(Forster’s)

1. Coleoptera: Beetles

Scarabæus: Scarab

1. *Scarabæus laevipes*: Smooth-footed scarab
Lozenge-shaped, short-bodied, black, the elytra reddish-brown, rough all over with small smooth spots, divided claws.
Habitat: north America.
In size somewhat like a fire-weevil; in any case, it looks at first sight like a weevil.
Head black, with a blunt triangular shield in front, from which grow dense little yellowish hairs.
Thorax angular and sub-cylindrical, black, with yellowish hairs growing from it.
Scutellum black.
Elytra elongated and reddish-brown, with yellowish hairs growing from them.
Front of thorax, abdomen and belly black, also with yellowish hairs.
Feet and antennae rust-coloured, smooth.
Foremost pair of tibiae with two spiny teeth on the outside and one on the inside; the hindmost pair with two spines on the extremity.
Pair of divided claws in what one might describe as the foot.

2. *Scarabæus rufus*: Red scarab
Lozenge-shaped, short-bodied, pale rust-coloured all over, or red, with black eyes, hairy underneath and with streaked elytra.
Habitat: north American province of New York.
In size rather smaller than *Scarabaeus fossor*.
Body all red or pale rust-coloured, somewhat convex, markedly so above, almost flat below, egg-shaped.
Head shield-shaped, half rounded, three-lobed.
Eyes black.
Antennae with rounded terminals, with three lamellae.
Thorax markedly convex, truncate behind, notched in front; roughened, densely sprinkled with tiny holes.
Scutellum half-round, translucent like amber.
Elytra smooth, streaked with furrowed holes arranged in 14 grooves, not all of which reach the tip of the elytra. Elytra touching, and markedly humped towards the apex. Underneath, the whole body and the legs are covered with hairs of the same colour. The hindmost feet well spaced.
Tibiae denticulate, with double spines.
Tarsi with five articulations, with paired claws.

3. *Scarabæus biunguiculatus*: Two-clawed scarab
Oblong, abbreviated, lozenge-shaped, pitch-black, the front of the thorax hairy, the head black, the legs with rust-coloured divided claws.
Habitat: north America.
The size of a *Scarabaeus auratus* but more elongated. All pitch-black and shining.
Head black, and small.
Lip with a raised edge, separated from the head by a suture.
Thorax pitch-black and convex, marked by numerous tiny holes, the fore part slightly blunt, the rear part falling away at the sides.
Scutellum half-round.
Elytra pitch-black and smooth, marked with reddish holes.
Belly pitch-black and shiny.
Front of thorax and abdomen with shaggy, pale hairs.
Legs rust-coloured.
Tarsi elongated.
Claws divided or marked with teeth.
Antennae with three lamellae at the head.

4. *Scarabæus pilosus*: Hairy scarab
Abbreviated, lozenge-shaped, oblong, hairy, reddish-brown.
Lives in north America.
In size a little smaller than *Scarabaeus biunguiculatus*. Hard all over, hairy.
Head half-round.
Labium dark and upstanding.
Thorax and elytra reddish-brown, hairy.
Belly smooth.
Front of thorax and abdomen sprouting pale-yellow hairs.
Feet with two claws, rust-coloured, i.e. with toothed claws.

5. *Scarabaeus testaceus*: Testaceous scarab
Oblong, abbreviated, lozenge-shaped, smooth, with a rust-coloured thorax.
Habitat: north America.
In size smaller than *Scarabaeus pilosus*. All reddish-brown and smooth.
Very short head.
Labium emarginate, separated from the head by a suture.
Thorax rust-coloured, smooth, perforated with holes.
Scutellum half-round.
Elytra reddish-brown, smooth, perforated with occasional holes.
Front of thorax, abdomen and belly smooth and reddish-brown.
Legs of the same colour.
Claws divided.
Note: While *Scarabaeus biunguiculatus*, *pilosus* and *testaceus* are all of the same kind, and all have claws provided with teeth, they are none the less of different species, differentiated by size and other characteristics noted above.

Cassida: Tortoise beetles

6. *Cassida pallida*: Pale tortoise beetle
Pale, with a black body.
Habitat...collected in the woods in England and in northern America.
Pale all over, nor was there present any blue line against the white.
Body black.
Face pale.
Antennae with pale base, dark on the outside.
Legs all pale.

Chrysomela: leaf-beetles

7. *Chrysomela xanthogona*: Yellow-kneed leaf-beetle
Saltatorial, all green, with dark antennae and little knee-bends on the legs, the tibiae yellow at the ends.

Habitat . . .

The size of a flea, all shining green, or greenish-blue.

Abdomen, bluish-black.

Antennae dark, pale at the base.

Elytra striated, with little holes.

Femora and tibiae yellow at the ends.

8. Chrysomela thoracica: Green-thoraxed leaf-beetle

Saltatorial, black, the head and thorax greenish-bronze, elytra dark.

Habitat . . .

The size of Chrysomela exsoleta.

Antennae reddish at the base, the tips black.

Head and thorax greenish-bronze.

Thorax large, markedly convex, densely marked with little dots.

Elytra dark reddish-brown, striated with impressed dots.

Legs all reddish.

Femora spotted.

Sutures of the elytra blackish.

9. Chrysomela spinicornis: Spiny-horned leaf-beetle

Cylindrical, black, with the face and the outer edge of the thorax white, elytra with two golden patches; antennae hairy and articulated, segments 3, 6 and 7 spiny.

Habitat in northern America in the province of New York.

The size of Chrysomela vitellina.

Antennae of the same length as the body, the first four segments rust-coloured and the others black, all of them hairy and nodular (i.e. the base and tip thicker or somewhat club-like), the third, sixth and seventh spiny, furnished with a tooth below.

Mouth and palps rust-coloured, the face inward-curved with a white patch between the antennae, other yellowish patches surround the antennae on either side.

Thorax black and smooth, the outer margin white, with spots at either side towards the elytra.
Elytra black, striated, with markedly deep impressions on individuals, two spots elongated, another rounded towards the edge, yet another triangular, lunate towards the tip.
Breast and abdomen black, with a white spot below the base of the elytra.
The femora at the front with a white globule, elsewhere black, the tibiae and tarsi with three segments.
Remark: quite similar to *Chrysomela moraea*.

**Coccinella: ladybirds**

10. **Coccinella hispanica**: Spanish ladybird
Black beetle, the head, the edge of the thorax and two dots at the tip of the elytra red.
Habitat in Spain.
Very small in size, less than nineteen points.
Head red, eyes black, antennae yellow, seemingly clubbed but not truncate.
Thorax black, the rear border and the lateral margins broad, red.
Elytra black, both with a red spot towards the tip and with a very small one scarcely visible at the base.
Abdomen black.
First pair of legs reddish-brown all over; the second pair black, the tarsi, knees, a line on the tibiae and a patch on the femora reddish-brown; third pair black, a line on the tibiae and the tarsi reddish-brown.

**Curculio: weevils**

11. **Curculio exsoletus**: Exolete weevil
Short-nosed, changeable grey and white, cloudy, the antennae and legs reddish.
Habitat often in the leaves of *Corylus avellana*.
The size of a *Curculio cervinus*, or similar.
Legs short, reddish.
Antennae reddish-yellow.
Elytra streaked, with patches, bands and margins white or grey.
Apex and outer margins of the elytra more markedly grey but with no brighter ornamentation.
Abdomen and breast green, unpleasantly [check] cloudy.
A variety appears with the elytra shading from white to ash-grey.

12. Curculio 4-guttatus: four-spotted weevil
Long-nosed, the femora toothed and the black elytra grooved, with four white spots.
Habitat . . .
A little bigger than a flea, but more wrinkled.
Breast and abdomen black, covered with papillae or with tiny grey scales, so that they have the appearance of white discs.
Nose black, twice the length of the head.
Antennae markedly clubbed, dark.
Legs, head, thorax and elytra black.
Elytra wrinkled, with about ten grooves on one and with a very small white spot in the centre with another towards the tip.
Femora toothed all over, not thickened, although it jumps.

13. Curculio scutellatus: shield weevil
Long-nosed, with rather short femora, black, the elytra grooved, scutellum white, abdomen ash-grey.
Lives in northern America, in the province of New York.
Size almost that of Curculio pomorum.
Long nose.
Antennae clubbed.
Thorax somewhat globular, black, covered with little holes.
Elytra black, streaked with nine grooves, with occasional recessed holes among the grooves.
Femora hidden.
Tibiae and tarsi pitch-black.
Scutellum, breast and belly covered with many white hairs.

14. Curculio dissimilis: a different weevil
Long-nosed, dark, with toothed femora; thorax and elytra reddish testaceous , with raised discontinuous lines, and with numerous dark patches towards the apex.
Lives in Scrophularia nodosa.
About the size of Curculio populi or a little less, but in appearance like Curculio scrophulariae.

Body dark or mouse-coloured.

Thorax and elytra with reddish testaceous. On each elytron five raised lines caused by alternate patches of black and white. In a groove towards the apex of either elytron is a blackish spot, and in some another dark spot between this and the apex; nevertheless, there are none on the apex itself.

Legs red, with black rings.

All femora toothed.

Remark: Curculio scrophulariae is both similar and dissimilar, though certainly it may be said to form a different species; from which it is evident that frequently all of these species can be found on the same plant. Yet I have not seen others interbreeding unless of the same species, even though you may see more than ten pairs of this species sharing the same plant at the same time.

15. Curculio similis: a similar weevil

Long-nosed, with toothed femora, black body, white thorax, black elytra with raised discontinuous lines, with two spots on the back, both black.


(NB: the description of the Curculio Scrophulariae given by the celebrated Linnaeus in his Fauna Suecica, no. 603, does not agree with that in Geoffroy, vol. I, p. 296, no. 44, but agrees completely with no. 45.

Lives in Scrophularia nodosa and S. aquatica.

Very like the Curculio scrophulariae of Linnaeus but twice the size, or the size of Curculio betulæ. Black and not ash-grey.

Body rather globular.

Thorax and sides of the breast white, except for a black dot on the thorax.

Elytra black (while in Curculio scrophularia they are white to grey); on each one five raised lines caused by alternate patches of white and black. In a groove towards the bottom are numerous very black rounded patches with a contiguous white triangular dot behind. Next to the apex of the elytra is another rounded black patch with a white triangular dot in front, opposite the aforementioned white dot.

Legs black, with white rings.

Femora all toothed, the teeth white.
16. *Curculio rufulus*: reddish weevil

Long-nosed, with legs for jumping, the body black; the nose, antennae, thorax, elytra and legs approaching red.

*Curculio rufus*, the hind femora more powerful, the elytra red. Geoffroy, as above, vol. I, p. 286, no. 19.

Habitat on *Corylus*?

Twice the size of a louse.

17. *Curculio obscurus*: dark weevil

Long-nosed, oblong, black, with legs for jumping, the antennae and feet red.

Habitat . . .

The size of a larger louse.

Very short grey hairs scattered over the whole insect.

Head and thorax black.

Eyes black.

Elytra grooved.

Antennae short and red or yellow, as are the soles of the feet.

Hind femora heavily clubbed.

**Attelabus: weevil**

18. *Attelabus cylindricus*: cylindrical weevil

Black all over, the antennae red.

Habitat . . .

Body cylindrical, very narrow and almost linear.

Head and thorax smooth, scattered with numerous minute impressed points. Thorax completely cylindrical.

Elytra wrinkled, with numerous raised streaks; and between the streaks very numerous impressed points.

Tibiae large, toothed or serrated.

The male of the following? Smaller than the following.

19. *Attelabus pilosus*: hairy weevil
Black, the elytra pitch-black, striated.

Habitat . . .

The size of *Cicindela aquatica*. The whole body sprinkled with minute hairs.

Antennae red, clubbed, with a solid apex with four articulations.

Head black, immobile.

Thorax large, convex and cylindrical, black.

Elytra oblong, pitch-black, with a few streaks of impressed dots.

Legs, narrow, black.

Tibiae red, composed of four segments.

**Leptura: leptura beetles**

**20. Leptura americana: American Leptura**

Thorax globular, somewhat swollen, all rust-red, elytra truncate at the tip, with four yellow bands.

Lives in northern America in the province of New York.

**Size and appearance of Leptura arietis.**

Body all rust-coloured.

Antennae rust-coloured, with eleven segments.

Head rust-coloured where it joins the thorax.

Eyes black.

Thorax globular, rust-coloured, slightly swollen.

Elytra rust-coloured, large and darker behind and on the abdomen; on the elytra some may have four yellow bands, the first across the base, the second marking the angle of the suture, the third and fourth slightly curved, the curves facing backwards towards the tip.

Legs all rust-coloured, the second and third pairs longer.

Abdomen with four discontinuous bands below, on the breast.

**Hemiptera: bugs**

**Blatta: cockroach**
21. *Blatta livida*: blue cockroach
Yellowish-blue all over.
Lives in northern America.
The size of the eastern one; all yellowish-blue.
Eyes semi-lunate, black.

**Hymenoptera: bees and wasps**

**Ichneumon: ichneumon wasp**

22. *Ichneumon aterrimus*: black ichneumon
Black all over, wings glass-green.
Length about twice that of a flea.
Forward part of abdomen cylindrical.

**Sirex: wood wasps**

23. *Sirex armillatus*: banded wood wasp
Abdomen bluish-black, the second-last segment with a brown patch to the side, thorax black and rough.
Lives in northern America.
Size of *Sirex gigas*.
Head black, yellow behind the eyes; rough, densely covered with raised dots.
Antennae shorter than half the body; black at the base, yellow in the middle and dark at the tip, with twenty-two segments.
Thorax black all over, rough, with dense points. Behind the scutellum, on both sides yellow dot.
Wings dark, the costa and veins black.
Abdomen black, smooth, cylindrical-oblong; second-last segment with a brown patch on either side; the last segment foreshortened, terminating in a little horn, straight, almost cylindrical, with a sharp point; in the lowest part of the abdomen, a little above the centre, is a longitudinal cleft; terminates in black, semi-cylindrical folds, with a
fringed edge; incorporates a rigid, black sting, armoured at the base, freer at the point, thicker, so that thence it may be readied as a sting, almost equal in length to the abdomen with the thorax.

Femora short, black.
Tibiae yellow at the base, black at the tip.
Tarsi with first segment yellow and black at the tip, the other segments all black.

**Sphex: digger wasp**

24. *Sphex flavipes*: yellow-footed digger wasp
Black, the abdomen very short, with a long petiole, the hind legs very long, with all the joints half-yellow.
Lives in northern America.
The size of a *Sphex fabulosa*: similar to the wasp illustrated by Drury, *Illustrations of Natural History*, vol. 1, pl. XLIV, figs 6-8 but smaller, *necalis* violet-coloured.
Head black, face appearing golden when looked at in a certain way, covered with hairs.
Palps black.
Maxillae pitch-black.
Antennae yellow at the base, the remainder dark; eleven segments.
Thorax hairy, black; a yellow spot in front of the wings.
Abdomen black, very short, a very long, one-segmented petiole, of the same colour.
Wings rust-coloured, dark at the tips.
First and second pairs of femora black, yellow at the tip; third pair black all over.
Tibiae yellow, but the third pair with black tips.
Tarsi all yellow, the tips dark rust-coloured.

**Apis: bees**

25. *Apis pennipes*: fringe-footed bee
Hairy and black, the tarsi of the second pair of legs fringed on one side.
Schaeffer 1791, pl. 45, fig. 6.
Found in spring meadows.
The size of *Apis pratorum*. 
Face, labium and base of the antennae yellow.
Antennae black.
Thorax covered above with pale yellow hair and with grey below.
Foremost two abdominal segments with pale yellow hairs, the remainder covered with sparse black hairs; grey hairs towards the edge of the abdomen.
Feet black, covered with grey hairs.
Second pair of tarsi long; first segment expanded, covered with short, dense black hairs towards the tip; segments on the others clothed in long black hairs.
Both claws girdled with short, black hairs.
Hairs of the thorax and abdomen varying shades of yellow.

26. *Apis vernalis*: spring bee
Hairy, black, the thorax and abdomen with yellow hairs above.
Schæffer 1791, pls 32 fig. 3 and 34 fig. 11.
Habitat in spring meadows.
The size of an *Apis bicornis*.
Antennae, head, breast, bottom of the abdomen and legs black.
Back and upper part of the abdomen both black, but covered with yellow hairs.
The hairs on the abdomen as if disposed in strata or a tesselated belt.
Eyes pale black.
Wings hyaline, with reddish dots and veins.

Diptera flies

Musca: house-flies

27. *Musca clavicornis*: club-horned house-fly
Antennae with bristles, elongated and clubbed, cushioned, reddish-brown, the breast grey, the thorax streaked.
The *Musca umbelliferarum* of Scopoli, no. 945.
Habitat . . . they gather in the months of May and June.
The size of *Musca stercoraria*. 
Antennae elongated, red, the last articulation laterally expanded, the tip black, with lateral bristles.

Face yellow, becoming greyish about the eyes.
A black spot in front and another behind each antenna.
Eyes greenish, with two purple transverse streaks.
Breast becoming greyish.
Thorax becoming greyish, with six dark stripes.
Abdomen oval-oblong, reddish-brown.
Legs reddish-brown; the hindmost femora longer and more powerful, with stiff hairs scattered on the insides.
Wings dark hyaline, with an intensely-coloured dot towards the anastomosis in the middle of the wing.
The veins of the wings dark.

28. *Musca pellita*: hairy house-fly
Antennae tufted, cushioned, black; the thorax and abdomen covered all over with yellow hairs above, the base of the wings yellow.
The *Tabanus pellitus* of Sulzer, 1761, pl. 20 fig. 135.
Lives in thickets.
The size of *Musca meridiana*.
Abdomen oval, covered with yellow hairs, black below.
Face yellowish.
Eyes dark.
Antennae with yellow tufts.
Thorax covered with very dense, yellow hairs.
On the breast more rarely a pubescence.
Legs black.
Wings yellow towards the base, with yellow veins; in the middle of the wings dark patches, from which the wings are dark towards the tip.

**Aptera wingless insects**

**Scorpio: scorpions**
29. *Scorpio hispanus*: Spanish scorpion

Comb with twenty-seven teeth, with angled claws.
Lives in Spain, towards the Calpe of the strait of Gades, commonly called Gibraltar.
The size of the European variety.
Claws cordate, smooth, the lower surface very narrow on the outer side, with a series of globular points at the angles. Above the mouth two short secondary claws, toothed.
Thorax truncate in front; decorated with a series of globular points.
Comb with twenty-six or twenty-seven teeth.
Abdomen with four segments below, on both sides of each segment a linear spiracle, except for one of the tail segments.
Tail with six smooth angular segments, the second-last laterally toothed.
Sharp barbed point, acute at the tip, black, in the last ventral segment.
The animal is rust-coloured all over.