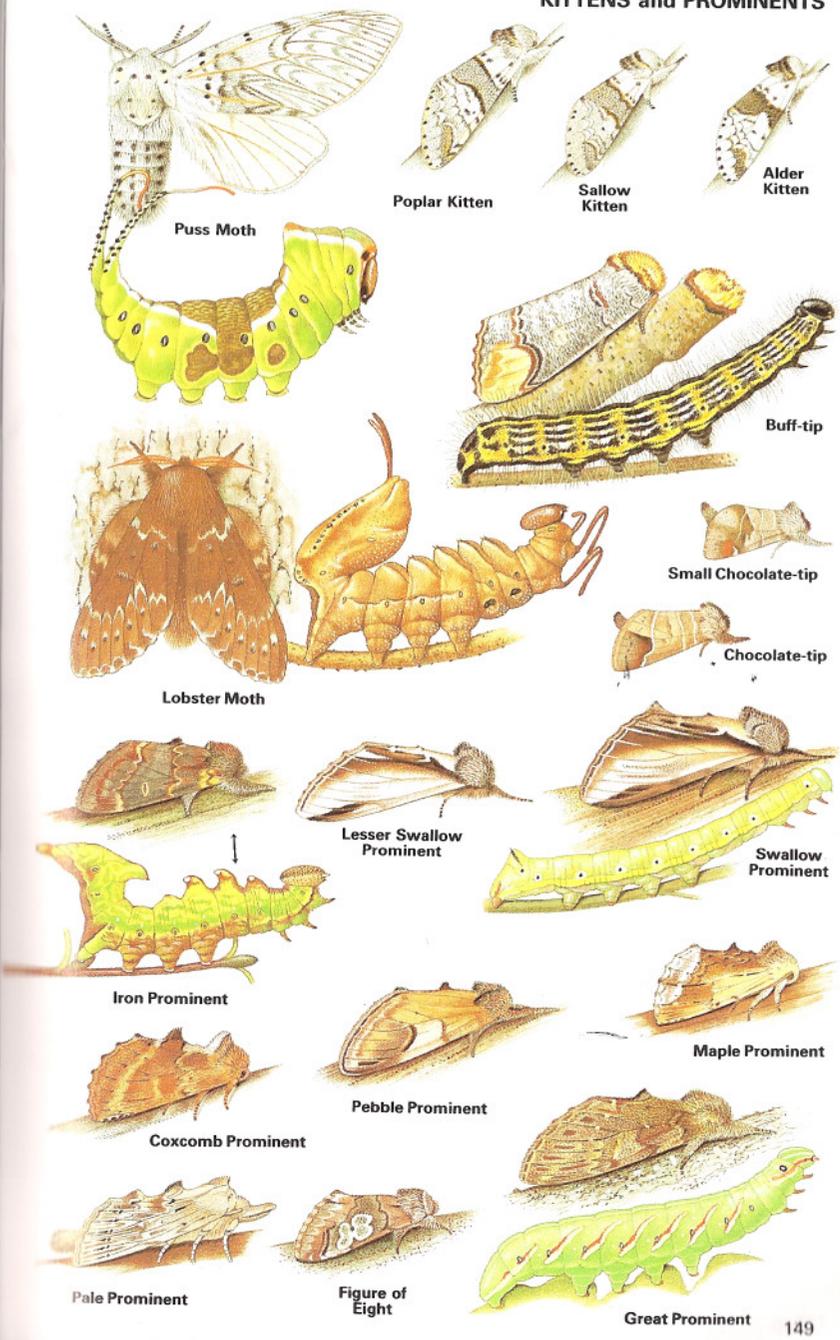
Family Notodontidae. Rather stout and often hairy moths with sombre colouring. Resemble noctuids (p. 156-8) in many ways, but vein M₂ is not close to M₃ at base. Many are called prominents because the rear edge of the forewing has a tuft of hair that sticks up in the mid-line at rest. Larvae usually with little or no hair but often with fleshy growths on the back: often rest with front and hind ends raised.

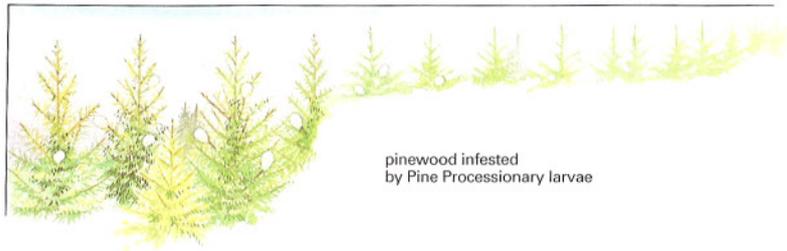


forewing venation of Notodontidae

- ▲ **Puss Moth** *Cerura vinula*. Female slightly darker and more strongly marked. 4-7 in lightly wooded areas, including parks and gardens. Larva, green with a brownish saddle, is well camouflaged among leaves. It rears head if disturbed and waves highly modified, whip-like hind legs. Feeds on willows and poplars.
- ▲ **Poplar Kitten** *Furcula bifida*. Inner margin of dark band straight and edged with black; outer margin well defined and smoothly curved. Hindwing pale grey. 5-7 in lightly wooded areas, including town parks and gardens. Larvae like small Puss Moth larva. On poplars.
- ▲ **Sallow Kitten** *F. furcula* resembles *bifida* but has yellow inner edge to forewing band, with outer margin distinctly toothed. 5-8. Larva like that of *bifida* but with paler saddle. On sallows.
- ▲ **Alder Kitten** *F. bicuspis* has darker central band than the last two species, with both edges concave. 5-7. Larva like that of *furcula*: on alder and birch. N & C.
- ▲ **Lobster Moth** *Stauropus fagi*. Wings may be much darker or much greyer than shown here. 4-7 in woodland, especially beechwoods. Pinkish brown larva gives the species its name: it has long, slender front legs and an up-turned tail ending in filamentous claspers. Feeds mainly on beech.
- ▲ **Buff-tip** *Phalera bucephala*. Named for the buff wing-tips which, together with buff thoracic hairs, give the resting moth the appearance of a broken twig. 5-8, wherever there are trees and shrubs. Larvae, gregarious when young, feed on a wide range of deciduous trees and shrubs.
- ▲ **Chocolate-tip** *Clostera curtula*. Clear chocolate on wing-tip does not cross outer white line. 4-10 in 2 or 3 broods. Wooded areas. Larva is hairy: greyish blue with a broad yellow stripe on the back and orange spots on the sides. Feeds on poplar.
- △ **Small Chocolate-tip** *C. pigra* is smaller and greyer, with indistinct chocolate tips. 4-10, with 2 broods in S. Fens and damp woodland. Larva is hairy: largely grey and yellow speckled with black. Feeds on sallows. N & C.
- ▲ **Iron Prominent** *Notodonta dromedarius*. Named for rust-coloured patches on forewing. 4-9 in lightly wooded areas. Larva is yellowish green to brown, with 5 slender humps on back. Feeds mainly on birch and alder. N & C.
- ▲ **Lesser Swallow Prominent** *Pheosia gnoma*. A distinct white wedge near rear edge of forewing. 5-9 in wooded areas. Larva is smooth and slender, purplish brown on top with yellow sides: a hump at the rear. Feeds on birch.
- ▲ **Swallow Prominent** *P. tremula* is larger and lacks conspicuous white wedge on forewing. Larva is green with a yellow stripe on each side. Feeds on poplar.
- △ **Maple Prominent** *Ptilodontella cucullina*. 5-7, especially in hedgerows and woodland margins. Larva is glossy green with a pale line on each side and a purple hump at the rear. Feeds on field maple. C: mainly on chalk in B.
- ▲ **Great Prominent** *Peridea anceps*. Forewing brown to black: hindwing almost white. 4-7 in open woodland. Larva, pale green with pink and yellow diagonal stripes, feeds on oak.
- ▲ **Pebble Prominent** *Eligmodonta ziczac*. Named for the pebble-like blotch on wing-tip. 5-10, in 2 or 3 broods. Hedgerows and other wooded areas. Larva is greyish with a brown hind end: sometimes tinged pink or yellow: 2 humps near the middle and a third at the rear. Feeds on willows and poplars.
- ▲ **Coxcomb Prominent** *Ptilodon capucina*. Thorax normally has distinct crown of pale hair. Wings range from pale to very dark brown. 5-9 in 2 broods. Hedgerows and other wooded areas. Larva usually green with a yellow stripe on each side and a pair of red-tipped humps at the rear. Feeds on a wide range of deciduous trees.
- ▲ **Pale Prominent** *Pterostoma palpina*. Long palps project in front of head: very like a broken twig at rest. 5-8 in wooded areas. Larva is bluish green above and darker green below, with a yellow stripe on each side. Feeds on poplars and sallows.
- ▲ **Figure of Eight** *Diloba caeruleocephala*. Forewing bears clear figure 8. Hedgerows, woodland edges, and gardens. 9-10. Larva is bluish grey with black spots and yellow lines. Feeds on blackthorn, hawthorn, and other rosaceous trees.

KITTENS and PROMINENTS





pinewood infested
by Pine Processionary larvae

Pine Processionary *Thaumetopoea pityocampa* Thaumetopoeidae. Hindwings white. Female much larger. In and around pinewoods 5-7. Larvae are dark, with tufts of brown hair, and they live communally in large silken tents on pine branches from autumn to spring. They march out to feed on the needles in single file – hence the common name. Feeding expeditions usually take place at night, but when the larvae are fully fed in late spring they march out by day to find suitable pupation sites. They may cluster on the ground for a while, as if deciding whether the conditions are right, and then they disperse to pupate singly in silken cocoons on or just under the ground. The larval hairs have very irritating properties and the caterpillars should not be handled. S & C (southern). A serious forest pest, sometimes so common that each tree bears several tents.

Oak Processionary *T. processionea* has rather 'dirty' hindwings. Female is larger. 8-9 in oakwoods. Larvae in silken tents on oak trunks in spring and early summer. They march in a broader procession when going out to feed on leaves at night. They pupate communally inside the larval tent.

▲ **Pale Tussock** *Calliteara pudibunda* Lymantriidae. A very hairy moth flying 4-7 in wooded areas. Adults do not feed – a feature shared by the whole family. Striking larva, with dense white hair tufts like little shaving brushes, feeds on many deciduous trees. N & C. ▲ **Dark Tussock** *Dicallomera fascelina* is slightly smaller and darker, often with orange or yellow scales in the dark cross-lines. 7-8, mainly on heaths and moors.

▲ **Vapourer** *Orgyia antiqua*. Male flies by day. Female wingless, mating and laying eggs on or very near her cocoon. 6-10, with 2 or 3 broods, wherever there are trees and shrubs: often common in towns. Larva, easily identified by horn-like tufts of hair, feeds on a wide range of deciduous trees and shrubs.

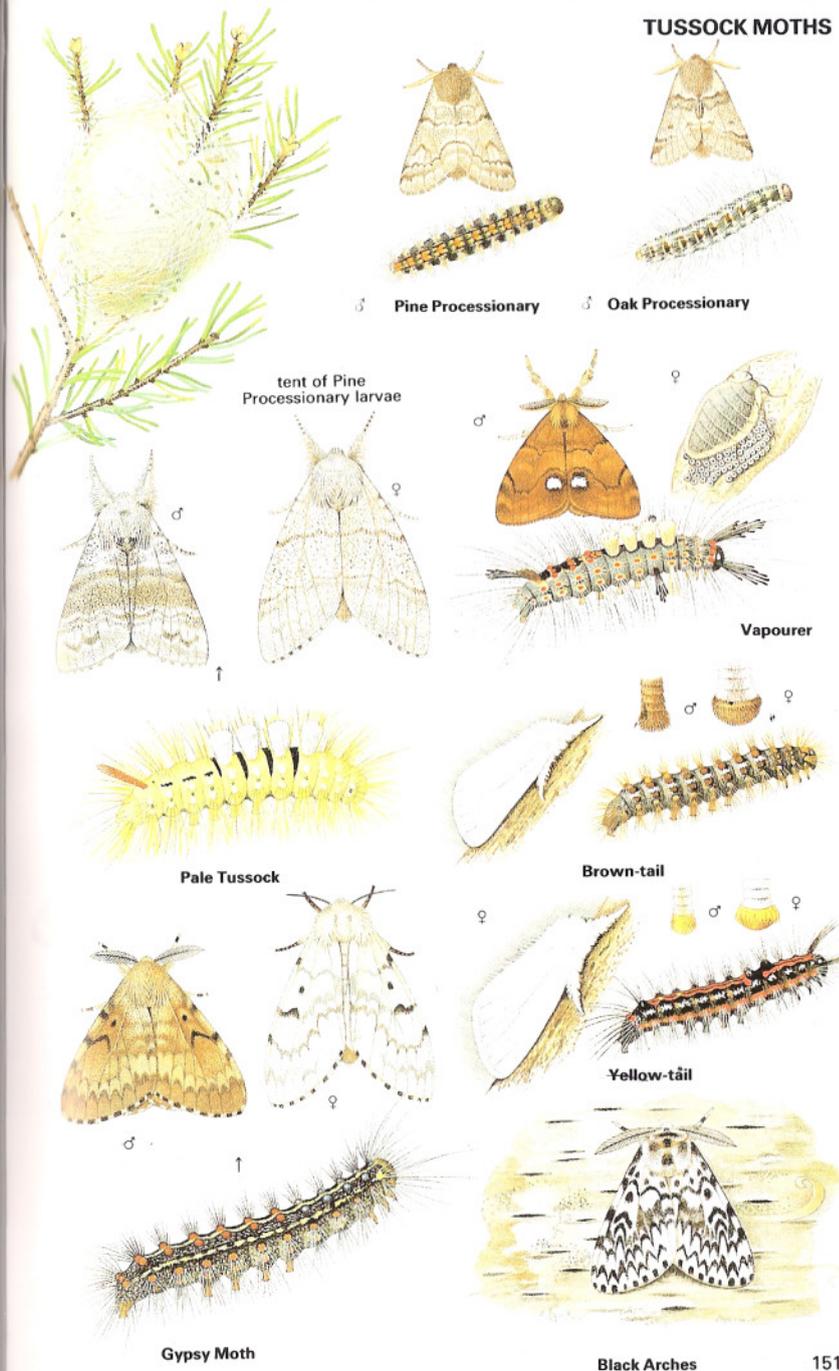
▲ **Brown-tail** *Euproctis chrysorrhoea*. Wings usually pure white in both sexes. Abdomen largely brown above in male and greyish brown in female. Both sexes have tuft of brown hair at tip of abdomen: much larger in female, who uses hairs to cover eggs. It has been shown that, as well as concealing the eggs, the hairs provide active protection. The larvae in this family are clothed with irritating hairs, and these are incorporated in the silken cocoons when the insects pupate. On emerging from the cocoon, the new adult female collects some of the hairs with her abdominal brush and then uses them to protect her eggs. 7-8 in woods and hedgerows. Larvae live communally on blackthorn, hawthorn, and various other trees: sometimes an orchard pest. S & C.

▲ **Yellow-tail** *E. similis* has tuft of yellow or golden hair on abdomen. Male usually smaller and often with small black spot on hind edge of forewing. Wooded areas, especially hedgerows, 6-8. Larva feeds on hawthorn and many other deciduous trees and shrubs.

Gypsy Moth *Lymantria dispar* 7-9. Sexes markedly different: male flies by day but female is flightless. She covers eggs with blanket of yellow hairs from tuft at tip of abdomen. Larva feeds on many deciduous trees and is a serious forest and orchard pest. Most of Europe, but extinct in B, where it was reasonably common in the East Anglian fens until the mid-19th century. Occasional males cross the Channel and appear in southern counties. An asiatic race, whose females can fly, has recently become established in Germany and poses an even greater threat to forestry.

▲ **Black Arches** *L. monacha*. Female larger and rather sedentary. 7-9 in deciduous and coniferous woodland. Larva is grey and hairy with black spots and lines on the back. Feeds mainly on oak, but also on birch and various conifers.

TUSSOCK MOTHS



tent of Pine
Processionary larvae

♂ Pine Processionary ♀ Oak Processionary

Vapourer

Pale Tussock

Brown-tail

Yellow-tail

Gypsy Moth

Black Arches