AN ANNOTATED CHECKLIST OF THE IBERIAN WATER BEETLES (COLEOPTERA)

Ignacio Ribera, Carles Hernando & Pedro Aguilera

ABSTRACT

The Iberian species of the beetle families considered to be mainly aquatic are listed (Coleoptera: Myxophaga: Microsporidae, Hydroscapheidae; Adephaga: Gyrinidae, Haliplidae, Noteridae, Hygrobiidae, Dytiscidae; Polyphaga: Helophoridae, Georissidae, Hydrochidae, Hydrophilidae, Hydraenidae, Scirtidae, Elmidae, Dryopidae, Limnichidae, Heteroceridae, Psephenidae, Chrysomelidae: Donaciinae, and Curculionidae: Curculioninae; Bagoini). The following information is given for each species: current taxonomic status, major synonyms and taxonomic changes subsequent to general reference works, reference of the first Iberian record, reference of a reliable modern record when previous ones were dubious, and distribution within the Iberian peninsula when the species does not occur in north Africa and France, i.e., when it has the limit of its western Mediterranean distribution within Iberia. Taxonomic or biogeographical comments are included in selected cases. A total of 622 species in 100 genera of 20 families are present in the Iberian fauna, of which 37 lack confirmed records, 8 are likely to be synonyms, 8 are species complexes, and 2 are of unknown identity. For 6 species the form occurring in the Iberian peninsula is a subspecies other than the nominal one. In addition to these 622 species, 8 subspecies of which the nominal form also occurs in the Iberian peninsula are recorded, two of these of uncertain validity. Fifty nine species are excluded from the Iberian fauna, 16 of them still with some reservations, and 5 species are synonyms not yet formally recognised. Four of the published names have a dubious validity, being likely to be nomen nudum.

Key words: Aquatic Coleoptera, faunistics. Spain, Portugal, Andorra, Iberian peninsula, Pyrenees.


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RESUMEN

Lista comentada de los coleópteros acuáticos ibéricos.

Se relacionan las especies ibéricas de las familias de coleópteros consideradas como predominantemente acuáticas (Coleoptera: Myxophaga: Microsporidae, Hydroscapheidae; Adephaga: Gyrinidae, Haliplidae, Noteridae, Hygrobiidae, Dytiscidae; Polyphaga: Helophoridae, Georissidae, Hydrochidae, Hydrophilidae, Hydraenidae, Scirtidae, Elmidae, Dryopidae, Limnichidae, Heteroceridae, Psephenidae, Chrysomelidae: Donaciinae, and Curculionidae: Curculioninae; Bagoini). Para cada especie se da la siguiente información: status taxonómico; principales sinónimos y cambios taxonómicos o nomenclatoriales desde los últimos trabajos de referencia general; referencia bibliográfica de la primera cita ibérica, o de la primera fiel cuando las anteriores son dudosas; y distribución en la península cuando la especie no se encuentra en Francia y en África del norte, es decir, cuando tiene el límite de su distribución en el Mediterráneo occidental en la península ibérica. Se incluyen además comentarios taxonómicos o biogeográficos en algunos casos. Un total de 622 especies en 100 géneros de 20 familias se encuentran en la fauna ibérica, de las que la presencia de 37 todavía requiere confirmación, 8 probablemente sean sinónimos, 8 son complejos de especies todavía por
estudiar, y la identidad de 2 todavía es desconocida. En 6 especies la forma que se encuentra en la península ibérica es una subespecie diferente de la nominal. Además de estas 622 especies, se citan 8 subespecies de las que la forma nominal también se encuentra en la fauna ibérica, aunque 2 de ellas son de validez dudosa. Se excluyen 59 especies de la fauna ibérica, 16 de ellas todavía con alguna reserva, y 5 especies son sinónimos todavía sin designar formalmente.

INTRODUCTION

The last comprehensive list of most families of Iberian beetles, including the aquatic ones, was published by Fuente (1921, 1925, 1929, 1932) at the beginning of the Century. The catalogues of several families have been updated and revised since then, but the lack of a complete and readily accessible list may be a major difficulty when this type of information is needed, in particular in systematic, biogeographical or ecological studies.

With this checklist we want to update the knowledge of the aquatic Coleoptera of the Iberian peninsula. Previous partial lists were published by Montes & Soler (1986) for Dryopidae and Elmidae (see also Rico, 1997 for Elmidae); Rico et al. (1990) for Hydracarida (see also Vonk, 1997 for European Haliplidae; and Dettner, 1997a, b for Noteridae and Hygrobiidae respectively); Velladare & Ribera (in press) for Hydrophilidae; Velladare & Montes (1991) for Hydraenidae; and Aguiler et al. (1998) for Heteroceridae. Another taxonomic revision including the Iberian fauna is that of Helophoridae by Angus (1992). There are a number of families for which there is however no recent information, as well as numerous recent taxonomic changes, discovery of new species, or records of species not Iberia, all necessitating the publication of a single updated checklist covering all Iberian species of water beetles.

The species list, without comments and including only those taxa whose presence is well documented, is available at http://www.fauna-iberica.mncn.csic.es/htmlfauna/faunibe/zoolist/insecta/coleoptera/coleoptera.html

MATERIAL AND METHODS

Taxonomic criteria of inclusion

The families in which at least a substantial proportion of species are linked with water in any of their developmental stages were included in the checklist, although the inclusion or exclusion of some families is sometimes more the product of tradition than of objective evaluation (see Ribera & Aguiler, 1995). Within each family all species were included, irrespective of their ecological habits. The only exceptions are Chrysomelidae, of which only the subfamily Donacinae was included, and Curculionidae, of which only the tribe Bagoiini was included. This was because of the vast numbers of terrestrial species in these two families.

The general arrangement of the suborders, superfamilies, families and subfamilies follow the recent revision by Lawrence & Newton (1995), except for the subfamilies of Hydrophilidae, which are treated as families, as this is the common usage among water beetle specialists (see e.g. Hansen, 1991, 1997; or Beutel, 1997). The treatment of genera and subgenera follow the references specified in each case (see below).

Of the four suborders of Coleoptera recognised by Lawrence & Newton (1995), only in Archostemata are there no known aquatic species. All Palaeartec families of the suborder Myxophaga have aquatic species. In the suborder Adephaga aquatic families were traditionally grouped under the term «Hydracarida», which has however a somewhat uncertain
phylogenetic meaning. In the suborder Polyphaga, two families of Hydrophiloidea do not have Iberian species: Epimetopidae (only Neotropical, Nearctic, Oriental and Ethiopian), and Spercheidae, of which one species occurs in central and northern Europe: Spercheus emarginatus (Schaller, 1783). There are also a number of non-Palaearctic families of Bhyroidea with aquatic or semiaquatic species (Lawrence & Newton, 1995). In the Helophoridae there are a number of species with terrestrial larvae and/or adults, in particular within the subgenus Empleurus. The Iberian species of Hydrophilidae are mostly aquatic, although in the subfamily Sphaerididae most species are terrestrial. The larvae and some adults of all known species of Donaciinae are entirely aquatic. Of the three European genera of Donaciinae, only Macropela has still not been recorded in the Iberian Peninsula, although its presence in France and north Africa (Algeria) (Jolivet, 1968) suggests that it may occur within Iberia, but have so far escaped detection. There are several aquatic species of Curculionidae, most of them included in the tribe Bagoniini. In the recent revision of the western Palaearctic species of the genus Bagous, Caldana & O’Brien (1998) synonymised all previous genera and subgenera of the tribe, including them as species groups of the unique genus Bagous. Other aquatic or semiaquatic species belonging to other genera (see e.g. Voss, 1978) were not included.

Geographical criteria

The extend of the Iberian peninsula is not precisely defined from a geographical point of view. The limits of this checklist were those of the Spanish-French political border (with the inclusion of the Pyrenean state Andorra), which in general agrees with the division of the north and south sides of the Pyrenees. However, some areas in the Spanish Pyrenees are on their northern face, such as Val d’Aran, and some areas in the French Pyrenees are on their southern face, such as La Cerdanya. When a species is only known from some of these areas this is noted in the text.

The Balearic islands were not included, as they do not form a biogeographical unit with mainland Iberia (despite the obvious relationships of both faunas).

Information given in the list

TAXONOMIC POSITION

For each species information is given on the suborder, superfamily (if applicable), family, subfamily (if applicable), genus, and subgenus (if applicable). All genera are numbered with a four number code. The first refers to suborder, the second to superfamily within the suborder (in Myxophaga and Adephega no superfamilies are recognised, and the second number is always 1), the third to the family within the superfamily, and the fourth to the genus within the family. Subfamilies and subgenera are not numbered. Species are numbered consecutively within each genus. Subspecies are given the same number as the nominal species. Excluded and synonymised species are not numbered, but marked with square brackets (see Table 1 for a summary of the number of species per taxa).

For each taxon above subgenus level two references are given whenever possible: the most recent general taxonomic revision («Taxonomy»), and the most recent catalogue or checklist of the Iberian species of the genus, including more detailed distributions within the Iberian peninsula («Faunistics»). If necessary, additional references are given for some species.

STATUS (STAT)

?: The presence of the species in the Iberian peninsula needs confirmation.

(?): The species has an uncertain taxonomic status.

=: The species is a synonym still not formally recognised.
Table 1. Summary of the number of species per family. ?, species in need of confirmation; =?, species likely to be synonyms; cplx, species likely to be complexes; spp 1, number of subspecies in addition to the nominal form occurring in Iberia; spp 2, number of species of which the only subspecies found in Iberia is other than the nominal; excl., number of species excluded from the Iberian fauna (including species still with some doubts); =, number of species which are synonyms still to be formally recognised; (?), number of names of dubious taxonomic validity.

Resumen del número de especies por familia. ?, especies de presencia dudosa; =?, posibles sinonimias; cplx, posibles complejos de especies por reconocer; spp 1, número de subspecies de especies cuya forma nominal también se encuentra en la península; spp 2, número de especies de las que la subspecie ibérica no es la nominal; excl., número de especies excluidas de la fauna ibérica (incluye las excluidas con todavía algunas dudas); =, número de especies que son sinónimos sin establecer formalmente; (?), número de nombres de validez taxonómica dudosa.

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The species is likely to be a synonym.

ssp: A subspecies. When the nominal species is not present in the Iberian Peninsula, it is also given.

ssp?: A subspecies of uncertain status

cplx?: The species is likely to be a complex still to be studied.

excl.: Species excluded from the Iberian fauna (details given in Observations).

excl.? Species likely to be excluded from the Iberian fauna.

SYNONYMS (SYN)

Only a selection of the synonyms are included (in general those established after the publication of major reference works, and also for all species whose descriptions were based on Iberian specimens).

CORRECT IDENTITY (C.ID)

The probable correct identity of species likely to be synonymised (i.e., those with STAT: = or =?), or of dubious records (STAT: ?) (if known).

RANGE

Five types of general distributional ranges are distinguished:

S: southern species. Present in north Africa and in some areas of the Iberian peninsula, but not extending north of the Pyrenees (except in some cases in which the species is also found in southern France, noted in the Observations).

N: northern species. Present in Europe north of the Pyrenees and some areas in the Iberian peninsula, but not in north Africa.

E: eastern species. Present in some areas in the Iberian peninsula and in some areas in the eastern Mediterranean, but not in Europe north of the Pyrenees.

X: endemic species. Present only in the Iberian peninsula, including the north face of the Pyrenees (and some areas in the extreme south of France) in some cases.

T: trans-Iberian species. Present in Europe north of the Pyrenees, the Iberian peninsula, and north Africa.

Throughout the list, «E» stands for east or eastern, «W» for west or western, «N» for north or northern, «S» for south or southern, and «C» for central.

DISTRIBUTION (DIST)

Only the distribution of the species which have the limit of their ranges within the Iberian peninsula is given whenever possible (i.e., species with ranges of the type S, N, E and X, but not species with trans-Iberian ranges).

Five broad geographical entities were defined, mostly based on geological and topographical features (see RIBERA, in press for more details).

These broad areas are:

Pyrenean: roughly the area north of the river Ebro up to the Pyrenees, including the eastern areas of the Basque mountains (noted as W Pyrenean when appropriate). The presence or absence of the species on the north face of the Pyrenees is noted when relevant. When present only in the extreme NE (i.e., not in the central Ebro valley) this is noted.

Cantabrian: roughly the Cantabrian mountains, from the western parts of the Basque Country to Galicia.

Hercynian Iberia: roughly the area west of the Ebro Valley, and north of the Guadalquivir basin and the Sistema Central.

SE Iberia: roughly the area SE of the Guadalquivir river, including the Sierra de Alcaraz in Albacete. When the species is only present in the extreme SE (i.e., in the arid lowlands, but
not in the mountains) this is noted. The particular case of species known only from Cádiz and some areas in Málaga is noted as «extreme S Iberia».

**SW Iberia**: the area south of the Sistema Central and the river Tajo, and west of the Guadalquivir valley.

In addition to these areas, species occurring only in coastal habitats in the Mediterranean littoral (Med. coast) are also noted.

Other references to broad areas (central, southern, northern...) refer to areas not precisely defined, generally with isolated records from several of the units defined above. When endemics have restricted distributions in mountain systems these are specified.

**FIRST RECORD (1st RE)**

The reference in which the current name of the species, or any of its currently recognised synonyms, was first associated with specimens collected in Iberia. There are some major problems with records of species whose concept has changed widely since being first recorded, most frequently because of the recognition of hidden diversity with the subsequent splitting of different taxa. This is a common process in the development of Palaearctic taxonomy (RIBERA & FOSTER, 1996), and there is no way to avoid possible uncertainties except through study of the original material. This is sometimes impossible because the original collections no longer exist, but more often just avoided for practical reasons. In some cases, largely on the basis of the present known distribution of the species, it is possible to speculate as to the identity (under current criteria) of these uncertain records, in particular when the species first mentioned, as currently understood, has its distribution far away from the Iberian peninsula. In any case, when the first Iberian record of a species is of uncertain identity, a more recent record confirming its presence in Iberia is also given. No distinction is made between records from Portugal, Spain or Andorra, as they are political entities with no biogeographical significance.

The first record of each species was originally gathered to study the development of the knowledge of the Iberian fauna of water beetles, not to establish with absolute precision the dates at which taxa were first discovered themselves. It is thus possible that we have overlooked some old records (those previous to FUENTE, 1921 to 1932), although it is worth pointing out that these are likely to be amongst the most uncertain.

**OBSERVATIONS (OBS)**

Additional comments or information are given in this section, in particular the references from which the information in other sections was obtained.

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**INTRODUCCIÓN**

La última lista completa de la mayoría de especies ibéricas de coleópteros, incluyendo las acuáticas, fue publicada por FUENTE (1921, 1925, 1929, 1932) a principios del siglo. El catálogo de algunas familias se ha revisado con posterioridad, pero la ausencia de una única lista de fácil acceso puede suponer una dificultad en trabajos sistemáticos, biogeográficos o ecológicos, o en cualquier otro en el que se necesite reconocer e identificar especies.

Con esta lista pretendemos actualizar el conocimiento de los coleópteros acuáticos ibéricos. Listas parciales fueron publicadas por MONTES & SOLER (1986) para Dryopidae y Elmidae (ver también Rico, 1997 para Elmidae); Rico et al. (1990) para Hydradephaga (ver también VONDEL, 1997 para los Halipilidae europeos; y DETTNER, 1997a, b para Noteridae y Hygrobiidae respectivamente); VALLADARES & RIBERA (en prensa) para Hydrophiloidae; VALLADARES & MONTES (1991) para Hydraenidae; y AGUILERA et al. (1998) para Heteroceridae. Otra revisión taxonómica que incluye las especies ibéricas es la de Helophoridae de ANGUS (1992). Sin embargo, todavía hay algunas familias de las que no hay información reciente, además de múltiples cambios taxonómicos, descripción de especies nuevas, y citas nuevas para la
península, todo lo cual hace altamente conveniente la publicación de una única lista actualizada con todas las especies ibéricas de coleópteros acuáticos.

La lista de especies, sin comentarios e incluyendo únicamente las de presencia bien documentada, se puede encontrar en http://www.fauna-iberica.mncn.csic.es/htmlfauna/faunibe/zoolist/insecta/coleoptera/coleoptera.html

**MATERIAL Y MÉTODOS**

**Criterio taxonómico de inclusión**

Se incluyen en la lista las familias de las que una parte sustancial de las especies está ligada al medio acuático en por lo menos alguno de sus estadios de desarrollo. A pesar de todo, la inclusión o exclusión de algunas de ellas es a veces más producto de la tradición que de una evaluación objetiva (ver p.ej. RIMERA & AGUILERA, 1995). Para cada familia se incluyen todas las especies, independientemente de sus hábitos ecológicos. Las únicas excepciones son la familia Chrysomelidae, de la que solo se estudia la subfamilia Donacinae, y la familia Curculionidae, de la que solo se incluye la tribu Bagoini.

La ordenación general en subórdenes, superfamilias, familias y subfamilias sigue la reciente revisión de LAWRENCE & NEWTON (1995), excepto en lo que se refiere a las subfamilias de Hydrophilidae, que se tratan como familias, al ser ésta la consideración habitual entre los especialistas (ver p.ej. HANSEN, 1991, 1997; o BEUTEL, 1997). El tratamiento de géneros y subgéneros sigue las referencias que en cada caso se especifican.

De los cuatro subórdenes de Coleoptera reconocidos por LAWRENCE & NEWTON (1995), sólo en Archostemata no se conocen especies acuáticas. Todas las familias paleárticas del suborden Myxophaga tienen especies acuáticas. En el suborden Adephaga las familias acuáticas tradicionalmente se agrupaban bajo el término «Hydridaphaga», de significado filogenético dudoso. En el suborden Polyphaga dos familias de Hydrophiloidea no tienen representación ibérica conocida: Epimetopidae (Neotropical, Neártica, Oriental y Etiópica), y Spercheidae, de la que una especie se encuentra en Europa del centro y del norte: Spercheus emarginatus (Schaller, 1783). Hay algunas familias de Bhryroidea con especies acuáticas o semiacuáticas sin representación Paleártica (LAWRENCE & NEWTON, 1995). En la familia Helophoridae algunas especies tienen larvas y / o adultos terrestres, en particular en el subgénero Empleurus. La especies ibéricas de la familia Hydrophilidae son en su mayoría acuáticas, aunque en la subfamilia Sphaeridiidae la mayoría son terrestres. La larva y algunos adultos de todas las especies conocidas de la subfamilia Donacinae de Chrysomelidae son enteramente acuáticas. De los tres géneros europeos de Donacinae, solo Macrolea no ha sido todavía citado de la península ibérica, aunque su presencia en Francia y el norte de África (Argelia) (JOLIVER, 1968) hace pensar que pueda vivir en la península, pero haya pasado desapercibido. Hay algunas especies acuáticas de Curculionidae, la mayoría de ellas incluidas en la tribu Bagoini. En la reciente revisión de las especies Paleártico-occidentales del género Bagous, CALDARA & O'BRIEN (1998) sinonimizan todos los géneros y subgéneros de la tribu, incluyéndolos como grupos de especies dentro del único género Bagous. Otras especies acuáticas o semiacuáticas de otros géneros (ver p.ej. Voss, 1978) no se han incluido.

**Criterio geográfico**

La extensión de la península ibérica no está definida de un modo muy preciso desde el punto de vista geográfico. Los límites de esta lista son los de la frontera política entre Francia y España (con la inclusión de Andorra), que en general coincide con la división entre las vertientes norte y sur de los Pirineos. Sin embargo, algunas zonas en los Pirineos españoles están el la vertiente norte, como el Val d’Aran, y algunas zonas de los Pirineos franceses en
la vertiente sur, como La Cerdanya. Cuando alguna especie se conoce únicamente de estas zonas se comenta en el texto.

No se incluyen las islas Baleares, ya que no forman una unidad biogeográfica con la península (a pesar de las obvias relaciones entre ambas faunas).

**Información proporcionada en la lista**

**POSICIÓN TAXONÓMICA**

Para cada especie se da información del suborden, superfamilia, familia, subfamilia, género y subgénero al que pertenecen. Todos los géneros están numerados con un código de cuatro dígitos. El primero se refiere al suborden, el segundo a la superfamilia dentro del suborden, el tercero a la familia dentro de la superfamilia, y el cuarto al género dentro de la familia. Cuando en un suborden no hay superfamilias definidas, la segunda cifra siempre es un 1 (en Myxophaga y Adephaga). Las subfamilias y los subgéneros no están numerados. Las especies están numeradas consecutivamente dentro de cada género. Las subespecies tienen el mismo número que la especie nominal. Las especies excluidas o sinonimizadas no están numeradas, y se indican con corchetes (ver la Tabla 1 para un resumen del número de especies por taxa).

Para cada taxon por encima de subgénero se dan dos referencias (siempre que sea posible): la revisión taxonómica general más reciente («Taxonomy»), y el catálogo o la lista de la fauna ibérica más reciente («Faunistica»). En caso de ser necesario se dan referencias adicionales para alguna de las especies.

**STATUS (STAT):**

?: La presencia de la especie en la península ibérica necesita ser confirmada.

(?): La especie tiene un status taxonómico dudoso.

=: La especie es un sinónimo todavía no reconocido formalmente.

=?: La especie es probable que sea un sinónimo.

ssp: Una subespecie. Cuando la especie nominal no está presente en la península, también se incluye.

ssp?: Una subespecie de status incierto.

clpx?: Es probable que la especie sea un complejo todavía por estudiar.

excl.: Especie excluida de la fauna ibérica (los detalles se dan en Observaciones).

excl.?: Especie probablemente a excluir de la fauna ibérica.

**SYNONYMS (SYN) (SINÓNIMOS)**

Se da una selección de las sinonimias principales (en general las posteriores a las obras de referencia generales, y las especies descritas con material ibérico).

**CORRECT IDENTITY (C,ID) (IDENTIDAD CORRECTA)**

La probable identidad correcta de las especies de validez dudosa (esto es, aquellas en las que STAT: = o =?), o de las citas dudosas (STAT: ?) (cuando se conoce).

**RANGE (RANGO)**

Se han diferenciado cinco tipos de distribución general:

S: especies meridionales: Presentes en el norte de África y en algunas zonas de la península ibérica, pero sin extenderse al norte de los Pirineos (excepto en algunos casos en los que también se encuentra en el sur de Francia, lo que se comenta en Observaciones).
N: especies septentrionales. Presentes en Europa al norte de los Pirineos y en algunas zonas de la península, pero no en el norte de África.

E: especies orientales. Presentes en algunas zonas en la península ibérica y en el centro y este del Mediterráneo, pero no en Europa al norte de los Pirineos.

X: especies endémicas. Presentes únicamente en la península Ibérica, con extensión de la cara norte de los Pirineos (y algunas zonas en el extremo sur de Francia) en algunos casos.

T: especies trans-ibéricas. Presentes en Europa al norte de los Pirineos, en la península ibérica, y en el norte de África.


DISTRIBUTION (DIST) (DISTRIBUCIÓN)
Sólo se da la distribución de las especies con el límite de su rango en el interior de la península Ibérica (siempre que sea posible), pero no el de las especies trans-ibéricas.

Se han definido cinco grandes zonas geográficas, basadas principalmente en criterios geológicos y topográficos (ver RIBERA, en prensa para más detalles).

Esta grandes zonas geográficas son:

- **Pyreanean (Pirenaica):** aproximadamente la zona al norte del río Ebro hasta los Pirineos, incluyendo las zonas más orientales de las montañas de Euskadi. Se comenta la presencia o ausencia de la especie en las vertientes sur o norte de los Pirineos cuando el dato se considere relevante.

- **Cantabrian (Cantábrica):** aproximadamente los montes Cantábricos, de las zonas más occidentales de Euskadi a Galicia.

- **Hercynian Iberia (Iberia herciniana):** aproximadamente la zona al oeste del valle del Ebro y al norte de la cuenca del Guadalquivir y el Sistema Central.

- **SE Iberia (sudoeste ibérico):** aproximadamente la zona al sudeste del río Guadalquivir, incluyendo la sierra de Alcaraz en Albacete. El caso particular de especies presentes únicamente en Cádiz y Málaga se señala como «extreme S Iberia» (extremo sur de Iberia).

- **SW Iberia (sudoeste ibérico):** la zona al sur del Sistema Central y el río Tajo, y al oeste del valle del Guadalquivir.

Además de estas zonas, también se señalan las especies que sólo se encuentran en hábitats costeros en el litoral mediterráneo (como «Med. coast»).

Otras referencias a zonas generales (central, meridional, septentrional...) se refieren a zonas sin una definición precisa, generalmente con citas de varias de las zonas definidas anteriormente. Cuando las especies endémicas tienen distribuciones restringidas en sistemas montañosos también se especifican.

FIRST RECORD (1st RE) (PRIMERA CITA)
La referencia bibliográfica en la que el nombre actual de la especie, o alguno de sus sinónimos, se asoció por primera vez a ejemplares ibéricos. Existen grandes dificultades en la interpretación de citas de algunas especies cuyo concepto ha cambiado desde que se citaron por primera vez, en general por el reconocimiento de complejos de especies. Éste es un proceso general en el desarrollo de la taxonomía Paleártica (RIBERA & FOSTER, 1996), y no hay forma de evitar posibles ambigüedades salvo mediante el estudio del material original. Esto es a veces imposible debido a la pérdida de las colecciones originales, pero más habitualmente simplemente se evita por razones prácticas. En algunos casos, y en base a la distribución conocida de las especies, es posible estimar la identidad correcta (bajo el criterio actual) de estas citas dudosas, en particular cuando la especie citada originalmente tiene su rango fuera de la península ibérica. En algunos casos en los que la identidad de la cita original...
es incierta se da una cita más reciente confirmando su presencia en la península. No se distinguen las citas de Portugal, España o Andorra, por ser estas entidades políticas sin significado biogeográfico.

La primera cita de cada especie se compiló originalmente con la intención de estudiar el desarrollo del conocimiento de la fauna, no para establecer de un modo riguroso todas las prioridades. Es por lo tanto posible que nos hayan pasado desapercibidas algunas citas, en particular entre las más antiguas (las anteriores a Fuente, 1921 a 1932).

OBSERVATIONS (OBS) (OBSERVACIONES)

Se dan comentarios o información adicional de algunas especies, en particular las referencias bibliográficas de las que se ha tomado la información dada en otras secciones.

THE LIST

Order COLEOPTERA Linnaeus, 1758

1 Suborder MYXOPHAGA Crowson, 1955

1.1.1 Family MICROSPORIDAE Crotch, 1873

OBS: Taxonomy: Reichard (1973). The family name may need to be revised (M.A. Jäch p.c., 1997).

1.1.1.1 Microsorus Kolenati, 1846; SYN = Sphaerius Walt, 1838

Microsorus acaroides (Waltl, 1838); STAT: excl.?; RANGE: N; 1st RE: Santamaria (1993); OBS: The specimens were determined without comparison with M. hispanicus (S. Santamaria p.c., 1998).

1. Microsorus hispanicus (Matthews, 1899); RANGE: T; 1st RE: Matthews (1899); OBS: The N limit with M. acaroides is unknown (probably in the Pyrenean region or in south France).

1.1.2 Family HYDROSCAPHIDAE LeConte, 1874


1.1.2.1 Hydroscapha LeConte, 1874

1. Hydroscapha granulum (Motschulsky, 1855); SYN: = crotchii Sharp, 1874; = longicauda Rey, 1922; = gyrinoides (Aubé, 1863); RANGE: N?; DIST: Madrid, Badajoz; 1st RE: Sharp (1874) as H. crotchii; OBS: H. crotchii and H. longicauda were described from Madrid. Synonomy of H. crotchii by Kiesenwetter in UHAGÓN (1875). There is a N African species, H. mauretanica Peyerimhoff, 1922, from Algeria.

2. Suborder ADEPHAGA Schellenberg, 1806


2.1.1 Family GYRINIDAE Latreille, 1810

2.1.1.1 **Gyrinus** O.F. Müller, 1764

*Gyrinus* Zaitsev, 1908

1. **Gyrinus** (*Gyrinus*) *minutus* Fabricius, 1798; RANGE: N; DIST: Pyrenean, Cantabrian; 1st RE: Cuni & Martorell (1876).

**Gyrinus** O.F. Müller, 1764

*[Gyrinus* (*Gyrinus*) *aeratus* Stephens, 1832; STAT: excl., RANGE: N; 1st RE: Medina (1895), as G. aeneus C.G. Thomson, 1860; OBS: according to Winkler (1924) G. aeneus C.G. Thomson, 1860 is a junior synonym of G. thomsoni Zaitsev, 1807, itself a synonym of G. aeratus according to Holmen (1987). In Rico et al. (1990) this record is ascribed to «G. aeneus Aubé, 1836», although the species recorded by Aubé (1838, not 1836, see References) is «G. aeneus Steph. Illust. Of Brit. Ent. II. P. 95», a synonym of G. marinus Gyllenhal, 1808.

2. **Gyrinus** (*Gyrinus*) *caspianus* Ménétriès, 1832; RANGE: T; 1st RE: Heyden (1870).

3. **Gyrinus** (*Gyrinus*) *dejeani* Brullé, 1832; RANGE: T; 1st RE: Rosenhauer (1856).


6. **Gyrinus** (*Gyrinus*) *substriatus* Stephens, 1829; RANGE: T; 1st RE: Schaufuss (1862), as G. natator Linnaeus, 1758; OBS: Iberian records of G. natator most probably refer to this species (Rico et al., 1990).

7. **Gyrinus** (*Gyrinus*) *suffriani* Scriba, 1855; RANGE: N; DIST: north and central Iberia?; 1st RE: Brink (1978); OBS: excluded by Holmen (1987), its presence in Albacete has been recently confirmed (A. Millán p.c., 1998).


**Note**

*Gyrinus* (*Gyrinus*) *natator* Linnaeus, 1758, *G. (Gyrinus*) *marinus* Gyllenhal, 1808 and *G. (Gyrinus*) *opus* Sahlberg, 1819 were excluded from the Iberian fauna by Rico et al. (1990).

2.1.1.2 **Aulonogyrus** Motschulsky, 1853

1. **Aulonogyrus** *concinnus* (Klug, 1833); RANGE: T; 1st RE: Górriz (1902).

2. **Aulonogyrus** *striatus* (Fabricius, 1792); RANGE: T; 1st RE: Rosenhauer (1856).

2.1.1.3 **Orectochilus** Dejean, 1833

1. **Orectochilus** *villosus* (O.F. Müller, 1776); RANGE: T; 1st RE: Rosenhauer (1856).

2.1.2 Family HALIPLIDAE


2.1.2.1 **Brychius** C.G. Thomson, 1859

1. **Brychius** *elevatus* (Panzer, 1794); RANGE: N; DIST: Pyrenean, Cantabrian; 1st RE: Cuni & Martorell (1876).

2.1.2.2 **Peltodytes** Rédimbart, 1878

1. **Peltodytes** *caesus* (Duftschmid, 1805); RANGE: T; 1st RE: Rosenhauer (1856).

2. **Peltodytes** *rotundatus* (Aubé, 1836); SYN: =*conifer* (Seidlitz, 1887); RANGE: T; 1st RE: Rosenhauer (1856).
2.1.2.3 Haliphis Latreille, 1802
Haliphidius Guignot, 1928

1. *Haliphis* (Haliphidius) *confinis* Stephens, 1828; STAT: ?; RANGE: T; 1st RE: Fuentes (1921); OBS: there are no precise records of the species in the Iberian Peninsula.

2. *Haliphis* (Haliphidius) *obliquus* (Fabricius, 1787); RANGE: T; 1st RE: Fuentes (1921).

*Neoaliphis* Netolitzky, 1911


*Haliphis* Latreille, 1802


5. *Haliphis* (Haliphis) *heydeni* Wehncke, 1875; RANGE: N; DIST: Pyrenean, Cantabrian; 1st RE: Fuentes (1921) ("Pirineos").


Note

*Haliphis* (Haliphis) *fulvicollis* Ericsson, 1837 was excluded from the Iberian fauna by Rico et al. (1990) (see also Vondel, 1997).

*Liaphthus* Guignot, 1828


11. *Haliphis* (Liaphius) *fulvus* (Fabricius, 1801); RANGE: T; 1st RE: Cuni & Martorell (1876).


2.1.3 Family NOTERIDAE C.G. Thomson, 1860


*Noterinae* C.G. Thomson, 1860
2.1.3.1 *Canthydrus* Sharp, 1882

2.1.3.2 *Noterus* Clairville, 1806
2. *Noterus laevis* Sturm, 1834; RANGE: T; 1st RE: Rosenhauer (1856).

[Note: *Noterus crassicornis* (O.F. Müller, 1776); STAT: excl.; C. ID.: *clavicornis*; RANGE: N; 1st RE: Cuní & Martorell (1876)?; OBS: Cuní & Martorell (1876) record of «*N. crassicornis* Fab., =*capricornis* Herbst.» probably refers to *N. clavicornis*, and not to *N. crassicornis*, as interpreted by Rico et al. (1990), see comments in Ribera et al. (1995).]

2.1.4 Family HYGROBIIDAE Régimbart, 1878 (= Pelobiidae Erichson, 1837)

2.1.4.1 *Hygrobia* Latreille, 1804
1. *Hygrobia hermanni* (Fabricius, 1775); RANGE: T; 1st RE: Dieck (1870).

2.1.5 Family DYTISCIDAE Leach, 1815

Copelatinae Van den Branden, 1885

2.1.5.1 *Copelatus* Erichson, 1832
2. *Copelatus haemorrhoidalis* (Fabricius, 1787); RANGE: T; 1st RE: Cuní & Martorell (1876).

Laccophilinae Gistel, 1856

2.1.5.2 *Laccophilus* Leach, 1817
1. *Laccophilus hyalinus* (De Geer, 1774); SYN: =*testaceus* Aubé, 1837; RANGE: T; 1st RE: Aubé (1837), as *L. testaceus*.
2. *Laccophilus minutus* (Linnaeus, 1758); RANGE: T; 1st RE: Rosenhauer (1856).

Hydroporinae Aubé, 1837

2.1.5.3 *Hyphyrns* Illiger, 1802; OBS: Taxonomy: Biström (1982).
2. *Hyphyrns ovatus* (Linnaeus, 1761); STAT: ?; RANGE: N; DIST: Pyrenean?; 1st RE: Martorell (1879); OBS: presence confirmed from the French Pyrenees by Ribera et al. (1993). Some Spanish records may stem from a confusion of locality (Central European Galizia instead of the Spanish Galicia) (Ribera et al., 1995).

2.1.5.4 *Methles* Sharp, 1882
2.1.5.5 *Hydrovatus* Motschulsky, 1853; OBS: Taxonomy: BISTRÖM (1997).

1. *Hydrovatus clypealis* Sharp, 1876; RANGE: T; 1st RE: FUENTE (1921).


2.1.5.6 *Yola* Gozis, 1886; OBS: Taxonomy: BISTRÖM (1983).

1. *Yola bicarinata* (Latreille, 1804); RANGE: T; 1st RE: MOTSCHULSKY (1849).

2.1.5.7 *Bidessus* Sharp, 1882


2. *Bidessus goudoti* (Laporte de Castenau, 1834); RANGE: T; 1st RE: ROSENHAUER (1856).

3. *Bidessus minutissimus* (Germar, 1824); RANGE: T; 1st RE: AUBÉ (1838).


*[Bidessus unistriatus* (Schrank, 1781); STAT: excl.??; C. ID.: *pumilus*; RANGE: N; 1st RE: ROSENHAUER (1856)?; OBS: Iberian records probably refer to varieties of differing in elytral coloration *B. pumilus* (RIBERA et al., 1995).

2.1.5.8 *Hydroglyphus* Motschulsky, 1853; SYN: =*Guignotus* Houlbert, 1934; OBS: Taxonomy: BISTRÖM (1986).

1. *Hydroglyphus geminus* (Fabricius, 1792); SYN: =*pusillus* (Fabricius, 1781); RANGE: T; 1st RE: ROSENHAUER (1856); OBS: name reinstated by ÁDÁM (1996).

2. *Hydroglyphus signatellus* (Klug, 1834); RANGE: S; DIST: South & Central Iberia, up to the Central Ebro valley; 1st RE: FUENTE (1921).

*[Hydroglyphus confusus* (Klug, 1833); STAT: excl.; C. ID.: *Hydroporus lucasi*; RANGE: S; 1st RE: RICO et al. (1990); OBS: RICO et al. (1990) refer to CORRÊA DE BARROS (1927), although this author recorded *Hydroporus confusus* Lucasi =*H. lucasi*, see RIBERA et al. (1998).

2.1.5.9 *Hygrotus* Stephens, 1828; SYN: =*Coelambus* C.G. Thomson, 1860

1. *Hygrotus confluens* (Fabricius, 1787); RANGE: T; 1st RE: ROSENHAUER (1856).

*[Hygrotus decoratus* (Gyllenhal, 1810); STAT: excl.??; RANGE: N; 1st RE: CUNI & MARTORELL (1876).


3. *Hygrotus impressopunctatus* (Schaller, 1783); RANGE: N; DIST: Iberia (not N Africa); 1st RE: CUNI & MARTORELL (1876).

4. *Hygrotus inaequalis* (Fabricius, 1777); RANGE: T; 1st RE: CUNI & MARTORELL (1876).

5. *Hygrotus lagari* (FERY, 1992); RANGE: S; DIST: Iberia, except extreme NE; 1st RE: FERY (1992b); OBS: NARDI (1998) records the species from France (Bouches-du-Rhône), if this is confirmed (and proved not to be *H. parallelogrammus*) the status of both species should be revised.

*[Hygrotus lernaenus* (SCHAUM, 1857); STAT: excl.; RANGE: E; OBS: excluded by FERY (1992b). Old Iberian records of this species should refer to different species of *Hygrotus*.


8. *Hygrotus parallelogrammus* (Ahrens, 1812); RANGE: N; DIST: NE Iberia; 1st RE: Rosenhauer (1856); OBS: Rosenhauer (1856) record probably refers to another Iberian species.

*Hygrotus quinquelineatus* (Zetterstedt, 1828); STAT: excl.?; C. ID.: *inaequalis*; RANGE: N; 1st RE: Cuni & Martorell (1876); OBS: Iberian records probably refer to varieties of *H. inaequalis* (Ribera et al., 1995).

*Hygrotus versicolor* (Schaller, 1783); STAT: excl.?; C. ID.: *inaequalis*; RANGE: N; 1st RE: Cuni & Martorell (1876); OBS: Iberian records probably refer to *inaequalis* «form h» Brancucci, 1977 (Ribera et al., 1995).

2.1.5.10 *Herophydrus* Sharp, 1882

*Herophydrus* Sharp, 1882


*Suphrodytes* Gozis, 1914

*Suphrodytes* *dorsalis* (Fabricius, 1787); STAT: excl.; C. ID.: *Hydroporus vaguepiatus*; RANGE: N; 1st RE: Sabater et al. (1986); OBS: excluded by Ribera et al. (1995).

2.1.5.11 *Hydroporus* Clairville, 1806


7. *Hydroporus* *decipiens* Sharp, 1877; RANGE: X; DIST: S Iberia; 1st RE: Sharp (1877); OBS: valid species (G.N. Foster p.c., 1995).


*Hydroporus* *erythrocephalus* (Linnaeus, 1758); STAT: excl.?; C. ID.: *vespertinus*; RANGE: N; 1st RE: Sharp (1877); OBS: most likely to be excluded from the Iberian fauna (Ribera et al., 1995).


[Hydroporus guernei Régimbart, 1891; STAT: excl.; RANGE: S; 1st RE: Lindberg (1939); OBS: most probably restricted to the Azores.


[Hydroporus jurjensensis Régimbart, 1895; STAT: excl.; RANGE: S; DIST: Spain («Hi.»); 1st RE: Winkler (1924); OBS: record not included in Rico et al. (1990); most probably restricted to Algeria.


15. *Hydroporus longulus* Mulsant, 1860; STAT: ?; RANGE: N; DIST: Pyrenean?; 1st RE: Gangelbauer (1892); OBS: all Iberian specimens (in particular from areas other than the Pyrenees) may refer to *H. nevadensis* (Hernando & Fresneda, 1996).

16. *Hydroporus lucasi* Reiche, 1866; SYN: =*H. nigriceps* Schaum, 1864; =*confusus* Lucas, 1849; RANGE: S; DIST: Iberia, except extreme NE; 1st RE: Schaum (1864), as *H. nigriceps*.

17. *Hydroporus marginatus* (Duftschild, 1805); RANGE: T; 1st RE: Aubé (1838).


23. *Hydroporus nigrita* (Fabricius, 1792); RANGE: N; DIST: Iberia, except extreme S; 1st RE: Rosenhauer (1856).


[Hydroporus obscurus* Sturm, 1835; STAT: excl.; RANGE: N; 1st RE: Sharp (1877); OBS: Iberian records refer to *H. paganettianus*.


27. *Hydroporus paganettianus* Scholz, 1923; RANGE: X; DIST: Hercynian Iberia; 1st
RE: Sharp (1877), as H. obscurus; OBS: Iberian records of H. obscurus refer to this species (H. Fery p.c., 1994, see also comments on H. obscurus in Nilsson & Holmen, 1995).

28. Hydroperopus palustris (Linnaeus, 1761); SYN: =lituratus Panzer, 1894; RANGE: N; DIST: Pyrenean (N face); 1st RE: Traizet (1895); OBS: All records south of the Pyrenees probably refer to H. vasepictus (Riberà et al., 1995). Some records of H. lituratus Brullé, 1832 and H. lituratus Fabricius, 1781, which refer to H. tessellatus, were erroneously attributed to this species in Rico et al. (1990) (e.g. those of Sharp 1877 and Oliveira 1882).

29. Hydroperopus planus (Fabricius, 1781); RANGE: T; 1st RE: Rosenhauer (1856).

30. Hydroperopus pubescens (Gyllenhal, 1808); RANGE: T; 1st RE: Rosenhauer (1856).

[Hydroperopus rufifrons (Duftschmid, 1805); STAT: excl.; C. ID.: vespertinus; RANGE: N; DIST: Cantabrian; 1st RE: Bertrand (1955).

[Hydroperopus scalesianus Stephens, 1828; STAT: excl.; SYN: =gracilis Wehncke, 1872; RANGE: N; 1st RE: Wehncke (1872); OBS: H. gracilis was considered a synonym of H. scalesianus by Zimmermann (1920), but Guignot (1959) considered it more likely to be G. fractus. The type locality of H. gracilis is Malaga.

31. Hydroperopus tessellatus Drapiez, 1819; SYN: =lituratus Brullé, 1832, =lituratus Fabricius, 1781; RANGE: T; 1st RE: Aubé (1838), as lituratus Brullé, 1832.

32. Hydroperopus tristis (Paykull, 1798); RANGE: N; DIST: Pyrenean, Cantabrian; 1st RE: Traizet (1895).


Notes

Cunt (1881) recorded Hydroperopus tenuicornis Kraatz from the Spanish Cerdanya (Pyrenees), but we have not found any other reference to this name. Seabra (1942) recorded Hydroperopus elegans Sturm (= Deronecetes brevis Aubé) from Bragança, but we have not found any likely modern name for this combination. Hydroperopus fuscelpennis Schaum, 1868 was excluded from the Iberian fauna by Rico et al. (1990).

2.1.5.12 Porhydryus Guignot, 1845; OBS: some European species of the genus may be in need of revision (H. Fery p.c., 1998).

1. Porhydryus genei (Aubé, 1838); STAT: ?; RANGE: T?; DIST: Vila Nova de Milfontes; 1st RE: Francisciolo (1979); OBS: Recorded by Francisciolo (1979, fig. 1054), although not included in the discussion of the species, nor in the distribution map in fig. 1426 (or in other papers with fauna of the site: Francisciolo 1966, 1968). The record most probably refers to P. vicinus.

2. Porhydryus lineatus (Fabricius, 1775); STAT: ?; RANGE: N; DIST: extreme NE Iberia?; 1st RE: Sharp (1877); OBS: Nilsson & Holmen (1995): «except Iberian Peninsula». Sharp (1877) and Fuente (1921) refer to «Hydroperopus lineatus De Geer», not Fabricius, we don’t know if by mistake, or referring to a different species unknown to us.

3. Porhydryus vicinus (Aubé, 1838); RANGE: S; DIST: S Iberia; 1st RE: Sharp (1877); OBS: the species is morphologically identical to P. obliquesignatus Bielz, 1852, from central Europe (H. Fery p.c., 1998).

2.1.5.13 Graptoptyes Seidlitz, 1887

2. *Graptodytes bilineatus* (Sturm, 1835); RANGE: N; DIST: Pyrenean, Cantabrian; 1st RE: Champion (1903).


4. *Graptodytes flavipes* (Olivier, 1795); SYN: =*concinnus* Stephens, 1835; RANGE: T; 1st RE: Rosenhauer (1856).

5. *Graptodytes fractus* (Sharp, 1882); SYN: =*Hydroporus gracilis* Wehncke, 1872; RANGE: T; 1st RE: Wehncke (1872) as *H. gracilis*; OBS: see notes to *Hydroporus scalesianus*.


6. *Graptodytes ignotus* (Mulsant, 1861); RANGE: T; 1st RE: UHAGÓN (1876).

7. *Graptodytes pictus* (Fabricius, 1787); RANGE: N; DIST: Pyrenean; 1st RE: Traizet (1895).

8. *Graptodytes varius* (Aubé, 1838); RANGE: T; 1st RE: Aubé (1838); OBS: in some Iberian sites in where *G. ignotus* and *G. varius* coexist all intermediate forms (in size and shape of the body, elytral design, and shape of the aedeagus) can be found, suggesting the possibility that both species can hybridize, or that they are indeed a complex of polymorphic forms of the same species.


2. *Rhithrodenytes bimaculatus* (Dufour, 1852); RANGE: X; DIST: Pyrenean, Cantabrian; 1st RE: Fuente (1921); OBS: Algerian specimens are a different species, *R. dorsoplagiatus* (Fairmaire, 1880) (Bilton & Fery, 1996).

2.1.5.15 *Metaporus* Guignot, 1945


2.1.5.16 *Scarodytes* Gozis, 1914

   1. *Scarodytes halensis* (Fabricius, 1787); RANGE: T; 1st RE: Sharp (1882); OBS: there are a number of subspecies and varieties of uncertain validity, such as *S. fasciatis* (Aubé, 1838), *S. nigriventris* Zimmermann, 1917, *S. ibericus* (Réginhart, 1901), *S. amoenus* (Sahlberg, 1908), or *S. somocensis* Régil & Veiga, 1984 (see Régil & Veiga, 1984 for the morphological characterisation of some of them).

2.1.5.17 *Stictonecetes* Brinck, 1943

   1. *Stictonecetes epipleuricus* (Seidtitz, 1887); RANGE: X; DIST: Iberia, SW France; 1st RE: Seidtitz (1887).


   4. *Stictonecetes lepidus* (Olivier, 1795); RANGE: T; 1st RE: Schaufuss (1862).


2.1.5.18 *Deronectes* Sharp, 1882; OBS: Taxonomy & Faunistics: FERY & BRANCUCCI (1997).


2. *Deronectes angusi* FERY & BRANCUCCI, 1990; RANGE: X; DIST: Hercynian Iberia; 1st RE: BRANCUCCI (1981), as *D. latus* (STEPHENS, 1828); OBS: recorded by BRANCUCCI (1981) as *D. latus*, the same specimens (and others) were subsequently described as *D. angusi* by FERY & BRANCUCCI (1990).

3. *Deronectes aubei sanfilippoi* FERY & BRANCUCCI, 1997; STAT: ssp of *D. aubei* (Mulsant, 1843); RANGE: X; DIST: Pyrenean, Cantabrian; 1st RE: FuenTE (1921), as *D. aubei*.

4. *Deronectes bicostatus* (SCHAUM, 1864); RANGE: X; DIST: Hercynian Iberia; 1st RE: SCHAUM (1864).


7. *Deronectes delarouzeti* (JacquelIN du Val, 1857); RANGE: X; DIST: Pyrenean, Cantabrian?; 1st RE: LéON-HILAIRE (1924) (N face of the Pyrenees); OBS: first peninsular record by BERTRAND (1949). According to FERY & BRANCUCCI (1997) the species occurs only in the Pyrenees, Cantabrian records in REGIL (1985) should be referred to *D. aubei sanfilippoi*.


12. *Deronectes hispanicus* (ROSENHAUER, 1856); RANGE: T; 1st RE: ROSENHAUER (1856).

13. *Deronectes moestus inconspicuus* (LEPIERRE, 1876); STAT: ssp of *D. moestus* (Fairmaire, 1858); RANGE: T; 1st RE: SHARP (1877), as *Hydroporus moestus*.

14. *Deronectes opatinus* (GERMAR, 1824); RANGE: T; 1st RE: AUBÉ (1838); OBS: AUBÉ (1838) record may refer to *D. hispanicus*.


2.1.5.19 *Stictotarsus* Zimmermann, 1919; SYN: =*Trichonectes* Gignot, 1941; OBS: the genus, as defined by NILSSON & ANGUS (1992), is almost certainly paraphyletic.


2. *Stictotarsus duodecimpustulatus* (Fabricius, 1792); RANGE: N; DIST: Iberia (not N Africa); 1st RE: OLIVEIRA (1882).

3. *Stictotarsus griseostriatus* (DE GeER, 1774); STAT: cplx, excl?; RANGE: T; 1st RE: ROSENHAUER (1856); OBS: the true S. griseostriatus seems to occur only in
rookpools in Scandinavia (Brinck, 1943; Nilsson & Holmen, 1995). Iberian specimens may refer to S. macedonicus Guéorgiev, 1959, S. multilineatus Falkenström, 1922, or another species.

4. Stictotarsus otini (Guignot, 1941); RANGE: S; DIST: S Iberia; 1st RE: Fery et al. (1996); OBS: described as subgenus Trichonectes Guignot, 1941 of Potamonectes.

2.1.5.20 Nebrioporus Régimbart, 1906

Nebrioporus Régimbart, 1906; SYN: Potamonectes Zimmerman, 1921.

1. Nebrioporus (Nebrioporus) bucheti cazorlensis (Lagar, Fresneda & Hernando, 1987); STAT: ssp of N. bucheti Régimbart, 1898; RANGE: X; DIST: Iberia, except W?; 1st RE: Lagar et al. (1987a); OBS: Described as a valid species, synonymy by Fresneda et al. (1997).


3. Nebrioporus (Nebrioporus) clarkii (Wollaston, 1862); RANGE: S; DIST: S Iberia; 1st RE: Clark (1862).


5. Nebrioporus (Nebrioporus) depressus elegans (Panzer, 1794); STAT: ssp of N. depressus (Fabricius, 1775); RANGE: T; 1st RE: Fuente (1921); OBS: N. depressus depressus was excluded from the Iberian fauna by Rico et al. (1990).


Zimmermannius Guignot, 1941


10. Nebrioporus (Zimmermannius) canaliculatus (Lacordaire, 1835); RANGE: N; DIST: Iberia (not N Africa); 1st RE: Aubé (1838).

11. Nebrioporus (Zimmermannius) cerasyi (Aubé, 1838); RANGE: T; 1st RE: Rosenhauer (1836).

2.1.5.21 Oreodytes Seidlitz, 1887


2. Oreodytes sanmarkii sanmarkii (Sahlberg, 1826); SYN: =rivalis Gyllenhal, 1827; RANGE: N; DIST: Pyrenean?; 1st RE: Zariquiý (1917a); OBS: Iberian specimens other than Pyrenean may refer to O. sanmarkii alienus.

2. Oreodytes sanmarkii alienus (Sharp, 1872); STAT: ssp; RANGE: X; DIST: Iberian excl. Pyrenean?; 1st RE: Sharp (1872); OBS: subspecific status by Balke (1990). The detailed distribution of the two subspecies in Iberia is unknown.

3. Oreodytes septentrionalis (Gyllenhal, 1827); RANGE: N; DIST: Pyrenean; 1st RE: Sharp (1882).
Colymbetinae Erichson, 1837
2.1.5.22 Platambus C.G. Thomson, 1859

Platambus C.G. Thomson, 1859

1. Platambus (Platambus) maculatus (Linnaeus, 1758); SYN: =glacialis (Graëlls, 1858); =graellsi (Gemminger & Harold, 1868); RANGE: N; DIST: N & C Iberia; 1st RE: Graëlls (1858), as Agabus glacialis; OBS: Gemminger & Harold (1868) gave a new name to A. glacialis Graëlls, 1858, as it was preoccupied. The validity of P. graellsi is still uncertain, some authors consider it a subspecies, although no detailed taxonomic work has been done on this form.

2.1.5.23 Agabus Leach, 1817

[Agabus affinis (Paykull, 1798); STAT: excl.; RANGE: N; 1st RE: Heyden (1870); OBS: the only Iberian record is that of Heyden (1870). According to Uñagón (1874), and referring to Heyden in litt., this record has to be referred to A. heydeni.


2. Agabus biguttatus (Olivier, 1795); RANGE: T; 1st RE: Aubé (1837).


3. Agabus bipustulatus (Linnaeus, 1767); SYN: =nevadensis Lindberg, 1939?; RANGE: T; 1st RE: Rosenhauer (1856); OBS: likely synonymy not formally established.

4. Agabus brunneus (Fabricius, 1798); RANGE: T; 1st RE: Rosenhauer (1856).


6. Agabus congener (Thunberg, 1794); STAT: ?; RANGE: N; DIST: C Iberia?; 1st RE: Fuente (1921); OBS: records in Fuente (1921) and Régil (1985) may refer to A. lapponicus (Ribera et al., 1995). According to Nilsson & Holmen (1995) there are no Iberian records of this species.

7. Agabus conspersus (Marsham, 1802); RANGE: T; 1st RE: Martorell (1879).

8. Agabus chalconatus (Panzer, 1796); RANGE: T; 1st RE: Dieck (1870).


10. Agabus didymus (Olivier, 1795); RANGE: T; 1st RE: Dieck (1870), Heyden (1870).

[Agabus dilatatus (Brullé, 1832); STAT: excl.; C. ID.: guttatus; RANGE: E; 1st RE: Guignot (1959); OBS: Ribera et al. (1988) record refers to A. guttatus, as noted in Ribera et al. (1993, 1995). In Garrido et al. (1994a) the species is recorded again, ignoring these rectifications.

11. Agabus guttatus (Paykull, 1798); RANGE: N; DIST: N & C Iberia; 1st RE: Rosenhauer (1856); OBS: Rosenhauer (1856) record may refer to another species.

12. Agabus heydeni Wehncke, 1872; SYN: =sparvulus Fresneda & Hernando, 1989; STAT: cplx?; RANGE: S; DIST: Iberia, except Pyrenean; 1st RE: Wehncke (1872); OBS: present in Morocco (unpublished observations). The description of A. picotae opened the possibility that this species may be a complex.


15. *Agabus lapponicus* (C.G. Thomson, 1867); RANGE: N; DIST: Pyrenean, Cantabrian; C Iberia; 1st RE: Ribera et al. (1993); OBS: the Iberian records of *A. congener* may refer to this species.


17. *Agabus nebulosus* (Forster, 1771); RANGE: T; 1st RE: Rosenhauer (1856).

[*Agabus nevadensis* Lindberg, 1939; STAT: =; C.ID: *bipustulatus*; RANGE: X; DIST: Sierra Nevada; 1st RE: Lindberg (1939); OBS: synonymy still not formally established.


19. *Agabus paludosus* (Fabricius, 1801); RANGE: T; DIST: N & C Iberia; 1st RE: Cuni & Martorell (1876).


[Agabus striolatus* (Gyllenhal, 1808); STAT: excl.; RANGE: N; 1st RE: Sanfilippo (1982); OBS: excluded by Ribera et al. (1995), as the original record referred to «Galizia» in central Europe, not in Spain, as interpreted by Sanfilippo (1982).


[Agabus subtilis* Erichson, 1837; STAT: excl.; RANGE: N; 1st RE: Schauffuss (1862); OBS: according to Nilsson & Holmen (1995) this is a northern species, with the southern limit of its distribution in northern France.


**Note**

*Agabus serricornis* (Paykull, 1799) and *A. neglectus* Erichson, 1837 were excluded from the Iberian fauna by Rico et al. (1990), although the later was still recorded in Garrido et al. (1994b).

2.1.5.24 *Ilybius* Erichson, 1832


2. *Ilybius fenestratus* (Fabricius, 1781); RANGE: N; DIST: Pyrenean, C Iberia?; 1st RE: Champion (1903).
3. *Ilybius fuliginosus* (Fabricius, 1792); STAT: ?; RANGE: N; DIST: Pyrenean (only N face?); 1st RE: Cuni & Martorell (1876); OBS: Recorded by Fresneda & Hernando (1988) from the north side of the Pyrenees. All Iberian and north African records may refer to *I. meridionalis*, see Ribera et al. (1995).

*Ilybius guttiger* (Gyllenhali, 1808); STAT: excl.; RANGE: N; DIST: Pyrenean (only N face); 1st RE: Fuente (1921); OBS: Fuente (1921) record refers to the French Pyrenees.


5. *Ilybius quadriguttatus* (Lacordaire, 1835); RANGE: N; DIST: Pyrenean; 1st RE: Rosenhauer (1856); OBS: Rosenhauer (1856) record may refer to a different species. See Ribera et al. (1995) for recent records.

*Ilybius subaeneus* (Erichson, 1837); STAT: excl.; RANGE: N; DIST: Pyrenean?; 1st RE: Martorell (1879).

2.1.5.25 *Rhantus* Dejean, 1833

*Rhantus* Dejean, 1833


[Rhantus (*Rhantus*) *suturellus* (Harris, 1828); STAT: excl.; SYN: =*bistriatus* Bergstrasser, 1778; RANGE: N; DIST: Pyrenean?; 1st RE: Cuni & Martorell (1876).

[Rhantus (*Rhantus*) *exsoletus* (Forster, 1771); STAT: excl.; C. ID: *hispanicus*; RANGE: N; 1st RE: Sharp (1877), as *Cylombeutes collaris* Paykull, 1798; OBS: excluded by Ribera et al. (1995).

[Rhantus (*Rhantus*) *notatus* (Fabricius, 1781); STAT: excl.; RANGE: N; DIST: Pyrenean?; 1st RE: Fuente (1921).

2.1.5.26 *Cylombeutes* Clairville, 1806

1. *Cylombeutes fuscus* (Linnaeus, 1758); RANGE: T; 1st RE: Rosenhauer (1856).


[Cylombeutes *dolabratus* (Paykull, 1798); STAT: excl.; C. ID: *fuscus*; RANGE: N; DIST: Pyrenean?; 1st RE: Cuni & Martorell (1876).

Note

*Cylombeutes striatus* (Linnaeus, 1758) was excluded from the Iberian fauna by Rico et al. (1990).

2.1.5.27 *Meladema* Laporte de Castelnaub, 1834


*Dytiscinae* Leach, 1815

2.1.5.28 *Eretes* Laporte de Castelnaub, 1833

1. *Eretes sticticus* (Linnaeus, 1767); SYN: =*Dytiscus griseus* Fabricius, 1781; RANGE: T; 1st RE: Motchulsky (1849), as *E. sticticus* and *E. griseus*.

2.1.5.29 *Hydaticus* Leach, 1817; OBS: Taxonomy: Bambul (1997).

*Guignotites* Brinck, 1943
[Hydaticus (Guignotites) debarrosmachadoi] Franciscolo, 1968; STAT: =?; C.ID: leander; RANGE: X; DIST: Vila Nova de Milfontes (Type locality); 1st RE: FRANCISCOLO (1968); OBS: described from a single specimen as the first Portuguese Hydaticus ever found. *H. leander* is however common both in Portugal and Spain, and in particular in the type locality of *H. debarrosmachadoi* (H. Fery & J. Fresnedada p.c., 1995).

1. **Hydaticus (Guignotites) leander** (Rossi, 1790); RANGE: T; 1st RE: ROSENHAUER (1856).

*Hydaticus* Leach, 1817


3. **Hydaticus (Hydaticus) transversalis** (Pontoppidan, 1763); RANGE: N; DIST: Pyrenean; 1st RE: CNNI & MARTORELL (1876); OBS: record confirmed by HERNANDO & AGUILERA (1995), with the study of old material.

2.1.5.30 **Graphoderus** Dejean, 1833

1. **Graphoderus cinereus** (Linnaeus, 1758); RANGE: N; DIST: Pyrenean; 1st RE: CNNI & MARTORELL (1876).

([Graphoderus bilineatus] (De Geer, 1774); STAT: excl.?; RANGE: N; DIST: Portugal?; 1st RE: SHARP (1877); OBS: the locality was dubious for SHARP (1882: 698), see RIBERA et al. (1995).

2.1.5.31 **Acilius** Leach, 1817

*Acilius* Leach, 1817

1. **Acilius (Acilius) canaliculatus** (Nicolai, 1822); STAT: =?; RANGE: N; DIST: Pyrenean?; 1st RE: CNNI & MARTORELL (1876); OBS: TRAIZET (1895) record was identified by Régimbart, see RIBERA et al. (1995).

2. **Acilius (Acilius) sulcatus** (Linnaeus, 1758); RANGE: T; 1st RE: ASSO (1784)?; OBS: ASSO (1784) record may refer to a different genus. Next record: MARTORELL (1879).

*Homoeolytus* Gobert, 1874

3. **Acilius (Homoeolytus) duvergeri** Gobert, 1874; RANGE: T; 1st RE: OLIVEIRA (1882).

2.1.5.32 **Dytiscus** Linnaeus, 1758; OBS: Taxonomy: ROUGHLEY (1990).

1. **Dytiscus circumflexus** Fabricius, 1801; RANGE: T; 1st RE: MARTÍNEZ Y SÁEZ (1873).

2. **Dytiscus dimidiatus** Bergsträsser, 1778; STAT: =?; RANGE: N?; DIST: Cádiz, Córdoba?; 1st RE: FUENTE (1919); OBS: ROUGHLEY (1990) records one specimen labelled «Africa».

([Dytiscus latissimus] Linnaeus, 1758; STAT: excl.; RANGE: N; 1st RE: FRANQUESA (1889); OBS: the identity of FRANQUESA (1889) record was dubious ever for himself.

3. **Dytiscus marginalis** Linnaeus, 1758; RANGE: T; 1st RE: CNNI & MARTORELL (1876).

4. **Dytiscus pisanus** Laporte de Castelnau, 1834; RANGE: T; 1st RE: AUBÉ (1838).

5. **Dytiscus semisulcatus** O.F. Müller, 1776; SYN: =punctulatus Fabricius, 1777; RANGE: T; 1st RE: SCHAUFUSS (1862), as *D. punctulatus*.

**Note**

*Dytiscus circumcinctus* Ahrens, 1811 was excluded from the Iberian fauna by RICO et al. (1990).
2.1.5.33 *Cybister* Curtis, 1827

*Cybister* Curtis, 1827


*Cybister (Cybister) tripunctatus africanus* Laporte de Castelnau, 1834; STAT: ssp of *C. tripunctatus* (Olivier, 1795); RANGE: S; DIST: S coast, Med. coast; 1st RE: *Rosenhauer* (1856).

*Melanectes* Brinck, 1945


*Scaphinectes* Ádám, 1996; SYN= *Trochalus* Dejean, 1833

4. *Cybister (Scaphinectes) lateralimarginalis* (De Geer, 1774); RANGE: T; 1st RE: *Rosenhauer* (1856).

3. Suborder **POLYPHAGA** Emery, 1886

3.1 Superfamily **HYDROPHILOIDEA** Latreille, 1802


3.1.1 Family **HELOPHORIDAE** Leach, 1815


3.1.1.1 *Helophorus* Fabricius, 1775

*Empleurus* Hope, 1838

OBS: species of this subgenus are mostly terrestrial

1. *Helophorus (Empleurus) hispanicus* (Sharp, 1915); RANGE: X; DIST: Hercynian Iberia; 1st RE: *Sharp* (1915a).


*Trichelophorus* Kuwert, 1886


*Helophorus* Fabricius, 1775


8. *Helophorus (Helophorus) aquaticus* (Linnaeus, 1758); SYN: *frigidus* Graellis, 1847; RANGE: T?; 1st RE: *Graellis* (1847), as *H. frigidus* (preliminary described in *Graellis*, 1846); OBS: records from Morocco by *Kocher* (1958) probably refer to
another species, *H. aquaticus* is likely to be a northern species (R.B. Angus p.c., 1998).

9. *Helophorus (Helophorus) grandis* Illiger, 1798; RANGE: T; 1st RE: Rosenhauer (1856)?; OBS: Rosenhauer (1856) record may refer to *H. occidentalis*.

10. *Helophorus (Helophorus) maritimus* Rey, 1885; RANGE: N; DIST: Pyrenean, Hercynian Iberia, S Iberia?; 1st RE: d'Orchymont (1935); OBS: recorded by d'Orchymont (1935) as *H. aquaticus maritimus* Rey from Madrid. Records of the species of the *H. maritimus complex* (*H. maritimus*, *H. occidentalis* and *H. milleri*) in the western Mediterranean, including north Africa (e.g. Kocher 1958) are of doubtful validity unless based on chromosome investigations (see Angus, 1992).

*Helophorus (Helophorus) milleri* Kuwert, 1886; STAT: excl.; C. ID.: *maritimus*?; RANGE: E; 1st RE: Sharp (1915b); OBS: according to Angus (1992) *H. milleri* is a central and eastern Mediterranean species, although it may occur in the Balearic islands (R. Angus p.c., 1998).


*Atrachelophorus* Kuwert, 1886


14. *Helophorus (Atrachelophorus) brevipalpis* Bedel, 1881; SYN: =*creticus* Kiesenwetter, 1858; RANGE: N; DIST: Iberia (not N Africa); 1st RE: Kuwert (1886a), as «*H. griseus* Hbst. var *creticus* Kies.»

15. *Helophorus (Atrachelophorus) glacialis* A. Villa & J.B. Villa, 1833; RANGE: N; DIST: Alpine; 1st RE: Rosenhauer (1856); OBS: recorded by Rosenhauer (1856), Seidlitz (1867), Heyden (1880), and Sharp (1916b) as *H. glacialis* Heer, not Villa & Villa.


*Rhopalophelopus* Kuwert, 1886


24. *Helophorus (Rhopalhelophorus) dorsalis* Marsham, 1802; STAT: ?; RANGE: N; DIST: Pyrenean?; 1st RE: ROSENHAUER (1856); OBS: Iberian records not included in ANGUS (1992), they may refer to a different species.


27. *Helophorus (Rhopalhelophorus) granularis* (Linnaeus, 1761); RANGE: N; DIST: «northern Spain», ANGUS (1992); 1st RE: ROSENHAUER (1856)?; OBS: ROSENHAUER (1856) record may refer to a different species.


32. *Helophorus (Rhopalhelophorus) longitarsis* Wollaston, 1864; SYN: =erichsoni Bach, 1866; RANGE: T; 1st RE: d‘ORCHYMONT (1925a), as *H. erichsoni*.

33. *Helophorus (Rhopalhelophorus) minutus* Fabricius, 1775; RANGE: N?; DIST: C & S Iberia?; 1st RE: SOLER (1972); OBS: the southern limit of the distribution of *H. minutus* is unknown, and its presence in north Africa uncertain, due to the need of chromosome analysis for separating this species and *H. calpensis* (ANGUS, 1992).

[H*Helophorus (Rhopalhelophorus) montenegrinus* Kuwert, 1885; STAT: excl.; C. ID.: brevipalpis?; RANGE: E; 1st RE: FUENTE (1919); OBS: recorded by FÜSCH (1919) and BOSCA (1932) as «*H. brevipalpis* Bed. v. montenegrinus* Kuw.» (with a question mark in FUENTE, 1919). According to ANGUS (1992) *H. montenegrinus* is an eastern species, not likely to occur in Spain.


[H*Helophorus (Rhopalhelophorus) strigifrons* C.G. Thomson, 1868; STAT: excl.; RANGE: N; 1st RE: ANGUS (1969); OBS: ANGUS (1969) recorded «two [strigifrons Thom.] labelled ‘Hispan’» in the Humbold Museum in Berlin. In ANGUS (1971) the locality data of these specimens is questioned, and in ANGUS (1992) it is said to be absent from the Mediterranean area.


3.1.2 Family GEORISSIDAE Laporte de Castelnau, 1840

OBS: Taxonomy: PORTevin (1931). Faunistics: FUENTE (1925). The knowledge of the Iberian fauna of this family is most incomplete.
3.1.2.1 *Georissus* Latreille, 1809

*Georissus* Latreille, 1809

1. *Georissus* (*Georissus*) *crenulatus* (Rossi, 1794); SYN: =*pygmaeus* (Fabricius, 1801); RANGE: T; 1st RE: ROSENHAUER (1856), as *G. pygmaeus*.

2. *Georissus* (*Georissus*) *laeticollis* Germar, 1831; RANGE: N; DIST: Pyrenean, Cantabrian; 1st RE: MARTORELL (1879); OBS: we know of no other Iberian records of the species, but in The Natural History Museum (London) there are 6 specimens identified as *Georissus laeticollis* labelled «Cangas / Sharp coil.», and one labelled «Spain» without further details.


3.1.3 Family HYDROCHIDAE C.G. Thomson, 1859


3.1.3.1 *Hydrochus* Leach, 1817


(*Hydrochus carinatus* Germar, 1824; STAT: excl.; RANGE: N; 1st RE: CUNI & MARTORELL (1876); OBS: excluded by ANGUS (1976), based on a personal communication by J. Balfour-Browne.

(*Hydrochus elongatus* (Schaller, 1783); STAT: excl.; RANGE: N; 1st RE: HERNANDO (1986); OBS: records in HERNANDO (1986), also included in ISART et al. (1989), almost certainly correspond to a different species, although the original material is lost.


5. *Hydrochus foveostriatus* sensu BALFOUR-BROWNE (1958); C.ID: *smaragdineus* Fairmaire, 1879?; RANGE: T; 1st RE: UHAGÓN (1876)?, as *H. foveostriatus* Fairmaire, 1858; OBS: this is the species considered to be «*H. foveostriatus* sensu Balfour-Browne» by ANGUS (1976), which may correspond to *H. smaragdineus* (R. B. Angus p.c., 1996).

6. *Hydrochus grandicollis* Kiesenwetter in Heyden, 1870; RANGE: S; DIST: SE Iberia, Hercynian?; 1st RE: HEYDEN (1870); OBS: described with one specimen from Jaen and two from Corsica (HEYDEN, 1870).


8. *Hydrochus interruptus* Heyden, 1870; RANGE: X; DIST: Hercynian Iberia; 1st RE: HEYDEN (1870); OBS: synonymised with *H. nitidicollis* by ANGUS (1976), following Balfour-Browne (*in litt.*), most likely to be a valid species according to RIBERA et al. (1999a).

(*Hydrochus martinae* Makhan, 1996; STAT: =?; C.ID: *interruptus*; 1st RE: MAKHAN (1996); OBS: although the type of *H. interruptus* could not be studied, this species is most likely to be its junior synonym (RIBERA et al., 1999a).


3.1.4 Family HYDROPHILIDAE Latreille, 1802


Hydrophilinae Latreille, 1802


*Berosus* Leach, 1817

1. *Berosus (Berosus) affinis* Brullé, 1835; RANGE: T; 1st RE: MOTSCHULSKY (1849).

2. *Berosus (Berosus) hispanicus* Küster, 1847; RANGE: T; 1st RE: KÜSTER (1847).

[Berosus (Berosus) luridus* (Linnaeus, 1761)*; STAT: excl.; RANGE: N; 1st RE: BOSCA (1932); OBS: Iberian records refer to *B. affinis* or *B. hispanicus*. Excluded by SCHÖDL (1993).

3. *Berosus (Berosus) signaticollis* (Charpentier, 1825); RANGE: T; 1st RE: ROSENHAUER (1856).

*Enoplurus* Hope, 1838


[Berosus (Enoplurus) spinosus* (Steven, 1808)*; STAT: excl.; RANGE: N; 1st RE: ROSENHAUER (1856); OBS: according to SCHÖDL (1991) the species does not occur in the Iberian peninsula and western France. ROSENHAUER (1856) and other Iberian records (see VALLADARES & RIBERA, 1999) must refer to other species of *Enoplurus*.

3.1.4.2 *Hemisphaera* Pandellé in Ubagón, 1876; OBS: the genus is in need of revision, the taxonomic identity of the Iberian species is still uncertain, and there is at least one undescribed species (unpublished information)


2. *Hemisphaera infima* Pandelle in Ubagón, 1876; STAT: =?; C.ID: *seriatopunctata* (Perris, 1875)?; RANGE: X; DIST: Hercynian Iberia?; 1st RE: UHAGÓN (1876); OBS: the species was synonymised without a proper study of the types.


1. *Chaetartrhia seminulum seminulum* (Herbst, 1797); RANGE: T; 1st RE: HEYDEN (1870).

distribution is most unlikely for a subspecies that coexists with the nominal form in both areas.

2. Chaetarthria similis (Wollaston, 1864); RANGE: T; 1st RE: d’Orchymont (1940).


1. Paracymus aeneus (Germar, 1824); RANGE: T; 1st RE: Rosenhauer (1856).

2. Paracymus phalacroides (Wollaston, 1867); SYN: =punctillatus Rey,1885; RANGE: T; 1st RE: Fuentes (1925); OBS: presence in Iberia confirmed by Ribera et al. (1998a) from Albacete.


4. Paracymus scutellaris (Rosenhauer, 1856); RANGE: T; 1st RE: Rosenhauer (1856).


Anacaena C.G. Thomson, 1859

1. Anacaena (Anacaena) bipustulata (Marsham, 1802); RANGE: T; 1st RE: Oliveira (1882).

2. Anacaena (Anacaena) globulus (Paykull, 1798); RANGE: T; 1st RE: Rosenhauer (1856).

3. Anacaena (Anacaena) lutescens (Stephens, 1829); RANGE: T; 1st RE: Berge Henegouwen (1986).

4. Anacaena (Anacaena) limbata (Fabricius, 1792); RANGE: N; DIST: Iberia (not N Africa?); 1st RE: Heyden (1870).

3.1.4.6 Laccobius Erichson, 1837; OBS: Taxonomy: Gentili & Chiesa (1975).

Laccobius Erichson, 1837

1. Laccobius (Laccobius) minutus (Linnaeus, 1758); STAT: ?; RANGE: N; DIST: Pyrenean?; 1st RE: Rosenhauer (1856)?; OBS: Rosenhauer (1856) record may refer to a different species, other records need confirmation. Excluded by Gentili & Chiesa (1975).

[Laccobius (Laccobius) biguttatus Gerhardt, 1877; STAT: excl.?; RANGE: N; 1st RE: Bosca (1932); OBS: Bosca (1932) record may refer to any of the Iberian species in which males do not have specula. Southernmost records of L. biguttatus are from Herault and Provence in France (Gentili & Chiesa, 1975).

Microlaccobius Gentili, 1974

2. Laccobius (Microlaccobius) alternus Motschulsky, 1855; RANGE: N; DIST: Pyrenean, Sistema Iberico; 1st RE: Heyden (1870).

3. Laccobius (Microlaccobius) gracilis gracilis Motschulsky, 1849; SYN: =viridiceps Rottenberg, 1870; =subtilis Kiesenwetter in Heyden, 1870; RANGE: N; DIST: C Iberia?; 1st RE: Rottenberg (1874), as L. viridiceps

3. Laccobius (Microlaccobius) gracilis intermittens Kiesenwetter in Heyden (1870); STAT: ssp; RANGE: S; DIST: S iberia?; 1st RE: Heyden (1870).

Hydroxenus Wollaston, 1867; SYN: =Platylobiobius Gentili, 1974

4. Laccobius (Hydroxenus) femoralis Rey, 1885; SYN: =mulsanti Zaitzev, 1908; RANGE: T; 1st RE: Heyden (1870), Dieck (1870).

[Laccobius (Hydroxenus) leucaspis Kiesenwetter in Heyden, 1870; STAT: excl.; RANGE: S; 1st RE: Heyden (1870); OBS: Type localities: Andalusia, Algeria, Egypt. Andalusian specimens considered to be revelierei by Gentili & Chiesa (1975).
5. *Laccobius (Hydroxenus) revelierei Perris, 1864*; SYN: *pallidus* var. *debilis* Rottenberg, 1874; RANGE: S; DIST: C Iberia; 1st RE: HEYDEN (1870); OBS: recorded as *L. leucaspis* from Andalucia (see OBS to *L. leucaspis*), also by ROTTENBERG (1874) as *L. pallidus* var. *debilis*.

*Dimorpholaccobius* Zaitzev, 1938; SYN: *Macrolaccobius* Gentili, 1974


8. *Laccobius (Dimorpholaccobius) bipunctatus* (Fabricius, 1775); STAT: cplx?; SYN: *emmeryanus* Rottenberg, 1874; RANGE: T; 1st RE: ROTTENBERG (1874), as *L. emmeryanus*; OBS: probably a complex of at least two species, unpublished observations.


12. *Laccobius (Dimorpholaccobius) neapolitanus* Rottenberg, 1874; RANGE: T; 1st RE: BOSCA (1932); OBS: in FUENTE (1925) *L. neapolitanus* and *L. obscuratus* are considered synonyms of *L. sinuatus*, and records may refer to any of these species.


(Laccobius (Dimorpholaccobius) scutellaris Motschulsky, 1855; STAT: excl.; C. ID.: obscuratus?; RANGE: E; 1st RE: HEYDEN (1870); OBS: excluded by GENTILI & CHIESA (1975); records may refer to obscuratus.


15. *Laccobius (Dimorpholaccobius) striatulus* (Fabricius, 1801); RANGE: N; DIST: Pyrenean, Cantabrian,?; 1st RE: HEYDEN (1870); OBS: GENTILI & CHIESA (1975) considered it to be absent from the Iberian peninsula.


*Helochares* Mulsant, 1844

1. *Helochares (Helochares) lividus* (Forster, 1771); RANGE: T; 1st RE: MOTSCHULSKY (1849).


(Helochares (Helochares) dilutus* (Erichson, 1843); STAT: excl.; C. ID.: lividus?; RANGE: S; DIST: Coimbra; 1st RE: OLIVEIRA (1882); OBS: Original record: «*H. dilutus* Er.», with the synonymy *Melanophilus Muls* Dol. Fr. Palp., p. 137». In WINKLER (1924) *H. dilutus* Er. is considered a synonym of *H. lividus*, although it is a valid, Ethiopian, species (HEBAUER, 1996).

Hydrobaticus W. MacLeay, 1871

(Helochares (Hydrobaticus) melanophthalmus* (Mulsant, 1844); STAT: excl.; RANGE: S; DIST: «Espagne»; 1st RE: MULSANT (1844); OBS: Described by MULSANT
(1844) from a single specimen collected by Léon Dufour in «Espagne», although other non-European specimens are said to belong to the same species. Considered to be a locality error by d'Orchymont (1936a) and Hansen & Hebauer (1988).

3.1.4.8 **Chasmogenus** Sharp, 1882; OBS: Taxonomy: Hebauer (1992).

1. **Chasmogenus livornicus** (Kuwert, 1890); RANGE: E; DIST: Pyrenean Med. coast; 1st RE: Ribera et al. (1996).


**Enochrus** C.G. Thomson, 1859

1. **Enochrus (Enochrus) melanocephalus** (Olivier, 1792); RANGE: T; 1st RE: Motuschulsky (1849). 

Lumetus Zaitzev, 1908

2. **Enochrus (Lumetus) ater** (Kuwert, 1888); RANGE: T; 1st RE: Ribera et al. (1997).

3. **Enochrus (Lumetus) bicolor** (Fabricius, 1792); SYN: =maritimus (Thompson, 1853); =flavus (Kuwart, 1890); =atricornis (Kuwert, 1888); =sternospina (Kuwert, 1888) (ex parte?); RANGE: T; 1st RE: Fuente (1925).


5. **Enochrus (Lumetus) fuscipennis** (C.G. Thomson, 1884); STAT: =?; RANGE: T; 1st RE: Fuente (1925); OBS: the species may be a synonym of *E. quadripunctatus* (S. Schödl p.c., 1998).

6. **Enochrus (Lumetus) halophilus** (Bedel, 1878); RANGE: T; 1st RE: Fuente (1925).

[Enochrus (Lumetus) hispanicus Kuwert, 1888; STAT: =?; RANGE: ?; 1st RE: Kuwert (1888a); OBS: the taxonomic identity of the species is still uncertain, but it is likely to be a synonym (S. Schödl p.c., 1998).

[Enochrus (Lumetus) ochropterus** (Marsham, 1802); STAT: excl.?; SYN: =frontalis (Erichson, 1837); RANGE: N; DIST: Pyrenean, Cantabrian?; 1st RE: Motuschulsky (1849).

7. **Enochrus (Lumetus) politus** (Küster, 1849); SYN: =agrigenitus Rottenberg, 1870; RANGE: T; 1st RE: Küster (1849).

8. **Enochrus (Lumetus) quadripunctatus** (Herbst, 1797); SYN: =berolinensis (Kuwert, 1888); RANGE: N; DIST: Pyrenean, Hercynian Iberia?; 1st RE: Rosenhauer (1856), as Philhydryus melanocephalus Fabricius, 1801 (nee Olivier, 1792).

9. **Enochrus (Lumetus) salomonis** (Sahlberg, 1900); RANGE: E; DIST: E & C Iberia, E Med.; 1st RE: Ribera et al. (1997).


11. **Enochrus (Lumetus) testaceus** (Fabricius, 1801); SYN: =lederi (Kuwart, 1888); RANGE: N; DIST: Pyrenean?; 1st RE: Motuschulsky (1849)?; OBS: Motuschulsky (1849) and other southern records may refer to a different species, probably *E. ater*. The species was recorded with certainty from the extreme NE by Ribera & Aguilera (1996).

Methydrus Rey, 1885

[Enochrus (Methydrus) affinis Thunberg, 1794; STAT: excl.; RANGE: N; 1st RE: Fuente (1925); OBS: Iberian records of this species should refer either to *E. natalensis* or E. nigritus.

12. **Enochrus (Methydrus) morenae** (Heyden, 1870); RANGE: X; DIST: Iberia, Pyrenean (also N face); 1st RE: Heyden (1870).
13. *Enochrus (Methydrus) natalensis* (Gemminger & Harold, 1868); RANGE: S; DIST: extreme SW; 1st RE: Schödl (1997); OBS: records of *E. affinis* from Portugal and Huelva may refer to this species.


1. *Cymbiodyta marginella* (Fabricius, 1792); RANGE: N; DIST: Cantabrian, Hercynian Iberia, Pyrenean?; 1st RE: Heyden (1870); OBS: the record by Franquesa (1889) from Mataró (Barcelona) needs confirmation.

3.1.4.11 *Hydrobius Leach, 1815*; OBS: Taxonomy: Chiesa (1959).

1. *Hydrobius convexus* Brullé, 1835; RANGE: T; 1st RE: Rosenhauer (1856).

2. *Hydrobius fuscipes* (Linnaeus, 1758); RANGE: T; 1st RE: Rosenhauer (1856).

Species of uncertain status

«*Hydrobius paulinieri* Guér.»; STAT: (?); RANGE: X; DIST: Portugal; 1st RE: Seabra (1942); OBS: Seabra (1942) recorded four specimens in the Collection of the Museu Zoologico da Universidade de Coimbra (according to the author, one of them identified by Bedel), although he could not find any reference to the species. In Ladeiro (1949) the species is recorded again, although the author could not identify it. We could not either, and it must be an undescribed name for any of the two Iberian *Hydrobius*, which should be considered *nomen nudum*.


1. *Hydrochara caraboides* (Linnaeus, 1758); RANGE: N; DIST: Pyrenean; 1st RE: Martorell (1879).

2. *Hydrochara flavipes* (Steven, 1808); RANGE: T; 1st RE: Cuní & Martorell (1876).


*Hydrophilus* O. F. Müller, 1764

1. *Hydrophilus (Hydrophilus) piceus* (Linnaeus, 1758); RANGE: N; DIST: Pyrenean, Med. coast; 1st RE: Assö (1784)?; OBS: Records by Assö (1784) and Rosenhauer (1856) may refer to *H. piceus*, presence in Iberia may have been first recorded by Cuní & Martorell (1876), see Ribera et al. (1995). Bosca (1932) recorded for the first time in Iberia the variety *H. piceus angustior* Rey, 1885.

2. *Hydrophilus (Hydrophilus) pistaceus* (Laporte de Castelanau, 1840); SYN: =*inermis* Küster, 1852; RANGE: T; 1st RE: Küster (1852), as *H. inermis*.

[Hydrophilus (Hydrophilus) aterrimus* (Eschscholdt, 1822)*; STAT: excl.; RANGE: N; DIST: recorded from Navarra; 1st RE: Vega et al. (1981); OBS: Vega et al. (1981) record most probably to refer to *H. pistaceus* or *H. piceus*.

*Sphaeridini*ae Latreille, 1802

OBS: most of the species of this subfamily live on decaying organic matter or dung.
Only species of *Coelostoma* and some species of *Cercyon* (*C. marinus*, *C. tristis*, *C. ustulatus* and *C. subsulcatus*) are habitually found associated with water.

3.1.4.15 *Coelostoma* Brullé, 1835; OBS: Taxonomy: d’Orchymont (1925, 1936b).

*Coelostoma* Brullé, 1835

1. *Coelostoma (Coelostoma) hispanicum* (Küster, 1848); RANGE: T; 1st RE: Küster (1848a).

2. *Coelostoma (Coelostoma) orbiculare* (Fabricius, 1775); SYN = brevitarse (Heyden, 1870); = minor (Sharp, 1872); = var. subaerenum Reitter, 1906; RANGE: N; DIST: Iberia; 1st RE: Rosenhauer (1856); OBS: synonyms of brevitarse and minor in d’Orchymont (1925b, 1936b).


*Cercyon* Leach, 1817

1. *Cercyon (Cercyon) arenarius* Rey, 1884; RANGE: N; DIST: Pyrenean Med. coast, Cádiz?; 1st RE: Romero-Alcaraz et al. (1997); OBS: present with certainty in the Delta del Ebro (Huijbregts p.c., 1996); Fuente (1925) records refer to the French Pyrenees.

2. *Cercyon (Cercyon) atricapillus* (Marsham, 1802); SYN = centrimaculatum Sturm, 1807; = nigriceps Marsham, 1802; RANGE: T; 1st RE: Rosenhauer (1856).

3. *Cercyon (Cercyon) haemorrhoidalis* (Fabricius, 1775); SYN = flavipes (Fabricius, 1792); erythropterus (Mulsant, 1844); RANGE: T; 1st RE: Rosenhauer (1856) as C. flavipes.

4. *Cercyon (Cercyon) impressus* (Sturm, 1807); RANGE: S; DIST: Pyrenean?, Cantabrian?; 1st RE: León-Hilaire (1924) (in Val d’Aran, N face of the Pyrenees); OBS: first peninsular record by Fuente (1925).

5. *Cercyon (Cercyon) lateralis* (Marsham, 1802); RANGE: N; DIST: Iberia?; 1st RE: Martorell (1879), as *C. laterale* Marsh.

6. *Cercyon (Cercyon) littoralis* (Gyllenhal, 1808); RANGE: N?; 1st RE: Fuente (1925); OBS: Fuente (1925) record dubious for himself.


8. *Cercyon (Cercyon) melanocephalus* (Linnaeus, 1758); RANGE: T?; DIST: *Entire Palearctic* (Huijbrts 1982); 1st RE: Zariquey (1917b).

9. *Cercyon (Cercyon) obsoletus* (Gyllenhal, 1808); SYN = lugubris Olivier, 1790; RANGE: T; 1st RE: León-Hilaire (1924) (in Val d’Aran, N face of the Pyrenees); OBS: first peninsular record by Fuente (1925), as C. lugubris.

10. *Cercyon (Cercyon) pygmaeus* (Illiger, 1801); RANGE: T; 1st RE: Ubagón (1876).

11. *Cercyon (Cercyon) quisquilius* (Linnaeus, 1761); SYN = flavipenne (Küster, 1848); RANGE: T; 1st RE: Küster (1848b).


13. *Cercyon (Cercyon) terminatus* (Marsham, 1802); RANGE: T; 1st RE: Moróder (1924).

15. *Cercyon (Cercyon) unipunctatus* (Linnaeus, 1758); RANGE: N; DIST: Pyrenean, Iberian?; 1st RE: Léon-Hilaire (1924) (in Val d’Aran, N face of the Pyrenees); OBS: Records in Fuente (1925) refer to the French Pyrenees. First peninsular record by Bosca (1932).

*Dicyrtocercyon* Ganglbauer, 1904


*Paracerceony* Seidlitz, 1888


*Paracycreon* d’Orchymont, 1942


Species of uncertain status

«*Cercyon moroderi* Dodero»; STAT: (?); RANGE: X; DIST: Albufera; 1st RE: Moroder (1919, 1923); OBS: In Moroder (1919) the description by Dodero of a new *Cercyon* close to *C. subsulcatus* is advanced, but we were not able to find the description of this species. Bosca (1932) records «*C. moroderi* Dodero in litt.». It was probably never described by Dodero.

«*Cercyon niopiceps* Marsh.»; STAT: (?); RANGE: ?, 1st RE: Moroder (1924); OBS: it may refer to *C. nigriceps* Marsham, 1802 (*C. atricapillus*), by typographical error or misinterpretation of the labels.

«*Cercyon flavipes* Hsunbg.»; STAT: (?); RANGE: ?, 1st RE: Moroder (1924); OBS: it may refer to *C. flavipes* Thunberg, 1894 (*C. analis*) by typographical error or misinterpretation of the labels.


2. *Cryptopleurum minutum* (Fabricius, 1775); RANGE: T?; DIST: Pyrenean, Cantabrian, «Portugal»; 1st RE: Martorell (1879).


1. *Megasternum obscurum* (Marsham, 1802); STAT: cplx?; SYN: =*boletophagum* Marsham, 1802?; RANGE: T; 1st RE: Rosenhauer (1856); OBS: probably a complex of species, unpublished observations.


1. *Dactylosternum abdominale* (Fabricius, 1792); SYN: =*insulare* (Laporte de Castelnau, 1840); RANGE: T; 1st RE: Cuni & Martorell (1876).


1. *Sphaeridium bipustulatum* Fabricius, 1781; SYN: =*tauricum* Motschulsky, 1849?; RANGE: T; 1st RE: Rosenhauer (1856); OBS: *S. tauricum*, described from Cartagena, was considered to be a synonym of *S. bipustulatum*, although we have not found any reference to this species after the reintroduction of *S. marginatum* by Berge Henegouwen (1989), and hence its identity is not certain.

4. *Sphaeridium scarabaeoides* (Linnaeus, 1758); RANGE: T; 1st RE: ROSENHAUER (1856).

3.2 Superfamily STAPHYLINOIDEA Latreille, 1802

3.2.1 Family HYDRAENIDAE Mulsant, 1844


**Hydraeninae** Mulsant, 1844

3.2.1.1 *Hydraena* Kugelann, 1794; OBS: Taxonomy: d’ORCHYMONT (1936c).

*Haenyntra* Rey, 1886


2. *Hydraena (Haenyntra) bitruncata* d’ORCHYMONT, 1934; RANGE: X; DIST: Pyrenean (also N face), Ávila?; 1st RE: d’ORCHYMONT (1934b).


4. *Hydraena (Haenyntra) emarginata* Rey, 1885; RANGE: X; DIST: Pyrenean (also N face), Cantabrian; 1st RE: d’ORCHYMONT (1934b); OBS: recorded by KUWERT (1888b) from the Pyrenees, probably from the N face.

5. *Hydraena (Haenyntra) exasperata* d’ORCHYMONT, 1935; RANGE: X; DIST: Iberia, except Pyrenean, Morocco?; 1st RE: d’ORCHYMONT (1935); OBS: it may be a complex of subspecies.


7. *Hydraena (Haenyntra) gracilis* Germar, 1824; RANGE: N; DIST: Pyrenean, Cantabrian, N Hercynian?; 1st RE: ROSENHAUER (1856)?; OBS: ROSENHAUER (1856) record may refer to a different species.


*Hydraena* Kugelmann, 1794; SYN: *Hadrenya* Rey, 1886?; OBS: *Hadrenya* was considered as a valid subgenus in Perkins (1997) and Hansen (1998), but likely to be a synonym (M.A. Jách p.c., 1998).


19. *Hydraena* (*Hydraena*) *affixa* d’Orchymont, 1936; STAT: cplx?; RANGE: X; DIST: C & E Iberia; 1st RE: d’Orchymont (1936c); OBS: it may be a species complex (M.A. Jách p.c., 1998).


26. *Hydraena* (*Hydraena*) *barrossi* d’Orchymont, 1934; SYN: *valladaresi* Lagar & Fresneda, 1990; RANGE: X; DIST: Cantabrian, Hercynian Iberia, Pyrenean (also N face); 1st RE: d’Orchymont (1934b); OBS: recorded as «*Hydraena barrossi* Dev. (in light.)» by Corréa de Barros (1926).


29. *Hydraena* (*Hydraena*) *brachymera* d’Orchymont, 1936; RANGE: X; DIST: Hercynian Iberia, Cantabrian Pyrenean (also N face); 1st RE: d’Orchymont (1936c).


33. *Hydraena (Hydraena) cordata* Schaufuss, 1883; RANGE: T; 1st RE: Kuwert (1888b).
34. *Hydraena (Hydraena) corinna* d’Orchymont, 1936; RANGE: X; DIST: Hercynian Iberia; 1st RE: d’Orchymont (1936c).
35. *Hydraena (Hydraena) corrigis* d’Orchymont, 1934; RANGE: X; DIST: Iberia, Pyrenean (also N face); 1st RE: d’Orchymont (1934b).
36. *Hydraena (Hydraena) curta* Kiesenwetter, 1849; RANGE: X; DIST: Pyrenean (also N face); 1st RE: Kuwert (1888b).
38. *Hydraena (Hydraena) exarata* Kiesenwetter, 1866; RANGE: S?; DIST: C Iberia; 1st RE: Kiesenwetter (1865); OBS: present in Morocco? (unpublished observations).
39. *Hydraena (Hydraena) flavipes* Sturm, 1836; SYN: minutissima Stephens, 1829; atricapilla (Waterhouse, 1833); RANGE: N; DIST: Iberia (not N Africa); 1st RE: Zariquiey (1916), as *H. atricapilla*.
40. *Hydraena (Hydraena) inapicipalpis* Pic, 1918; RANGE: X; DIST: N Iberia, Pyrenean (also N face); 1st RE: d’Orchymont (1934b).
43. *Hydraena (Hydraena) nigrita* Germar, 1824; RANGE: N; DIST: Pyrenean, Cantabrian; 1st RE: Rosenhauer (1856)?; OBS: Rosenhauer (1856) may refer to a different species. Presence in Iberia confirmed by Valladares (1985), excluding previous records.
46. *Hydraena (Hydraena) quilisi* Lagar, Fresneda & Hernando, 1987; RANGE: X; DIST: Pyrenean (also N face), E Iberia; 1st RE: Lagar et al. (1987b).
50. *Hydraena (Hydraena) servilia* d’Orchymont, 1936; RANGE: X; DIST: SE Iberia, Córdoba; 1st RE: d’Orchymont (1936c).
51. *Hydraena (Hydraena) sharpi* Rey, 1886; RANGE: X; DIST: Hercynian Iberia; 1st RE: Rey (1886); OBS: Transferred to Hadinya by Perkins (1997).
53. *Hydraena (Hydraena) stussineri* Kuwert, 1888; STAT: cplx?; RANGE: X; DIST: Iberian, Pyrenean (also N face); 1st RE: Kuwert (1888b); OBS: probably a species complex (M. A. Jäch p.c., 1998).


58. *Hydraena (Phothydraena) testacea* Curtis, 1830; STAT: cplx?; RANGE: T; 1st RE: Rosenhauer (1856); OBS: Rosenhauer (1856) record may refer to either *H. atrata* or *H. hernandoi*. It may be a species complex, with one or more specimens in south Iberia and Morocco (unpublished observations).

3.2.1.2 *Limnebius* Leach, 1815; OBS: Taxonomy: Jäck (1993a).


2. *Limnebius cordobanus* d’Orchymont, 1938; RANGE: X; DIST: Iberia, Pyrenean (not N face); 1st RE: d’Orchymont (1938).


19. *Limnebius nitidus* (Marsham, 1802); RANGE: N; DIST: Pyrenean; 1st RE: ROSENHAUER (1856)?; OBS: ROSENHAUER (1856) record almost certainly refers to a different species. The first Iberian record may be that of LAGAR (1987) from Girona. See FRESNEDA & RIBERA (1998) for a review of recent records.
23. *Limnebius truncatellus* (Thunberg, 1794); RANGE: N; DIST: Iberia (not N Africa); 1st RE: HEYDEN (1870).

Note

*Limnebius aluta* Bedel, 1881; *L. mucronatus* Baudi, 1872, and *L. truncatulus* C.G. Thomson, 1853 were excluded from the Iberian fauna by VALLADARES & MONTES (1991) (see also JÁCH, 1993a).

**Ochthebiinae** C.G. Thomson, 1859

### 3.2.1.3 Enicocerinae Stephens, 1829; OBS: Taxonomy: JÁCH (1992a).

1. *Enicocerus exsulcatus* (Germar, 1824); RANGE: T; 1st RE: ROSENHAUER (1856).

(Enicocer) halbherri (Reitter, 1890); STAT: excl.; SYN: *taurus* Hebauer, 1990; RANGE: N; 1st RE: HEBAUER (1990); OBS: according to JÁCH (1992a) HEBAUER (1990) record refers to «another species», according to VALLADARES & MONTES (1991) to *E. exsulcatus*.

### 3.2.1.4 Aulacocethebius Kuwert, 1887; OBS: Taxonomy: AGUILERA et al. (1998).

1. *Aulacocethebius exaratus* (Mulsant, 1844); RANGE: T; 1st RE: ROSENHAUER (1856).


1. *Calobius quadricollis* (Mulsant, 1844); SYN: *submersus* Chevrolat, 1861; RANGE: T; 1st RE: BOSCA (1932); OBS: synonymy by JÁCH (1993b), see also URBANELLI et al. (1996).
3.2.1.6 *Ochthebius* Leach, 1815


11. *Ochthebius (Asiobates) minimus* (Fabricius, 1792); SYN: =pygmaeus (Paykull, 1798) (nec Fabricius); RANGE: N; DIST: Pyrenean?, Cantabrian; 1st RE: Zariquey (1916), as *O. impressus* (Marsham, 1802).


Note

*Ochthebius (Asiobates) bicolon* Germar, 1824 and *O. (Asiobates) striatus* (Laporte de Castelanu, 1840) were excluded from the Iberian fauna by Valladares & Montes (1991) (see also Jäch, 1990).

*Cobalius* Rey, 1886; STAT: =?; C.I.D: *Ochthebius*; OBS: Taxonomy: Jäch (1989a); considered to be a synonym of *Ochthebius* by Perkins (1997) and Hansen (1998).


17. *Ochthebius (Ochthebius) anxifer* J.Balfour-Browne, 1978; RANGE: S; DIST: SE Iberia; 1st RE: Balfour-Browne (1978); OBS: some of the Iberian records of *O. atriceps* may refer to this species.

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31. *Ochthebius (Ochthebius) marinus* (Paykull, 1798); RANGE: N; DIST: Iberia (not N Africa); 1st RE: ROSENHAUER (1856).


33. *Ochthebius (Ochthebius) meridionalis* Rey, 1885; RANGE: T; 1st RE: FUENTE (1925).


35. *Ochthebius (Ochthebius) metalecens* Rosenhauer, 1847; RANGE: N; DIST: Iberia (not N Africa); 1st RE: ROSENHAUER (1856).


43. *Ochthebius (Ochthebius) pusillus* Stephens, 1835; STAT: ?; SYN: =*marginipennis* Latreille, 1807; RANGE: N; DIST: Iberia (not N Africa); 1st RE: *Motschuslsky* (1849), as *O. marginipennis*; OBS: *Motschuslsky* (1849) record may refer to another species.
52. *Ochthebius (Ochthebius) viridis* Peyron, 1858 form 1 sensu Jách, 1992; RANGE: T; 1st RE: *Jách* (1992d); OBS: recorded by *Fuente* (1925) as *O. viridis*?
53. *Ochthebius (Ochthebius) viridis* Peyron, 1858 form 2 sensu Jách, 1992; RANGE: T; 1st RE: *Jách* (1992d); OBS: recorded by *Fuente* (1925) as *O. viridis*?

**Note**

*Ochthebius (Ochthebius) atriceps* Fairmaire, 1879 was excluded from the Iberian fauna by *Valladares & Montes* (1991).

3.3 Superfamily **SCIRTOIDEA** Fleming, 1821

3.3.1 Family **SCIRTIDAE** Fleming, 1821


3.3.1.1 **Cyphon Paykull**, 1799


1. **Cyphon coarctatus** Paykull, 1799; SYN: =*fuscicornis* Thompson, 1855; RANGE: T; 1st RE: *Kiesewetter* (1866).


3.3.1.2 *Elodes* Latreille, 1796


5. *Elodes minutus* (Linnaeus, 1767); STAT: ?; RANGE: N; DIST: Pyrenean (only N face?); 1st RE: Kiesenwetter (1866); OBS: Iberian records not included in Hannappel & Paulus (1997) (as *E. minuta*).


3.3.1.3 *Hydrocyphon* Redtenbacher, 1858
1. *Hydrocyphon australis* (Lindner, 1864); RANGE: N; DIST: Pyrenean, Segovia; 1st RE: Kiesenwetter (1866).
2. *Hydrocyphon championi* Reitter, 1903; RANGE: X; DIST: Sierra de Béjar; 1st RE: Reitter (1903).

3.3.1.4 *Microcara* C.G. Thomson, 1859
2. *Microcara testacea* (Linnaeus, 1767); SYN: =livida Fabricius, 1792; RANGE: N; DIST: «Europa»; 1st RE: Kiesenwetter (1866), as *M. livida*.

3.3.1.5 *Prionocyphon* Redtenbacher, 1858

3.3.1.6 *Scirtes* Illiger, 1807
1. *Scirtes hemisphaericus* (Linnaeus, 1767); RANGE: N; DIST: Pyrenean, C Iberia (Ciudad Real); 1st RE: Fuente (1919).

3.4 Superfamily *BYRHOIDEA* Latreille, 1804

3.4.1 Family *ELMIDAE* Curtis, 1830
*Larinae* LeConte, 1861

3.4.1.1 *Potamophillus* Germar, 1811
*Elminae* Curtis, 1830

3.4.1.2 *Dupophillus* Mulsant & Rey, 1872
1. *Dupophillus brevis* Mulsant & Rey, 1872; SYN: =*gigas* Sharp, 1872; RANGE: N; DIST: Cantabrian, Hercynian Iberia, Pyrenean (only N face); 1st RE: Sharp (1872) as *Limnius gigas*.
3.4.1.3 *Stenelmis* Dufour, 1835

1. *Stenelmis canaliculata* (Gyllenhal, 1808); RANGE: N; DIST: Iberia (not N Africa); 1st RE: Corrêa de Barros (1916).


3.4.1.4 *Elmis* Latreille, 1798

1. *Elmis aenea* (P.W.J. Müller, 1806); RANGE: N; DIST: Iberia (not N Africa); 1st RE: Rosenhauer (1856)?; OBS: Rosenhauer (1856) record may refer to a different species.


3.4.1.5 *Esolus* Mulsant & Rey, 1872


2. *Esolus parallelepipedus* (P.W.J. Müller, 1806); RANGE: T; 1st RE: Rosenhauer (1856); OBS: present in Morocco (unpublished observations).


3.4.1.6 *Oulimninus* Gozis, 1886


   [Oulimninus aegyptiacus (Kuwert, 1890); STAT: excl.; RANGE: S; DIST: extreme S Iberia?; 1st RE: Berthélemy (1979); OBS: excluded by Rico (1997).]


5. *Oulimninus rivularis* (Rosenhauer, 1856); RANGE: T; 1st RE: Rosenhauer (1856)

6. *Oulimninus troglodytes* (Gyllenhal, 1827); SYN: *brevis* (Sharp, 1872); RANGE: N; DIST: Iberia (not N africa); 1st RE: Sharp (1872).


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3.4.1.7 *Limnius* Illiger, 1802

1. *Limnius intermedius* Fairmaire, 1881; RANGE: T; 1st RE: Rosenhauer (1856)?, Horion (1955); OBS: Rosenhauer (1856) record considered to be a different species by Berthelémy (1979).


4. *Limnius volckmari* (Panzer, 1793); RANGE: N; DIST: Iberia (not N Africa); 1st RE: Rosenhauer (1856).

3.4.1.8 *Normandia* Pic, 1900


2. *Normandia sodalis* (Erichson, 1847); RANGE: N; DIST: E Iberia; 1st RE: Alluaud (1922).

3.4.1.9 *Riulus* Mulsant & Rey, 1872


2. *Riulus illiesi* Steffan, 1958; RANGE: N; DIST: Iberia (not N Africa); 1st RE: Rosenhauer (1856); OBS: recorded as *Elmis subviolaceus* (partim) by Rosenhauer (1856).


3.4.1.10 *Macronychus* P.W.J. Müller, 1806


Note

*Ladyella corticariiformis* Reitter, 1899 was excluded from the Iberian fauna by Jäckh (1983) (see also Montes & Soler, 1986).

3.4.2 Family **Dryopidae** Billberg, 1820


3.4.2.1 *Pomatinus* Sturm, 1853; SYN: =*Helichus* Erichson, 1847


3.4.2.2 *Dryops* Olivier, 1791


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   *Dryops hispanus* Olmi, 1972; STAT: =?; C.ID: aligiricus; RANGE: X; DIST: Barcelona (type locality); 1st RE: Olmi (1972); OBS: likely to be a synonym (E. Rico p.c., 1996).
8. *Dryops luridus* (Erichson, 1847); RANGE: T; 1st RE: Rosenhauer (1856).
9. *Dryops lutulentus* (Erichson, 1847); RANGE: T; 1st RE: Rosenhauer (1856).
11. *Dryops rufipes* (Krynicki, 1832); RANGE: N; DIST: Iberia (not N Africa); 1st RE: Bollow (1938).
13. *Dryops striatellus* (Fairmaire & H. Brisout de Barneville, 1859); RANGE: T; 1st RE: Uñagón (1879)?, Dodero (1918)?; OBS: Uñagón (1879) recorded specimens of *D. luridus* of which «parece convenir la descripción del *P. striatellus* Fairm.», but Kiesenwetter examined the material, and thought that *D. striatellus* was a synonym of *D. luridus*. Dodero (1918) recorded dubious females. Presence in Iberia confirmed by Pardo (1933).
14. *Dryops subincanus* (Kuwert, 1890); RANGE: T; 1st RE: Dodero (1918).

3.4.3 Family **LIMNICHIDAE** Erichson, 1846

OBS: TX: Portevin (1931). Faunistics: Fuente (1929). The knowledge of the Iberian fauna of this family is most incomplete, all taxonomy being based on the external morphology of the species.

**Limnichinae** Erichson, 1846

3.4.3.1 **Limnichus** Latreille, 1829

4. *Limnichus sericeus* (Duftsmich, 1825); RANGE: T; 1st RE: Oliveira (1882).

Notes

Weise (1877) in the description of *Limnichus leder* Weise, 1877 notes that Kiesenwetter has some specimens from Catalonia that apparently belong to the same species.

3.4.3.2 **Pelochares** Mulsant & Rey, 1869

1. *Pelochares versicolor* (Waltl, 1838); RANGE: T; SYN: =emarginatus Mulsant & Rey, 1869; 1st RE: Rosenhauer (1856).

3.4.3.3 **Botriophorus** Mulsant & Rey, 1852

1. *Botriophorus atomus* Mulsant & Rey, 1852; RANGE: N; DIST: Pyrenean; 1st RE: Hernando et al. (in press).
3.4.4 Family HETEROCRIDAE MacLeay, 1825

Heterocerinae MacLeay, 1825

3.4.4.1 Heterocerus Fabricius, 1792
2. Heterocerus fenestratus (Thunberg, 1784); RANGE: T; 1st RE: Cuni (1885).
3. Heterocerus flexuosus (Stephens, 1828); RANGE: T; 1st RE: Kuwert (1890b).
7. Heterocerus marginatus (Fabricius, 1787); RANGE: T; 1st RE: Cuni & Martorell (1876).
8. Heterocerus obsoletus (Curtis, 1828); RANGE: N; DIST: ?; 1st RE: Kuwert (1890b).
9. Heterocerus parallelus (Gebler, 1830); RANGE: N; DIST: Iberia (not N Africa); 1st RE: Cuni & Martorell (1876).

3.4.4.2 Augyles Schiödtte, 1866
Littorimus Gozis, 1885
1. Augyles (Littorimus) curtaus (Rosenauer, 1856); RANGE: T; 1st RE: Rosenauer (1856).
2. Augyles (Littorimus) flavidus (Rossi, 1794); SYN: =flavescens Schaufuss, 1861; RANGE: T; 1st RE: Kiessenwetter (1851).
3. Augyles (Littorimus) hispidulus (Kiessenwetter, 1843); RANGE: N; DIST: C Iberia; 1st RE: Aguilera et al. (1998).
4. Augyles (Littorimus) maritimus (Guérin-Méneville, 1844); RANGE: T; 1st RE: Kuwert (1890b).
5. Augyles (Littorimus) marmota (Kiessenweter, 1850); SYN: =funebris Schaufus, 1861; RANGE: T; 1st RE: Kiessenwetter (1850).
6. Augyles (Littorimus) prunus (Kiessenweter, 1851); RANGE: N; DIST: Iberia (not N Africa); 1st RE: Fuente (1929).
7. Augyles (Littorimus) senescens (Kiessenweter, 1865); SYN: =punctatus Ch. Brisout de Barneville, 1866; RANGE: T; 1st RE: Kiessenwetter (1865).
8. Augyles (Littorimus) sericans (Kiessenweter, 1843); RANGE: T; 1st RE: Rosenauer (1856).

3.4.5 Family PSEPHENIDAE Lacordaire, 1854

Eubriinae Lacordaire, 1857

3.4.5.1 Eubria Latreille, 1829
1. Eubria palustris (Germar, 1818); SYN: =marchantiae Jacquelin du Val, 1854; RANGE: N; DIST: Pyrenean; 1st RE: Seidlitz (1867), as E. marchantiae.
3.5 Superfamily CHRYSOMELOIDEA Latreille, 1802

3.5.1 Family CHRYSOMELIDAE Latreille, 1802


Donaciinae Kirby, 1837

3.5.1.1 Donacia Fabricius, 1775

Askevoldia Kippenber, 1994

1. Donacia (Askevoldia) reticulata (Gyllenhal, 1817); SYN: =appendiculata Ahrens, 1810; RANGE: S; DIST: Porto; 1st RE: LACORDAIRE (1845).

Donacia Fabricius, 1775


Donaciella Reitter, 1920


4. Donacia (Donaciella) clavipes (Fabricius, 1793); SYN: =menyanthidis Gyllenhal, 1827; RANGE: N; DIST: Pyrenean, Ruidera; 1st RE: BÁGUENA (1960).

Donaciomima Medvedev, 1973

5. Donacia (Donaciomima) andalusiaca Kraatz, 1869; STAT: ?; SYN=inermis Fuent, 1904; CID: apricans Lacordaire, 1845 RANGE: E; DIST: S & C Iberia, Middle East; 1st RE: Kraatz (1869); OBS: described as D. apricans var. andalusiaca. It may be a junior synonym of D. apricans, from North Africa and Sicily (Ruffo, 1964; E. Petitpierre p.c., 1998). Iberian records of D. apricans in SHCRER (1978) may refer to this species. D. andalusiaca was recorded from Middle East by SALBERG (1913: 241).

6. Donacia (Donaciomima) aquatic (Linnaeus, 1758); SYN: =concinna Weise, 1898; RANGE: T; 1st RE: WEISE (1898).


[Donacia (Donaciomima) brevicornis Ahrens, 1810; STAT: excl.; RANGE: N; 1st RE: SCHERER (1978); OBS: excluded by PETITPIERRE (in press).

[Donacia (Donaciomima) detata Hoppe, 1795; STAT: excl.; RANGE: N; DIST: Valencia?; 1st RE: MORÖDER (1923); OBS: not included in BÁGUENA (1960), excluded by PETITPIERRE (in press).


9. Donacia (Donaciomima) impressa (Paykull, 1799); RANGE: T; 1st RE: LACORDAIRE (1845).

10. Donacia (Donaciomima) marginata Hoppe, 1795; SYN: =lemnae Fabricius, 1801; =limbata Panzer, 1796; RANGE: T; 1st RE: LACORDAIRE (1845).

11. Donacia (Donaciomima) obscura Gyllenhal, 1813; RANGE: N; DIST: Pyrenean (N face); 1st RE: RIBERA et al. (1998b).

12. Donacia (Donaciomima) polita Kunze, 1818; RANGE: S; DIST: C Iberia? (Madrid); 1st RE: LACORDAIRE (1845).

[Donacia (Donaciomima) semicuprea Panzer, 1796; RANGE: N; 1st RE: MARTORELL (1879); OBS: not included in BÁGUENA (1960), excluded by PETITPIERRE (in press).

14. *Donacia (Donaciomima) thalassina* Germar, 1811; RANGE: N; DIST: Pyrenean; 1st RE: Champion (1903); OBS: not included in Băgœna (1960).

15. *Donacia (Donaciomima) versicolora* (Brahm, 1790); RANGE: N; DIST: Pyrenean, C Iberia? (Ávila); 1st RE: Martorell (1879).


3.5.1.2 *Plateumaris* C.G. Thomson, 1866


2. *Plateumaris consimilis* (Schrank, 1781); RANGE: N; DIST: Pyrenean, Hercynian Iberia; 1st RE: Champion (1902).


3.6 Superfamily CURCULIONOIDEA Latreille, 1802

3.6.1 Family CURCULIONIDAE Latreille, 1802

*Curculioninae* Latreille, 1802

*Bagoini* Neresheimer & Wagner, 1930


3.6.1.1 *Bagous* Germar, 1817


(*Bagous claudicans* Boheman, 1845; STAT: excl.; RANGE: N; 1st RE: Uhagon (1887); OBS: according to Caldana & O'Brien (1998) this is a central and northern European Species.

6. *Bagous diglyptus* Boheman, 1845; STAT: ?; RANGE: N; 1st RE: Fuente (1919); OBS: not considered to be an Iberian species by Caldana & O'Brien (1998), although it is present in France.


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   [Bagous frit Herbst, 1795; STAT: excl.; RANGE: N; 1st RE: IGLESIAS (1921); OBS: according to CALDARA & O’BRIEN (1998) this is a central and northern European Species.
14. *Bagous lutulosus* (Gyllenhal, 1827); RANGE: T; 1st RE: OLIVEIRA (1882).
23. *Bagous vivesi* González, 1967; RANGE: ?; DIST: Iberia except Pyrenean; 1st RE: GONZÁLEZ (1967); OBS: a series of specimens from S Iberia and Morocco were considered to belong to this species by CALDARA & O’BRIEN (1998), although they did not study the type from the Cantabrian mountains.

**EVILOE OF THE KNOWLEDGE OF THE IBERIAN FAUNA OF AQUATIC COLEOPTERA**

The cumulative number of species known from Iberia since Asso (1784) is represented in Fig. 1a, and the number of species recorded for the first time each year in Fig. 1b. The single most important contribution was ROSENHAUER’S (1856) monograph, with more than one hundred new records, including descriptions of several species. Since then there has been a more or less steady increase in the number of species, with important contributions by HEYDEN (1870), CUNI & MARTORELL (1876), OLIVEIRA (1882), FUENTE (1923, 1929), and more recently
Figure 1. Evolution of the knowledge of the Iberian fauna of aquatic Coleoptera. a, cumulative number of species recorded per year; b, number of species first recorded per year. The peak corresponds to ROSENHAUER (1856).

Evolución del conocimiento de la fauna ibérica de coleópteros acuáticos. a, número acumulado de especies citadas por año; b, número de especies citadas por primera vez por año. El pico corresponde a ROSENHAUER (1856).

Balfour-Browne (1978) for Hydraenidae. Since this last work there has been an increase in the number of new records, and in particular in the description of new endemic species of Dytiscidae and Hydraenidae: 65 endemic species have been described since 1978, 22 of them in the last five years. Similarly, since 1978 (included) 92 species have been recorded for the first time in the Iberian peninsula, 14 of them with a trans-Iberian distribution, 30 northern species, 35 southern species, and 3 eastern species.

There does not seem to be any decrease in the number of species newly recorded from Iberia, although a closer examination of the pattern of descriptions shows that the more recently described species have very local distributions and are in general rare. Although there is the possibility that this is an artefact due simply to the fact that there has not been
enough time to find (or recognise) them in more places, it seems likely that most widespread common species have already been described, and what are left are local and rare populations of species that have so far remained undetected - or species complexes to be recognised.

**BIOGEOGRAPHICAL PATTERNS**

The predominant group in the Iberian fauna of aquatic Coleoptera are widespread western Palaearctic species which do not have their distributional limit within the peninsula, i.e., they are found both in western Europe and in north Africa. The second most important component are species with a northern distribution, reaching mostly the Pyrenean and Cantabrian regions, but not the south of Iberia. Close to that is the endemic element, reaching almost 20% of the total number of species. The number of endemic species is in general proportional to area, although the south east of Iberia has a higher number of endemic Hydraenidae than should be predicted according to its area. Southern species are less frequent, being only ca. 11% of the total. It has to be noted that among the species excluded the vast majority have northern distributions. They were erroneously identified as central or northern European species, probably because of the uncritical use of European literature for their study. This means that the number of northern species may be overrepresented, and the number of both endemic and southern species underrepresented (see Ribera, in press for a more detailed analysis of the Iberian fauna based on this checklist).

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