

**SWIFT MOTHS Hepialidae.** Moths with no proboscis and with very short antennae. Forewings and hindwings of similar shape, with no frenulum. At rest wings are held tightly along sides of body. Flight is usually fast and darting, with rapid beating of wings. Females generally larger than males and less boldly marked. Eggs are scattered in flight and larvae feed underground on the roots of a wide variety of plants.

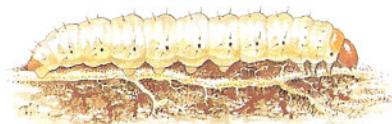
- ▲ **Ghost Swift** *Hepialus humuli*. Named for the ghost-like, hovering flight of male, which rises and falls slowly over the vegetation at dusk. The flashing of its pure white upperside attracts the yellowish female. Both sexes are dull brown below. 6-8 in grassland and arable land, especially where damp. Larvae (below) damage crop roots and are also harmful in forest nurseries. N & C.
- ▲ **Orange Swift** *H. sylvina*. Male forewing sometimes tinged with red; hindwing reddish brown. Female much larger and duller; hindwing greyish. 6-8 in open country. Absent from Ireland and SW.
- ▲ **Map-winged Swift** *H. fusconebulosa*. Forewing pattern very variable, but distinguished from other swift moths by chequered fringes on all wings. The form *gallicus*, found mainly in north, has no more than a white spot near middle of forewing. 5-8, mainly on heathland and woodland margins. Larva feeds mainly on bracken roots and rhizomes.
- ▲ **Common Swift** *H. lupulinus*. Variable forewings: markings often absent in female. Hindwings greyish brown. 5-8. Abundant in open habitats, including gardens and other cultivated land, where larva is often a pest. Adults commonly come to lighted windows. Absent from SW.
- ▲ **Gold Swift** *H. hecta*. Light spots often reduced. Hindwings dingy brown. Male with hovering flight. 6-8 on heathland and other bracken-covered habitats. Larva feeds on bracken roots and rhizomes. N & C.

- ▲ **Goat Moth** *Cossus cossus* Cossidae. A stout moth with conspicuously ringed abdomen. Hindwings same colour as forewings. 6-8. Larva is purplish red and lives inside trunks of various broad-leaved trees. It takes two or more years to mature and then pupates in soil, leaving a strong smell of goat on the tree.
- ▲ **Leopard Moth** *Zeuzera pyrina*. Wings thinly scaled in outer part and almost transparent; pulled tightly to sides of body at rest, with abdomen protruding beyond them. Female much larger. Male antennae feathery in basal half. 6-8, often coming to lights. Common in orchards and town parks. Larva tunnels in broad-leaved trees and shrubs and can weaken trunks and branches of young trees. S & C.

***Dyspessa ulula*.** Pattern variable; grey areas often very pale. 5-7 in well-drained places, usually on sandy soil. Larva in bulbs of wild and cultivated onions. S & C.

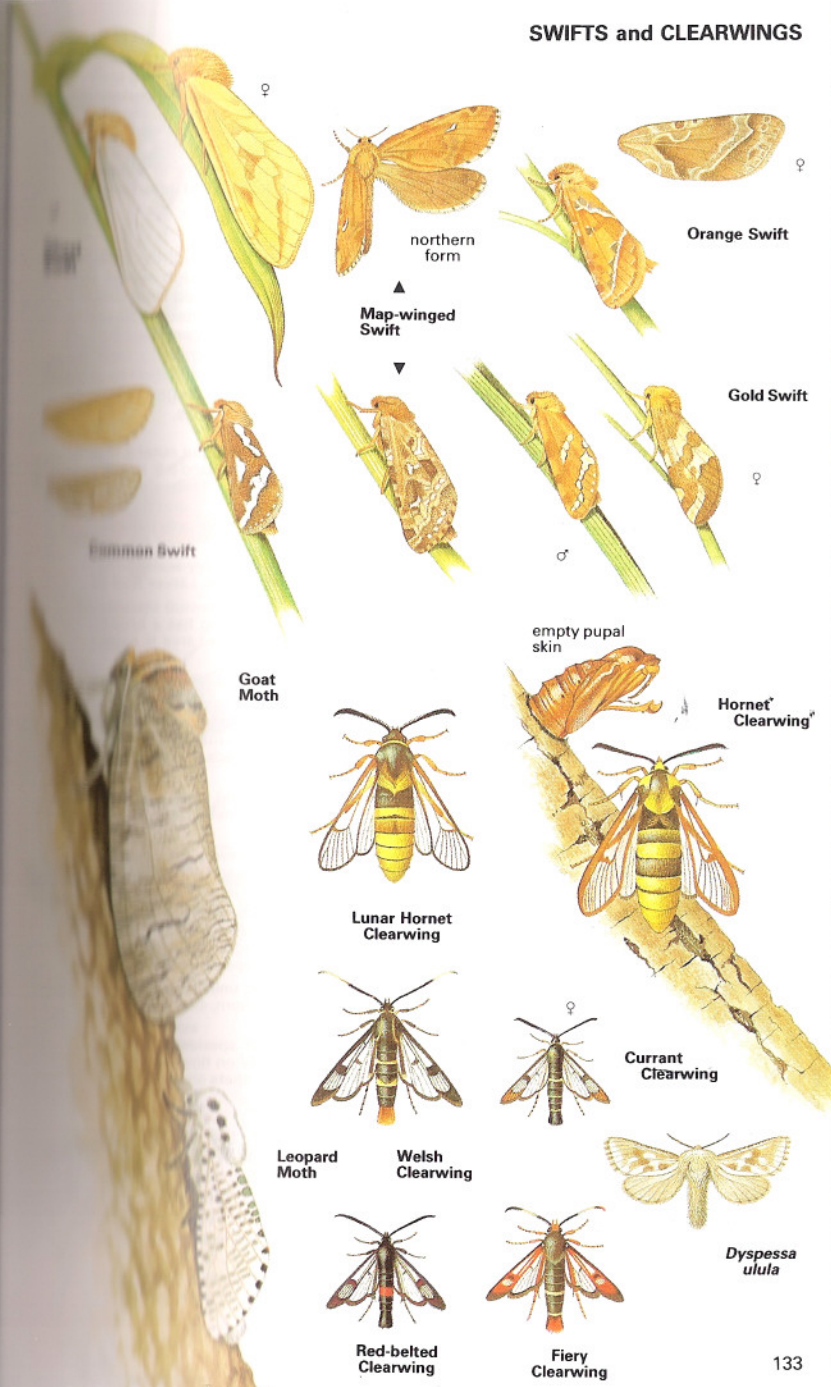
**CLEARWING MOTHS Sesiidae.** Day-flying, sun-loving moths whose wings lose most of their scales during first flight. Many mimic bees and wasps, often buzzing in flight. Usually rest with wings partly open. Larvae live inside roots and stems, usually for two years: pupa works its way partly out of stem before adult emerges.

- ▲ **Lunar Hornet Clearwing** *Sphecia bembeciformis*. Wasp-like, with black head and clear yellow collar. 6-7, usually in wooded areas, where larva feeds in willows and poplars. C.
- △ **Hornet Clearwing** *Sesia apiformis*. Yellow head and two yellow patches on thorax, but no complete collar. Hornet-like in flight. 5-6. Larvae in roots and lower trunks of poplars, usually just under the bark.
- △ **Welsh Clearwing** *Conopia scoliaeformis*. Brick-red tuft at tip of abdomen distinguishes this from most other clearwings. Named because first British specimen was found in Wales. 6-8. Larvae in birch trunks. N & C. ▲ **Red-belted Clearwing** *C. myopaeformis* sometimes has orange or yellow belt. 5-8, mainly in gardens and orchards. Larvae in apple and pear trees, especially old and weak ones. S & C.
- ▲ **Currant Clearwing** *Synanthedon tipuliformis*. Tip of forewing tinged orange. Male usually has 4 yellow abdominal belts. Basks on leaves of currant bushes 5-8. Larvae in stems of red and black currant, causing them to wilt and die.
- △ **Fiery Clearwing** *Bembecia chrysidiformis*. Extensive red colour on forewing identifies this species. Usually 2 yellow belts: sometimes 3 in male. 5-7. Larvae in roots of docks. S & C.



larva of Ghost Swift

**SWIFTS and CLEARWINGS**





*Syntomis*  
larva

**Nine-spotted Moth** *Syntomis phegea* Ctenuchidae. Day flying with weak, drifting flight. 6-7 in flowery habitats, including tree gardens: often abundant in sunny valleys in southern Alps. Larvae (left) feeds on various low-growing plants. S & C. One of several similar species. Although burnet-like, the family is unrelated to the burnets and is quite close to the tiger moths (p. 152-4).

***Dysauxes ancilla***. Spot pattern varies. Day-flying in scrubby places, especially south-facing slopes with scattered trees. Larvae feed on tree-trunk lichens. S & C.

**BURNETS and FORESTERS** *Zygaenidae*. Brightly coloured diurnal moths with slow, drifting flight, although wings beat quite rapidly. Generally lethargic and easily picked from flowers. Antennae slightly clubbed in burnets and toothed in foresters, especially in the males. Larvae are rather plump and usually pale with black spots (left), and the species are not easy to separate. Burnets pupate in papery cocoons, commonly attached to grass stems; foresters usually pupate low down in the vegetation. Pupae partly emerges from cocoon before adult escapes.



*Zygaena*  
larva

▲ **6-spot Burnet** *Zygaena filipendulae*. 6 red spots on each forewing, but outer 2 may fuse (left) occasionally replaced by yellow. Common in flowery grassland 5-8: strongly attracted to knapweed and scabious flowers. Larvae feeds on trefoils and other legumes.

▲ **5-spot Burnet** *Z. trifolii* has only one spot near wing-tip; central spots usually touching. Hindwing has thicker border than 6-spot Burnet. S & C.

▲ **Transparent Burnet** *Z. purpuralis* exists in several forms, all with thinly-scaled wings and red stripes reaching nearly to tip of forewing. 6-8 in grassy areas. Larvae feed on various plants.

***Z. osterodensis*** is similar but is more thickly scaled and hindwing has a broader margin. 6-7 in upland meadows. Less sluggish than most burnets. Larva is golden yellow and feeds on various low-growing plants.

***Z. fausta*** often lacks the red belt. Abundant in rough grassy areas 5-9. Larva feeds on various low-growing plants. S & C.

**Variable Burnet** *Z. ephialtes* is extremely variable: red is replaced by yellow in *Z. ephialtes* from Austria and northern Italy. Hindwings and all spots may also be red or yellow. 6-9 on scrubby hillsides, mainly in upland areas. Larva feeds on crown vetch and other legumes. S & C.

***Z. lavanduli*** is easily recognised by its bluish-black hindwings and white collar. 4-6, usually resting head-down. Less fond of flowers than most burnets. Larva has red under side and feeds on *Dorycnium*. S.

***Z. carniolica*** has white collar and white-ringed spots, and may have a red belt. 6-8 in scrubby habitats in upland areas. Larva is bluish green with black and yellow dots and feeds on various legumes. S & C.

***Rhagades pruni***. Forewings range from green to blue or brown. Male antennae are toothed right to the tip. 6-8 in scrubby places. Larva feeds on heathers and *Prunus* species. N, SE, & eastern parts of C, although the brown-winged, heather-feeding northern race *R.p. callunae* is sometimes treated as a separate species.

***Aglaope infausta***. Rather transparent. 6-8 in scrubby places but, unlike its relatives, it has a long tongue and rarely visits flowers. Larva feeds on hawthorn, blackthorn, and other rosaceous shrubs. SW & SE.

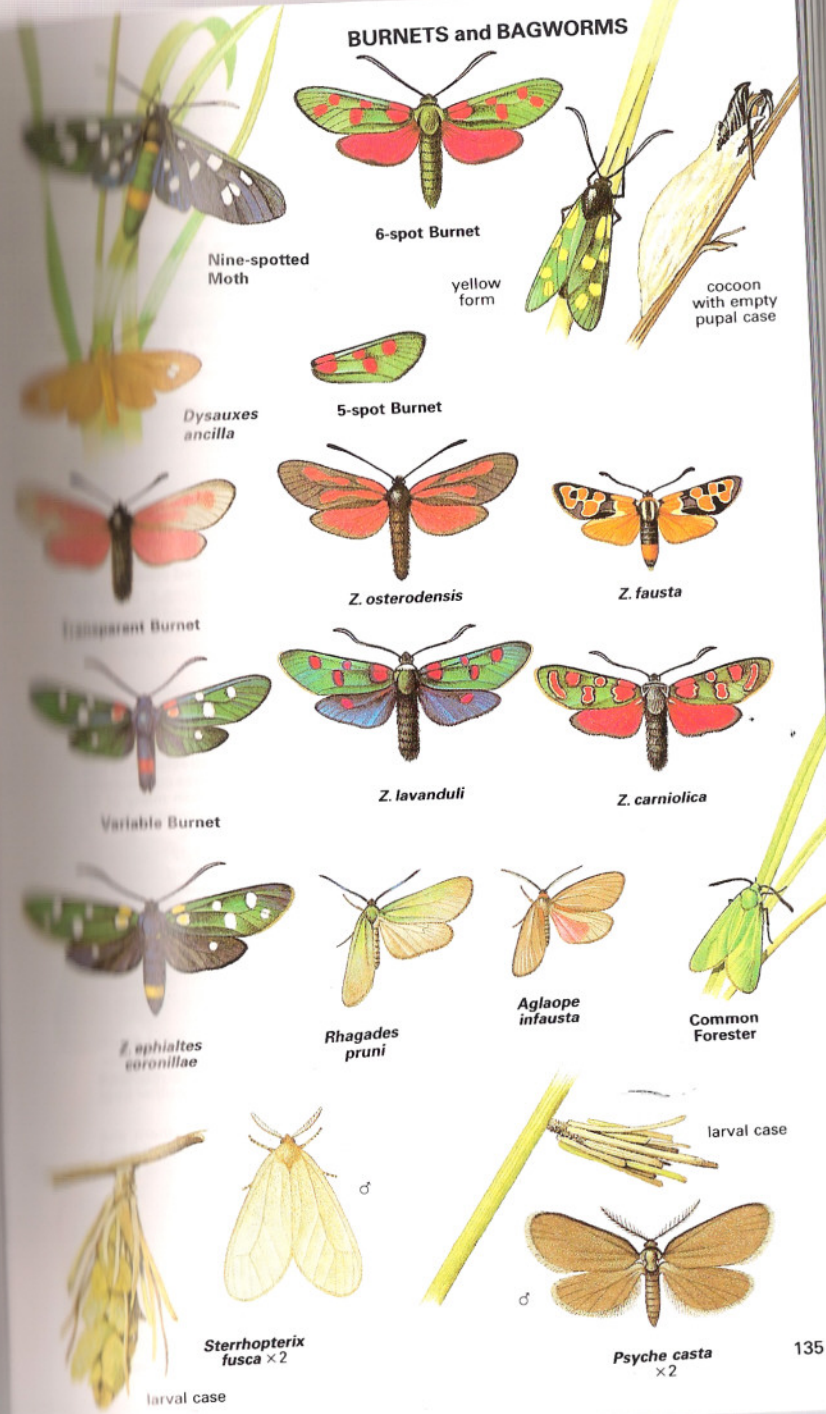
▲ **Common Forester** *Adscita statipes*. One of several similar species, with male antennae toothed only in basal region. 5-7 in grassland: usually on flowers. Larva is pale green or yellow with a brown stripe on each side and hairy spots on back. It feeds on scirpus.

**BAGWORMS** *Psychidae*. A small family named for the larval habit of constructing cases of vegetable fragments held together with silk. The larva carries the case about as it feeds, and then fixes it to a leaf or other object before pupating inside it. Males often fly by day, but females are wingless and remain in their larval cases, where they mate and lay eggs. Neither sex feeds in adult state.

▲ ***Sterrhopterix fusca***. Male flies 6-8 in wooded areas, using feathery antennae to detect females in their cases. Nocturnal. Larva feeds on various trees. C.

▲ ***Psyche casta***. 6-8 in rough grassy places. Males fly soon after daybreak, drifting lazily in search of females, whose cases are usually quite conspicuous on grass stems. Larvae feed on grasses and lichens.

**BURNETS and BAGWORMS**



Nine-spotted Moth

6-spot Burnet  
yellow form

cocoon with empty pupal case

*Dysauxes ancilla*

5-spot Burnet

Transparent Burnet

*Z. osterodensis*

*Z. fausta*

Variable Burnet

*Z. lavanduli*

*Z. carniolica*

*Z. ephialtes coronillae*

*Rhagades pruni*

*Aglaope infausta*

Common Forester

*Sterrhopterix fusca* x2

*Psyche casta* x2

larval case

larval case

**EGGAR MOTHS Lasiocampidae.** Mostly heavy-bodied moths with somber colours – usually brown. Females considerably larger than males. No proboscis and no frenulum, the wings being linked merely by a large overlap. The larvae are stout and hairy and usually spin strong silken cocoons on the vegetation. The hairs commonly have irritating properties and the larvae should be handled with care. Several of the species pass the winter as hibernating larvae: most of the others overwinter in the egg stage.

▲ **Oak Eggar** *Lasiocampa quercus*. Hindwing resembles forewing. Male flies rapidly by day, but female flies and lays eggs at night. 4-9, mainly on heathland and other open country: sometimes in light woodland. The velvety larva feeds mainly on heather, bramble, and hawthorn.

△s **Grass Eggar** *L. trifolii* has uniformly brown hindwing, with white line often absent; cross-band may also be missing from forewing. Female usually paler, with less prominent white spot. 7-9 on heathland and rough grassland, including coastal dunes; largely nocturnal. Larva like that of Oak Eggar but blacker. It feeds on grasses and many other low-growing herbs and shrubs. Coastal in B.

▲ **Lappet** *Gastropacha quercifolia*. Varies from deep purple to pale brown, the latter most common in the south, where it can be confused with *G. populifolia*, although the latter has no obvious cross-lines. Female often twice as big as male. Rests with wings in unusual position, resembling a bunch of dead leaves. 5-8 in hedgerows and wooded areas, including orchards. The dark brownish grey larva has 2 bluish bands near the front and feeds on blackthorn and other rosaceous trees. It hibernates openly on the stems when still very small, but is very well camouflaged on the dark bark.

▲ **Drinker** *Euthrix potatoria*. 6-8 in grassy places, including roadsides, usually where damp. Named for larval habit of drinking from water droplets on leaves. Larva feeds on various tall grasses and pupates in a tough, yellowish, sausage-shaped cocoon.

▲ **Fox Moth** *Macrophyllacia rubi*. Female much paler and usually greyer. 5-7. Males fly day and night; females only at night. Heaths, moors, open woodland, and hedgerows. Larva is velvety black or deep brown, with orange inter-segmental bands. Feeds on bramble, heather, and other low-growing shrubs, hibernating when fully grown and pupating in spring.

**Pine Lappet** *Dendrolimus pini*. Very variable: female forewing may be almost uniformly grey with just the central white spot. Coniferous forests and plantations. 5-9. Larva is greyish brown with 2 blue patches behind head. Feeds on pine and spruce.

▲ **Lackey** *Malacosoma neustria*. Ranges from pale buff to brick-red. 6-8 in woods and hedgerows: often common in gardens and orchards, and even town streets. Larva has 2 black spots on face and is remarkably large compared with adult. It lives communally for most of its life on hawthorn and many other trees. Less hairy than many of its relatives, it relies on its warning colours for protection. The species overwinters in neat batches of eggs on the twigs of the food-plant.

▲ **December Moth** *Poecilocampa populi*. Thinly-scaled wings. Flies 9-12, usually at dusk, in woods and hedgerows. In northern regions it may be on the wing as early as August. Larva is pale brown, heavily speckled with black. It feeds on a wide variety of deciduous trees. N & C.

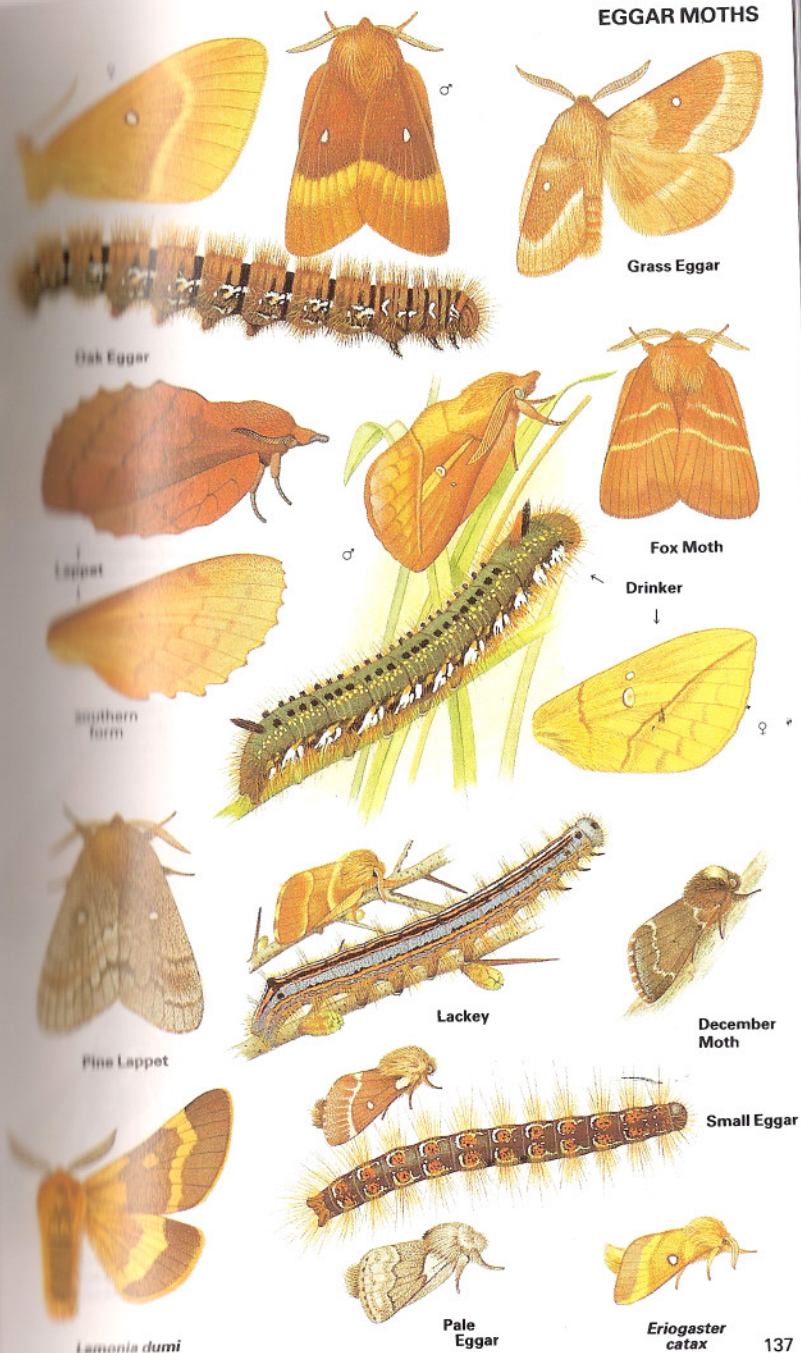
▲ **Small Eggar** *Eriogaster lanestris*. Wings thinly scaled. Female, with much longer wings, has prominent tuft of grey hair at tip of abdomen. 2-4 in lightly wooded areas and especially in hedgerows. Larvae feed communally on blackthorn and hawthorn, forming dense silken tents. The species often spends 2 or 3 years in the pupal stage and has been known to take 7 years to emerge. Becoming scarce in B as a result of mechanical hedge-trimming in summer.

**E. catax**. Female much larger and mostly brown, with narrow yellow band across forewing and a large grey anal tuft. White spot prominent in forewing of both sexes. 9-11 in wooded and scrubby places. Larva is hairy, yellowish brown with velvety black and blue spots. It feeds communally in a silken web on hawthorn and many other trees and shrubs.

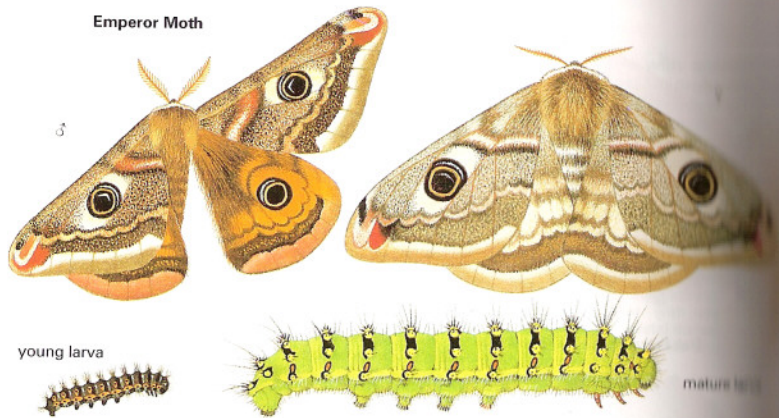
**Lemonia dumi**. Female lighter. 9-10 in open woodland, especially northern and montane coniferous forests. Males fly fast and erratically, like most of the family, and are largely diurnal; females fly at night. Larva, dark brown with yellowish brown hairs, feeds on dandelions and other low-growing herbs. N & C.

▲ **Pale Eggar** *Trichiura crataegi*. Sexes about same size, but female often more uniformly grey. 7-9 in wooded areas. Larva is dark grey or black, decorated with red and white. It feeds mainly on hawthorn and blackthorn. In southern and central Europe it overwinters in the egg stage, but further north, including parts of Scotland, it may have a 2-year life cycle, spending the first winter as an egg and the second as a larva.

## EGGAR MOTHS



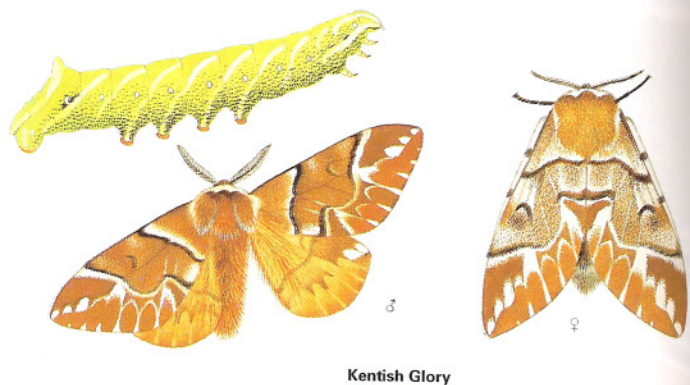
Emperor Moth



**Giant Peacock Moth** *Saturnia pyri* Saturniidae. Europe's largest moth, with a wing span up to 15cm. 4-6, both sexes flying at night and often mistaken for bats. Lacks proboscis, as do all members of the family. Larva starts off black with red or orange rings, becoming yellowish green with long clubbed spines and bands of blue warts. Feeds on ash, blackthorn, and various other trees. Spins a very fibrous cocoon. S, extending here and there into southern parts of C.

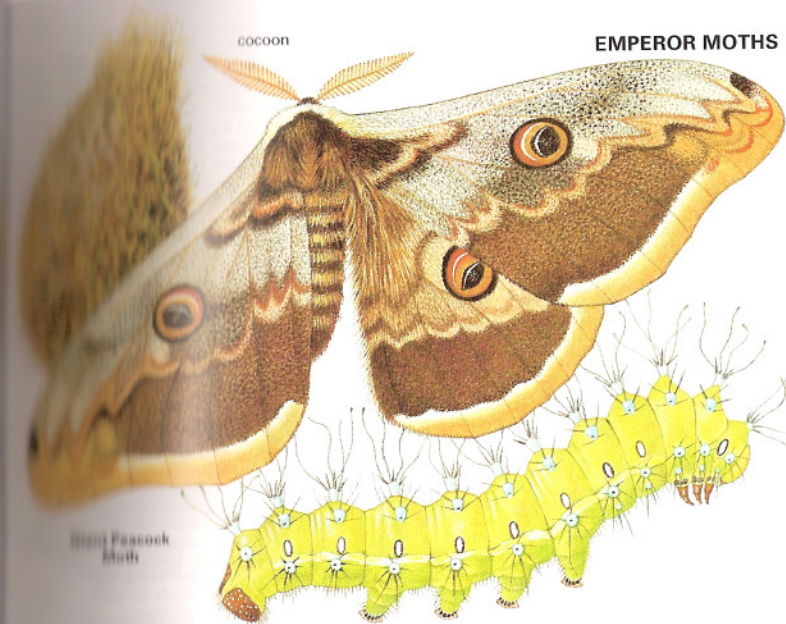
▲ **Emperor Moth** *Saturnia pavonia*. Male flies rapidly by day and can detect female up to 2km away. She flies and lays her eggs at night, but flight is weak. 4-6 on heathland and other open country. Larva, black and orange to start with, feeds on heather, bramble, blackthorn, and various other plants 5-7.

**Tau Emperor** *Aglia tau* Ranges from yellow to very dark brown. Female larger. Eye-spots vary in size: underside with eye-spots only on forewing. 3-6, male flying by day and female at night. Mainly in woodlands. Larva is pale green, with fine red spines in early stages, and feeds on various trees, especially birch, oak, and beech.

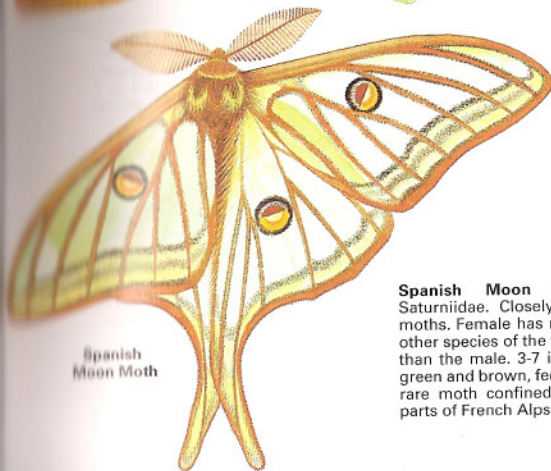


△n **Kentish Glory** *Endromis versicolora* Endromidae. Flies 3-5, associated with birches of moorland and open woodland. Does not feed. Bright green larva has a prominent hump at the rear. It feeds on various trees, but especially birch and alder. Widespread, but in B now confined to northern Scotland.

EMPEROR MOTHS



Tau Emperor



**Spanish Moon Moth** *Graellsia isabellae* Saturniidae. Closely related to the tropical silk moths. Female has much shorter 'tails' and, as in other species of the family, less feathery antennae than the male. 3-7 in pinewoods. The larva, pale green and brown, feeds on various kinds of pine. A rare moth confined to mountains of Spain and parts of French Alps - where probably introduced.

## HAWKMOTHS

**HAWKMOTHS** *Sphingidae*. Stout-bodied and generally fast-flying moths, mostly with narrow, pointed forewings. A few have broader, scalloped wings and fly more slowly. Most have a very long proboscis and feed while hovering at flowers, but some have no proboscis and do not feed at all as adults. The wings are commonly held flat and swept back like arrowheads at rest. Many species are strong migrants. The larvae often sport oblique stripes, which camouflage them remarkably well, but species feeding on low-growing plants are often protected by warning colours. There is often a marked colour change before pupation. Most caterpillars have a curved horn at the rear end.

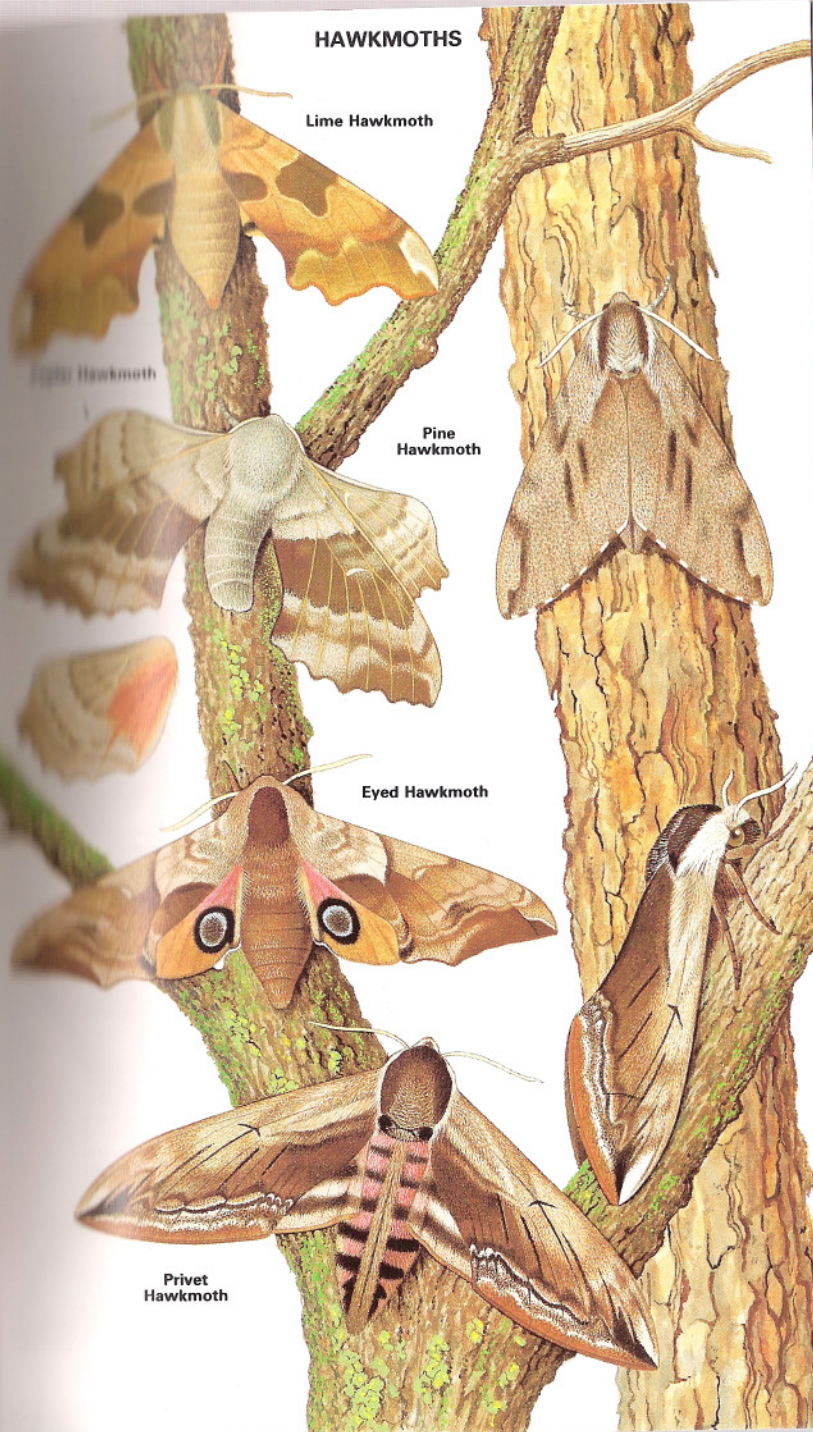
▲ **Lime Hawkmoth** *Mimas tiliae*. Ground colour of forewings ranges from greenish, through orange-brown, to buff. Pattern also varies. One of the slower fliers, it does not feed. The wings are spread rather widely at rest. 5-7. Larva feeds mainly on lime but also on other trees.

▲ **Poplar Hawkmoth** *Laotloe populi*. Wings range from ash grey to pinkish brown. The moth flies relatively slowly and does not feed. There is no frenulum and the hindwing projects in front of forewing at rest. Orange spot on hindwing is concealed at rest, but exposed when disturbed, as in the Eyed Hawkmoth. 5-9 in 2 broods. Larva, sometimes blue-green, feeds on poplars, willows, and sallows.

▲ **Pine Hawkmoth** *Hyloicus pinastri*. Hindwings dark grey. Especially fond of honeysuckle. Very well camouflaged at rest on tree trunks by day. 6-8. Larva feeds on pine and spruce needles. It is green with white stripes at first, when it rests among the needles. It becomes browner and rests on the twigs later. Pine and spruce forests throughout Europe, although absent from the native pine forests of Scotland.

▲ **Eyed Hawkmoth** *Smerinthus ocellata*. Flies faster than Poplar Hawkmoth, but rests in the same way with hindwings projecting forward. The eye-spot on hindwing is exposed when the moth is disturbed, the body heaving up and down at the same time and scaring away inquisitive birds. Does not feed. 5-9 in 2 broods. Larva feeds on sallows and apple, almost always in an upside-down position.

▲ **Privet Hawkmoth** *Sphinx ligustri*. Superficially similar to Convolvulus Hawkmoth (p. 142), but pink banding on hindwing easily distinguishes it: thorax also blacker and forewings much browner than Convolvulus Hawkmoth. At rest, wings are pulled back and held roofwise or tent-like over the body. 6-7. Larva feeds on privet, lilac, and ash, commonly in an upside-down position.



Lime Hawkmoth

Pine Hawkmoth

Eyed Hawkmoth

Privet Hawkmoth