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A Status Report on the Species of *Timarcha* (Coleoptera: Chrysomelidae)

Pierre Jolivet

67, Boulevard Sout
75012 Paris, France

Abstract: The species of *Timarcha* are unique living fossils among the leaf beetles. They walk very slowly, cannot escape by flight, and their majestic bearing can be compared to the Athenian judges, the Timarches. Unfortunately, they are vulnerable to habitat disturbance, insecticides, and environmental changes. Some of the European such as *Timarcha tenebricosa* and *T. goettinqensis*, are becoming more and more rare because of these same habitat changes.

One species, *Timarcha melitensis* from Malta, is already extinct and has joined the Dodo in the mythology of the island faunas. The extinction probably took place early this century.

The splendid species of the Balearic Islands survives only in Minorca but is actually threatened by hotel and villa construction on the main island of Majorca. Within a few years *Timarcha balearica* may be only a myth.

The species of the island of Djerba, in Tunisia (the island of the Lotophagous of the Odyssey) is probably by now on the verge of extinction, if not already extinct. In the 1960's I used to collect many along the coastal dunes which are now covered by hotels. Along the coast of Morocco, several species or subspecies localized on several coastal plants, *Plantago*, *Galium*, *Crucianella*, and others, have probably completely disappeared with the building of new hotels.

Individuals of *Timarcha* are normally well protected against predators by their toxicity and reflex bleeding, but not against parasitoids and, especially, man, who is their worst enemy. The species of *Timarcha* are certainly very vulnerable.

Timarcha species are distributed around the Mediterranean basin, but are absent from Egypt, Lebanon, Israel, and Syria, a gap that is probably due to extinction resulting from the desertification of the area. They are found also on the West Coast of the United States and Canada from Vancouver Island to Northern California (at Jenner and Russian River). They are found also in Washington, western Idaho, and in Oregon on mountainous and coastal areas where they are generally rare.

New and Old World species (see Fig. 2) probably have a common origin but they may have been separated since the late Cretaceous. Both groups have the same, unique primitive anatomy, are apterous, and have the elytra fused.

Individuals of *Timarcha* spp. are black, sometimes with a slight bluish or greenish reflection, or even in America, reddish brownish.

There are nearly one hundred species and subspecies, so *Timarcha* is divided into three or four subgenera. The subgenus that occurs in America is *Americanotimarcha* (Fig. 1).

Timarcha beetles are called "bloody-nose beetles" in England because they have the ability to eject a red fluid (haemolymph) from the prebuccal and femoro-tibial openings when alarmed. American *Timarcha* species seem to be more shy than the European or African species. They hide during the day, remaining always on the underside of leaves or in leaf litter. They bleed less than their Old World counterparts.

In June 1988, before the Vancouver meeting of the International Congress of Entomology, I searched for *Timarcha intricata* (Fig. 1) in the McDonald Forest near Corvallis, Oregon. Loren Russell and I hunted intensively that night, but the hunt was not very fruitful: only three specimens were collected at midnight under the leaves of thimbleberry, *Rubus parviflorus*, its favorite food.

Timarcha intricata feeds also on salmonberry (*Rubus spectabilis* Pursh.) and on wild and cultivated strawberries, and even, occasionally, on young leaves of *Rosa* spp.

What is happening in America? First the rare *Timarcha intricata*, a rather small species (8-13 mm.), does not actually seem to be endangered because it survives in national parks on various *Rubus* spp. and its nocturnal and hidden life protects it against collectors.

However, when *T. intricata* invades private gardens, as in Crescent City, for instance, it is ruthlessly exterminated because of its reputation as a strawberry pest. Based on my observations, I think the bloody-nose beetle actually does very little damage to strawberries, only nibbling the leaves, and it should be respected and protected.

The second species is the tiny reddish *Timarcha cerdo* Stål (length 5-8mm.), which was localized on *Fragaria chiloensis* (Linnaeus) along

the dunes of Cannon Beach, Oregon, and vicinity. It was collected by the hundreds during World War I, as indicated by specimens in the California Academy of Sciences collection in San Francisco. I have in my collection specimens collected by Uan Dyke in 1927.

I thought that the species was now extinct. I collected intensively in and around Cannon Beach in May, 1988 looking everywhere on coastal strawberries. Cannon Beach dunes do not exist anymore and motels and villas have been built everywhere. Even in Manzanita National Park, a peninsula, the lawn was mowed, and automobiles were invading the area during the weekend. In the park, I found only the tenebrionid beetle, *Eleodes scabrosa* Eschscholtz, buried at the base of strawberry plants. The beetle, which resembles *Timarcha* in color and shape, escapes the lawnmower by living underground during the day. *Timarchais* species are more vulnerable.

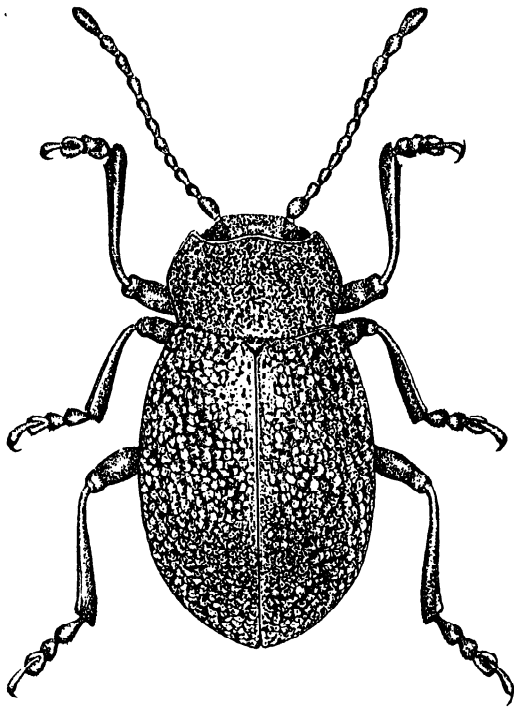


Fig. 1. *Timarcha* (*Americanotimarcha*) *intricata* Haldeman, 1853, female, Corvallis, Oregon.

Timarcha cerdo fortunately is not extinct. Gary L. Peters collected 15 specimens at Ewola State Park near Cannon Beach on thimbleberry on the 25th of October 1990 (Peters, 1991). To be sure, however, it is becoming very rare. Species of *Timarcha* should be protected everywhere. It is time to save the unique species left in the New World, even if occasionally they do not discriminate between wild and cultivated strawberries.

Acknowledgement

My thanks go to my friend Professor J. Gordon Edwards, who, with two of his students, helped me collect New World *Timarcha*.

Reference

Peters, Gary L. 1991. Note. Bulletin Oregon Entomological Society, 115: 794-795.

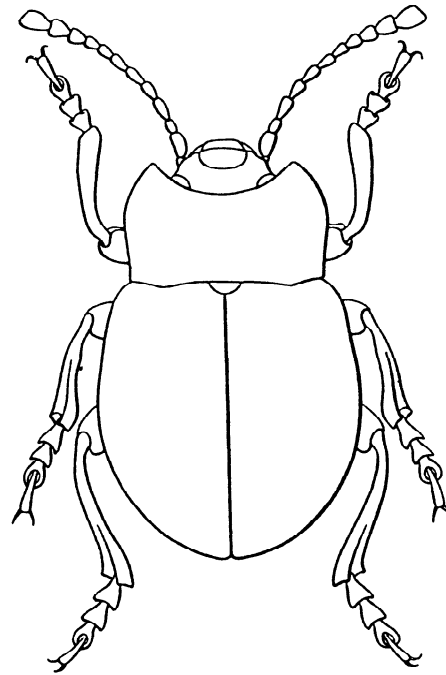


Fig. 2. *Timarcha* (*Metallochimarcha*) *metallica* (Laicharting, 1781). Belgium.