

Cleroidea

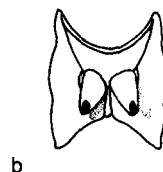
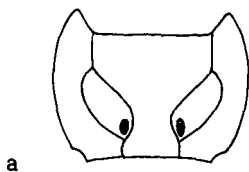
C.L. BELLAMY

The cleroids are small to medium, elongate beetles having more or less flat hind coxae with no trace of femoral plates. The prosternal intercoxal process is not received into the mesosternum. In all Cleroidea the hind coxae extend laterally well beyond the outer edge of the metasternum, usually reaching the level of the outer edge of the metepisternum, and the mesepimera broadly reach the middle coxal cavities. The tarsi are 5-5-5-segmented (sometimes with the basal segment minute or hidden). The body is often clothed with erect bristles.

The Cleroidea of southern Africa present little problem at the higher level as is it represented by only three historically old and well-defined families: Trogossitidae, Cleridae, and Melyridae.

The Cleroidea have received recent attention in a series of papers by Crowson (1964, 1966, 1970) in which he defined the superfamily based on a combination of adult and larval characteristics. A total of nine families are recognized by Crowson (1981) as belonging to the Cleroidea of the world.

KEY TO THE FAMILIES OF CLEROIDEA



- 1 Front coxae large, not projecting from their cavities (fig. a); antennae with a distinct three-segmented club; body without erect bristles, but sometimes clothed with setae....
 Trogossitidae
 Front coxae distinctly, usually strongly projecting (fig. b); antennae various; body often covered with erect bristles....
 2

- 2 Antennae often with apical segments enlarged or forming a club; prothorax often without distinct side edges; elytra often with striae or regular rows of punctures..... Cleridae
 Antennae rarely with apical segments differing from preceding ones; prothorax nearly always with well-marked side edges; elytra never with striae or regular rows of punctures..... Melyridae

Trogossitidae

These are small to medium-sized beetles of elongate, ovoid and often rather depressed form (fig. 20.170). The antennae are ten- or 11-segmented, ending in a distal club. The head is prognathous and visible from above. The pronotum has well-defined lateral margins. The fore coxae are transverse and not projecting. The tarsi are five-segmented with the first segment very reduced; the segments are not lobed and the terminal segment has a divided setose empodium between the claws. The body is without erect bristles, but is sometimes clothed with scales.

The larval biology suggests a predaceous habit. Larvae live beneath bark or in the tunnels of wood-boring insects. *Tenebroides mauretanicus* (fig. 20.170) is a cosmopolitan pest infesting stored grain and cereal products, as well as dried fruit. The larva is partly predaceous upon the larvae of other stored cereal pests. The Trogossitidae has received no recent attention in southern Africa and is represented at present by five described genera and nine species. Higher taxonomy is dealt with by Crowson (1964, 1966, 1970).

Cleridae

These small to moderate-sized elongate beetles have the elytra usually parallel-sided. The body is frequently covered with erect setae; it is usually dark coloured, but often has brightly coloured bands and patterns (fig. 20.169; plate V: 9), hence the name, checkered beetles. The Cleridae is a moderately large family with a diversity of habits and range of morphology (figs 20.167–20.169), making its members hard to recognize as clerids by the use of loose definitions.

Both adults and larvae of most clerids are predaceous upon other insects. The preferred habitat for most clerid larvae is dead wood, with the predominant food being the larvae of lignicolous beetles. The main families attacked are Anobiidae, Buprestidae, Cerambycidae, Scolytidae, and Bostrychidae. In the Thaneroclerinae and Phyllobaeninae, the larvae tend to a free-living mode similar to the Melyridae. Adult clerids are often found on flowers and many others are attracted to light. *Necrobia rufipes* is a cosmopolitan pest which infests products of high fat or oil content and is commonly called the red-legged ham beetle. It also preys upon the larvae of other stored products pests.

The Cleridae of southern Africa is classified into six subfamilies, three of them small: Enopliinae (about three genera, five species), Thaneroclerinae and Phyllobaeninae

(each with one genus and a few species); and three large subfamilies: Tillinae (c. 12 genera, 30 species); Clerinae (c. 18 genera, 100 species); and Corynetinae (c. 11 genera, 47 species). The clerids of southern Africa were most recently studied by Winkler (1960).

Melyridae

The melyrids (figs 20.161–20.166) are small, mostly soft-bodied, elongate-ovoid and dorsally flattened beetles. The body is usually covered with long, erect setae. The antennae are ten- or 11-segmented, inserted anteriorly on the frontal production, distant from the eyes; they are filiform, serrate or flabellate and frequently have the basal segments modified in the male (fig. 20.166). The pronotum has distinct side edges. The tarsi are five-segmented, with segment 4 simple or bilobed; the tarsal claws are simple or appendiculate and are often each with a fleshy appendage beneath. The elytra are smooth, never striate and are sometimes shortened, exposing several of the apical abdominal tergites (fig. 20.165).

The melyrids have been historically related to the Cantharidae and, like the cantharids and the more closely related clerids, are almost always carnivorous as adults and are frequently found on flowers. Many species are brightly coloured and sexual dimorphism is marked in certain groups.

The family Melyridae is divided into four subfamilies with the Dasytinae, Melyrinae and Malachiinae being most important in southern Africa.

KEY TO THE SUBFAMILIES OF MELYRIDAE

- 1 First visible abdominal sternite raised into a keel between hind coxae; often with six visible abdominal sternites; eyes not or weakly emarginate; prothorax without lateral eversible vesicles; tarsal claws usually more or less appendiculate Dasytinae
If first visible abdominal sternite raised into keel between hind coxae, only five visible abdominal sternites present; tarsal claws split 2
- 2 First visible abdominal sternite often with well-marked keel between hind coxae; hind coxae transverse, less strongly projecting; first tarsal segment shorter than second; without lateral eversible vesicles at sides of prothorax or abdominal segments Melyrinae
First visible abdominal sternite without distinct keel between hind coxae; hind coxae more oblique and strongly projecting backward; eversible vesicles present at sides of prothorax and basal segments of abdomen Malachiinae

Dasytinae

Most members of this subfamily (fig. 20.161) are small, dull grey coloured and covered with erect setae. They are often encountered on flowers. The most commonly encountered member of the group is the introduced spotted maize beetle, *Astylus atromaculatus* (fig. 20.162), which has yellow elytra with large black spots. It is thought to have been introduced from South America. The larvae usually subsist on decayed vegetable matter but may cause considerable damage in early summer to germinating maize seeds. The adults become very abundant in late summer and attract attention when clustering on the flowers of grasses and various other plants. The adults have been accused of poisoning stock when accidentally ingested with grass, but it is unlikely that sufficient numbers would be eaten to cause acute poisoning.

The Dasytinae of southern Africa is represented by approximately 55 species of seven genera. The most recent work on this subfamily was by Wittmer (1960).

Melyrinae

The melyrines are mostly small, elongate, metallic blue or green beetles which have the elytra strongly carinate. They are represented by only two genera in southern Africa, *Melyris* with approximately 30 species and *Falsomelyris* with only three species.

No recent studies of this subfamily have been undertaken.

Malachiinae

This subfamily (figs 20.163–20.166) forms a very large part of the Melyridae and certainly represents the greatest number of species in southern Africa. These beetles are small, elongate and flattened, often brightly coloured with the colours strongly dimorphic between the sexes. The males often have the basal segments of the antennae modified for the reception of the female antennae during their elaborate courtship and mating behaviour (fig. 20.166). They are often found sitting on flowers or may be collected by sweeping through thick grass.

The malachiines are represented in southern Africa by more than 22 genera and 175 species. The last work done on this subfamily was by Wittmer (1960), who is currently revising the group extensively and should add many species to the faunal list of southern Africa.

Figures 20.161–20.170 Order Coleoptera: Cleroidea 20.161–20.166 Melyridae: 20.161–20.162 Dasytinae: *Pagurodactylus* sp. 20.162 *Astylus atromaculatus* 20.163–20.166 Malachiinae: 20.163 *Condyllops aulicus* 20.164 *Malachius* sp., larva 20.165 *Apteromalachius namibensis*, female 20.166 *Afrocolotes capensis*, basal three antennal segments of male. 20.167–20.169 Cleridae: 20.167 *Otetiopalpus* sp. 20.168 *Brinckodes apterus* 20.169 *Opilio* sp. 20.170 Trogossitidae: *Tenebroides mauretanicus* (fig. 20.164 after Böving & Craighead 1931; figs 20.165 and 20.166 after Wittmer 1960; fig. 20.168 after Winkler 1960; fig. 20.163 del. E. Grobbelaar; copies and other figs del. E. de Meillon)

