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# The Donaciinae of Luxembourg (Coleoptera, Chrysomelidae) Part 1 - *Donacia* and *Plateumaris* from the Ferrant collection

by

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**Abstract:** The specimens of the subfamily Donaciinae included within the Ferrant collection have been re-examined. 15 species of *Donacia* and 4 of *Plateumaris* are listed along with their provenance.

## Introduction

The brightly metallic-coloured leaf-beetles of the subfamily Donaciinae, well known under their popular German name "Schilfkäfer", live on a wide array of helophytic and submerged macrophytes in riverine and marshy habitats. The adult beetles feed on the emerged parts of the plants, eating strips of the leaves but also feeding on pollen, while the larvae attack the submerged roots and stems. They spend their whole larval existence in the bottom mud of their aquatic habitat yet cover their oxygen demand by atmospheric air, which they obtain from the host plant's tissues pierced by their hollow caudal spines. Detailed information covering general aspects of the Donaciinae's biology is provided by Wesenberg-Lund (1943) and Klausnitzer (1984).

Owing to their feeding habits and the larval habitat, these leaf-beetles are restricted to aquatic environments such as marshes, fens and the edges of ponds, pools and lakes. Though several species can be quite common locally, a fact clearly revealed by the many perforated leaves, many have to be considered as endangered. In fact, larger, unspoiled areas of marsh and fen, as well as pools and ponds are becoming rarer and rarer in our country due to agricultural improvement and urbanization. Many other aquatic biotopes have been subjected to industrial and agricultural pollution rendering them unsuitable for many creatures.

So far there was no attempt to deal with the Donaciinae fauna of Luxembourg and we do not even know how many species occur in our country, nor what their respective status is. This is the more deplorable as many species, as a result of their mono- or oligophagous feeding habits, could be efficiently used for the monitoring of aquatic and marshy biotopes. Thus it is the aim of this paper to summarize the present state of knowledge about the distribution of *Donacia* and *Plateumaris* in Luxembourg. The collection of Victor Ferrant being up to this time the most complete as well as the oldest one, we shall start with a revision of the specimens it includes, collected mainly in the first decades of our century.

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## Material and methods

The Ferrant-collection is deposited in the Luxembourg National Museum of Natural History (MNHNL). Permission to review the material has been kindly granted by Mr Marc Meyer, curator of the zoological collections.

In some cases it was difficult, if not impossible, to read the names of the locations mentioned on the labels and, as with many collections of that time, labeling as a whole is rather unsatisfactory for faunistical purposes.

Identification of the material is based on papers by Mohr (1966) and Bordy (1983). Recent changes in taxonomy published by Askevold (1991) and referred to in Askevold (1992) and Foster (1992), have been considered.

## Systematic list of the species in the Ferrant collection

***Donacia clavipes*** Fabricius, 1792
Kockelscheuer, 1specimen.
Mamer, 1 specimen.
Host plants: *Phragmites communis* and, probably, *Phalaris arundinacea* too.

***Donacia appendiculata*** Ahrens, 1810
Bettemburg, 2 specimens.
Host plants: *Sparganium erectum* and *Typha latifolia.*

***Donacia crassipes*** Fabricius, 1775
Foetz, 1 specimen.
Kockelscheuer, 1 specimen.
Host plants: *Nuphar lutea* and *Nymphaea alba.*

***Donacia semicuprea*** Panzer, 1796
Luxembourg, 1 specimen.
Mamer, 5 specimens.
Roodt, 1 specimen (There are 3 places called "Roodt" in Luxembourg hence the impossibility to locate the specimen properly.).
Host plant: *Glyceria maxima.*

***Donacia malinovskyi*** Ahrens, 1810
Clervaux, 1 specimen.
Host plants: *Glyceria maxima* and *Glyceria fluitans.*

***Donacia aquatica*** (Linnaeus, 1758)
Birel (probably Birelergrund in the municipality of Sandweiler), 1 specimen.
Mamer, 2 specimens.
Clervaux, 2 specimens.
Host plants: *Sparganium emersum, Carex* sp., *Ranunculus lingua.*

***Donacia impressa*** (Paykull, 1799)
Mamer, 1 specimen.
Wasserbillig, 1 specimen.
1 specimen without locality.
Host plants: *Scirpus lacustris*, the pollen of which is eaten.

***Donacia marginata*** Hoppe, 1795
Heisdorf, 1 specimen.
1 specimen with unreadable label.
Host plant: *Sparganium erectum.*

***Donacia bicolorea*** Zschach, 1788 (nec *bicolor* auct.)
Mamer, 2 specimens.
Clervaux, 1 specimen.
Host plants: *Sparganium erectum*, *Typha*, *Glyceria*, *Carex*, *Sagittaria*.

***Donacia antiqua*** Kunze, 1818
Mamer 1 specimen.
Birel ?, probably Birelergrund, municipality of Sandweiler 2 specimens.
Host plant: *Carex*.

***Donacia thalassina*** Germar, 1811
Strassen, 1 specimen.
Redange, 2 specimens.
Troisvierges, 2 specimens.
Clervaux, 1 specimen.
Host plant: *Eleocharis palustris*.

***Donacia vulgaris*** Zschach, 1788
Capellen, 1 specimen.
Kahler, 1 specimen.
Host plant: *Sparganium emersum*, *Typha*, *Carex*, *Scirpus*.

***Donacia simplex*** Fabricius, 1775
Birelergrund, 1 specimen.
Wasserbillig, 1 specimen.
Mamer, 4 specimens.
Clervaux, 1 specimen.
Host plants: *Glyceria*, Carex, *Sparganium*, *Typha*.

***Donacia tomentosa*** Ahrens, 1810
Mersch, 2 specimens.
Host plant: *Butomus umbellatus*.

***Donacia cinerea*** Herbst, 1784
Crauthem, 2 specimens.
Lorentzweiler, 2 specimens.
Host plants: *Typha latifolia*, *Typha angustifolia*, *Sparganium*.

***Plateumaris sericea*** (Linnaeus, 1758) (= *Plateumaris discolor* (Panzer, 1795))
Capellen, 2 specimens.
Birelergrund, Sandweiler, 1 specimen.
Clervaux, 2 specimens.
Redange, 1 specimen.
Host plants: *Eleocharis*, *Iris pseudacorus*, *Carex*, *Sparganium*.

***Plateumaris rustica*** (Kunze, 1818) (= *Plateumaris affinis* (Kunze, 1818))
Boevange/Attert 2 specimens.
Redange, 1 specimen.
4 specimens without locality label.
Host plants: *Carex*, *Caltha palustris* ?

***Plateumaris braccata*** (Scopoli, 1772)
Redange, 2 specimens.
Clervaux, 2 specimens.
Host plant: *Phragmites communis*.

***Plateumaris consimilis*** (Schrank, 1781)
Strassen, 1 specimen.
Birelergrund, Sandweiler, 1 specimen.
Goebelsmühle, 1 specimen .
Clervaux, 1 specimen.
Wasserbillig, 2 specimens.
Host plants: *Carex, Caltha palustris* ?

Thus the Ferrant collection provides information about 15 species of *Donacia* and 4 of *Plateumaris*, for which it mentions 20 different geographical places. The labelling being rather incomplete or even obsolete, we refrain from giving U. T. M. grid coordinates.

Mousset (1984), relying on the Ferrant material, has published U. T. M. distribution maps. Unfortunately several specimens had been misidentified. This limits the value of these maps.

More field work should allow us in a near future to establish a check-list for this leaf-beetle subfamily, and to point out the Luxembourg sites which are most important for its conservation.

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