

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, Hydroscaphidae; Adephaga: Gyrinidae, Haliplidae, Noteridae, Hygrobiidae, Dytiscidae; Polyphaga: Helophoridae, Georissidae, Hydrochidae, Hydrophilidae, Hydraenidae, Scirtidae, Elmidae, Dryopidae, Limnichidae, Heteroceridae, Psephenidae, Chrysomelidae: Donaciinae, and Curculionidae: Curculioninae: Bagoiini). 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 nuda*.

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

Recepción: 20 Mayo 1998. Aceptación: 15 Agosto 1998.

I. Ribera. Department of Entomology, The Natural History Museum, Cromwell Road, London SW7 5BD (United Kingdom).

C. Hernando, P. Aguilera. Museu de Zoologia, P.O. Box 593, 08080 Barcelona (Spain).

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, Hydroscaphidae; Adephaga: Gyrinidae, Haliplidae, Noteridae, Hygrobiidae, Dytiscidae; Polyphaga: Helophoridae, Georissidae, Hydrochidae, Hydrophilidae, Hydraenidae, Scirtidae, Elmidae, Dryopidae, Limnichidae, Heteroceridae, Psephenidae, Chrysomelidae: Donaciinae, and Curculionidae: Curculioninae: Bagoiini). Para cada especie se da la siguiente información: status taxonómico; principales sinonimias y cambios taxonómicos o nomenclatoriales desde los últimos trabajos de referencia general; referencia bibliográfica de la primera cita ibérica, o de la primera fiable 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 Hydradephaga (see also VONDEL, 1997 for European Haliplidae; and DETTNER, 1997a, b for Noteridae and Hygrobiidae respectively); VALLADARES & RIBERA (in press) for Hydrophiloidea; VALLADARES & MONTES (1991) for Hydraenidae; and AGUILERA *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 new to 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.faua-iberica.mncn.csic.es/htmlfaua/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 & AGUILERA, 1995). Within each family all species were included, irrespective of their ecological habits. The only exceptions are Chrysomelidae, of which only the subfamily Donaciinae was included, and Curculionidae, of which only the tribe Bagoini 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 Palaearctic families of the suborder Myxophaga have aquatic species. In the suborder Adephaga aquatic families were traditionally grouped under the term «Hydradephaga», 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-Palaeartic families of Bhyrroidea 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 Sphaeridiidae 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 *Macrolea* 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 Bagoini. In the recent revision of the western Palaeartic species of the genus *Bagous*, CALDARA & 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 Adepaga 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; ssp 1, number of subspecies in addition to the nominal form occurring in Iberia; ssp 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; ssp 1, número de subspecies de especies cuya forma nominal también se encuentra en la península; ssp 2, número de especies de las que la subespecie 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.

FAMILY	No. sp.	?	=?	cplx	ssp1	ssp2	excl.	=	(?)
MYXOPHAGA									
Microsporidae	1						1		
Hydroscaphidae	1								
ADEPHAGA									
Gyrinidae	11						1		
Haliplidae	19	4							
Noteridae	3						1		
Hygrobiidae	1								
Dytiscidae	164	13	2	3	4	5	29	3	
POLYPHAGA									
HYDROPHILOIDEA									
Helophoridae	35	2					4		
Georissidae	3								
Hydrochidae	11						2	1	
Hydrophilidae	86	2	3	2	2		10	1	4
STAPHYLINOIDEA									
Hydraenidae	138	5		3		1	4	2	
SCIRTOIDEA									
Scirtidae	34	4							
BYRRHOIDEA									
Elmidae	30	1	1		2		1		
Dryopidae	17	2						1	
Limnichidae	6								
Heteroceridae	17	1							
Psephenidae	1								
CRHYSOMELOIDEA									
Donaciinae	20	1	2				3		
CURCULIONOIDEA									
Bagoiini	23	2							
TOTAL	621	37	8	8	8	6	59	8	4

- =?: 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.

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 de 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 Haliplidae europeos; y DETTNER, 1997a, b para Noteridae y Hygrobiidae respectivamente); VALLADARES & RIBERA (en prensa) para Hydrophiloidea; 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. RIBERA & 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 Donaciinae, 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 «Hydradephaga», 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 Bhyroidea 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 especie ibérica 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 Donaciinae de Chrysomelidae son enteramente acuáticas. De los tres géneros europeos de Donaciinae, solo *Macrolea* no ha sido todavía citado de la península ibérica, aunque su presencia en Francia y el norte de África (Argelia) (JOLIVET, 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 en 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 Aephaga). 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 («Faunistics»). 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.
- cplx? : 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.

En toda la lista, «E» significa este u oriental, «W» oeste u occidental, «N» norte o septentrional, «S» sur o meridional, y «C» central.

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:

Pyrenean (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 considera relevante.

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

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

SE Iberia (sudeste 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 *Microsporus Kolenati*, 1846; SYN: =*Sphaerius* Walt, 1838

Microsporus 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. *Microsporus 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

OBS: Taxonomy: D'ORCHYMONT (1945), REICHARD (1973). Faunistics: D'ORCHYMONT (1945).

1.1.2.1 *Hydroscapha* LeConte, 1874

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

2. Suborder ADEPHAGA Schellenberg, 1806

OBS: For an updated checklist of the Palaearctic species of Noteridae and Dytiscidae see Anders Nilsson's web page (http://www.big.umu.se/biginst/www/personal/hemsidor/an_big/an_ny.htm), at the University of Umeå, Sweden. The recent (and multiple) nomenclatorial modifications introduced by ÁDÁM (1996) are not accepted unless otherwise stated, following NILSSON (1998).

2.1.1 Family GYRINIDAE Latreille, 1810

OBS: Taxonomy: FRANCISCOLO (1979), HOLMEN (1987). Faunistics: RICO *et al.* (1990). *Gyrininae* Latreille, 1810

2.1.1.1 *Gyrinus* O.F. Müller, 1764

Gyrinulus Zaitsev, 1908

1. *Gyrinus (Gyrinulus) minutus* Fabricius, 1798; RANGE: N; DIST: Pyrenean, Cantabrian; 1st RE: CUNÍ & 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) caspius* Ménériés, 1832; RANGE: T; 1st RE: HEYDEN (1870).
3. *Gyrinus (Gyrinus) dejeani* Brullé, 1832; RANGE: T; 1st RE: ROSENHAUER (1856).
4. *Gyrinus (Gyrinus) distinctus* Aubé, 1838; RANGE: T; 1st RE: FUENTE (1921).
5. *Gyrinus (Gyrinus) paykulli* Ochs, 1927; RANGE: N; DIST: Pyrenean; 1st RE: FUENTE (1919); OBS: recorded from the Frech Pyrenees by RIBERA *et al.* (1993), presence in Iberia confirmed by E. Rico (p.c., 1995).
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).
8. *Gyrinus (Gyrinus) urinator* Illiger, 1807; RANGE: T; 1st RE: ROSENHAUER (1856).

Note

Gyrinus (Gyrinus) natator Linnaeus, 1758, *G. (Gyrinus) marinus* Gyllenhal, 1808 and *G. (Gyrinus) opacus* 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

OBS: Taxonomy: VONDEL (1997). Faunistics: RICO *et al.* (1990).

2.1.2.1 *Brychius* C.G. Thomson, 1859

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

2.1.2.2 *Peltodytes* Régimbart, 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 *Haliplus* Latreille, 1802

Haliplidius Guignot, 1928

1. *Haliplus (Haliplidius) confinis* Stephens, 1828; STAT: ?; RANGE: T; 1st RE: FUENTE (1921); OBS: there are no precise records of the species in the Iberian Peninsula.
2. *Haliplus (Haliplidius) obliquus* (Fabricius, 1787); RANGE: T; 1st RE: FUENTE (1921).
Neohaliplus Netolitzky, 1911
3. *Haliplus (Neohaliplus) lineatocollis* (Marsham, 1802); SYN: =*lundbladi* Falkenström, 1939; RANGE: T; 1st RE: ROSENHAUER (1856); OBS: synonymy by VONDEL (1997).
Haliplus Latreille, 1802
4. *Haliplus (Haliplus) fluviatilis* Aubé, 1836; STAT: ?; C.ID: *heydeni*; RANGE: N; DIST: Pyrenean, Cantabrian; 1st RE: MOTSCHULSKY (1849).
5. *Haliplus (Haliplus) heydeni* Wehncke, 1875; RANGE: N; DIST: Pyrenean, Cantabrian; 1st RE: FUENTE (1921) («Pirineos»).
6. *Haliplus (Haliplus) immaculatus* Gerhard, 1877; STAT: ?; RANGE: N; DIST: N Iberia?; 1st RE: RÉGIL (1985); OBS: the distribution given in VONDEL (1997) includes Spain.
7. *Haliplus (Haliplus) ruficollis* (De Geer, 1774); STAT: ?; RANGE: N; DIST: Iberia (not N Africa); 1st RE: OLIVEIRA (1882); OBS: «northern Spain» in VONDEL (1997).
8. *Haliplus (Haliplus) wehncke* Gerhardt, 1877; RANGE: N; DIST: Pyrenean; 1st RE: VONDEL (1997).

Note

Haliplus (Haliplus) fulvicollis Erichson, 1837 was excluded from the Iberian fauna by RICO *et al.* (1990) (see also VONDEL, 1997).

Liaphlus Guignot, 1828

9. *Haliplus (Liaphlus) andalusicus* Wehncke, 1872; RANGE: T; 1st RE: WEHNCKE (1872).
10. *Haliplus (Liaphlus) flavicollis* Sturm, 1834; RANGE: N; DIST: Pyrenean, Andalusia?; 1st RE: MARTORELL (1879); OBS: «Spain and Portugal» in VONDEL (1997).
11. *Haliplus (Liaphlus) fulvus* (Fabricius, 1801); RANGE: T; 1st RE: CUNÍ & MARTORELL (1876).
12. *Haliplus (Liaphlus) guttatus* Aubé, 1836; RANGE: T; 1st RE: ROSENHAUER (1856).
13. *Haliplus (Liaphlus) laminatus* (Schaller, 1783); RANGE: N; DIST: Pyrenean; 1st RE: CUNÍ & MARTORELL (1876), presence in Iberia confirmed by VONDEL (1991).
14. *Haliplus (Liaphlus) mucronatus* Stephens, 1832; SYN: =*badius* Aubé, 1836; RANGE: T; 1st RE: MOTSCHULSKY (1849) (as *H. badius*).
15. *Haliplus (Liaphlus) rubidus* Perris, 1857; RANGE: T; 1st RE: UHAGÓN (1876).
16. *Haliplus (Liaphlus) variegatus* Sturm, 1834; RANGE: T?; DIST: Pyrenean, Med coast?; 1st RE: ROSENHAUER (1856)?; OBS: ROSENHAUER (1856) record may refer to *H. andalusicus*. See a review of modern records in RIBERA *et al.* (1996). Recorded from Algeria (VONDEL, 1997).

2.1.3 Family NOTERIDAE C.G. Thomson, 1860

OBS: Taxonomy: DETTNER (1997a). Faunistics: RICO *et al.* (1990).

Noterinae C.G. Thomson, 1860

2.1.3.1 *Canthydrus* Sharp, 1882

1. *Canthydrus diophthalmus* (Reiche & Sauley, 1855); RANGE: S; DIST: SE Iberia, Mediterranean islands; 1st RE: MONTES & SOLER (1985).

2.1.3.2 *Noterus* Clairville, 1806

1. *Noterus clavicornis* (De Geer, 1774); SYN: =*crassicornis* Aubé (synonymy in SHARP, 1882), RANGE: N; DIST: N Iberia; 1st RE: SHARP (1877), as *N. crassicornis* Aubé.
2. *Noterus laevis* Sturm, 1834; RANGE: T; 1st RE: ROSENHAUER (1856).
[*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)

OBS: Taxonomy: DETTNER (1997b). Faunistics: RICO *et al.* (1990).

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

OBS: Taxonomy: GUIGNOT (1947), FRANCISCOLO (1979), NILSSON & HOLMEN (1995).
Faunistics: RICO *et al.* (1990). Taxonomic ordination: NILSSON & ROUGHLEY (1997).

Copelatinae Van den Branden, 1885

2.1.5.1 *Copelatus* Erichson, 1832

1. *Copelatus atriceps* Sharp, 1882; RANGE: T; 1st RE: ZIMMERMANN (1934).
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).
3. *Laccophilus poecilus* Klug, 1882; SYN: =*ponticus* Sharp, 1882; =*variegatus* Germar, 1812; RANGE: T; 1st RE: AUBÉ (1837), as *variegatus*; OBS: synonymy in AHMED & ANGUS (1998).

Hydroporinae Aubé, 1837

2.1.5.3 *Hyphydrus* Illiger, 1802; OBS: Taxonomy: BISTRÖM (1982).

1. *Hyphydrus aubei* Ganglbauer, 1892; RANGE: T; 1st RE: ROSENHAUER (1856).
2. *Hyphydrus 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

1. *Methles cribratellus* (Fairmaire, 1880); RANGE: S; DIST: S Atlantic & Mediterranean coast; 1st RE: FRANCISCOLO (1966).

- 2.1.5.5 *Hydrovatus* Motschulsky, 1853; OBS: Taxonomy: BISTRÖM (1997).
1. *Hydrovatus clypealis* Sharp, 1876; RANGE: T; 1st RE: FUENTE (1921).
 2. *Hydrovatus cuspidatus* (Kunze, 1818); SYN: =*simplex* Sharp, 1882; RANGE: T; 1st RE: ROSENHAUER (1856)?; OBS: synonymy by BISTRÖM (1997). ROSENHAUER (1856) record may refer to *H. clypealis*.
- 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
1. *Bidessus coxalis* Sharp, 1882; SYN: =*saucius* Desbrochers des Loges, 1871; =*ibericus* Falkenström, 1939; RANGE: T; 1st RE: SHARP (1882); OBS: synonyms by FERY (1991).
 2. *Bidessus goudotii* (Laporte de Castenau, 1834); RANGE: T; 1st RE: ROSENHAUER (1856).
 3. *Bidessus minutissimus* (Germar, 1824); RANGE: T; 1st RE: AUBÉ (1838).
 4. *Bidessus pumilus* (Aubé, 1838); RANGE: T; 1st RE: ROSENHAUER (1856).
[*Bidessus unistriatus* (Schränk, 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* Lucas =*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: CUNÍ & MARTORELL (1876).
 2. *Hygrotus fresnedai* (Fery, 1992); RANGE: X; DIST: C Iberia; 1st RE: FERY (1992a).
 3. *Hygrotus impressopunctatus* (Schaller, 1783); RANGE: N; DIST: Iberia (not N Africa); 1st RE: CUNÍ & MARTORELL (1876).
 4. *Hygrotus inaequalis* (Fabricius, 1777); RANGE: T; 1st RE: CUNÍ & 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 lernaeus* (Schaum, 1857); STAT: excl.; RANGE: E; OBS: excluded by FERY (1992b). Old Iberian records of this species should refer to different species of *Hygrotus*.
 6. *Hygrotus marklini* (Gyllenhal, 1813); SYN: =*Hydroporus astur* Sharp, 1882; RANGE: N; DIST: Pyrenean, Cantabrian; 1st RE: SHARP (1882) as *H. astur*; OBS: synonymy by BALKE & FERY (1993).

7. *Hygrotus pallidulus* (Aubé, 1850); RANGE: T; 1st RE: HEYDEN (1870).
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: CUNÍ & 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: CUNÍ & 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

1. *Herophydrus* (*Herophydrus*) *musicus* (Klug, 1833); RANGE: S; DIST: SE Iberia, Mediterranean coast; 1st RE: MILLÁN & SOLER (1990).

[*Suphrodytes* Gozis, 1914

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

2.1.5.11 *Hydroporus* Clairville, 1806

1. *Hydroporus analis* Aubé, 1838; STAT: cplx?; RANGE: T; 1st RE: ROSENHAUER (1856); OBS: complex of species, at least formed by *H. decipiens* plus a coastal Mediterranean species (G.N. Foster p.c., 1995).

[*Hydroporus astur* Sharp, 1882; STAT: =, C. ID.: *Hygrotus marklini*; OBS: synonymy by BALKE & FERY (1993).

2. *Hydroporus basinotatus* Reiche, 1864; RANGE: S; DIST: extreme S Iberia; 1st RE: SHARP (1882).
 3. *Hydroporus brancoi* Rocchi, 1981; RANGE: X; DIST: Hercynian Iberia; 1st RE: ROCCHI (1981).
 4. *Hydroporus brancuccii* Fery, 1987; RANGE: X; DIST: Hercynian Iberia; 1st RE: FERY (1987).
 5. *Hydroporus cantabricus* Sharp, 1882; RANGE: N; DIST: Pyrenean, Cantabrian; 1st RE: SHARP (1882).
 6. *Hydroporus constantini* Hernando & Fresneda, 1996; RANGE: X; DIST: Sierra de la Demanda; 1st RE: HERNANDO & FRESNEDA (1996).
 7. *Hydroporus decipiens* Sharp, 1877; RANGE: X; DIST: S Iberia; 1st RE: SHARP (1877); OBS: valid species (G.N. Foster p.c., 1995).
 8. *Hydroporus discretus* Fairmaire & Brisout, 1859; STAT: cplx?; SYN: =*neuter* Fairmaire & Laboulbène, 1854; =*alpestris* Falkenström, 1939; =*lundbladi* Falkenström, 1939; =*maurus* Sharp, 1882; RANGE: T; 1st RE: SHARP (1882); OBS: synonyms by BALKE & FERY (1993). Probably a species complex in Iberia and N Africa, unpublished observations.
- [*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).
9. *Hydroporus ferrugineus* Stephens, 1828; RANGE: N; DIST: Pyrenean (N face); 1st RE: LÉON-HILAIRE (1924) (in Val d'Aran, N face of the Pyrenees); OBS: recorded from Cantabria by GARRIDO & RÉGIL (1989), but not included in RÉGIL (1985), GARRIDO *et al.* (1994b), or GARRIDO & RÉGIL (1994).

10. *Hydroporus foveolatus* Heer, 1839; RANGE: N; DIST: Pyrenean, Cantabrian; 1st RE: LÉON-HILAIRE (1924) (in Val d'Aran, N face of the Pyrenees); OBS: first peninsular record by BERTRAND (1954).
[*Hydroporus guernei* Régimbart, 1891; STAT: excl.; RANGE: S; 1st RE: LINDBERG (1939); OBS: most probably restricted to the Azores.]
11. *Hydroporus gyllenhalii* Schiödte, 1841; SYN: =*piceus* sensu auct., nec Stephens, 1828; RANGE: N; DIST: Cantabrian mountains, Hercynian Iberia south to Huelva; 1st RE: SHARP (1877), as *H. piceus*.
12. *Hydroporus incognitus* Sharp, 1869; RANGE: N; DIST: Pyrenean (N face), Cantabrian?; 1st RE: FRESNEDA & HERNANDO (1988) (N face of the Pyrenees); OBS: first peninsular record by GARRIDO & RÉGIL (1989).
13. *Hydroporus ionicus* Miller, 1862; RANGE: T; 1st RE: FUENTE (1921).
[*Hydroporus jurjurenensis* 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.]
14. *Hydroporus limbatus* Aubé, 1838; RANGE: T; 1st RE: SHARP (1882).
15. *Hydroporus longulus* Mulsant, 1860; STAT: ?; RANGE: N; DIST: Pyrenean?; 1st RE: GANGLBAUER (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* (Duftschmid, 1805); RANGE: T; 1st RE: AUBÉ (1838).
18. *Hydroporus melanarius* Sturm, 1835; STAT: ?; RANGE: N; DIST: Pyrenean?, Cantabrian?; 1st RE: BERTRAND (1975).
19. *Hydroporus memnonius* Nicolai, 1822; RANGE: T; 1st RE: LÉON-HILAIRE (1924) (in Val d'Aran, N face of the Pyrenees); OBS: first peninsular record by BERTRAND (1968).
20. *Hydroporus morio* Aubé, 1838; STAT: ?; SYN: =*melanocephalus* sensu auct., nec Marsham, 1802; RANGE: N; DIST: Pyrenean?, Cantabrian?, NW Iberia?; 1st RE: CUNÍ & MARTORELL (1876), as «*H. melanocephalus* Marsh.», see taxonomic comments to this species in NILSSON & HOLMEN (1995).
21. *Hydroporus nevadensis* Sharp, 1882; RANGE: X; DIST: Iberia, except Pyrenean?; 1st RE: SHARP (1882); OBS: see Observations to *H. longulus*.
22. *Hydroporus nigellus* Mannerheim, 1853; SYN: =*pyrenaicus* Wehncke, 1871, =*tartaricus* sensu auct.; RANGE: N; DIST: Pyrenean; 1st RE: GUIGNOT (1933) (Andorra); OBS: first peninsular record by RIBERA (1992), see also HERNANDO & AGUILERA (1995).
23. *Hydroporus nigrata* (Fabricius, 1792); RANGE: N; DIST: Iberia, except extreme S; 1st RE: ROSENHAUER (1856).
24. *Hydroporus nivalis* Heer, 1839; RANGE: N; DIST: Alpine; 1st RE: SHARP (1882).
25. *Hydroporus normandi* Régimbart, 1903; STAT: cplx?; RANGE: X; DIST: Iberia, SW France; 1st RE: RÉGIMBART (1903); OBS: probably a species complex (*H. Fery* p.c., 1994).
[*Hydroporus obscurus* Sturm, 1835; STAT: excl.; RANGE: N; 1st RE: SHARP (1877); OBS: Iberian records refer to *H. paganettianus*.]
26. *Hydroporus obsoletus* Aubé, 1838; RANGE: T; 1st RE: AUBÉ (1838).
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. ***Hydroporus palustris* (Linnaeus, 1761)**; SYN: =*lituratus* Panzer, 1894; RANGE: N; DIST: Pyrenean (N face); 1st RE: TRAZET (1895); OBS: All records south of the Pyrenees probably refer to *H. vagepictus* (RIBERA *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. ***Hydroporus planus* (Fabricius, 1781)**; RANGE: T; 1st RE: ROSENHAUER (1856).
 30. ***Hydroporus pubescens* (Gyllenhal, 1808)**; RANGE: T; 1st RE: ROSENHAUER (1856).
[*Hydroporus rufifrons* (Duftschmid, 1805); STAT: excl.?. C. ID.: *vespertinus*; RANGE: N; DIST: Cantabrian?; 1st RE: BERTRAND (1955).
[*Hydroporus 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. ***Hydroporus tessellatus* Drapiez, 1819**; SYN: =*lituratus* Brullé, 1832, =*lituratus* Fabricius, 1781; RANGE: T; 1st RE: AUBÉ (1838), as *lituratus* Brullé, 1832.
 32. ***Hydroporus tristis* (Paykull, 1798)**; RANGE: N; DIST: Pyrenean, Cantabrian; 1st RE: TRAZET (1895).
 33. ***Hydroporus vagepictus* Fairmaire & Laboulbène, 1854**; RANGE: X; DIST: N C Iberia, S France; 1st RE: SHARP (1882).
 34. ***Hydroporus vespertinus* Fery & Hendrich, 1988**; RANGE: X; DIST: Cantabrian, Hercynian Iberia; 1st RE: FERY & HENDRICH (1988).

Notes

CUNÍ (1881) recorded *Hydroporus tenuicornis* Kraatz from the Spanish Cerdanya (Pyrenees), but we have not found any other reference to this name. SEABRA (1942) recorded *Hydroporus elegans* Sturm (= *Deronectes brevis* Aubé) from Bragança, but we have not found any likely modern name for this combination. *Hydroporus fuscipennis* Schaum, 1868 was excluded from the Iberian fauna by RICO *et al.* (1990).

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

1. ***Porhydrus genei* (Aubé, 1838)**; STAT: ?; RANGE: T?; DIST: Vila Nova de Milfontes; 1st RE: FRANCISCOLO (1979); OBS: Recorded by FRANCISCOLO (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: FRANCISCOLO 1966, 1968). The record most probably refers to *P. vicinus*.
2. ***Porhydrus 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 «*Hydroporus lineatus* De Geer», not Fabricius, we don't know if by mistake, or referring to a different species unknown to us.
3. ***Porhydrus 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 ***Graptodytes* Seidlitz, 1887**

1. ***Graptodytes aequalis* Zimmermann, 1918**; RANGE: S; DIST: S iberia; 1st RE: GRÄF (1986).

2. *Graptodytes bilineatus* (Sturm, 1835); RANGE: N; DIST: Pyrenean, Cantabrian; 1st RE: CHAMPION (1903).
3. *Graptodytes castilianus* Fery, 1995; RANGE: X; DIST: C Iberia, except NW; 1st RE: FERY (1995); OBS: very closely related to *G. pietrii* Normand, 1933, from Algeria
4. *Graptodytes flavipes* (Olivier, 1795); SYN: =*concinus* 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*.
[*Graptodytes granularis* (Linnaeus, 1767); STAT: excl.?; C. ID: *G. bilineatus*; RANGE: N; 1st RE: RÉGIL (1985).
6. *Graptodytes ignotus* (Mulsant, 1861); RANGE: T; 1st RE: UHAGÓN (1876).
7. *Graptodytes pictus* (Fabricius, 1787); RANGE: N; DIST: Pyrenean; 1st RE: TRAZET (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.

2.1.5.14 *Rhithrodytes Bameul, 1989*; OBS: Taxonomy: BAMEUL (1989).

1. *Rhithrodytes agnus agnus* Foster, 1992; RANGE: X; DIST: Hercynian Iberia; N Portugal (type locality); 1st RE: FOSTER (1992).
1. *Rhithrodytes agnus argaensis* Bilton & Fery, 1996; STAT: ssp; RANGE: X; DIST: Hercynian Iberia; N Portugal (type locality); 1st RE: BILTON & FERY (1996).
2. *Rhithrodytes 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*

1. *Metaporus meridionalis* (Aubé, 1838); RANGE: T; 1st RE: ROSENHAUER (1856).

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. fuscitarsis* (Aubé, 1838), *S. nigriventris* Zimmermann, 1917, *S. ibericus* (Régimbart, 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 *Stictonectes Brinck, 1943*

1. *Stictonectes epipleuricus* (Seidlitz, 1887); RANGE: X; DIST: Iberia, SW France; 1st RE: SEIDLITZ (1887).
2. *Stictonectes escheri* (Aubé, 1838); RANGE: S; DIST: S Iberia; 1st RE: SEIDLITZ (1887) (confirmed with recent captures from south Iberia by H. Fery p.c., 1998).
3. *Stictonectes formosus* (Aubé, 1838); RANGE: S; DIST: S Iberia; 1st RE: HEYDEN (1870) (confirmed with recent captures from south Iberia by H. Fery p.c., 1998).
4. *Stictonectes lepidus* (Olivier, 1795); RANGE: T; 1st RE: SCHAUFUSS (1862).
5. *Stictonectes occidentalis* Fresneda & Fery, 1990; RANGE: X; DIST: SW Iberia; 1st RE: FRESNEDA & FERY (1990).
6. *Stictonectes optatus* (Seidlitz, 1887); RANGE: T; 1st RE: GUIGNOT (1959).

- 2.1.5.18 *Deronectes Sharp, 1882*; OBS: Taxonomy & Faunistics: FERY & BRANCCUCI (1997).
1. *Deronectes algibensis Fery & Fresneda, 1988*; RANGE: X; DIST: extreme S Iberia; 1st RE: FERY & FRESNEDA (1988a).
 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 sanfilippoii 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).
 5. *Deronectes costipennis costipennis Brancucci, 1983*; RANGE: X; DIST: Hercynian Iberia; 1st RE: BRANCUCCI (1983).
 5. *Deronectes costipennis gignouxii Fery & Brancucci, 1989*; STAT: ssp; RANGE: X; DIST: Cantabrian; 1st RE: FERY & BRANCUCCI (1989).
 6. *Deronectes delarouzei (Jacquelin du Val, 1857)*; RANGE: X; DIST: Pyrenean, Cantabrian?; 1st RE: LÉON-HILARIE (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 RÉGIL (1985) should be referred to *D. aubei sanfilippoii*.
 7. *Deronectes depressicollis (Rosenhauer, 1856)*; RANGE: X; DIST: SE Iberia; 1st RE: ROSENHAUER (1856).
 8. *Deronectes fairmairei (Leprieur, 1876)*; RANGE: T; 1st RE: SHARP (1882).
 9. *Deronectes ferrugineus Fery & Brancucci, 1987*; RANGE: X; DIST: Hercynian Iberia; 1st RE: FERY & BRANCUCCI (1987).
 10. *Deronectes fosteri Aguilera & Ribera, 1996*; RANGE: X; DIST: Pyrenean (not N face); 1st RE: AGUILERA & RIBERA (1996).
[*Deronectes latus (Stephens, 1828)*; STAT: excl.; C. ID: *D. angusi*; RANGE: N; 1st RE: BRANCUCCI (1981); OBS: specimens described by FERY & BRANCUCCI (1990) as *D. angusi*. Other iberian records of the species must also refer to *D. angusi* (FERY & BRANCUCCI 1997).
 11. *Deronectes hispanicus (Rosenhauer, 1856)*; RANGE: T; 1st RE: ROSENHAUER (1856).
 12. *Deronectes moestus inconspicuum (Leprieur, 1876)*; STAT: ssp of *D. moestus* (Fairmaire, 1858); RANGE: T; 1st RE: SHARP (1877), as *Hydroporus moestus*.
 13. *Deronectes opatrinus (Germar, 1824)*; RANGE: T; 1st RE: AUBÉ (1838); OBS: AUBÉ (1838) record may refer to *D. hispanicus*.
 14. *Deronectes wewalkai Fery & Fresneda, 1988*; RANGE: X; DIST: Hercynian Iberia; 1st RE: FERY & FRESNEDA (1988b).
- 2.1.5.19 *Stictotarsus Zimmermann, 1919*; SYN: =*Trichonectes* Guignot, 1941; OBS: the genus, as defined by NILSSON & ANGUS (1992), is almost certainly paraphyletic.
1. *Stictotarsus bertrandi (Legros, 1956)*; RANGE: X; DIST: Hercynian Iberia; 1st RE: LEGROS (1956).
 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* Zimmermann, 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).
2. *Nebrioporus* (*Nebrioporus*) *carinatus* (Aubé, 1838); RANGE: X; DIST: Cantabrian, Hercynian Iberia; 1st RE: AUBÉ (1838).
3. *Nebrioporus* (*Nebrioporus*) *clarkii* (Wollaston, 1862); RANGE: S; DIST: S Iberia; 1st RE: CLARK (1862).
4. *Nebrioporus* (*Nebrioporus*) *croceus* Angus, Fresneda & Fery, 1992; RANGE: X; DIST: river Abión, Soria; 1st RE: ANGUS *et al.* (1992).
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).
6. *Nebrioporus* (*Nebrioporus*) *fabressei* (Régimbart, 1901); RANGE: X; DIST: S Hercynian Iberia, Pyrenean; 1st RE: ANGUS *et al.* (1992), RIBERA (1992).
7. *Nebrioporus* (*Nebrioporus*) *luctuosus* (Aubé, 1838); RANGE: N; DIST: Pyrenean, Cantabrian; 1st RE: GARRIDO *et al.* (1994b).
8. *Nebrioporus* (*Nebrioporus*) *sansi* (Aubé, 1838); RANGE: N; DIST: N Iberia, C Iberia?; 1st RE: AUBÉ (1838).

Zimmermannius Guignot, 1941

9. *Nebrioporus* (*Zimmermannius*) *baeticus* (Schaum, 1864); SYN: =*mariae* Millán & Rocchi, 1991; RANGE: X?; DIST: S & C Iberia, Ebro Valley; 1st RE: SCHAUM (1864); OBS: synonymy by FERY *et al.* (1996). Very close to the Moroccan *N. nemethi* (Guignot, 1950).
10. *Nebrioporus* (*Zimmermannius*) *canaliculatus* (Lacordaire, 1835); RANGE: N; DIST: Iberia (not N Africa); 1st RE: AUBÉ (1838).
11. *Nebrioporus* (*Zimmermannius*) *ceresyi* (Aubé, 1838); RANGE: T; 1st RE: ROSENHAUER (1856).

2.1.5.21 *Oreodytes* Seidlitz, 1887

1. *Oreodytes davisii* (Curtis, 1831); RANGE: N; DIST: Alpine, not N Africa; 1st RE: SHARP (1882).
2. *Oreodytes sanmarkii sanmarkii* (Sahlberg, 1826); SYN: =*rivalis* Gyllenhal, 1827; RANGE: N; DIST: Pyrenean?; 1st RE: ZARIQUIEY (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)?; =*graellsii* (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. graellsii* 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 UHAGÓN (1874), and referring to Heyden *in litt.*, this record has to be referred to *A. heydeni*.

1. ***Agabus albarracinensis* Fery, 1986**; SYN: =*maestri* Fresneda & Hernando, 1986; RANGE: X; DIST: Iberia, French Pyrenees; 1st RE: FERY (1986), FRESNEDA & HERNANDO (1986); OBS: synonymy by FERY & NILSSON (1993), who emended the name to *A. maestrae*.
2. ***Agabus biguttatus* (Olivier, 1795)**; RANGE: T; 1st RE: AUBÉ (1837).
[*Agabus binotatus* Aubé, 1837; STAT: excl.; C. ID.: *biguttatus*; RANGE: E; 1st RE: CUNÍ & MARTORELL (1876); OBS: excluded by FRESNEDA & HERNANDO (1988).
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).
5. ***Agabus brunneus* gr**; STAT: sp.n.?; RANGE: S; DIST: SE Iberia, Ebro valley; OBS: Present in Morocco (unpublished observations). See the taxonomic discussion of this species in MILLÁN *et al.* (1997).
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).
9. ***Agabus dettneri* Fery, 1986**; RANGE: X; DIST: Hercynian Iberia; 1st RE: FERY (1986).
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: =*parvulus* 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.
13. ***Agabus hozgargantae* Burmeister, 1983**; RANGE: S; DIST: extreme S Iberia; 1st RE: BURMEISTER (1983); OBS: present in Morocco (unpublished observations).

14. *Agabus labiatus* (Brahm, 1790); RANGE: N; DIST: Pyrenean, Cantabrian; 1st RE: FUENTE (1921).
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.
16. *Agabus montanus* (Stephens, 1828); SYN: =*melanocornis* Zimmermann, 1915; RANGE: T; 1st RE: BERTRAND (1954); OBS: synonymy by FERY & NILSSON (1993).
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.
18. *Agabus nitidus* (Fabricius, 1801); STAT: =?; C.ID: *biguttatus*; RANGE: T; 1st RE: SHARP (1877); OBS: considered by FOSTER & BILTON (1997) as a synonym of *A. biguttatus*, although not formally synonymised. The record in HEYDEN (1870) refers to *A. heydeni* (UHAGÓN 1874).
19. *Agabus paludosus* (Fabricius, 1801); RANGE: T; DIST: N & C Iberia; 1st RE: CUNÍ & MARTORELL (1876).
20. *Agabus picotae* Foster & Bilton, 1997; RANGE: X; DIST: Monchique; 1st RE: FOSTER & BILTON (1997); OBS: see comments on *A. heydeni*.
21. *Agabus solieri solieri* Aubé, 1837; STAT: =?; C.ID: *bipustulatus*; RANGE: N; DIST: Pyrenean; 1st RE: FUENTE (1921); OBS: considered a synonym of *A. bipustulatus* by BALFOUR-BROWNE (1950: 127-135) and NILSSON & HOLMEN (1995), but still not formally synonymised.
21. *Agabus solieri pyrenaeus* Fresneda & Hernando, 1988; STAT: =ssp?; C.ID: *bipustulatus*; RANGE: X; DIST: Pyrenean; 1st RE: FRESNEDA & HERNANDO (1988); OBS: described from males with a particular elytral reticulation. See Observations on *A. solieri*.
[*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).
22. *Agabus sturmii* (Gyllenhal, 1808); RANGE: N; DIST: Pyrenean (N face), Cantabrian?; 1st RE: LÉON-HILAIRE (1924) (in Val d'Aran, N face of the Pyrenees); OBS: first peninsular record by RÉGIL (1985).
[*Agabus subtilis* Erichson, 1837; STAT: excl.; RANGE: N; 1st RE: SCHAUFUSS (1862); OBS: according to NILSSON & HOLMEN (1995) this is a northern species, with the southern limit of its distribution in northern France.
23. *Agabus undulatus* (Schränk, 1776); STAT: ?; C.ID: *montanus*; RANGE: N; DIST: Pyrenean?; 1st RE: CUNÍ & MARTORELL (1876); OBS: According to NILSSON & HOLMEN (1995) Iberian records need confirmation.

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

1. *Ilybius ater* (De Geer, 1774); STAT: ?; RANGE: N; DIST: Pyrenean?; 1st RE: MARTORELL (1879); OBS: According to NILSSON & HOLMEN (1995) it does not occur in Iberia.
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: CUNÍ & 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* (Gyllenhal, 1808); STAT: excl.; RANGE: N; DIST: Pyrenean (only N face); 1st RE: FUENTE (1921); OBS: FUENTE (1921) record refers to the French Pyrenees.
4. *Ilybius meridionalis* Aubé, 1837; SYN: =*hispanicus* Sharp, 1872; RANGE: T; 1st RE: SHARP (1872), as *I. hispanicus*; OBS: present in Morocco (unpublished observations). *Ilybius hispanicus* may be a distinct subspecies of *I. meridionalis* (L. Hendrich p.c., 1998).
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

1. *Rhantus (Rhantus) hispanicus* Sharp, 1882; RANGE: T; 1st RE: SHARP (1882).
2. *Rhantus (Rhantus) suturalis* (McLeay, 1825); SYN: =*pulverosus* Stephens, 1828; RANGE: T; 1st RE: ROSENHAUER (1856).
[*Rhantus (Rhantus) suturellus* (Harris, 1828); STAT: excl.?; SYN: =*bistriatus* Bergstrasser, 1778; RANGE: N; DIST: Pyrenean?; 1st RE: CUNÍ & MARTORELL (1876).
[*Rhantus (Rhantus) exsoletus* (Forster, 1771); STAT: excl.; C. ID.: *hispanicus*; RANGE: N; 1st RE: SHARP (1877), as *Colymbetes 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 *Colymbetes* Clairville, 1806

1. *Colymbetes fuscus* (Linnaeus, 1758); RANGE: T; 1st RE: ROSENHAUER (1856).
2. *Colymbetes schildknechti* Dettner, 1983; RANGE: S; DIST: S & C Iberia; 1st RE: FERY *et al.* (1985).
[*Colymbetes dolabratus* (Paykull, 1798); STAT: excl.?; C. ID.: *fuscus*; RANGE: N; DIST: Pyrenean?; 1st RE: CUNÍ & MARTORELL (1876).

Note

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

2.1.5.27 *Meladema* Laporte de Castelnau, 1834

1. *Meladema coriacea* Laporte de Castelnau, 1834; RANGE: T; 1st RE: CLARK (1862).

Dytiscinae Leach, 1815

2.1.5.28 *Eretes* Laporte de Castelnau, 1833

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

2.1.5.29 *Hydaticus* Leach, 1817; OBS: Taxonomy: BAMEUL (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. Fresneda p.c., 1995).

1. *Hydaticus (Guignotites) leander* (Rossi, 1790); RANGE: T; 1st RE: ROSENHAUER (1856).
Hydaticus Leach, 1817
[*Hydaticus (Hydaticus) continentalis* F. Balfour-Browne, 1944; STAT: excl.; SYN: =*stagnalis* Fabricius, 1787; RANGE: N; 1st RE: FRANQUESA (1889), as *H. stagnalis*.
2. *Hydaticus (Hydaticus) seminiger* (De Geer, 1774); RANGE: N; DIST: Pyrenean, Albacete; 1st RE: RIBERA (1992, 1993).
3. *Hydaticus (Hydaticus) transversalis* (Pontoppidan, 1763); RANGE: N; DIST: Pyrenean; 1st RE: CUNÍ & 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: CUNÍ & 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: CUNÍ & MARTORELL (1876); OBS: TRAZET (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).
Homoeolytrus Gobert, 1874
 3. *Acilius (Homoeolytrus) 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 evers for himself.
3. *Dytiscus marginalis* Linnaeus, 1758; RANGE: T; 1st RE: CUNÍ & 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

1. *Cybister (Cybister) senegalensis* Aubé, 1838; STAT: ?; RANGE: S; DIST: S Med. coast; 1st RE: MEDINA (1895).

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

3. *Cybister (Melanectes) vulneratus* Klug, 1834; RANGE: S; DIST: S Med coast; 1st RE: ROSENHAUER (1856).

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

OBS: Taxonomic ordination: HANSEN (1991). Taxonomy: HEBAUER & KLAUSNITZER (1998) (central European species, excluded Helophoridae).

3.1.1 Family HELOPHORIDAE Leach, 1815

OBS: Taxonomy: ANGUS (1992). In ANGUS (1992) subgeneric names follow the emendation by KUWERT (1890c) (among others, *Trichohelophorus* to *Trichelophorus*, *Atractohelophorus* to *Atracthelophorus*, and *Rhopalohelophorus* to *Rhopalhelophorus*). In HANSEN (1991) these modifications are not accepted, and the subgenus *Atractohelophorus* is considered to be a junior synonym of *Rhopalohelophorus*. We follow ANGUS (1992) for stability.

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).
2. *Helophorus (Empleurus) nubilus* Fabricius, 1776; RANGE: N; DIST: Hercynian Iberia; 1st RE: SCHAUFUSS (1862).
3. *Helophorus (Empleurus) porculus* Bedel, 1881; RANGE: T; 1st RE: OLIVEIRA (1882).
4. *Helophorus (Empleurus) rufipes* (Bosc d'Antic, 1791); RANGE: T; 1st RE: ROSENHAUER (1856).
5. *Helophorus (Empleurus) schmidti* A. Villa & J.B. Villa, 1838; RANGE: N; DIST: Pyrenean, Hercynian Iberia; 1st RE: HEYDEN (1870).

Trichelophorus Kuwert, 1886

6. *Helophorus (Trichelophorus) alternans* Gené, 1836; RANGE: T; 1st RE: HEYDEN (1870), DIECK (1870).

Helophorus Fabricius, 1775

7. *Helophorus (Helophorus) aequalis* C.G. Thomson, 1868; RANGE: N; DIST: Cantabrian; 1st RE: ANGUS (1982).

8. *Helophorus (Helophorus) aquaticus* (Linnaeus, 1758); SYN: =*frigidus* Graëlls, 1847; RANGE: T?; 1st RE: GRAËLLS (1847), as *H. frigidus* (preliminary described in GRAËLLS, 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).
 11. *Helophorus (Helophorus) occidentalis* Angus, 1983; RANGE: S; DIST: SW Iberia, SE?; 1st RE: ANGUS (1983a); OBS: The record of *H. maritimus* from Algeciras by D'ORCHYMONT (1935) probably refers to this species. Limit of the distribution in S Iberia unknown.
Atracthelophorus Kuwert, 1886
 12. *Helophorus (Atracthelophorus) arvernicus* Mulsant, 1846; STAT: ?; RANGE: N; DIST: «Andalusia»; 1st RE: CUNÍ & MARTORELL (1876); OBS: ANGUS (1985b) and ANGUS (1987) record a doubtful Andalusian specimen.
 13. *Helophorus (Atracthelophorus) bameuli* Angus, 1987; RANGE: X; DIST: Cantabrian, Hercynian Iberia; 1st RE: ANGUS (1987).
 14. *Helophorus (Atracthelophorus) 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 (Atracthelophorus) 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.
 16. *Helophorus (Atracthelophorus) gratus* d'Orchymont, 1934; RANGE: S; DIST: extreme S Iberia; 1st RE: D'ORCHYMONT (1934a), confirmed with new captures by ANGUS (1992).
 17. *Helophorus (Atracthelophorus) korotyaevi* Angus, 1985; RANGE: X; DIST: Cantabrian; 1st RE: ANGUS (1985a).
 18. *Helophorus (Atracthelophorus) leontis leontis* Angus, 1985; RANGE: X; DIST: Cantabrian, Hercynian Iberia; 1st RE: ANGUS (1985b); OBS: The species has a subspecies, *H. leontis dixonii* Angus, 1987, from the Golan Heights.
 19. *Helophorus (Atracthelophorus) nevadensis* Sharp, 1916; RANGE: X; DIST: Alpine in Iberia, except the Pyrenees; 1st RE: SHARP (1916b).
Rhopalhelophorus Kuwert, 1886
 20. *Helophorus (Rhopalhelophorus) asturiensis* Kuwert, 1885; SYN: =*iricollis* Sharp, 1916; RANGE: T; 1st RE: KUWERT (1885).
 21. *Helophorus (Rhopalhelophorus) calpensis* Angus, 1988; RANGE: X; DIST: Tarifa (N Africa?); 1st RE: ANGUS (1988); OBS: its presence in N Africa is very likely (R. B. Angus p.c., 1998).
 22. *Helophorus (Rhopalhelophorus) cincticollis* Guillebeau, 1893; RANGE: S; DIST: extreme S Iberia; 1st RE: ANGUS (1992).

23. *Helophorus (Rhopalhelophorus) discrepans* Rey, 1885; RANGE: T; 1st RE: ANGUS (1969). KUWERT (1886b) records the species from the Pyrenees, without detailed localities.
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.
25. *Helophorus (Rhopalhelophorus) flavipes* Fabricius, 1792; RANGE: N; DIST: Iberia except SE?; 1st RE: HEYDEN (1870).
26. *Helophorus (Rhopalhelophorus) fulgidicollis* Motschusky, 1860; RANGE: T; 1st RE: DIECK (1870).
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.
28. *Helophorus (Rhopalhelophorus) griseus* Herbst, 1793; RANGE: T; 1st RE: ROSENHAUER (1856).
29. *Helophorus (Rhopalhelophorus) illustris* Sharp, 1916; RANGE: N; DIST: Pyrenean Med. coast; 1st RE: RIBERA *et al.* (1996).
30. *Helophorus (Rhopalhelophorus) jocoteroi* Angus & Díaz Pazos, 1991; RANGE: X; DIST: Hercynian Iberia; 1st RE: ANGUS & DÍAZ PAZOS (1991).
31. *Helophorus (Rhopalhelophorus) lapponicus* C.G. Thomson, 1854; RANGE: N; DIST: Alpine in Hercynian Iberia; 1st RE: ANGUS (1983b).
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).
[*Helophorus (Rhopalhelophorus) montenegrinus* Kuwert, 1885; STAT: excl.; C. ID.: *brevipalpis*?; RANGE: E; 1st RE: FUENTE (1919); OBS: recorded by FUENTE (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.
34. *Helophorus (Rhopalhelophorus) obscurus* Mulsant, 1844; RANGE: N; DIST: Pyrenean, Cantabrian, C Iberia?; 1st RE: OLIVEIRA (1882); OBS: presence in Iberia confirmed by ANGUS (1974).
35. *Helophorus (Rhopalhelophorus) seidlitzii* Kuwert, 1885; SYN: =*carpetanus* Sharp, 1916 RANGE: X; DIST: Iberia except Pyrenean; 1st RE: KUWERT (1885).
[*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 Humboldt 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.
[*Helophorus (Rhopalhelophorus) subarcuatus* Rey, 1885; STAT: excl.; SYN: = *aritzuensis* Sharp, 1916; RANGE: E; 1st RE: SHARP (1916a) as *H. aritzuensis*; OBS: according to ANGUS (1996) *H. subarcuatus* is a Corso-Sardinian endemic.

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) laesicollis* 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 laesicollis* labelled «Cangas / Sharp coll.», and one labelled «Spain» without further details.
3. *Georissus (Georissus) costatus* Laporte de Castelnau, 1840; SYN: =*carinatus* Rosenhauer, 1856; RANGE: T; 1st RE: ROSENHAUER (1856).

3.1.3 Family **HYDROCHIDAE** C.G. Thomson, 1859

OBS: Taxonomy: CHIESA (1959), ANGUS (1976). Taxonomy & Faunistics: A. van Berge Henegouwen *in litt.* (1994) (unpublished public presentation to the Balfour-Browne Club annual meeting in Barcelona, 1994)

3.1.3.1 *Hydrochus* Leach, 1817

1. *Hydrochus aljibensis* Castro & Delgado; RANGE: X; DIST: south Iberia; 1st RE: Castro & Delgado (in press).
2. *Hydrochus angusi* Valladares, 1988; RANGE: X; DIST: Cantabrian, Hercynian Iberia; 1st RE: VALLADARES (1988).
3. *Hydrochus angustatus* Germar, 1824; RANGE: T; 1st RE: ROSENHAUER (1856).
[*Hydrochus carinatus* Germar, 1824; STAT: excl.; RANGE: N; 1st RE: CUNÍ & 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.
4. *Hydrochus flavipennis* Küster, 1852; RANGE: T; 1st RE: FUENTE (1919).
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., 1998).
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).
7. *Hydrochus ibericus* Valladares, Díaz Pazos & Delgado; RANGE: X; DIST: SE Iberia; 1st RE: VALLADARES *et al.* (in press); OBS: presented by Berge Henegouwen *in litt.* 1994 as «*H. fangbani*».
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).
9. *Hydrochus nitidicollis* Mulsant, 1844; RANGE: T; 1st RE: ROSENHAUER (1856).

10. *Hydrochus nooreinus* Berge Henegouwen & Sáinz-Cantero, 1992; RANGE: X; DIST: SE Iberia; 1st RE: BERGE HENEGOUWEN & SÁINZ-CANTERO (1992).
11. *Hydrochus tariqi* Ribera, Hernando & Aguilera, 1999; RANGE: X; DIST: Cádiz; 1st RE: RIBERA *et al.* (1999b).

3.1.4 Family HYDROPHILIDAE Latreille, 1802

OBS: Faunistics: FUENTE (1925).

Hydrophilinae Latreille, 1802

3.1.4.1 *Berosus* Leach, 1817; OBS: Taxonomy: SCHÖDL (1991,1993).

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
4. *Berosus (Enoplurus) bispina* Reiche & Saulcy, 1856; SYN: =*numidicus* Kuwert, 1888; RANGE: S; DIST: «Andalousie»; 1st RE: D'OCHYMONT (1943); OBS: recorded by D'OCHYMONT (1943) as *B. numidicus*, also recorded from «Spanien» by SCHÖDL (1991).
5. *Berosus (Enoplurus) fulvus* Kuwert, 1888; RANGE: N; DIST: Iberia («Andalusien», SCHÖDL, 1991) (not N Africa); 1st RE: SCHÖDL (1991).
6. *Berosus (Enoplurus) guttalis* Rey, 1883; RANGE: T; 1st RE: BOSCA (1932); OBS: Presence in Iberia confirmed by SCHÖDL (1991).
7. *Berosus (Enoplurus) jaechi* Schödl, 1991; RANGE: N; DIST: Pyrenean Med. coast; 1st RE: AGUILERA & RIBERA (1994).
[*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 Uhagón, 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)

1. *Hemisphaera guignoti* Schaefer, 1975; STAT: =?; C.ID: *miltiadis* Sahlberg, 1908?; RANGE: T; 1st RE: CASTRO & DELGADO (1998); OBS: Neither SCHAEFER (1975) in the description of *H. guignoti* or CASTRO & DELGADO (1998) compare the specimens with *H. miltiadis*, described from Greece and with a similar external morphology.
2. *Hemisphaera infima* Pandelle in Uhagón, 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.

3.1.4.3 *Chaetarthria* Stephens, 1835; OBS: Taxonomy & Faunistics: HEBAUER (1993).

1. *Chaetarthria seminulum seminulum* (Herbst, 1797); RANGE: T; 1st RE: HEYDEN (1870).
1. *Chaetarthria seminulum sithonica* Hebauer, 1993; STAT: =ssp?; RANGE: E?; DIST: Cádiz, Macedonia; 1st RE: HEBAUER (1993); OBS: this widely disjunct

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).
- 3.1.4.4 *Paracymus* C.G. Thomson, 1867; OBS: TAXONOMY: WOOLDRIDGE (1978).
 1. *Paracymus aeneus* (Germar, 1824); RANGE: T; 1st RE: ROSENHAUER (1856).
 2. *Paracymus phalacroides* (Wollaston, 1867); SYN: =*punctillatus* Rey, 1885; RANGE: T; 1st RE: FUENTE (1925); OBS: presence in Iberia confirmed by RIBERA *et al.* (1998a) from Albacete.
 3. *Paracymus relaxus* Rey, 1884; STAT: ?; SYN: =*schneideri* Kuwert, 1890; RANGE: S; DIST: SE Iberia?; 1st RE: FUENTE (1925); OBS: present in N Africa and the Canary Islands, but not in the Iberian peninsula according to WOOLDRIDGE (1978).
 4. *Paracymus scutellaris* (Rosenhauer, 1856); RANGE: T; 1st RE: ROSENHAUER (1856).
 - 3.1.4.5 *Anacaena* C.G. Thomson, 1859; OBS: TAXONOMY: BERGE HENEGOUWEN (1986).

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 Ibérico; 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: =*Platylaccobius* Gentili, 1974
 4. *Laccobius (Hydroxenus) femoralis* Rey, 1885; SYN: =*mulstanti* 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: Andalucía, 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 Andalucía (see OBS to *L. leucaspis*), also by ROTTENBERG (1874) as *L. pallidus* var. *debilis*.
Dimorpholaccobius Zaitzev, 1938; SYN: =*Macrolaccobius* Gentili, 1974
6. *Laccobius (Dimorpholaccobius) atratus* Rottenberg, 1874; RANGE: N; DIST: Cantabrian, Sistema Central (not Pyrenean?); 1st RE: ROTTENBERG (1874).
7. *Laccobius (Dimorpholaccobius) atrocephalus* Reitter, 1872; RANGE: S; DIST: SE Iberia; 1st RE: MILLÁN *et al.* (1998).
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.
9. *Laccobius (Dimorpholaccobius) gloriana* Gentili & Ribera, 1998; RANGE: X; DIST: Iberian System (Serra d'Espada); 1st RE: GENTILI & RIBERA (1998).
10. *Laccobius (Dimorpholaccobius) hispanicus* Gentili, 1974; RANGE: T; 1st RE: GENTILI (1974).
11. *Laccobius (Dimorpholaccobius) moraguesi* Régimbart, 1898; SYN: =*peyerimhoffi* d'Orchymont, 1939; RANGE: T; 1st RE: GENTILI (1989).
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.
13. *Laccobius (Dimorpholaccobius) obscuratus* Rottenberg, 1874; RANGE: N?; DIST: Iberia, N Africa?; 1st RE: ROTTENBERG (1874).
[*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*.
14. *Laccobius (Dimorpholaccobius) sinuatus* Motschulsky, 1849; RANGE: T; 1st RE: MOTSCHULSKY (1849).
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.
16. *Laccobius (Dimorpholaccobius) ytenensis* Sharp, 1910; RANGE: T; 1st RE: SAINTE-CLAIRE DEVILLE (1913); OBS: valid species (GENTILI & RIBERA, 1998).

3.1.4.7 *Helochares* Mulsant, 1844; OBS: Taxonomy: HANSEN (1982), HEBAUER (1996).

Helochares Mulsant, 1844

1. *Helochares (Helochares) lividus* (Forster, 1771); RANGE: T; 1st RE: MOTSCHULSKY (1849).
2. *Helochares (Helochares) punctatus* Sharp, 1869; RANGE: N; DIST: Cantabrian; 1st RE: HANSEN (1982).

[*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 «*Melanophthalmus* 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).

3.1.4.9 *Enochrus* C.G. Thomson, 1859; OBS: Taxonomy: SCHÖDL (1997, 1998).

Enochrus C.G. Thomson, 1859

1. *Enochrus (Enochrus) melanocephalus* (Olivier, 1792); RANGE: T; 1st RE: MOTSCHULSKY (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* (Kuwert, 1890); =*atricornis* (Kuwert, 1888); =*sternospina* (Kuwert, 1888) (ex parte?); RANGE: T; 1st RE: FUENTE (1925).
 4. *Enochrus (Lumetus) falcarius* Hebauer, 1991; RANGE: S; DIST: SE Iberia; 1st RE: GUERRERO *et al.* (1996), HERNANDO *et al.* (1997).
 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* (Marshall, 1802); STAT: excl.?.; SYN: =*frontalis* (Erichson, 1837); RANGE: N; DIST: Pyrenean, Cantabrian?; 1st RE: MOTSCHULSKY (1849).
7. *Enochrus (Lumetus) politus* (Küster, 1849); SYN: =*agrigeninus* 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 *Philhydrus melanocephalus* Fabricius, 1801 (*nec* Olivier, 1792).
 9. *Enochrus (Lumetus) salomonis* (Sahlberg, 1900); RANGE: E; DIST: E & C Iberia, E Med.; 1st RE: RIBERA *et al.* (1997).
 10. *Enochrus (Lumetus) segmentinotatus* (Kuwert, 1888); RANGE: T; 1st RE: SCHÖDL (1998).
 11. *Enochrus (Lumetus) testaceus* (Fabricius, 1801); SYN: =*lederi* (Kuwert, 1888); RANGE: N; DIST: Pyrenean?; 1st RE: MOTSCHULSKY (1849)?; OBS: MOTSCHULSKY (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. nigrinus*.
12. *Enochrus (Methydrus) morenae* (Heyden, 1870); RANGE: X; DIST: Iberia, Pyrenean (also N face); 1st RE: HEYDEN (1870).

13. *Enochrus (Methyrus) 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.
14. *Enochrus (Methyrus) nigritus* (Sharp, 1872); SYN: =*isotae* Hebauer, 1981; RANGE: T; 1st RE: SHARP (1872); OBS: synonymy by SCHÖDL (1997).

3.1.4.10 *Cymbiodyta* Bedel, 1881; OBS: Taxonomy: SMETANA (1974), HANSEN (1987).

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 paulineri* Guer.»; STAT: (?); RANGE: X; DIST: Portugal; 1st RE: SEABRA (1942); OBS: SEABRA (1942) recorded four specimens in the Collection of the Museu Zoológico 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*.

3.1.4.12 *Limnoxenus* Motschulsky, 1853; OBS: Taxonomy: HERNANDO & FRESNEDA (1994).

1. *Limnoxenus niger* (Zschach, 1788); RANGE: N; DIST: Iberia except SW, N Africa?; 1st RE: FUENTE (1925).
2. *Limnoxenus olmoi* Hernando & Fresneda, 1994; RANGE: S; DIST: extreme SW, C Iberia?; 1st RE: HERNANDO & FRESNEDA (1994); OBS: present in Morocco (unpublished observations).

3.1.4.13 *Hydrochara* Berthold, 1827; OBS: Taxonomy: SMETANA (1980), VALLADARES & RIBERA (1993).

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).

3.1.4.14 *Hydrophilus* O.F. Müller, 1764; OBS: Taxonomy: VALLADARES & RIBERA (1993).
Hydrophilus O.F. Müller, 1764

1. *Hydrophilus (Hydrophilus) piceus* (Linnaeus, 1758); RANGE: N; DIST: Pyrenean, Med. coast; 1st RE: ASSO (1784)?; OBS: Records by ASSO (1784) and ROSENHAUER (1856) may refer to *H. pistaceus*, 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 Castellanau, 1840); SYN: =*inermis* Küster, 1852; RANGE: T; 1st RE: KÜSTER (1852), as *H. inermis*.

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

Sphaeridiinae 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 (1925b, 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. *subaereum* Reitter, 1906; RANGE: N; DIST: Iberia; 1st RE: ROSENHAUER (1856); OBS: synonyms of *brevitarse* and *minor* in D'ORCHYMONT (1925b, 1936b).

3.1.4.16 *Cercyon* Leach, 1817; OBS: Taxonomy: CHIESA (1959), HUIJBREGTS (1982), HANSEN (1987).

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.
7. *Cercyon (Cercyon) marinus* C.G. Thomson, 1853; RANGE: N; 1st RE: SEABRA (1943).
8. *Cercyon (Cercyon) melanocephalus* (Linnaeus, 1758); RANGE: T?; DIST: «Entire Palaearctic» (HUIBREGTS 1982); 1st RE: ZARIQUIEY (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: UHAGÓN (1876).
11. *Cercyon (Cercyon) quisquilius* (Linnaeus, 1761); SYN: =*flavipenne* (Küster, 1848); RANGE: T; 1st RE: KÜSTER (1848b).
12. *Cercyon (Cercyon) subsulcatus* Rey, 1885; RANGE: N; DIST: Pyrenean, Med. coast, Camargue; 1st RE: FUENTE (1919); OBS: presence in Iberia confirmed by RIBERA *et al.* (1998a).
13. *Cercyon (Cercyon) terminatus* (Marsham, 1802); RANGE: T; 1st RE: MORÓDER (1924).
14. *Cercyon (Cercyon) tristis* (Illiger, 1801); RANGE: N; DIST: Pyrenean, «Portugal»; 1st RE: FUENTE (1925).

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
16. *Cercyon (Dicyrtocercyon) ustulatus* (Preyßler, 1790); RANGE: N; DIST: Pyrenean, C Ebro Valley, Coimbra; 1st RE: FUENTE (1925).
Paracercyon Seidlitz, 1888
17. *Cercyon (Paracercyon) analis* (Paykull, 1798); SYN: =*flavipes* Thunberg, 1894; RANGE: N?; DIST: N & C Iberia; 1st RE: FRANQUESA (1889).
Paracycreon d'Orchymont, 1942
18. *Cercyon (Paracycreon) laminatus* Sharp, 1873; RANGE: N; DIST: Pyrenean; 1st RE: RIBERA *et al.* (1998).

Species of uncertain status

«*Cercyon moroderi* Dodero»; STAT: (?); RANGE: X; DIST: Albufera; 1st RE: MORÓDER (1919, 1923); OBS: In MORÓDER (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: MORÓDER (1924); OBS: it may refer to *C. nigriceps* Marsham, 1802 (*C. atricapillus*), by typographical error or missinterpretation of the labels.

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

3.1.4.17 *Cryptopleurum Mulsant, 1844*; OBS: Taxonomy: HANSEN (1987).

1. *Cryptopleurum crenatum* (Panzner, 1794); RANGE: N; DIST: Pyrenean, Cantabrian; 1st RE: FUENTE (1925).
2. *Cryptopleurum minutum* (Fabricius, 1775); RANGE: T?; DIST: Pyrenean, Cantabrian, «Portugal»; 1st RE: MARTORELL (1879).

3.1.4.18 *Megasternum Mulsant, 1844*; OBS: Taxonomy: HANSEN (1987).

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.

3.1.4.19 *Dactylosternum Wollaston, 1854*; OBS: Taxonomy: HANSEN (1987).

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

3.1.4.20 *Sphaeridium Fabricius, 1775*; OBS: Taxonomy: HANSEN (1987), BERGE HENEGOUWEN (1989).

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.
2. *Sphaeridium lunatum* Fabricius, 1792; RANGE: N; DIST: Iberia (not N Africa?); 1st RE: FUENTE (1919).

3. *Sphaeridium marginatum* Fabricius, 1787; RANGE: T; 1st RE: ROSENHAUER (1856).
4. *Sphaeridium scarabaeoides* (Linnaeus, 1758); RANGE: T; 1st RE: ROSENHAUER (1856).

3.2 Superfamily STAPHYLINOIDEA Latreille, 1802

3.2.1 Family HYDRAENIDAE Mulsant, 1844

OBS: Taxonomy: PERKINS (1997), HANSEN (1998) (general arrangement of the family, except when otherwise stated); Faunistics: VALLADARES & MONTES (1991)

Hydraeninae Mulsant, 1844

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

Haenydra Rey, 1886

1. *Hydraena (Haenydra) altamirensis* Díaz Pazos & Garrido, 1993; RANGE: X; DIST: Sierra de Altamira; 1st RE: DÍAZ PAZOS & GARRIDO (1993).
2. *Hydraena (Haenydra) bitruncata* d'Orchymont, 1934; RANGE: X; DIST: Pyrenean (also N face), Ávila?; 1st RE: D'ORCHYMONT (1934b).
3. *Hydraena (Haenydra) catalonica* Fresneda, Aguilera & Hernando, 1995; RANGE: X; DIST: E Pyrenean (not N face); 1st RE: FRESNEDA *et al.* (1995).
4. *Hydraena (Haenydra) 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 (Haenydra) exasperata* d'Orchymont, 1935; RANGE: X; DIST: Iberia, except Pyrenean, Morocco?; 1st RE: D'ORCHYMONT (1935); OBS: it may be a complex of subspecies.
6. *Hydraena (Haenydra) gaditana* Lagar & Fresneda, 1990; RANGE: X; DIST: extreme S Iberia; 1st RE: LAGAR & FRESNEDA (1990).
7. *Hydraena (Haenydra) gracilis* Germar, 1824; RANGE: N; DIST: Pyrenean, Cantabrian, Hercynian?; 1st RE: ROSENHAUER (1856)?; OBS: ROSENHAUER (1856) record may refer to a different species.
8. *Hydraena (Haenydra) hispanica* Ganglbauer, 1901; RANGE: X; DIST: Hercynian Iberia; 1st RE: GANGLBAUER (1901).
9. *Hydraena (Haenydra) iberica* d'Orchymont, 1936; RANGE: X; DIST: Hercynian Iberia; 1st RE: D'ORCHYMONT (1936c).
10. *Hydraena (Haenydra) lusitana* (Berthélemy in Berthélemy & Whytton da Terra, 1977); RANGE: X; DIST: Hercynian Iberia; 1st RE: BERTHÉLEMY & WHYTTON DA TERRA (1977).
11. *Hydraena (Haenydra) manfredjaechi* Delgado & Soler, 1991; RANGE: X; DIST: Sierra de Alcaraz; 1st RE: DELGADO & SOLER (1991).
12. *Hydraena (Haenydra) monstruosipes* Ferro, 1986; RANGE: X; DIST: W Cantabrian; 1st RE: FERRO (1986).
13. *Hydraena (Haenydra) polita* Kiesenwetter, 1849; RANGE: N; DIST: Pyrenean, Cantabrian; 1st RE: GARRIDO *et al.* (1991).
14. *Hydraena (Haenydra) producta* Mulsant & Rey, 1852; RANGE: N; DIST: Cantabrian (not Pyrenees?); 1st RE: BALFOUR-BROWNE (1978).
15. *Hydraena (Haenydra) saga* d'Orchymont, 1930; RANGE: N; DIST: Pyrenean; 1st RE: D'ORCHYMONT (1930).
16. *Hydraena (Haenydra) tatii* Sáinz-Cantero & Alba-Tercedor, 1989; RANGE: X; DIST: SE Iberia; 1st RE: SÁINZ-CANTERO & ALBA-TERCEDOR (1989).

17. *Hydraena (Haenydra) truncata* Rey, 1885; RANGE: N; DIST: Pyrenean, Cantabrian; 1st RE: BALFOUR-BROWNE (1978).
18. *Hydraena (Haenydra) zezerensis* Díaz Pazos & Bilton, 1995; RANGE: X; DIST: Serra da Estrela (river Zezere); 1st RE: DÍAZ PAZOS & BILTON (1995).
Hydraena Kugelann, 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. Jäch p.c., 1998).
[*Hydraena (Hydraena) africana* Kuwert, 1888; STAT: excl.; RANGE: S; 1st RE: FUENTE (1925); OBS: records by BALFOUR-BROWNE (1978) probably refer to other Iberian species of the *H. rufipes* gr. (LAGAR & FRESNEDA, 1990; JÄCH *et al.*, 1998a).
19. *Hydraena (Hydraena) affusa* 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. Jäch p.c., 1998).
20. *Hydraena (Hydraena) albai* Sáinz-Cantero, 1993; RANGE: X; DIST: SE Iberia; 1st RE: SÁINZ-CANTERO (1993).
21. *Hydraena (Hydraena) alcantarana* Ieniestea, 1985; RANGE: X; DIST: SE Iberia (type locality); 1st RE: IENIESTEIA (1985).
22. *Hydraena (Hydraena) allomorpha* Lagar & Fresneda, 1990; SYN: =*maroccana* Kaddouri in Berthélemy, Kaddouri & Richoux, 1992; RANGE: S; DIST: extreme S Iberia; 1st RE: LAGAR & FRESNEDA (1990); OBS: synonymy in JÄCH *et al.* (1998a).
23. *Hydraena (Hydraena) andalus* Lagar & Fresneda, 1990; SYN: =*africana* sensu BERTHÉLEMY *et al.* (1992); RANGE: S; DIST: SE Iberia; 1st RE: LAGAR & FRESNEDA (1990); OBS: synonymy in JÄCH *et al.* (1998a).
24. *Hydraena (Hydraena) angulosa* Mulsant, 1844; SYN: =*subdepressa* Rey, 1886; RANGE: N; DIST: Pyrenean; 1st RE: BERTHÉLEMY (1966); OBS: synonymy by JÄCH (1994a).
25. *Hydraena (Hydraena) angustata* Sturm, 1836; STAT: ?; RANGE: N; DIST: Iberia (N Pyrenean face only?); 1st RE: KUWERT (1888b); OBS: excluded by VALLADARES & MONTES (1991).
26. *Hydraena (Hydraena) barrosi* 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 barrosi* Dev. (in lit.)» by CORRÊA DE BARROS (1926).
[*Hydraena (Hydraena) berthelemyi* Lagar & Fresneda, 1990; STAT: =; C.ID: *bisulcata*; RANGE: X; DIST: Cádiz; 1st RE: LAGAR & FRESNEDA (1990); OBS: synonymy J. Fresneda p.c. (1997).
27. *Hydraena (Hydraena) bisulcata* Rey, 1884; SYN: =*berthelemyi* Lagar & Fresneda, 1990; RANGE: S; DIST: Iberia, except Pyrenean; 1st RE: REY (1884).
28. *Hydraena (Hydraena) bolivari* d'Orchymont, 1936; RANGE: X; DIST: S Iberia; 1st RE: D'ORCHYMONT (1936c).
29. *Hydraena (Hydraena) brachymera* d'Orchymont, 1936; RANGE: X; DIST: Hercynian Iberia, Cantabrian Pyrenean (also N face); 1st RE: D'ORCHYMONT (1936c).
30. *Hydraena (Hydraena) capta* d'Orchymont, 1936; SYN: =*maura* Ieniestea, 1985; RANGE: S; DIST: S Iberia; 1st RE: D'ORCHYMONT (1936c).
31. *Hydraena (Hydraena) carbonaria* Kiesenwetter, 1849; RANGE: X; DIST: S France, Iberia; 1st RE: KUWERT (1888b).
32. *Hydraena (Hydraena) claryi* Jäch, 1994; SYN: =*subdepressa* sensu auct., nec Rey, 1886; RANGE: N; DIST: Pyrenean, E Iberia; 1st RE: FUENTE (1925); OBS: synonymy by JÄCH (1994a).

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) corrugis* 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).
37. *Hydraena (Hydraena) delia* J.Balfour-Browne, 1978; RANGE: X; DIST: Pyrenean (not N face); 1st RE: BALFOUR-BROWNE (1978).
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) inapicalpis* Pic, 1918; RANGE: X; DIST: N Iberia, Pyrenean (also N face); 1st RE: d'ORCHYMONT (1934b).
41. *Hydraena (Hydraena) lucasi* Lagar, 1984; RANGE: X; DIST: Pyrenean (not N face), E Spain; 1st RE: LAGAR (1984).
42. *Hydraena (Hydraena) marcosae* Aguilera, Hernando & Ribera, 1997; RANGE: X; DIST: Hercynian Iberia; 1st RE: AGUILERA *et al.* (1997).
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.
44. *Hydraena (Hydraena) palustris* Erichson, 1837; STAT: ?; RANGE: N; DIST: «Spain»; 1st RE: d'ORCHYMONT (1936c).
45. *Hydraena (Hydraena) pygmaea* Waterhouse, 1833; RANGE: N; DIST: Pyrenean, Cantabrian, SE Iberia; 1st RE: LÉON-HILAIRE (1924) (in Val d'Aran, N face of the Pyrenees); OBS: first peninsular record by d'ORCHYMONT (1936c).
46. *Hydraena (Hydraena) quilisi* Lagar, Fresneda & Hernando, 1987; RANGE: X; DIST: Pyrenean (also N face), E Iberia; 1st RE: LAGAR *et al.* (1987b).
47. *Hydraena (Hydraena) reyi* Kuwert, 1888; RANGE: N; DIST: Pyrenean, Cantabrian; 1st RE: LÉON-HILAIRE (1924) (in Val d'Aran, N face of the Pyrenees); OBS: first peninsular record by GARRIDO *et al.* (1988).
48. *Hydraena (Hydraena) riparia* Kugelann, 1794; RANGE: N; DIST: Algeciras?, Sierra Alcaraz; 1st RE: ROSENHAUER (1856); OBS: according to VALLADARES & MONTES (1991), ROSENHAUER (1856) record refers to *H. capta*. Presence in SE Iberia confirmed by RIBERA *et al.* (1998a).
49. *Hydraena (Hydraena) rugosa* Mulsant, 1844; RANGE: N; DIST: Iberia (not N Africa); 1st RE: FUENTE (1925).
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 *Hadrenya* by PERKINS (1997).
[*Hydraena (Hydraena) sicula* Kiessenwetter, 1849; STAT: excl.; RANGE: E; 1st RE: ROSENHAUER (1856); OBS: an eastern Mediterranean species (HANSEN, 1998).
52. *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).

53. *Hydraena (Hydraena) subimpresa* Rey, 1885; RANGE: N; DIST: Pyrenean; 1st RE: BALFOUR-BROWNE (1978).
54. *Hydraena (Hydraena) unca* Valladares, 1989; RANGE: X; DIST: Iberia, except extreme SE & Pyrenean; 1st RE: VALLADARES (1989); OBS: *H. unca* sp.n. was first mentioned in a congress Abstract in 1989, the description with type designations was made in VALLADARES (1992). Records *H. cordata* previous to VALLADARES (1989, 1992) may refer to this species (VALLADARES & MONTES, 1991).
[*Hydraena (Hydraena) valladaresi* Lagar & Fresneda, 1990; STAT: =; C.ID: *barrosi*; RANGE: X; DIST: Cádiz; 1st RE: LAGAR & FRESNEDA (1990); OBS: synonymy J. Fresneda p.c. (1994).
55. *Hydraena (Hydraena) rufipes* gr. Millán & Aguilera; RANGE: X; DIST: Sierra de Alcaraz; OBS: a new species in the process of being described, A. Millán & P. Aguilera (p.c., 1998).
Phothydraena Kuwert, 1888; OBS: Taxonomy: BERTHÉLEMY (1986).
56. *Hydraena (Phothydraena) atrata* Desbrochers des Loges, 1891; RANGE: X; DIST: Iberia except extreme SE, S France; 1st RE: BERTHÉLEMY (1986).
57. *Hydraena (Phothydraena) hernandoi* Fresneda & Lagar, 1990; RANGE: S; DIST: SE Iberia, Med. coast; 1st RE: FRESNEDA & LAGAR (1990).
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 forms in south Iberia and Morocco (unpublished observations).

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

1. *Limnebius bacchus* J. Balfour-Browne, 1978; RANGE: S; DIST: SE Iberia; 1st RE: BALFOUR-BROWNE (1978); OBS: present in Morocco (unpublished observations).
2. *Limnebius cordobanus* d'Orchymont, 1938; RANGE: X; DIST: Iberia, Pyrenean (not N face); 1st RE: D'ORCHYMONT (1938).
3. *Limnebius evanescens* Kiesenwetter, 1866; RANGE: S; DIST: Iberia except Pyrenean, Cantabrian?; 1st RE: KIESENWETTER (1865).
4. *Limnebius extraneus* d'Orchymont, 1938; SYN: =*externus* Jäch, 1993; RANGE: S; DIST: Iberia except Pyrenean, Cantabrian?; 1st RE: D'ORCHYMONT (1938).
5. *Limnebius fetalis* Peyerimhoff, 1913; RANGE: S; DIST: extreme S Iberia; 1st RE: WINKLER (1924).
6. *Limnebius furcatus* Baudi, 1872; RANGE: T; 1st RE: OLIVEIRA (1882).
7. *Limnebius gerhardti* Heyden, 1870; RANGE: X; DIST: Iberia, except extreme NE; 1st RE: HEYDEN (1870).
8. *Limnebius hilaris* J. Balfour-Browne, 1978; RANGE: X; DIST: SE Iberia (river Aguas basin); 1st RE: BALFOUR-BROWNE (1978).
9. *Limnebius hispanicus* d'Orchymont, 1941; SYN: =*triparamerus* Fresneda, Lagar & Ferro, 1990; RANGE: X; DIST: SE Iberia; 1st RE: D'ORCHYMONT (1941a).
10. *Limnebius ibericus* J. Balfour-Browne, 1978; RANGE: X; DIST: Hercynian Iberia; 1st RE: BALFOUR-BROWNE (1978).
11. *Limnebius ignarus* J. Balfour-Browne, 1978; SYN: =*fuentei* Fresneda, Lagar & Ferro, 1990; RANGE: X; DIST: extreme S Iberia; 1st RE: BALFOUR-BROWNE (1978).
12. *Limnebius lusitanus* J. Balfour-Browne, 1978; RANGE: X; DIST: Hercynian Iberia; 1st RE: BALFOUR-BROWNE (1978).

13. *Limnebius maurus* J.Balfour-Browne, 1978; RANGE: S; DIST: Iberia, except extreme NE; 1st RE: BALFOUR-BROWNE (1978).
14. *Limnebius millani* Ribera & Hernando, 1998; RANGE: X; DIST: Sierra de Alcaraz; 1st RE: RIBERA & HERNANDO (1998).
15. *Limnebius monfortei* Fresneda & Ribera, 1998; RANGE: X; DIST: Sierra Nevada (type locality); 1st RE: FRESNEDA & RIBERA (1998).
16. *Limnebius montanus* J.Balfour-Browne, 1978; RANGE: X; DIST: Hercynian Iberia; 1st RE: BALFOUR-BROWNE (1978).
17. *Limnebius myrmidon* Rey, 1883; RANGE: N; DIST: Pyrenean, Cantabrian; 1st RE: BOSCA (1932); OBS: presence in Iberia confirmed by BALFOUR-BROWNE (1978).
18. *Limnebius nanus* Jäch, 1993; RANGE: X; DIST: Hercynian Iberia (Sistema Central); 1st RE: JÄCH (1993a).
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.
20. *Limnebius oblongus* Rey, 1883; RANGE: T; 1st RE: BALFOUR-BROWNE (1978).
21. *Limnebius ordunyai* Fresneda & Ribera, 1998; RANGE: X; DIST: Puertos de Beceite; 1st RE: FRESNEDA & RIBERA (1998).
22. *Limnebius papposus* Mulsant, 1844; RANGE: N; DIST: Iberia (not N Africa); 1st RE: SHARP (1877).
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 JÄCH, 1993a).

Ochthebiinae C.G.Thomson, 1859

- 3.2.1.3 *Enicocerus* Stephens, 1829; OBS: Taxonomy: JÄCH (1992a).
 1. *Enicocerus exsculptus* (Germar, 1824); RANGE: T; 1st RE: ROSENHAUER (1856).
 2. *Enicocerus gibbosus* (Germar, 1824); RANGE: N; DIST: «Andalucía»; 1st RE: JÄCH (1992a).
 3. *Enicocerus legionensis* (Hebauer & Valladares, 1985); RANGE: X; DIST: Cantabrian, Hercynian Iberia; 1st RE: HEBAUER & VALLADARES (1985).
 [*Enicocerus halbherri* (Reitter, 1890); STAT: excl.; SYN: =*taurulus* Hebauer, 1990; RANGE: N; 1st RE: HEBAUER (1990); OBS: according to JÄCH (1992a) HEBAUER (1990) record refers to «another species», according to VALLADARES & MONTES (1991) to *E. exsculptus*.
- 3.2.1.4 *Aulacochthebius* Kuwert, 1887; OBS: Taxonomy: AGUILERA *et al.* (1998).
 1. *Aulacochthebius exaratus* (Mulsant, 1844); RANGE: T; 1st RE: ROSENHAUER (1856).
- 3.2.1.5 *Calobius* Wollaston, 1854; OBS: Taxonomy: JÄCH (1993b). According to PERKINS (1997) and HANSEN (1998) this would be a synonym of *Ochthebius*. DELGADO & SOLER (1997) considered it as a valid genus.
 1. *Calobius quadricollis* (Mulsant, 1844); SYN: =*submersus* Chevrolat, 1861; RANGE: T; 1st RE: BOSCA (1932); OBS: synonymy by JÄCH (1993b), see also URBANELLI *et al.* (1996).

3.2.1.6 *Ochthebius* Leach, 1815

Asiobates C.G. Thomson, 1859; OBS: Taxonomy: JÄCH (1990).

1. *Ochthebius (Asiobates) aeneus* Stephens, 1835; RANGE: T; 1st RE: KUWERT (1887).
2. *Ochthebius (Asiobates) bellieri* Kuwert, 1887; RANGE: X; DIST: SE Iberia; 1st RE: KUWERT (1887).
3. *Ochthebius (Asiobates) bonnairei* Gullebeau, 1896; RANGE: S; DIST: SE Iberia; 1st RE: D'ORCHYMONT (1941b).
4. *Ochthebius (Asiobates) cantabricus* J.Balfour-Browne, 1978; RANGE: X; DIST: Cantabrian (type locality); 1st RE: BALFOUR-BROWNE (1978).
5. *Ochthebius (Asiobates) dilatatus* Stephens, 1829; RANGE: T; 1st RE: OLIVEIRA (1882).
6. *Ochthebius (Asiobates) ferroi* Fresneda, Lagar & Hernando, 1993; RANGE: X; DIST: Pyrenean (type locality); 1st RE: FRESNEDA *et al.* (1993).
7. *Ochthebius (Asiobates) figueroi* Garrido, Valladares & Régil, 1992; RANGE: S (extant populations); DIST: NW Ebro Valley; 1st RE: GARRIDO *et al.* (1992); OBS: present in Morocco (M. A. Jäch p.c., 1998); and as Fossil in England (ANGUS, 1993).
8. *Ochthebius (Asiobates) heydeni* Kuwert, 1887; RANGE: X; DIST: Iberia, except SE?; 1st RE: KUWERT (1887).
9. *Ochthebius (Asiobates) irenae* Ribera & Millán, 1999; RANGE: X; DIST: SE La Mancha (Salinas de Pinilla, type locality); 1st RE: RIBERA & MILLÁN (1999).
10. *Ochthebius (Asiobates) maculatus* Reiche, 1869; RANGE: S; DIST: SE Iberia, Ebro valley; 1st RE: FUENTE (1925).
11. *Ochthebius (Asiobates) minimus* (Fabricius, 1792); SYN: =*pygmaeus* (Paykull, 1798) (nec Fabricius); RANGE: N; DIST: Pyrenean?, Cantabrian; 1st RE: ZARIQUIEY (1916), as *O. impressus* (Marsham, 1802).
12. *Ochthebius (Asiobates) rugulosus* Wollaston, 1857; RANGE: N?; DIST: Palencia, Canary Islands; 1st RE: JÄCH (1990).

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.ID: *Ochthebius*; OBS: Taxonomy: JÄCH (1989a); considered to be a synonym of *Ochthebius* by PERKINS (1997) and HANSEN (1998).

13. *Ochthebius (Cobalius) lejolisi* Mulsant & Rey, 1861; RANGE: N; DIST: N Atlantic coast; 1st RE: CORRÊA DE BARROS (1926); OBS: recorded as *subinteger* v. *lejolisi*. Presence in Iberia confirmed by BILTON (1993).
14. *Ochthebius (Cobalius) serratus* Rosenhauer, 1856; RANGE: X; DIST: extreme S Iberia; 1st RE: ROSENHAUER (1856).
15. *Ochthebius (Cobalius) subinteger* Mulsant & Rey, 1861; RANGE: T; 1st RE: VALLADARES & MONTES (1991).
Ochthebius Leach, 1815; OBS: Taxonomy: JÄCH (1989b, 1989c, 1991, 1992b, 1992c, 1992d, 1994b, 1997).
16. *Ochthebius (Ochthebius) albacetinus* Ferro, 1984; RANGE: X; DIST: Sierra de Alcaraz; 1st RE: FERRO (1984).
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.

18. *Ochthebius (Ochthebius) auropallens* Fairmaire, 1879; RANGE: S; DIST: SE Iberia, C Ebro Valley; 1st RE: BALFOUR-BROWNE (1978).
19. *Ochthebius (Ochthebius) bifoveolatus* Waltl, 1835; SYN: =*volxemii* Sharp, 1877; RANGE: S; DIST: S & C Iberia; 1st RE: WALTTL (1835).
20. *Ochthebius (Ochthebius) caesaraugustae* Jäch, Ribera & Aguilera, 1998; RANGE: X; DIST: C Ebro valley; 1st RE: JÄCH *et al.* (1998b).
21. *Ochthebius (Ochthebius) corrugatus* Rosenhauer, 1856; RANGE: S; DIST: S Iberia; 1st RE: ROSENHAUER (1856).
22. *Ochthebius (Ochthebius) cuprescens* Guillebau, 1893; RANGE: S; DIST: SE Iberia; 1st RE: VALLADARES & MONTES (1991).
23. *Ochthebius (Ochthebius) delgadoi* Jäch, 1994; RANGE: X; DIST: SE Iberia, Ebro valley; 1st RE: JÄCH (1994b); OBS: synonymy by JÄCH (1994b).
24. *Ochthebius (Ochthebius) dentifer* Rey, 1885; RANGE: N; DIST: S Iberia, C Ebro Valley, Camargue, Sardinia; 1st RE: CASTRO *et al.* (1996), RIBERA *et al.* (1996).
25. *Ochthebius (Ochthebius) diazi* Jäch, 1899; RANGE: X; DIST: Cádiz; 1st RE: JÄCH (199)
26. *Ochthebius (Ochthebius) difficilis* Mulsant, 1844; RANGE: T; 1st RE: KUWERT (1887). [*Ochthebius (Ochthebius) foveolatus* Germar, 1824; STAT: excl.?.; RANGE: N; 1st RE: ROSENHAUER (1856).
27. *Ochthebius (Ochthebius) glaber* Montes & Soler, 1988; RANGE: X?; DIST: SE Iberia, Menorca?; 1st RE: MONTES & SOLER (1988); OBS: one dubious female recorded from Menorca by JÄCH (1992c).
28. *Ochthebius (Ochthebius) grandipennis* Fairmaire, 1879; RANGE: S; DIST: SE Iberia, Ebro Valley, Camargue; 1st RE: JÄCH (1989b).
29. *Ochthebius (Ochthebius) marginalis* Rey, 1886; SYN: =*regili* Valladares, 1986; RANGE: X; DIST: Iberia, Pyrenean (N face); 1st RE: VALLADARES (1986); OBS: synonymy by JÄCH (1991).
30. *Ochthebius (Ochthebius) marinus* (Paykull, 1798); RANGE: N; DIST: Iberia (not N Africa); 1st RE: ROSENHAUER (1856).
31. *Ochthebius (Ochthebius) mediterraneus* (Ieniestea, 1988); RANGE: T; 1st RE: IENIESTEVA (1988).
32. *Ochthebius (Ochthebius) meridionalis* Rey, 1885; RANGE: T; 1st RE: FUENTE (1925).
33. *Ochthebius (Ochthebius) merinidicus* Ferro, 1985; RANGE: S; DIST: SE Iberia; 1st RE: SÁINZ-CANTERO *et al.* (1995).
34. *Ochthebius (Ochthebius) metallescens* Rosenhauer, 1847; RANGE: N; DIST: Iberia (not N Africa); 1st RE: ROSENHAUER (1856).
35. *Ochthebius (Ochthebius) montesi* Ferro, 1984; RANGE: X; DIST: SE Iberia; 1st RE: FERRO (1984).
36. *Ochthebius (Ochthebius) nanus* Stephens, 1829; SYN: =*pyrenaicus* Fauvel, 1862; RANGE: T; 1st RE: UHAGÓN (1876); OBS: synonymy by JÄCH (1992b).
37. *Ochthebius (Ochthebius) nobilis* A. Villa & J.B. Villa, 1835; STAT: ?; RANGE: N; DIST: «Hispanien»; 1st RE: KUWERT (1887); OBS: record not included in VALLADARES & MONTES (1991) or JÄCH (1991).
38. *Ochthebius (Ochthebius) notabilis* Rosenhauer, 1856; RANGE: S; DIST: S Iberia, Pyrenean; 1st RE: ROSENHAUER (1856).
39. *Ochthebius (Ochthebius) pedicularius* Kuwert, 1887; STAT: ?; RANGE: N; DIST: Iberia (not N Africa); 1st RE: FUENTE (1925); OBS: Iberian records not included in JÄCH (1991). The species has a subspecies, *O. pedicularius medius* Jäch, 1991, in Kazakhstan.

40. *Ochthebius (Ochthebius) pilosus* Waltl, 1835; RANGE: T; 1st RE: WALTTL (1835).
41. *Ochthebius (Ochthebius) poweri* Rye, 1869; RANGE: T; 1st RE: D'ORCHYMONT (1942).
42. *Ochthebius (Ochthebius) punctatus* Stephens, 1829; RANGE: T; 1st RE: ROSENHAUER (1856).
43. *Ochthebius (Ochthebius) pusillus* Stephens, 1835; STAT: ?; SYN: =*margipallens* Latreille, 1807; RANGE: N; DIST: Iberia (not N Africa); 1st RE: MOTSCHULSKY (1849), as *O. margipallens*; OBS: MOTSCHULSKY (1849) record may refer to another species.
44. *Ochthebius (Ochthebius) quadrifossulatus* Waltl, 1835; RANGE: S; DIST: S Iberia; 1st RE: ROSENHAUER (1856); OBS: taxonomic redefinition of the species by JÄCH (1994b), who confirmed its presence in Spain («Andalusia» and Sevilla).
45. *Ochthebius (Ochthebius) quadrifoveolatus* Wollaston, 1854; RANGE: S; DIST: SE Iberia, Teruel; 1st RE: FUENTE (1925).
46. *Ochthebius (Ochthebius) salinator* Peyerimhoff, 1924; RANGE: S; DIST: SE Iberia; 1st RE: JÄCH (1992c).
47. *Ochthebius (Ochthebius) semisericeus* Sainte-Claire Deville, 1914; SYN: =*semotus* d'Orchymont, 1942; RANGE: T; 1st RE: D'ORCHYMONT (1942); OBS: synonymy by JÄCH (1989c).
48. *Ochthebius (Ochthebius) sidanus* d'Orchymont, 1942; SYN: =*socius* Balfour-Browne, 1978; RANGE: N; DIST: Cantabrian; 1st RE: BALFOUR-BROWNE (1978); OBS: synonym by JÄCH (1991).
49. *Ochthebius (Ochthebius) subpictus* Wollaston, 1857; SYN: =*deletus* Rey, 1885; RANGE: T; 1st RE: BOSCA (1932), as *O. marinus* v. *deletus*; OBS: synonymy by JÄCH (1992d).
50. *Ochthebius (Ochthebius) tacapasensis baeticus* Ferro, 1984; STAT: ssp. of *O. tacapaensis* Ferro, 1983; RANGE: S; DIST: SE Iberia; 1st RE: FERRO (1984); OBS: described as species, new status by JÄCH (1991).
51. *Ochthebius (Ochthebius) tudmirensis* Jäch, 1997; RANGE: X; DIST: SE Iberia; 1st RE: JÄCH (1997).
52. *Ochthebius (Ochthebius) viridis* Peyron, 1858 form 1 sensu Jäch, 1992; RANGE: T; 1st RE: JÄCH (1992d); OBS: recorded by FUENTE (1925) as *O. viridis*?
53. *Ochthebius (Ochthebius) viridis* Peyron, 1858 form 2 sensu Jäch, 1992; RANGE: T; 1st RE: JÄCH (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

OBS: Faunistics: FUENTE (1932), HANNAPPEL & PAULUS (1997).

3.3.1.1 *Cyphon* Paykull, 1799

Taxonomy: NYHOLM (1964, 1976).

1. *Cyphon coarctatus* Paykull, 1799; SYN: =*fuscicornis* Thompson, 1855; RANGE: T; 1st RE: KIESENWETTER (1866).
2. *Cyphon derelictus* Peyerimhoff, 1931; SYN: =*baeticus* Nyholm, 1964; RANGE: S; DIST: extreme S Iberia; 1st RE: NYHOLM (1964).

3. *Cyphon hilaris* Nyholm, 1944; RANGE: N; DIST: «Spanien»; 1st RE: HANNAPPEL & PAULUS (1997).
4. *Cyphon iberus* Nyholm, 1976; RANGE: X; DIST: Cantabrian, Hercynian Iberia; 1st RE: NYHOLM (1976).
5. *Cyphon ochraceus* Stephens, 1830; RANGE: N; DIST: «Spanien»; 1st RE: FUENTE (1919).
6. *Cyphon padi* (Linnaeus, 1758); STAT: ?; RANGE: N; DIST: Pyrenean?, Ciudad Real?; 1st RE: MARTORELL (1879); OBS: Iberian records not included in HANNAPPEL & PAULUS (1997).
7. *Cyphon palustris* C.G. Thomson, 1855; RANGE: N; DIST: «Spanien»; 1st RE: ILLIES (1978), also HANNAPPEL & PAULUS (1997).
8. *Cyphon pandellei* Bourgeois, 1884; RANGE: X; DIST: Pyrenean (also N face), Guadarrama, «Portugal»; 1st RE: CORRÊA DE BARROS (1926).
9. *Cyphon paykulli* Guérin, 1843; SYN: =*macer* Kiesenwetter, 1863; RANGE: N; DIST: Pyrenean; 1st RE: KIESENWETTER (1866), as *C. macer*; OBS: Iberian records not included in HANNAPPEL & PAULUS (1997).
10. *Cyphon putoni* H. Brisout de Barneville, 1863; RANGE: T; 1st RE: HEYDEN (1870).
11. *Cyphon siculus* Tournier, 1868; SYN: =*impressus* Kiesenwetter, 1871; RANGE: N; DIST: Central Spain; 1st RE: CORRÊA DE BARROS (1913); OBS: synonymy in KLAUSNITZER (1998).
12. *Cyphon sulcicollis* Mulsant & Rey, 1865; RANGE: N; DIST: Iberia, from Pyrenees to Algeciras (NYHOLM, 1964); 1st RE: NYHOLM (1964).
13. *Cyphon variabilis* (Thunberg, 1787); RANGE: N; DIST: Sistema Central, Pyrenean?; 1st RE: KIESENWETTER (1866).

3.3.1.2 *Elodes* Latreille, 1796

1. *Elodes chrysosomes* Abeille, 1872; STAT: ?; RANGE: N; DIST: Pyrenean (only N face?); 1st RE: FUENTE (1932); OBS: Iberian records not included in HANNAPPEL & PAULUS (1997).
2. *Elodes elongatus* Tournier, 1868; SYN: =*koelleri* Klausnitzer, 1971; RANGE: N; DIST: Pyrenean; 1st RE: FUENTE (1932); OBS: record in FUENTE (1932) from the French Pyrenees, first Iberian records KLAUSNITZER (1990). Synonymy in HANNAPPEL & PAULUS (1997) (as *E. elongata*).
3. *Elodes hausmanni* Gredler, 1857; RANGE: N; DIST: ?; 1st RE: in ILLIES (1978); OBS: no precise records. HANNAPPEL & PAULUS (1997) «Mittel- und Südeuropa».
4. *Elodes marginatus* Fabricius, 1798; RANGE: N; DIST: Cantabrian, «Lusitanien»; HANNAPPEL & PAULUS (1997) (under *E. marginata*); 1st RE: KIESENWETTER (1866).
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*).
6. *Elodes peninsularis* Pic, 1898; RANGE: X; DIST: «Cea»; 1st RE: Pic (1898); OBS: species not included in HANNAPPEL & PAULUS (1997).
7. *Elodes pseudominutus* Klausnitzer, 1971; RANGE: N; DIST: «Spanien»; 1st RE: ILLIES (1978), see also HANNAPPEL & PAULUS (1997) (as *E. pseudominuta*).
8. *Elodes scutellaris* Tournier, 1868; RANGE: X; DIST: «Jaén»; 1st RE: FUENTE (1932); OBS: Iberian records not included in HANNAPPEL & PAULUS (1997).
9. *Elodes trilineatus* Chevrolat, 1865; RANGE: X; DIST: Hercynian, Pyrenean (not N face?); 1st RE: CHEVROLAT (1865).

3.3.1.3 *Hydrocyphon* Redtenbacher, 1858

OBS: Taxonomy: NYHOLM (1967, 1977).

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. *Hydrocyphon deflexicollis* (P.W.J. Müller, 1821); STAT: ?; RANGE: N; DIST: Pyrenean?, Cantabrian?, Madrid?; 1st RE: SEIDLITZ (1867); OBS: Iberian records not included in HANNAPPEL & PAULUS (1997). It is considered not to occur south of the Pyrenees by NYHOLM (1967).
4. *Hydrocyphon fulvescens* Nyholm, 1977; RANGE: X; DIST: Ronda, Cuenca; 1st RE: NYHOLM (1977).
5. *Hydrocyphon hamiota* Nyholm, 1972; RANGE: X; DIST: Marbella; 1st RE: NYHOLM (1972).
6. *Hydrocyphon hydrocyphonoides* (Tournier, 1868); RANGE: E?; DIST: Ciudad Real?; 1st RE: FUENTE (1919); OBS: described as *Cyphon*, transferred to the genus *Hydrocyphon* by NYHOLM (1977), who records one dubious specimen («?Spanien»). Iberian records not included in HANNAPPEL & PAULUS (1997).
7. *Hydrocyphon laeticolor* Nyholm, 1967; RANGE: X; DIST: extreme S Iberia; 1st RE: NYHOLM (1967).
8. *Hydrocyphon pernigrans* Nyholm, 1967; RANGE: X; DIST: Guadarrama; 1st RE: NYHOLM (1967).

3.3.1.4 *Microcara* C.G. Thomson, 1859

1. *Microcara dispar* Seidlitz, 1872; RANGE: X; DIST: extreme S Iberia; 1st RE: SEIDLITZ (1872).
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

1. *Prionocyphon serricornis* (P.W.J. Müller, 1821); RANGE: T; 1st RE: FUENTE (1919).

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 BYRRHOIDEA Latreille, 1804

3.4.1 Family ELMIDAE Curtis, 1830

OBS: Taxonomy: OLMÍ (1976), BERTHÉLEMY (1979). Faunistics: RICO (1997).

Larainae LeConte, 1861

3.4.1.1 *Potamophilus* Germar, 1811

1. *Potamophilus acuminatus* (Fabricius, 1792); RANGE: T; 1st RE: HORION (1955).

Elminae Curtis, 1830

3.4.1.2 *Dupophilus* Mulsant & Rey, 1872

1. *Dupophilus 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).
2. *Stenelmis consobrina consobrina* Dufour, 1835; RANGE: N; DIST: Iberia, N Africa?; 1st RE: BOLLOW (1941); OBS: the species has a subspecies, *S. consobrina peropaca* Reitter, 1907, from central Asia. Present also in the NE (Girona, N. Rosales p.c., 1994).

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.
2. *Elmis latreillei* (Bedel, 1878); STAT: =?; C.ID: *perezi*; RANGE: N; DIST: Pyrenean; 1st RE: KUWERT (1890a); OBS: possible synonym (M.A. Jäch p.c., 1998).
3. *Elmis maugetii maugetii* Latreille, 1798; RANGE: N; DIST: Iberia (N Africa: *E. maugetii velutina* Reiche, 1879); 1st RE: PÉREZ-ARCAS (1865).
4. *Elmis obscura* (P.W.J. Müller, 1806); STAT: ?; RANGE: N; DIST: Pyrenean?; 1st RE: CUNI (1888).
5. *Elmis perezi* Heyden, 1870; RANGE: X; DIST: W Pyrenean (also N face), Hercynian Iberia; 1st RE: HEYDEN (1870).
6. *Elmis rioloides* (Kuwert, 1890); RANGE: N; DIST: Iberia (not N Africa); 1st RE: BERTHÉLEMY (1962).

3.4.1.5 *Esolus* Mulsant & Rey, 1872

1. *Esolus angustatus* (P.W.J. Müller, 1821); RANGE: N; DIST: Pyrenean, Cantabrian, Hercynian Iberia; 1st RE: OLIVEIRA (1882).
2. *Esolus parallelepipedus* (P.W.J. Müller, 1806); RANGE: T; 1st RE: ROSENHAUER (1856); OBS: present in Morocco (unpublished observations).
3. *Esolus pygmaeus* (P.W.J. Müller, 1806); RANGE: T; 1st RE: BERTHÉLEMY (1964).

3.4.1.6 *Oulimnius* Gozis, 1886

1. *Oulimnius bertrandi* Berthélemy, 1964; RANGE: X; DIST: Hercynian Iberia; 1st RE: BERTHÉLEMY (1964).
[*Oulimnius aegyptiacus* (Kuwert, 1890); STAT: excl.; RANGE: S; DIST: extreme S Iberia?; 1st RE: BERTHÉLEMY (1979); OBS: excluded by RICO (1997).
2. *Oulimnius cyneticus* Berthélemy in Berthélemy & Whytton da Terra, 1979; RANGE: X; DIST: S Iberia; 1st RE: BERTHÉLEMY & WHYTTON DA TERRA (1979).
3. *Oulimnius fuscipes* (Reiche, 1879); RANGE: S; DIST: extreme S Iberia; 1st RE: RICO (1997).
4. *Oulimnius major* (Rey, 1889); RANGE: N; DIST: Iberia; 1st RE: BERTHÉLEMY & WHYTTON DA TERRA (1977).
5. *Oulimnius rivularis* (Rosenhauer, 1856); RANGE: T; 1st RE: ROSENHAUER (1856)
6. *Oulimnius troglodytes* (Gyllenhal, 1827); SYN: =*brevis* (Sharp, 1872); RANGE: N; DIST: Iberia (not N africa); 1st RE: SHARP (1872).
7. *Oulimnius tuberculatus tuberculatus* (P.W.J. Müller, 1806); RANGE: N; DIST: W Pyrenean; 1st RE: OLIVEIRA (1882).
7. *Oulimnius tuberculatus perezi* (Crotch in Sharp, 1872); STAT: ssp; RANGE: X; DIST: Iberia, except Pyrenean; 1st RE: SHARP (1872), as *Limnius perezi*.

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 BERTHÉLEMY (1979).
2. *Limnius opacus* P.W.J. Müller, 1806; RANGE: T; 1st RE: OLIVEIRA (1882).
3. *Limnius perrisi perrisi* (Dufour, 1843); RANGE: N; DIST: Pyrenean; 1st RE: BERTRAND & LEGROS (1955).
3. *Limnius perrisi carinatus* (Pérez-Arcas, 1865); STAT: ssp; SYN: =*Elmis subcarinatus* Sharp, 1872; RANGE: X; DIST: Cantabrian, Hercynian Iberia; 1st RE: PÉREZ-ARCAS (1865); OBS: synonymy by Rico (1998).
4. *Limnius volckmari* (Panzer, 1793); RANGE: N; DIST: Iberia (not N Africa); 1st RE: ROSENHAUER (1856).

3.4.1.8 *Normandia* Pic, 1900

1. *Normandia nitens* (P.W.J. Müller, 1817); RANGE: T; 1st RE: BERTHÉLEMY (1964).
2. *Normandia sodalis* (Erichson, 1847); RANGE: N; DIST: E Iberia; 1st RE: ALLUAUD (1922).

3.4.1.9 *Riolus* Mulsant & Rey, 1872

1. *Riolus cupreus* (P.W.J. Müller, 1806); RANGE: N; DIST: Iberia, N Africa?; 1st RE: FUENTE (1929).
2. *Riolus illiesi* Steffan, 1958; RANGE: N; DIST: Iberia (not N Africa); 1st RE: ROSENHAUER (1856); OBS: recorded as *Elmis subviolaceus* (partim) by ROSENHAUER (1856).
3. *Riolus subviolaceus* (P.W.J. Müller, 1817); RANGE: N; DIST: Iberia, except W?; 1st RE: ROSENHAUER (1856).

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

1. *Macronychus quadrituberculatus* P.W.J. Müller, 1806; RANGE: T; 1st RE: OLIVEIRA (1882).

Note

Ludyella corticariiformis Reitter, 1899 was excluded from the Iberian fauna by JÄCH (1983) (see also MONTES & SOLER, 1986).

3.4.2 Family DRYOPIDAE Billberg, 1820

OBS: Taxonomy: OLMÍ (1976). Faunistics: MONTES & SOLER (1986).

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

1. *Pomatinus substriatus* (P.W.J. Müller, 1806); RANGE: T; 1st RE: OLIVEIRA (1882).

3.4.2.2 *Dryops* Olivier, 1791

1. *Dryops algiricus* (Lucas, 1849); SYN: =*Parnus hydrobates* Kiesenwetter, 1850; RANGE: T; 1st RE: KIESENWETTER (1850).
2. *Dryops auriculatus* (Geoffroy, 1785); STAT: ?; RANGE: N; DIST: Iberia?; 1st RE: ROSENHAUER (1856).
3. *Dryops championi* Doderò, 1918; RANGE: X; DIST: Hercynian Iberia; 1st RE: DODERO (1918).
4. *Dryops doderoi* Bollow, 1936; RANGE: T; 1st RE: BOLLOW (1938).
5. *Dryops ernesti* Gozis, 1886; RANGE: N; DIST: Pyrenean, Cantabrian; 1st RE: DODERO (1918).

6. *Dryops gracilis* (Karsch, 1881); RANGE: T; 1st RE: BOLLOW (1938).
7. *Dryops griseus* (Erichson, 1847); STAT: ?; RANGE: T?; DIST: Pyrenean, Ciudad Real?; 1st RE: FERRER (1904).
[*Dryops hispanus* Olmi, 1972; STAT: =?; C.ID: *algericus*; RANGE: X; DIST: Barcelona (type locality); 1st RE: OLMÍ (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).
10. *Dryops nitidulus* (Heer, 1841); RANGE: N; DIST: Pyrenean, Cuenca?; 1st RE: CHAMPION (1902).
11. *Dryops rufipes* (Krynicky, 1832); RANGE: N; DIST: Iberia (not N Africa); 1st RE: BOLLOW (1938).
12. *Dryops similis* Bollow, 1936; RANGE: N; DIST: Cantabrian, Hercynian Iberia, «Portugal»; 1st RE: HORION (1955), confirmed with recent captures by Garth Foster (MONTES & SOLER, 1986; and G.N. Foster p.c., 1998)
13. *Dryops striatellus* (Fairmaire & H. Brisout de Barneville, 1859); RANGE: T; 1st RE: UHAGÓN (1879)?, DODERO (1918)?; OBS: UHAGÓN (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).
15. *Dryops sulcipennis* (Costa, 1883); RANGE: T; 1st RE: MATEU (1954).
16. *Dryops vienensis* (Heer, 1841); RANGE: N; DIST: Pyrenean (north side); 1st RE: DODERO (1918) (north side of the Pyrenees, in Val d'Aran).

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

1. *Limnichus aurosericeus* Jacqueline Du Val, 1857; RANGE: T; 1st RE: UHAGÓN (1879).
2. *Limnichus incanus* Kiesenwetter, 1851; RANGE: T; 1st RE: KIESENWETTER (1851).
3. *Limnichus pygmaeus* (Sturm, 1807); RANGE: T; 1st RE: CHAPMAN & CHAMPION (1907).
4. *Limnichus sericeus* (Duftsmicht, 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 **HETERO CERIDAE** MacLeay, 1825

OBS: Taxonomy & Faunistics: MASCAGNI (in press), AGUILERA *et al.* (1998).

Heterocerinae MacLeay, 1825

3.4.4.1 **Heterocerus** Fabricius, 1792

1. *Heterocerus aragonicus* Kiessenweter, 1850; RANGE: T; 1st RE: KIESENWETTER (1850).
2. *Heterocerus fenestratus* (Thunberg, 1784); RANGE: T; 1st RE: CUNÍ (1885).
3. *Heterocerus flexuosus* (Stephens, 1828); RANGE: T; 1st RE: KUWERT (1890b).
4. *Heterocerus fossor* Kiessenweter, 1843; RANGE: N; DIST: Iberia (not N Africa); 1st RE: FUENTE (1929).
5. *Heterocerus fuscus* Kiessenweter, 1843; STAT: ?; RANGE: T?; DIST: Beira Litoral (Estarreja); 1st RE: OLIVEIRA (1882).
6. *Heterocerus holosericeus* Rosenhauer, 1856; RANGE: T; 1st RE: ROSENHAUER (1856).
7. *Heterocerus marginatus* (Fabricius, 1787); RANGE: T; 1st RE: CUNÍ & 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: CUNÍ & MARTORELL (1876).

3.4.4.2 **Augyles** Schiödte, 1866

Littorimus Gozis, 1885

1. *Augyles (Littorimus) curtus* (Rosenhauer, 1856); RANGE: T; 1st RE: ROSENHAUER (1856).
2. *Augyles (Littorimus) flavidus* (Rossi, 1794); SYN: =*flavescens* Schaufuss, 1861; RANGE: T; 1st RE: KIESENWETTER (1851).
3. *Augyles (Littorimus) hispidulus* (Kiesenweter, 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* (Kiesenweter, 1850); SYN: =*funnebris* Schaufuss, 1861; RANGE: T; 1st RE: KIESENWETTER (1850).
6. *Augyles (Littorimus) pruinus* (Kiesenweter, 1851); RANGE: N; DIST: Iberia (not N Africa); 1st RE: FUENTE (1929).
7. *Augyles (Littorimus) senescens* (Kiesenweter, 1865); SYN: =*punctatus* Ch. Brisout de Barneville, 1866; RANGE: T; 1st RE: KIESENWETTER (1865).
8. *Augyles (Littorimus) sericans* (Kiesenweter, 1843); RANGE: T; 1st RE: ROSENHAUER (1856).

3.4.5 Family **PSEPHENIDAE** Lacordaire, 1854

OBS: Taxonomy: LEE & JÄCH (1996). Faunistics: FUENTE (1932).

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

OBS: Taxonomy and Faunistics: PETITPIERRE (in press).

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
2. ***Donacia (Donacia) crassipes* Fabricius, 1775**; STAT: ?; RANGE: N; DIST: «Hispania»; 1st RE: BÁGUENA (1960).
Donaciella Reitter, 1920
3. ***Donacia (Donaciella) cinerea* (Herbst, 1784)**; RANGE: N; DIST: Pyrenean; 1st RE: VIVES & GONZÁLEZ (1995).
4. ***Donacia (Donaciella) clavipes* (Fabricius, 1793)**; SYN: =*menyanthidis* Gyllenhal, 1827; RANGE: N; DIST: Pyrenean, Ruidera; 1st RE: BÁGUENA (1960).
Donaciomima Médvedev, 1973
5. ***Donacia (Donaciomima) andalusiaca* Kraatz, 1869**; STAT: =?; SYN: =*inermis* Fuente, 1904; C.ID: *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 SCHERER (1978) may refer to this species. *D. andalusiaca* was recorded from Middle East by SALHBERG (1913: 241).
6. ***Donacia (Donaciomima) aquatica* (Linnaeus, 1758)**; SYN: =*concinna* Weise, 1898; RANGE: T; 1st RE: WEISE (1898).
7. ***Donacia (Donaciomima) bicolora* Zschach, 1788**; RANGE: N; DIST: Cantabrian, Hercynian Iberia; 1st RE: OLIVEIRA (1882).
[*Donacia (Donaciomima) brevicornis* Ahrens, 1810; STAT: excl.; RANGE: N; 1st RE: SCHERER (1978); OBS: excluded by PETITPIERRE (in press).
[*Donacia (Donaciomima) dentata* Hoppe, 1795; STAT: excl.; RANGE: N; DIST: Valencia?; 1st RE: MORÓDER (1923); OBS: not included in BÁGUENA (1960), excluded by PETITPIERRE (in press).
8. ***Donacia (Donaciomima) galaica* Báguena, 1959**; RANGE: X; DIST: NW Iberia; 1st RE: BÁGUENA (1959).
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).
13. ***Donacia (Donaciomima) simplex* Fabricius, 1775**; SYN: =*linearis* Hoppe, 1895; RANGE: T; 1st RE: OLIVEIRA (1882).

14. *Donacia (Donaciomima) thalassina* Germar, 1811; RANGE: N; DIST: Pyrenean; 1st RE: CHAMPION (1903); OBS: not included in BÁGUENA (1960).
15. *Donacia (Donaciomima) versicolorea* (Brahm, 1790); RANGE: N; DIST: Pyrenean, C Iberia? (Ávila); 1st RE: MARTORELL (1879).
16. *Donacia (Donaciomima) vulgaris* Zschach, 1788; RANGE: T; 1st RE: CORRÊA DE BARROS (1913).

3.5.1.2 *Plateumaris* C.G. Thomson, 1866

1. *Plateumaris braccata* (Scopoli, 1772); RANGE: N; DIST: Ruidera; 1st RE: BÁGUENA (1960).
2. *Plateumaris consimilis* (Schrank, 1781); RANGE: N; DIST: Pyrenean, Hercynian Iberia; 1st RE: CHAMPION (1902).
3. *Plateumaris discolor* (Panzer, 1795); STAT: =?; C.ID: *sericea*; RANGE: N; DIST: Pyrenean; 1st RE: CUNI (1888); OBS: not included in BÁGUENA (1960). Considered a synonym by ASKEVOLD (1991) and PETITPIERRE (in press), but a valid species by MENZIES & COX (1996) and P. Richoux (p.c., 1998).
[*Plateumaris rustica* (Kunze, 1818); STAT: excl.; SYN: =*affinis* Kunze, 1818; RANGE: T?; 1st RE: MARTORELL (1879); OBS: not included in BÁGUENA (1960). Synonymy by ASKEVOLD (1991). Excluded by PETITPIERRE (in press).
4. *Plateumaris sericea* (Linnaeus, 1758); SYN: =*lacordairii* (Perris, 1864); RANGE: N; DIST: Cantabrian, Hercynian Iberia; 1st RE: MARTORELL (1879); OBS: synonymy by ASKEVOLD (1991).

3.6 Superfamily CURCULIONOIDEA Latreille, 1802

3.6.1 Family CURCULIONIDAE Latreille, 1802

Curculioninae Latreille, 1802

Bagoiini Neresheimer & Wagner, 1930

OBS: Taxonomy: CALDARA & O'BRIEN (1998). Faunistics: IGLESIAS (1921), CALDARA & O'BRIEN (1998).

3.6.1.1 *Bagous* Germar, 1817

1. *Bagous andalusiacus* González, 1971; RANGE: X; DIST: Sierra de Ronda; 1st RE: GONZÁLEZ (1971).
2. *Bagous argillaceus* Gyllenhal, 1836; RANGE: T; 1st RE: IGLESIAS (1921).
3. *Bagous biimpressus* Fahraeus, 1845; RANGE: T; 1st RE: FUENTE (1919).
4. *Bagous chevrolati* Tournier, 1874; RANGE: S; DIST: extreme S, «Portugal»; 1st RE: TOURNIER (1874).
5. *Bagous cylindricus* Rosenhauer, 1856; RANGE: S; DIST: C & S Spain; 1st RE: ROSENHAUER (1856).
[*Bagous claudicans* Boheman, 1845; STAT: excl.; RANGE: N; 1st RE: UHAGON (1887); OBS: according to CALDARA & 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 CALDARA & O'BRIEN (1998), although it is present in France.
7. *Bagous exilis* Jacqueline du Val, 1854; RANGE: T; 1st RE: BRISOUT DE BARNEVILLE (1863).
[*Bagous foveifrons* Hustache, 1923; STAT: excl.; C. ID.: *sardiniensis*; RANGE: S; 1st RE: GONZÁLEZ (1967); OBS: According to CALDARA & O'BRIEN (1998), GONZÁLEZ (1967) record refers to *B. sardiniensis*.

8. *Bagous franzi* González, 1967; RANGE: X; DIST: Sevilla; 1st RE: GONZÁLEZ (1967). [*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.
9. *Bagous fuentei* Pic, 1908; RANGE: X; DIST: Pozuelo de Calatrava (type locality); 1st RE: PIC (1908).
10. *Bagous gracilentus* Desbrochers des Loges, 1896; STAT: ?; RANGE: S; DIST: «Espagne»; 1st RE: CALDARA & O'BRIEN (1998); OBS: according to CALDARA & O'BRIEN (1998) the record is based on a single specimen without detailed locality information, and it is in need of confirmation.
11. *Bagous guttatus* Desbrochers des Loges, 1896; RANGE: S; DIST: «Andalusia»; 1st RE: CALDARA & O'BRIEN (1998).
12. *Bagous ibericus* González, 1971; RANGE: X; DIST: C Iberia?; 1st RE: GONZÁLEZ (1971).
13. *Bagous limosus* (Gyllenhal, 1827); RANGE: T; 1st RE: CALDARA & O'BRIEN (1998).
14. *Bagous lutulosus* (Gyllenhal, 1827); RANGE: T; 1st RE: OLIVEIRA (1882).
15. *Bagous perparvulus* Rosenhauer, 1856; SYN: =*multisanti* Fauvel, 1885; RANGE: T; 1st RE: ROSENHAUER (1856).
16. *Bagous revelieri* Tournier, 1884; RANGE: S; DIST: C Iberia, extreme S; 1st RE: FUENTE (1919).
17. *Bagous robustus* H. Brisout de Barneville, 1863; RANGE: T; 1st RE: DIECKMANN (1983); OBS: DIECKMANN (1983) does not give detailed localities («Spanien»).
18. *Bagous rudicollis* Desbrochers des Loges, 1896; RANGE: S; DIST: Tarifa; 1st RE: CALDARA & O'BRIEN (1998).
19. *Bagous sardiniensis* H. Brisout de Barneville, 1863; RANGE: E; DIST: Sardinia, C Spain; 1st RE: CALDARA & O'BRIEN (1998); OBS: recorded as *B. foveifrons* by GONZÁLEZ (1967).
20. *Bagous septemcostatus* Chevrolat, 1860; SYN: =*subcostulatus* Desbroches des Loges, 1895; RANGE: S; DIST: Gibraltar; 1st RE: DESBROCHES DES LOGES (1896) as *B. subcostulatus*; OBS: synonymy in CALDARA & O'BRIEN (1998).
21. *Bagous subcarinatus* Gyllenhal, 1836; RANGE: T; 1st RE: CORRÊA DE BARROS (1927).
22. *Bagous subruuber* Reitter, 1890; RANGE: S; DIST: extreme SE, C Ebro Valley; 1st RE: SCHILSKY (1907), also in CALDARA & O'BRIEN (1998).
23. *Bagous vivesi* González, 1967; RANGE: S?; DIST: Iberia except Pyrenenan; 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.

EVOLUTION 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), CUNÍ & MARTORELL (1876), OLIVEIRA (1882), FUENTE (1925, 1929), and more recently

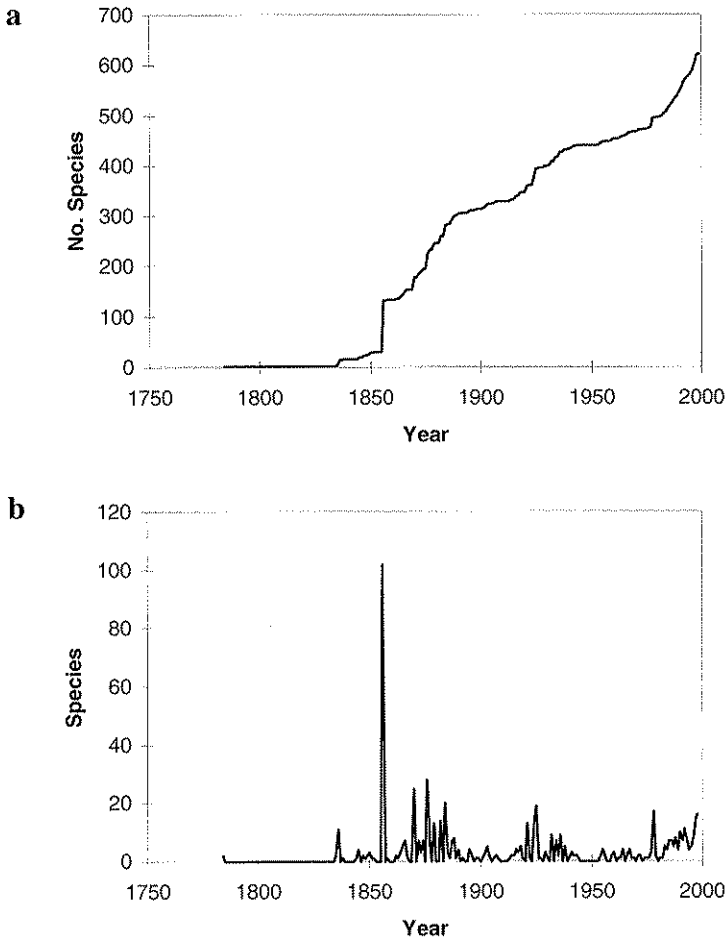


Figure 1. Evolution of the knowledge of the Iberian fauna of aquatic Coleoptera. a, cumulative number of species recorded per year; b, number of species first recorded per year. The peak corresponds to ROSENHAUER (1856).

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).

ACKNOWLEDGEMENTS

Many people has contributed with comments or unpublished information to this list. Their names are mentioned in the text, but we express here our gratitude to their collaboration.

REFERENCES

- ÁDÁM, L. 1996. A check-list of the Hungarian caraboid beetles (Coleoptera). *Fol. Ent. Hungarica*, 57: 5-64.
- AGUILERA, P., HERNANDO, C. & RIBERA, I. 1997. *Hydraena (Hydraena) marcosae* sp.n. from the Iberian Peninsula (Coleoptera: Hydraenidae). *Koleopt. Rdsch.*, 67: 169-172.
- AGUILERA, P., MASCAGNI, A. & RIBERA, I. 1998. The family Heteroceridae McLeay, 1825 in the Iberian Peninsula and the Balearic Islands (Coleoptera, Dryopoidea). *Misc. Zool.*, 21: 75-100.
- AGUILERA, P. & RIBERA, I. 1994. *Berosus jaechi* Schödl in the Iberian Peninsula. *Latissimus*, 4: 3.
- AGUILERA, P. & RIBERA, I. 1996. *Deronectes fosteri* sp.n. from northeastern Spain (Dytiscidae). *Koleopt. Rdsch.*, 66: 39-45.
- AGUILERA, P. RIBERA, I. & HERNANDO, C. 1998. Notes on the Palaearctic species of *Aulacochthebius* Kuwert, with description of *A. libertarius* sp.n. from the Moroccan Anti Atlas (Coleoptera: Hydraenidae). *Eur. J. Entom.*, 95: 629-637.
- AHMED, R. S. & ANGUS, R. B. 1998. *Laccophilus poecilus* Klug, 1834 – the valid name for *L. ponticus* Sharp, 1882. *Latissimus*, 10: 3.
- ALLUAUD, C. H. 1922. Les Helmidés du Nord de l'Afrique. Descriptions d'espèces nouvelles du Maroc (Insectes Coléoptères). *Bull. Soc. Sci. Nat. Maroc*, 2: 31-43.
- ANGUS, R. B. 1969. Revisional notes on *Helophorus* F. (Col., Hydrophilidae) 1.- General introduction and some species resembling *H. minutus* F. *Entomologist's mon. Mag.*, 105: 1-24.
- ANGUS, R. B. 1971. Revisional notes on *Helophorus* F. (Col., Hydrophilidae). 3.- Species resembling *H. strigiformis* Thoms. and some further notes on species resembling *H. minutus* F. *Entomologist's mon. Mag.*, 103(1970): 238-256.

- ANGUS, R. B. 1974. Notes on the *Helophorus* species (Coleoptera, Hydrophilidae) of Fennoscandia and northern Russia. *Not. Ent.*, 44: 25-32.
- ANGUS, R. B. 1976. A re-evaluation of the taxonomy and distribution of some European species of *Hydrochus* Leach (Coleoptera, Hydrophilidae). *Entomologist's mon. Mag.*, 112: 177-202.
- ANGUS, R. B. 1982. Separation of two species standing as *Helophorus aquaticus* (L.) (Coleoptera, Hydrophilidae) by banded chromosome analysis. *Syst. Ent.*, 7: 265-281.
- ANGUS, R. B. 1983a. Separation of *Helophorus grandis*, *maritimus* and *occidentalis* sp.n. (Coleoptera, Hydrophilidae) by banded chromosome analysis. *Syst. Ent.*, 8: 1-13.
- ANGUS, R. B. 1983b. Evolutionary stability since the Pleistocene illustrated by reproductive compatibility between Swedish and Spanish *Helophorus lapponicus* Thomson (Coleoptera, Hydrophilidae). *Biol. J. Linn. Soc.*, 19:17-25.
- ANGUS, R. B. 1985a. A new species of *Helophorus* F. (Col., Hydrophilidae) from northern Spain. *Entomologist's mon. Mag.*, 121: 89-90.
- ANGUS, R. B. 1985b. [Towards a revision of the Palaearctic species of *Helophorus* F. (Coleoptera, Hydrophilidae)]. 2. *Ent. Obozr.* 63: 520-521, 533-551 (in Russian: English version in *Ent. Rev.*, 1986, 64: 128-162).
- ANGUS, R. B. 1987. A revision of the species of *Helophorus* Fabricius, subgenus *Atracthelophorus* Kuwert, occurring in France, the Iberian Peninsula and North Africa, with a note on *H. discrepans* Rey in Morocco (Coleoptera, Hydrophilidae). *Nouv. Revue Ent. (N.S.)*, 4: 45-60.
- ANGUS, R. B. 1988. A New sibling species of *Helophorus* F. (Coleoptera: Hydrophilidae), revealed by chromosome analysis and hybridisation experiments. *Aq. Inse.*, 10: 171-184.
- ANGUS, R. B. 1992. *Süßwasserfauna von Mitteleuropa. Band 20 / 10-2: Insecta Coleoptera Hydrophilidae Helophorinae*. Gustav Fischer, Stuttgart, 244 pp.
- ANGUS, R. B. 1993. Spanish «endemic» *Ochthebius* as a British Pleistocene fossil. *Latissimus*, 2: 24-25.
- ANGUS, R. B. 1996. A reevaluation of the *Helophorus flavipes* group of species (Coleoptera, Hydrophiloidea) based on chromosomal analysis, larvae, and biology. *Nouv. Revue Ent. (N.S.)*, 13: 111-122.
- ANGUS, R. B. & DÍAZ PAZOS, J. A. 1991. *Helophorus jocoteroi* n.sp. from Northwest Spain (Coleoptera, Hydrophilidae). *Nouv. Revue Ent. (N.S.)*, 7(1990): 419-422.
- ANGUS, R. B., FRESNEDA, J. & FERY, H. 1992. A revision of the *Nebriporus carinatus* species complex. *Nouv. Revue Ent. (N.S.)*, 9: 287-303.
- ASKEVOLD, I. S. 1991. Classification, reconstructed phylogeny, and geographic history of the New World members of *Plateumaris* Thomson, 1859 (Coleoptera: Chrysomelidae: Donaciinae). *Mem. ent. Soc. Can.*, 157: 5-175.
- ASSO, I. de, 1784. *Introductio in Oryctographiam, et Zoologiam Aragoniae: Accedit Enumeratio stirpium in aedem Regione noviter detectarum*. Amsterdam, 192 pp., 7 pl.
- AUBÉ, C. 1837. Hydrocanthares. In: Dejean, Boisduval & Aubé. *Iconographie et histoire naturelle des coléoptères d'Europe, Vol. 5*. Paris: 65-224.
- AUBÉ, C. 1838. Hydrocanthares. In: Dejean, Boisduval & Aubé. *Iconographie et histoire naturelle des coléoptères d'Europe, Vol. 5*. Paris: 225-416. [See the footnote in Guignot 1933:548 about the published dates of Vol. 5 of the Iconographie].
- BÁGUENA, L. 1959. Cuatro novedades y un comentario sobre coleópteros de España. *Eos*, 35: 209-214.
- BÁGUENA, L. 1960. Los Donaciinae ibéricos de la colección del Instituto Español de Entomología. *Graellsia*, 18: 3-14.
- BALFOUR-BROWNE, F. 1958. *British water beetles, Vol. III*. The Ray Society, London, 210 pp.
- BALFOUR-BROWNE, J. 1978. Studies on the Hydraenidae (Coleoptera) of the Iberian Peninsula. *Ciën. Biol.*, 4: 53-107.
- BALKE, M. 1990. Zur Identität von *Hydroporus alienus* Sharp, 1872 (Coleoptera, Dytiscidae). *Elytron*, 3(1989): 113-114
- BALKE, M. & FERY, H. 1993. Taxonomic notes on Western Palearctic species of *Hydroporus* Clairville and *Coelambus* Thomson (Coleoptera: Dytiscidae). *Annls Soc. Entomol. Fr. (N.S.)*, 29: 89-101.
- BAMEUL, F. 1989. Description de *Rhithrodytes*, nouveau genre d'Hydroporinae d'Europe et d'Afrique du Nord: analyse phylogénétique et biogéographie (Coleoptera: Dytiscidae). *Annls Soc. Entomol. Fr. (N.S.)*, 25: 481-503.

- BAMEUL, F. 1997. Redécouverte en France d'*Hydaticus aruspex* Clark et notes sur l'identification des *Hydaticus* Leach de la faune Française (Coleoptera, Dytiscidae). *Bull. Soc. ent. France*, 102: 419-437.
- BERGE HENEGOUWEN, A. L. van, 1986. Revision of the European species of *Anacaena* Thomson (Coleoptera: Hydrophilidae). *Ent. scand.*, 17: 393-407.
- BERGE HENEGOUWEN, A. L. van, 1989. *Sphaeridium marginatum* reinstated as a species distinct from *S. bipustulatum* (Coleoptera: Hydrophilidae). *Ent. ber. Amst.*, 49: 168-170.
- BERGE HENEGOUWEN, A. L. van & SÁINZ-CANTERO, C. E. 1992. *Hydrochus nooreinus*, a new species from Spain (Coleoptera, Hydrochidae). *Storkia*, 1: 26-28.
- BERTHÉLEMY, C. 1962. Contribution a l'étude systématique des Elminthidae (Coléoptères). *Bull. Soc. Hist. nat. Toulouse*, 97: 201-225.
- BERTHÉLEMY, C. 1964. Elminthidae d'Europe occidentale et méridionale et d'Afrique du Nord (Coléoptères). *Bull. Soc. Hist. nat. Toulouse*, 99: 244-285.
- BERTHÉLEMY, C. 1966. Recherches écologiques et biogéographiques sur les Plecoptères et Coléoptères d'eau courante (*Hydraena* et Elminthidae) des Pyrénées. *Annls Limnol.*, 2: 227-458.
- BERTHÉLEMY, C. 1979. Elmidae de la région Palearctique occidentale: systematique et repartition (Coleoptera, Dryopoidea). *Annls. Limnol.*, 15: 1-102.
- BERTHÉLEMY, C. 1986. Remarks on the genus *Hydraena* and revision of the subgenus *Phoehydraena* (Coleoptera: Hydraenidae). *Annls Limnol.*, 22:181-193.
- BERTHÉLEMY, C., KADDOURI, A. & RICHOUX, P. 1992. Revision of the genus *Hydraena* Kugelann, 1794 from north Africa (Coleoptera, Hydraenidae). *Elytron*, 5(1991): 181-213.
- BERTHÉLEMY, C. & WHYTTON DA TERRA, L. S. 1977. Hydraenidae et Elmidae du Portugal (Coleoptera). *Annls. Limnol.*, 13: 29-45.
- BERTHÉLEMY, C. & WHYTTON DA TERRA, L. S. 1979. Hydraenidae et Elmidae du Portugal. Deuxième note (Coleoptera). *Bull. Soc. Hist. nat. Toulouse*, 115: 414-424.
- BERTRAND, H. 1949. Récoltes de Coléoptères aquatiques (Hydrocanthares) dans les Pyrénées; observations écologiques. *Bull. Soc. Zool. Fr.*, 74: 24-38.
- BERTRAND, H. 1954. Récoltes de Coléoptères aquatiques (Hydrocanthares) dans les massifs montagneux de l'Espagne: observations écologiques. *Bull. Soc. Zool. Fr.*, 79: 91-105.
- BERTRAND, H. 1955. Captures et élevages de Coléoptères aquatiques (16° Note). *Bull. Soc. ent. France*, 60: 50-59.
- BERTRAND, H. 1968. Récoltes de Coléoptères aquatiques en Espagne. *Entomologiste*, 24:65-73.
- BERTRAND, H. 1975. Récoltes de Coléoptères aquatiques en Espagne (Deuxième note). *Entomologiste*, 31: 11-15.
- BERTRAND, H. & LEGROS, C. 1955. Coléoptères aquatiques récoltés en montagne (I. Pyrénées). *Entomologiste*, 11: 33-39.
- BEUTEL, R. 1997. *Über Phylogese und Evolution der Coleoptera (Insecta), insbesondere der Adepaga*. Abhandlungen des Naturwissenschaftlichen Vereins in Hamburg (NF) 31, Goecke & Evers, Hamburg, 164 pp.
- BILTON, D. T. 1993. *Ochthebius lejolisi* Mulsant & Rey confirmed from the Iberian Peninsula. *Latissimus*, 3: 5.
- BILTON, D. T. & FERY, H. 1996. Revisional notes on *Rhithrodytes* Bameul, 1989, with the description of a new subspecies and the introduction of *Rhithrodytes dorsoplagiatus* (Fairmaire) as a valid species (Coleoptera, Dytiscidae). *Linzer biol. Beitr.*, 28: 917-931.
- BISTRÖM, O. 1982. A revision of the genus *Hyphydrus* Illiger (Coleoptera, Dytiscidae). *Acta Zool. Fennica*, 165: 1-121.
- BISTRÖM, O. 1983. Revision of the genera *Yola* Des Gozis and *Yolina* Guignot (Coleoptera, Dytiscidae). *Acta Zool. Fennica*, 176: 1-67.
- BISTRÖM, O. 1986. Review of the genus *Hydroglyphus* Motschulsky (= *Guignotus* Houlbert) in Africa (Col., Dytiscidae). *Acta Zool. Fennica*, 182: 1-56.
- BISTRÖM, O. 1997. Taxonomic revision of the genus *Hydrovatus* Motschulsky (Coleoptera, Dytiscidae). *Entomol. Basil.*, 19(1996): 57-584.
- BOLLOW, H. 1938. Monographie der palaearktischen Dryopidae mit Berücksichtigung der eventuell transgredierenden Arten (Col.). *Mitt. Münch. ent. Ges.*, 28: 319-371.

- BOLLOW, H. 1941. Monographie der palaearktischen Dryopidae mit Berücksichtigung der eventuell transgredierenden Arten (Col.). *Mitt. Münch. ent. Ges.*, 31: 1-88.
- BOSCÀ BERGA, F. 1932. *Los Coleópteros acuáticos de la región valenciana. Familia Hydrophilidae*. Imprenta José Olmos, Valencia, 15 pp.
- BRANCUCCI, M. 1981. *Deronectes latus* (Steph.) auch in Spanien (Coleoptera, Dytiscidae). *Mitt. Entomol. Ges. Basel.*, 31: 96.
- BRANCUCCI, M. 1983. A new *Deronectes* from Portugal (Coleoptera, Dytiscidae). *Entomol. Basil.*, 8: 138-140.
- BRINCK, P. 1943. Beitrag zur Kenntnis einiger kritischer Wasserkäfer-arten. *Nor. Ent. Tidsk.*, 6: 140-153.
- BRINCK, P. 1978. Gyrinidae. In: J. Illies (ed.) *Limnofauna europaea*. Gustav Fisher, Stuttgart: 290.
- BRISSOUT DE BARNEVILLE, H. 1863. Monographie des espèces européennes et algériennes du genre *Bagous*. *Ann. Soc. ent. Fr.*, 4 sér., 3: 491-524.
- BURMEISTER, E. G. 1983. *Agabus (Gaurodytes) hozgargantae* sp. nv. aus Südsanien (Coleoptera Dytiscidae). *Spixiana*, 6: 133-139.
- CALDARA, R. & O'BRIEN, C. W. 1998. Systematics and evolution of weevils of the genus *Bagous* VI. Taxonomic treatment of the species of the western Palearctic Region. *Mem. Soc. ent. ital.*, 76: 131-347.
- CASTRO, A. & DELGADO, J. A. 1998. Nuevos datos sobre el género *Hemisphaera* Pandellé, 1876 (Coleoptera: Hydrophilidae) en la Península Ibérica y norte de África. *Zool. Baetica*, 8(1997): 43-48.
- CASTRO, A. & DELGADO, J. A. *Hydrochus aljibensis* sp. n., una nueva especie del sur de la Península Ibérica (Coleoptera, Hydrochidae). *Boln. Asoc. esp. Ent.*, 23(1-2): in press.
- CASTRO, A., DELGADO, J. A., TEJEDO, M. & REQUES, R. 1996. Primera cita ibérica de *Ochthebius (s.str.) dentifer* Rey, 1885 (Coleoptera: Hydraenidae). *Boln. Asoc. esp. Ent.*, 20(3-4): 130.
- CHAMPION, G. C. 1902. An entomological excursion to central Spain. *Trans. Ent. Soc. London*, 115-129.
- CHAMPION, G. C. 1903. An entomological excursion to Bejar, central Spain. *Trans. Ent. Soc. London*, 165-182.
- CHAPMAN, T. A. & CHAMPION, G. C. 1907. Entomology in N.W. Spain (Galicia and Leon). *Trans. Ent. Soc. London*, 147-171
- CHEVROLAT, 1865. Description de Coléoptères d'Espagne, nouveaux ou peu connus. 1er Mémoire. *Rev. et Mag. de Zoologie*, 2 sér., 17: 347-352.
- CHIESA, A. 1959. *Hydrophilidae Europae (Coleoptera Palpicornia)*. Arnaldo Forni Editore, Bologna, 200 pp.
- CLARK, H. 1862. Descriptions of species of the genus *Hydroporus* Clairville new to the European & British catalogues. *J. Entomol.*, 1: 469-474.
- CORRÊA DE BARROS, J. M. 1913. Adições ao catalogo des Coleopteros de Portugal. *Broteria (Zool.)*, 11: 105-118.
- CORRÊA DE BARROS, J. M. 1916. Adições ao catalogo des Coleopteros de Portugal. *Broteria (Zool.)*, 14: 150-152.
- CORRÊA DE BARROS, J. M. 1926. Notas entomologicas. *Mem. est. Mus. Zool. Univ. Coimbra, ser. I*, 6: 1-10.
- CORRÊA DE BARROS, J. M. 1927. Notas entomologicas. Coleopteros novos para a fauna portuguesa. *Broteria (Zool.)*, 24: 141-143.
- CUNÍ, M. 1881. Excursión entomológica y botánica a la Cerdaña española (Cataluña). *An. Soc. esp. Hist. nat.*, 10: 367-389.
- CUNÍ, M. 1885. Excursión entomológica a varias localidades de la provincia de Gerona (Cataluña). *Actas Soc. esp. Hist. nat.*, 14: 51-73.
- CUNÍ, M. 1888. Insectos observados en los alrededores de Barcelona. *An. Soc. esp. Hist. nat.*, 17: 133-191.
- CUNÍ, M. & MARTORELL, M. 1876. *Catálogo metódico y razonado de los coleópteros observados en Cataluña*. Imprenta Gorchs, Barcelona, 360 pp.
- DELGADO, J. A. & SOLER, A. G. 1991. A new species of aquatic beetle of the genus *Hydraena* (Subgenus *Haenhydra*) from the Iberian Peninsula (Coleoptera: Hydraenidae). *Aq. Inse.*, 13: 217-222.
- DELGADO, J. A. & SOLER, A. G. 1997. Morphology and chaetotaxy of larval Hydraenidae (Coleoptera) III. The genus *Calobius* Wollaston, 1854. *Aq. Inse.*, 19: 165-175.

- DESBROCHERS DES LOGES, J. 1896. Description de huit espèces inédites de Curculionides de la faune européenne et circa-méditerranéenne appartenant au genre *Bagous* et d'un genre nouveau de la tribu des Hydronomides. *Le Frelon*, 5: 97-104.
- DETTNER, K. 1997a. *Süßwasserfauna von Mitteleuropa. Band 20 (3): Insecta Coleoptera Noteridae*. Gustav Fischer, Stuttgart, pp. 97-126.
- DETTNER, K. 1997b. *Süßwasserfauna von Mitteleuropa. Band 20 (4): Insecta Coleoptera Hygrobiidae*. Gustav Fischer, Stuttgart, pp. 127-147.
- DÍAZ PAZOS, J. A. & BILTON, D. T. 1995. *Hydraena (Haenydra) zezereensis* sp. nov. from the Iberian Peninsula (Coleoptera: Hydraenidae). *Entomol. Probl.*, 25(1994): 49-53.
- DÍAZ PAZOS, J. A. & GARRIDO, J. 1993. *Hydraena (Haenydra) altamirensis* sp.n. from the Iberian Peninsula (Coleoptera, Hydraenidae). *Aq. Inse.*, 15: 169-175.
- DIECK, G. 1870. Eine entomologische Wintercampagne in Spanien. *Berl. ent. Z.*, 14: 145-184.
- DIECKMANN, L. 1983. Beiträge zur Insektenfauna der DDR: Coleoptera - Curculionidae (Tanymecinae, Leptopiinae, Cleoninae, Tanyrhynchinae, Cossoninae, Raymondionyminae, Bagoinae, Tanysphyrinae). *Beitr. Ent., Berlin*, 33: 257-381.
- DODERO, A. 1918. Primo estudio delle specie europee del genero *Dryops* Oliv. *Ann. Mus. Civ. Stor. Nat. Giacomo Doria*, 8: 101-120.
- FERRER, F. 1904. Alguns micro-coleopters de Catalunya. *Butll. Inst. catal. Hist. nat.*, 8-9: 105-111.
- FERRO, G. 1984. Su alcuni *Ochthebius* della fauna spagnola (Coleoptera Hydraenidae). XIII Contributo allo studio degli Hydraenidae. *Bull. Annl. Soc. r. belge Ent.*, 120: 111-115.
- FERRO, G. 1986. Descrizione di due nuova specie d'Hydraenidae (Col. Palpicornia). XIX Contributo alla conoscenza degli Hydraenidae. *Boll. Soc. ent. Ital.*, 118: 135-138.
- FERY, H. 1986. *Agabus dettneri* n. sp. und *Agabus albarracinensis* n. sp., zwei neue Schwimmkäfer aus Südwest Europa (Coleoptera: Dytiscidae). *Ent. Z.*, 96: 342-348.
- FERY, H. 1987. *Hydroporus* (s.str.) *brancucci* n. sp. aus dem Nordwesten Portugals (Coleoptera: Dytiscidae). *Ent. Z.*, 97: 65-71.
- FERY, H. 1991. Revision der «*minutissimus*-Gruppe» der Gattung *Bidessus* Sharp (Coleoptera, Dytiscidae). *Entomol. Basil.*, 14: 57-91.
- FERY, H. 1992a. Revision der *saginitus*-Gruppe der Gattung *Coelambus* Thomson (Coleoptera: Dytiscidae). *Linzer biol. Beitr.*, 24: 339-358.
- FERY, H. 1992b. *Coelambus lagari* n.sp. und *Coelambus sanfilippoi* n.sp. aus dem westlichen Mittelmeergebiet. *Ent. Z.*, 102: 113-132.
- FERY, H. 1995. Notizen zur *aequalis*-Gruppe und weiteren Arten der Gattung *Graptodytes* Seidlitz, 1887 (Coleoptera: Dytiscidae). *Ent. Z.*, 105: 33-56.
- FERY, H. & BRANCUCCI, M. 1987. The costate species of the genus *Deronectes* Sharp (Coleoptera: Dytiscidae). *Mitt. schweiz. ent. Ges.*, 60: 63-72.
- FERY, H. & BRANCUCCI, M. 1989. A new subspecies of *Deronectes costipennis* Brancucci (Coleoptera, Dytiscidae). *Mitt. schweiz. ent. Ges.*, 62: 303-305.
- FERY, H. & BRANCUCCI, M. 1990. *Deronectes angusi* n.sp. aus Spanien (Coleoptera: Dytiscidae). *Ent. Z.*, 100: 413-432.
- FERY, H. & BRANCUCCI, M. 1997. A taxonomic revision of *Deronectes* Sharp, 1882 (Insecta: Coleoptera: Dytiscidae) (part I). *Ann. Naturhist. Mus. Wien.*, 99B: 217-302.
- FERY, H., DETTNER, K. & HENDRICH, L. 1985. Nachweis des Schwimmkäfers *Colymbetes schildknechti* Dettner, 1983 auf der Iberischen Halbinsel (Coleoptera: Dytiscidae). *Ent. Z.*, 95: 233-237.
- FERY, H. & FRESNEDA, J. 1988a. *Deronectes algibensis* n.sp. vom äußersten Süden Spaniens (Coleoptera: Dytiscidae). *Ent. Z.*, 98: 337-352.
- FERY, H. & FRESNEDA, J. 1988b. *Deronectes wewalkai* n.sp. aus Zentralspanien, eine weitere Art mit stark gerippten Flügeldecken (Coleoptera: Dytiscidae). *Ent. Z.*, 98: 241-256.
- FERY, H., FRESNEDA, J. & MILLÁN, A. 1996. Bemerkungen zur *Nebrioporus ceresyi*-gruppe sowie Beschreibung von *Nebrioporus schoedli* n.sp. (Coleoptera: Dytiscidae). *Ent. Z.*, 106: 306-328.
- FERY, H. & HENDRICH, L. 1988. Eine neue *Hydroporus*-Art vom Westen der Iberischen Halbinsel: *Hydroporus* (s.str.) *vespertinus* n. sp. (Coleoptera: Dytiscidae). *Ent. Z.*, 98: 145-160.

- FERY, H. & NILSSON, A. N. 1993. A revision of the *Agabus chalconatus*- and *erichsoni*- groups (Coleoptera: Dytiscidae), with a proposed phylogeny. *Ent. scand.*, 24: 79-108.
- FOSTER, G. N. 1992. A new species of *Rhithrodytes* Bameul (Coleoptera: Dytiscidae) from Portugal. *Aq. Inse.*, 14: 249-253.
- FOSTER, G. N. & BILTON, D. T. 1997. A new species of *Agabus* from south-west Portugal (Coleoptera: Dytiscidae). *Koleopt. Rdsch.*, 67: 113-118.
- FRANCISCOLO, M. E. 1966. Notes on Iberian Dytiscoidea, I: Methlinae Guignot, 1936 a subfamily of Dytiscidae (Coleoptera) apparently new to Europe. *Proc. R. Ent. Soc. Lond. B*, 35: 11-15.
- FRANCISCOLO, M. E. 1968. On a new species of *Hydaticus* from Portugal, with notes on Palearctic species. Notes on Iberian Dytiscoidea, II. *J. Nat. Hist.*, 2: 47-71.
- FRANCISCOLO, M. E. 1979. *Fauna d'Italia, Vol. XIV: Coleoptera Haliplidae, Hygrobiidae, Gyrinidae, Dytiscidae*. Edizioni Calderini, Bologna, 804 pp.
- FRANQUESA I SIVILLA, A. 1889. *Topografía médica de Mataró y su zona*. Tipografía de J. Balmas Planas. Barcelona, pp 145-172.
- FRESNEDA, J., AGUILERA, P. & HERNANDO, C. 1995. *Hydraena (Haenydra) catalonica* n.sp. (Coleoptera, Hydraenidae) de la Península Ibérica. *Zapateri, Rvta. aragon. ent.*, 4(1994): 81-86.
- FRESNEDA, J. & FERY, H. 1990. *Stictonectes occidentalis* n.sp. vom Südwestern der Iberischen Halbinsel (Coleoptera: Dytiscidae). *Ent. Z.*, 100: 73-92.
- FRESNEDA, J., FERY, H. & HERNANDO, C. 1997. Ein neuer Status für *Nebrioporus cazorlensis* (Lagar, Fresneda & Hernando, 1987) als Subspecies von *Nebrioporus bucheti* (Régimbar, 1898) sowie Designation von Lectotypen weiterer Arten der Gattung (Coleoptera: Dytiscidae). *Ent. Z.*, 107: 277-289.
- FRESNEDA, J. & HERNANDO, C. 1986. *Agabus (Gaurodytes) maestri* n. sp. (Coleoptera, Dytiscidae) del macizo pirenaico. *Misc. Zool.*, 10: 173-179.
- FRESNEDA, J. & HERNANDO, C. 1988. Los Hydradephaga de la Alta Ribagorza y Valle de Aragón (Coleoptera). *Eos*, 64: 17-55.
- FRESNEDA, J. & LAGAR, A. 1990. *Hydraena (Phothydraena) hernandoi* n.sp., nueva especie de España (Coleoptera, Hydraenidae). *Annlis Limnol.*, 26: 177-181.
- FRESNEDA, J., LAGAR, A. & HERNANDO, C. 1993. *Ochthebius (Asiobates) ferroi* n.sp. (Coleoptera, Hydraenidae) de la Península Ibérica. *Iberda «Ciències»*, 50(1992-1993): 53-58.
- FRESNEDA, J. & RIBERA, I. 1998. Revision of the *Limnebius nitidus* subgroup (Coleoptera: Hydraenidae), with description of two new species and comments on their phylogeny and biogeography. *Ent. scand.*, 29: 394-409.
- FUENTE, J. M. de la, 1919. Lista inédita de coleópteros de España. *Bol. R. Soc. esp. Hist. nat.*, 19: 178-188.
- FUENTE, J. M. de la, 1921. Catálogo sistemático-geográfico de los Coleópteros observados en la Península Ibérica, Pirineos propiamente dichos y Baleares (continuación). *Bol. Soc. ent. Esp.*, 4: 53-68, 74-89, 106-121.
- FUENTE, J. M. de la, 1925. Catálogo sistemático-geográfico de los Coleópteros observados en la Península Ibérica, Pirineos propiamente dichos y Baleares (continuación). *Bol. Soc. ent. Esp.*, 89-104, 106-121, 127-142.
- FUENTE, J. M. de la, 1929. Catálogo sistemático-geográfico de los Coleópteros observados en la Península Ibérica, Pirineos propiamente dichos y Baleares (continuación). *Bol. Soc. ent. Esp.*, 43-58, 84-99, 106-121.
- FUENTE, J. M. de la, 1932. Catálogo sistemático-geográfico de los Coleópteros observados en la Península Ibérica, Pirineos propiamente dichos y Baleares (continuación). *Bol. Soc. ent. Esp.*, 17-32.
- GANGLBAUER, L. 1892. *Die Käfer von Mitteleuropa. Die Käfer der österreichisch-ungarischen Monarchie, Deutschlands, der Schweiz sowie des französischen und italienischen Alpengebietes, Erster Band, Familienreihe Caraboidea*. Druck u. Verlag v. Carl Gerold's Sohn, Wien, 557 pp.
- GANGLBAUER, L. 1901. Beiträge zur Kenntnis der paläarktischen Hydrophiliden. *Verh. Zool. bot. Ges. Wien*, 51: 312-332.
- GARRIDO, J., DÍAZ, J. A. & RÉGIL, J. A. 1994a. Fauna acuática de la Comunidad Foral de Navarra (España) (Col., Adepaga y Polyphaga). *Bull. Soc. ent. France*, 99: 131-148.
- GARRIDO, J., FERNÁNDEZ, M. & RÉGIL, J. A. 1994b. Geographical distribution of Adepaga and Polyphaga (Coleoptera) in the Cantabrian Mountains (Spain): Specific richness and analysis of the altitude factor. *Arch. Hydrobiol.*, 131: 353-380.

- GARRIDO, J. & RÉGIL, J. A. 1989. Estudio biogeográfico del género *Hydroporus* Clairville, 1806 (Coleoptera, Dytiscidae) en la provincia fitogeográfica orocantábrica (Cordillera Cantábrica, España). In: *Abstracts Volume*. International Congress of Coleopterology, Barcelona: 104-105.
- GARRIDO, J. & RÉGIL, J. A. 1994. Fauna acuática de la cordillera Cantábrica. I. El gen. *Hydroporus* Clairville, 1806 en la provincia fitogeográfica Orocantábrica (Coleoptera, Dytiscidae). *Boll. Soc. ent. ital.*, 126: 9-30.
- GARRIDO, J., VALLADARES, L. F. & RÉGIL, J. A. 1988. Sobre la presencia de *Hydraena* (*Hydraena*) *reyi* Kuwert, 1888 en la Península Ibérica. *Boln. Asoc. esp. Ent.*, 12: 368.
- GARRIDO, J., VALLADARES, L. F. & RÉGIL, J. A. 1991. *Hydraena* (*Haenydra*) *polita* Kiessenwetter, 1849, nueva para la fauna de la Península Ibérica. *Boll. Soc. ent. ital.*, 122: 205-210.
- GARRIDO, J., VALLADARES, L. F. & RÉGIL, J. A. 1992. *Ochthebius* (*Asiobates*) *figueroi* n.sp. in the north of Spain (Col., Hydraenidae). *Entomol. Basil.*, 14(1991): 93-99.
- GEMMINGER, H. & HAROLD, B. 1868. *Catalogus Coleopterorum hucusque descriptorum synonymicus et systematicus. Tom. II*. E. H. Gummi, Monachii, pp 425-752.
- GENTILI, E. 1974. Descrizioni di nuove entità appartenenti al genere *Laccobius* erichson, 1837 e proposta per un nuovo inquadramento sottogenerico. *Mem. Mus. Civ. St. Nat. Verona*, 20(1972): 549-565.
- GENTILI, E. 1989. Alcune novità sul genere *Laccobius* (Coleoptera, Hydrophilidae). *Osservatorio di fisica terrestre e Museo Antonio Stoppani del Seminario Arcivescovile di Milano (n.s.)*, 10(1987): 31-39.
- GENTILI, E. & CHIESA, A. 1975. Revisione dei *Laccobius* Palearctici (Coleoptera Hydrophilidae). *Mem. Soc. ent. ital.*, 54: 1-187.
- GENTILI, E. & RIBERA, I. 1998. Description of *Laccobius gloriana* sp.n., and notes on *L. ytenensis* Sharp, 1910 and *L. atrocephalus* Reitter, 1872 (Insecta: Coleoptera: Hydrophilidae). *Ann. Naturhist. Mus. Wien.*, 100B: 193-198.
- GONZÁLEZ, M. 1967. Contribución al conocimiento de los Curculiónidos del Mediterráneo occidental. *Mis. Zool.*, 2: 95-100.
- GONZÁLEZ, M. 1971. Sobre el subgénero *Parabagous* Schilsky. *P. Inst. Biol. Apl.*, 50: 5-16.
- GÓRRIZ, R. J. 1902. Coleópteros de la cuenca del Ebro existentes en la colección de D. Ricardo J. Górriz. *Bol. soc. aragon. Cienc. nat.*, 1: 51-52.
- GRAËLLS, M. P. 1846. Description de cinq espèces nouvelles de coléoptères d'Espagne. *Rev. Zool.*, 217-218.
- GRAËLLS, M. P. 1847. Description de cinq espèces nouvelles de coléoptères d'Espagne. *Annls. Soc. ent. Fr.*, 5: 309-314.
- GRAËLLS, M. P. 1858. Insectos nuevos de España, descubiertos y descritos por el Dr. M. de la Paz Graëlls. *Mem. Comisión Mapa Geológico España (año de 1855)*: 36-112.
- GRÄF, H. 1986. Kleine Mitteilungen 2074, Interessante Funde aus dem Mittelmeergebiet (Carab., Dytisc., Hydraen.). *Entomol. Bl.*, 82: 128.
- GUERRERO, M. C., MILLÁN, A., VELASCO, J., MORENO, J. L., SUÁREZ, M. L. & VIDAL-ABARCA, M. R. 1996. Aproximación al conocimiento de la dinámica espacio-temporal de la comunidad de invertebrados acuáticos en un tramo de río de características semiáridas (río Chícamo: cuenca del río Segura). In: *Tomo Extraordinario, 125 Aniversario de la RSEHN*. Real Sociedad Española de Historia Natural, Madrid: 99-102.
- GUIGNOT, F. 1933. *Les Hydrocanthares de France. Hygrobiidae, Haliplidae, Dytiscidae et Gyrinidae de la France continentale, avec notes sur les espèces de la Corse et de l'Afrique du Nord française*. Miscellanea Entomologica, Toulouse, 1057 pp.
- GUIGNOT, F. 1947. *Faune de France Vol. 48: Coléoptères Hydrocanthares*. Lechevalier, Paris, 287 pp.
- GUIGNOT, F. 1959. Revision des Hydrocanthares d'Afrique (Coleoptera Dytiscoidea). Deuxième partie. *Ann. Mus. Royal. Congo Belge., Sér. in 8°, Sci. Zool.*, 70: 323-648.
- HANNAPPEL, U. & PAULUS, H. F. 1997. Larvenkenntnis und Verbreitung der Scirtidae in der westlichen Paläarktis mit einem Bestimmungsschlüssel europäischer Larven der Gattung *Elodes* Latreille, 1796 (Coleoptera: Scirtidae). *Koleopt. Rdsch.*, 67: 225-251.
- HANSEN, M. 1982. Revisional notes on some European *Helochares* Muls. (Coleoptera, Hydrophilidae). *Ent. scand.*, 13: 201-211.

- HANSEN, M. 1987. *Fauna Entomologica Scandinavica Vol.18: The Hydrophiloidea (Coleoptera) of Fennoscandia and Denmark*. Scandinavian Science Press Ltd., Copenhagen, 254 pp.
- HANSEN, M. 1991. The Hydrophiloid beetles. Phylogeny, classification and a revision of the genera (Coleoptera, Hydrophiloidea). *Biol. Skr. Dan. Vid. Selsk.*, 40: 1-367.
- HANSEN, M. 1997. Phylogeny and classification of the staphiliniform beetle families (Coleoptera). *Biol. Skr. Dan. Vid. Selsk.*, 48: 1-339.
- HANSEN, M. 1998. *World Catalogue of Insects Vol. I. Hydraenidae (Coleoptera)*. Apollo Books, Stenstrup, 168 pp.
- HANSEN, M. & HEBAUER, F. 1988. A new species of *Helochares* from Israel, with a key to the European and some Near East species (Coleoptera: Hydrophilidae). *Ent. scand.*, 19: 27-30.
- HEBAUER, F. 1990. Zwei neue paläarktische Arten der Gattung *Ochthebius* Subgen. *Enicocerus* Stephens, 1829. *Nachbl. bayer. Ent.*, 39: 26-29.
- HEBAUER, F. 1992. The species of the genus *Chasmogenus* Sharp, 1882 (Coleoptera, Hydrophilidae). *Acta Coleop.*, 7: 61-92.
- HEBAUER, F. 1993. European *Chaetarthria. Latissimus*, 3: 1-3.
- HEBAUER, F. 1996. Synopsis der afrikanischen Arten des Gattung *Helochares* Mulsant (Coleoptera, Hydrophilidae). *Acta Coleop.*, 12: 3-38.
- HEBAUER, F. & VALLADARES, L. F. 1985. *Ochthebius (Enicocerus) legionensis* sp. n. from Spain (Coleoptera, Hydraenidae). *Aq. Inse.*, 7: 161-164.
- HEBAUER, F. & KLAUSNITZER, B. 1998. *Süßwasserfauna von Mitteleuropa. Band 20 (7,8,9,10-1): Insecta Coleoptera Hydrophiloidea (exkl. Helophorus)*. Gustav Fischer, Stuttgart, 134 pp.
- HERNANDO, C. 1986. Hydrophilidae. In: J. Terrades & J. Miralles (eds.). *El patrimoni biològic del Montseny*. Catàlegs de flora i fauna, 1. Diputació de Barcelona, Barcelona: 145.
- HERNANDO, C. & AGUILERA, P. 1995. Nuevos datos sobre Dytiscidae (Coleoptera) para la Península Ibérica. *Zapateri Revta. aragon. ent.*, 4(1994): 45-48.
- HERNANDO, C., AGUILERA, P. & RIBERA, I. *Bothriophorus atomus* Mulsant & Rey, 1852 nuevo para la península Ibérica (Coleóptera, Limnichidae). *Orsis*, in press.
- HERNANDO, C. & FRESNEDA, J. 1994. *Limnoxenus olmoi* sp.n. de la Península Ibérica (Coleoptera: Hydrophilidae). *Elytron*, 7(1993): 81-85.
- HERNANDO, C. & FRESNEDA, J. 1996. *Hydroporus constantini* n. sp. de la Península Ibérica (Coleoptera, Dytiscidae). *Nouv. Revue Ent. (N.S.)*, 13: 155-161.
- HERNANDO, C., RIBERA, I., AGUILERA, P. & FRESNEDA, J. 1997. *Enochrus (Lumetus) fulcarius* Hebauer, 1991 new for continental Europe (Coleoptera, Hydrophilidae). *Nouv. Revue Ent. (N.S.)*, 14: 133-134.
- HEYDEN, L. von. 1870. Entomologische Reise nach dem südlichen Spanien, der Sierra Guadarrama und Sierra Morena, Portugal und den Cantabrischen Gebirgen. *Berl. Entomol. Z.*, 14: 1-218.
- HEYDEN, L. von. 1880. Verzeichniß von Coleoptera aus Asturien, mit Beshreibungen neuer Arten von Candèze, v. Heyden, Kirsch, Kraatz, Stierlin. *Deut. Ent. Z.*, 24: 281-303.
- HOLMEN, M. 1987. *Fauna Entomologica Scandinavica, Vol. 20: The aquatic Adephaga (Coleoptera) of Fennoscandia and Denmark I. Gyrinidae, Haliplidae, Hygrobiidae and Noteridae*. Scandinavian Science Press Ltd., Copenhagen, 168 pp.
- HORION, A. 1955. Faunistik der Mitteleuropaischen Käfer. *Ent. Arb. Mus. Georg. Frey*, 4: 1-280.
- HUIJBREGTS, H. 1982. De Nederlandse soorten van het genus *Cercyon* Leach (Coleoptera, Hydrophilidae). *Zool. Bijdr.*, 28: 127-173.
- IENIESTEVA, M. A. 1985. Deux *Hydraena* nouveaux d'Espagne (Coleoptera, Hydraenidae). *Rev. suisse Zool.*, 92: 631-633.
- IENIESTEVA, M. A. 1988. Vorläufige Beiträge zur Revision einiger Ochthebiidae (Coleoptera). *Lucratire celei de a IV-a Confer. Nat. Ent. Cluj-Napoca*, 217-238.
- IGLESIAS, L. 1921. Enumeración de los curculiónidos de la Península Ibérica e Islas Baleares (Continuación). *Rev. R. Acad. Cienc. Exact. Fis. Nat. Madrid*, 2 ser., 19(1920): 109-128.
- ILLIES, J. 1978. Helodidae. In: J. Illies (ed.). *Limnofauna Europaea*. Gustav Fisher, Stuttgart: 323-325.
- ISART, J., RIBERA, I., HERNANDO, C. & VALLE, M. A. N. 1989. Aportació al coneixement de l'entomofauna aquàtica del Montseny: revisió i contribució al coneixement dels coleòpters. In: *II Trobada d'estudiosos del Montseny*. Diputació de Barcelona, Col.lecció Monografies No.18, Barcelona: 35-42.

- JÄCH, M. A. 1983. Woher stammt *Ludyella corticariiformis* Reitter, 1899? *Z. ArbGem. öst. Ent.*, 35: 47-48.
- JÄCH, M. A. 1989a. Revision of the Palearctic species of the genus *Ochthebius* Leach II. The subgenus *Cobalius* Rey (Hydraenidae, Coleoptera). *Z. ArbGem. öst. Ent.*, 41:41-51.
- JÄCH, M. A. 1989b. Revision of the Palearctic species of the genus *Ochthebius* Leach. I. The so called subgenus «*Botochius*» (Hydraenidae, Coleoptera). *Koleopt. Rdsch.*, 59: 95-126.
- JÄCH, M. A. 1989c. Revision of the Palearctic species of the genus *Ochthebius* Leach III. The *metallescens*-group (Hydraenidae, Coleoptera). *Linzer biol. Beitr.*, 21: 351-390.
- JÄCH, M. A. 1990. Revision of the Palearctic species of the genus *Ochthebius* Leach V. The subgenus *Asiobates* (Coleoptera: Hydraenidae). *Koleopt. Rdsch.*, 60: 37-105.
- JÄCH, M. A. 1991. Revision of the Palearctic species of the genus *Ochthebius* VII. The *foveolatus* group (Coleoptera: Hydraenidae). *Koleopt. Rdsch.*, 61: 61-94.
- JÄCH, M. A. 1992a. Revision of the Palearctic species of the genus *Ochthebius* Leach. VII. The subgenus *Enicocerus* Stephens (Coleoptera: Hydraenidae). *Elytron*, 5(1991): 139-158.
- JÄCH, M. A. 1992b. Revision of the Palearctic species of the genus *Ochthebius* Leach X. the *punctatus* species group (Hydraenidae: Coleoptera). *Bull. Annl. Soc. r. belge Ent.*, 128: 167-195.
- JÄCH, M. A. 1992c. Revision of the Palearctic species of the genus *Ochthebius* Leach, 1815. IX. The *andraei* and *notabilis* species groups (Coleoptera, Hydraenidae). *NachrBl. bayer. Ent.*, 41: 7-21.
- JÄCH, M. A. 1992d. Revision of the Palearctic species of the genus *Ochthebius* Leach VI. the *marinus* group (Hydraenidae, Coleoptera). *Entomol. Basil.*, 14(1991): 101-145.
- JÄCH, M. A. 1993a. Taxonomic revision of the Palearctic species of the genus *Limnebius* Leach, 1815 (Coleoptera: Hydraenidae). *Koleopt. Rdsch.*, 63: 99-187.
- JÄCH, M. A. 1993b. Revision of the Palearctic species of the genus *Ochthebius* XI. The subgenus *Calobius* Wollaston, 1854 (Insecta: Coleoptera: Hydraenidae). *Reichenbachia*, 30: 33-45.
- JÄCH, M. A. 1994a. New and little known Palearctic species of the genus *Hydraena* (s.l.) Kugelann II (Coleoptera: Hydraenidae). *Entomol. Probl.*, 25: 37-46.
- JÄCH, M. A. 1994b. Revision der paläarktischen Arten der Gattung *Ochthebius* Leach. XIII. Beschreibung neuer Arten aus Spanien, der Türkei, Rußland und China. *Ann. Naturhist. Mus. Wien*, 96B: 199-208.
- JÄCH, M. A. 1997. Revision of the Palearctic species of the genus *Ochthebius* Leach XIV. Additional notes on the *O. punctatus* group, with description of two new species (Coleoptera: Hydraenidae). *Koleopt. Rdsch.*, 67: 177-180.
- JÄCH, M. A., AGUILERA, P. & HERNANDO, C. 1998a. New and little known Palearctic species of the genus *Hydraena* (s.l.) V (Coleoptera: Hydraenidae) *Ent. Probl.*, 29: 99-105.
- JÄCH, M. A., RIBERA, I. & AGUILERA, P. 1998b. Revision of the Palearctic species of the genus *Ochthebius* Leach (Coleoptera: Hydraenidae) XV. Additional notes on the *lobicollis* group. *Aq. Inse.*, 20: 197-202.
- JOLIVET, P. 1968. Les Donaciinae de l'Afrique du Nord (Col. Chrysomelidae). *Bull. men. Soc. Linn. Lyon*, 37: 307-315.
- KIESENWETTER, E. A. H. von, 1850. Fünfzig Diagnosen unbeschriebener oder wenig bekannter Europäischer Käfer. *Stett. Ent. Zeitg.*, 7: 217-225.
- KIESENWETTER, E. A. H. von, 1851. Enumeration des Coléoptères trouvés dans le Midi de la France et en Catalogne. *Ann. Soc. Ent. Fr.*, 9: 577-656.
- KIESENWETTER, E. A. H. von, 1866. Eine entomologische Exkursion nach Spanien im Sommer 1865. *Berl. Ent. Z.*, 9(1865): 359-396.
- KIESENWETTER, E. A. H. von, 1866. Beiträge zur Käferfauna Spaniens. (Erstes Stück.) Malacodermata, Melyridae. *Berl. Ent. Z.*, 10: 241-274.
- JÄCH, M. A. 1999. Revision of the Palearctic species of the genus *Ochthebius* Leach. XVI. Additional notes on the *metallescens* group (Coleoptera: Hydraenidae). *Koleopt. Résh.*, 69: in press.
- KLAUSNITZER, B. 1990. Bemerkenswerte Funde von Helodidea in Europa (Col. Helodidae) und Beschreibung von sechs neuen Arten der Gattung *Helodes* Latreille. *Ent. Nachr. Ber.*, 34: 237-254.
- KLAUSNITZER, B. 1998. On the *Cyphon* species described by Henri Tournier (Coleoptera: Scirtidae). *Beitr. Ent.*, 48(2): 411-415.
- KOCHER, L. 1958. Catalogue commenté des Coléoptères du Maroc. Fascicule II. *Trav. Inst. Sci. Cherif., Sér. Zool.*, 14: 1-246.

- KRAATZ, G. 1869. Ueber deutsche Donacien. *Berl. Ent. Z.*, 13: 263-272.
- KÜSTER, H. C. 1847. *Die Käfer Europas. 12. Heft.* Bauer & Raspe, Nürnberg.
- KÜSTER, H. C. 1848a. *Die Käfer Europas. 13. Heft.* Bauer & Raspe, Nürnberg.
- KÜSTER, H. C. 1848b. *Die Käfer Europas. 14. Heft.* Bauer & Raspe, Nürnberg.
- KÜSTER, H. C. 1849. *Die Käfer Europas. 18. Heft.* Bauer & Raspe, Nürnberg.
- KÜSTER, H. C. 1852. *Die Käfer Europas. 25. Heft.* Bauer & Raspe, Nürnberg.
- KUWERT, A. 1885. Beiträge zur Kenntniss der Helophoren aus Europa und den angrenzenden Ländern (Fortsetzung). *Wiener ent. Zeitg.*, 4: 261-264.
- KUWERT, A. 1886a. General-Uebersicht der Helophorinen Europas und der angrenzenden Gebiete. *Wiener ent. Zeitg.*, 5: 221-228.
- KUWERT, A. 1886b. General-Uebersicht der Helophorinen Europas und der angrenzenden Gebiete (Fortsetzung und Schluss.). *Wiener ent. Zeitg.*, 5: 281-285.
- KUWERT, A. 1887. Übersicht der europäischen *Ochthebius*-Arten. *Dtsch. Entomol. Z.*, 31: 369-401 + 4 pl.
- KUWERT, A. 1888a. Generalübersicht der *Philhydrus*-Arten Europas und der Mittelmeerfauna. *Dtsch. Entomol. Z.*, 32: 273-293.
- KUWERT, A. 1888b. Generalübersicht der Hydraenen der europäischen Fauna. *Dtsch. Entomol. Z.*, 32: 113-123.
- KUWERT, A. 1890a. Bestimmungs-Tabellen der Parniden Europas der Mittelmeerfauna sowie der angrenzenden Gebiete. *Verh. Zool. Bot. Ges. Wien*, 40: 15-58.
- KUWERT, A. 1890b. *Bestimmungs-Tabellen der europäischen Coleopteren. XXII Heft. Enthaltend die Familie der Heteroceridae.* E. Reitter, Wien, 34 pp.
- KUWERT, A. 1890c. Bestimmungs Tabelle der Hydrophiliden Europas, Westasiens und Nordafrikas. *Verh. Naturf. Ver. Brünn*, 28(1889): 3-122, 159-328.
- LACORDAIRE, M. T. 1845. Monographie des Coléoptères subpentamères de la famille des Phytophages. Vol. 1. *Mém. Soc. Roy. Sci. Liege*, 3(1): 1-LIII, 1-740.
- LADEIRO, J. M. 1949. Os Hydrocântharos e os Hidrofilídeos portugueses do Museo Zoológico da Universidade de Coimbra. *Mem. Estud. Mus. zool. Univ. Coimbra*, 189: 1-24.
- LAGAR, A. 1984. Palpicornia del curso superior del río Algars (Tarragona-Teruel) (Coleoptera). *Graellsia*, 40: 7-17.
- LAGAR, A. 1987. Palpicornia del alto valle del río Brugent (Gerona) (Coleoptera). *Graellsia*, 63: 29-37.
- LAGAR, A. & FRESNEDA, J. 1990. Notas faunísticas y taxonómicas sobre Hydraenidae (Coleoptera, Palpicornia) de la Península Ibérica: descripción de nuevas *Hydraena* ibéricas. *Bull. Inst. r. Sc. Nat. Belg.*, 60: 149-160.
- LAGAR, A., FRESNEDA, J. & HERNANDO, C. 1987a. Un *Potamonectes* nuevo de la sierra de Cazorla (Jaén) (Coleoptera, Dytiscidae). *Eos*, 63: 93-96.
- LAGAR, A., FRESNEDA, J. & HERNANDO, C. 1987b. Nueva especie de *Hydraena* Kugelann, 1794 del Parque Nacional de la Sierra de Cazorla, Jaén, España (Coleoptera: Hydraenidae). *Annl. Limnol.*, 23: 147-150.
- LAWRENCE, J. F. & NEWTON, A. F. Jr. 1995. Families and subfamilies of Coleoptera (with selected genera, notes, references and data on family-group names). In: J. Pakaluk & S. A. Slipinski (eds). *Biology, phylogeny, and classification of Coleoptera: papers celebrating the 80th birthday of Roy A. Crowson.* Museum i Instytut Zoologii PAN, Warszawa: 779-1006.
- LEE, C. F. & JÄCH, M. A. 1996. Review of the genera *Eubria* Latreille and *Microeubria* Lee and Yang (Coleoptera: Psephenidae: Eubriinae). *Coleopt. Bull.*, 50: 39-51.
- LEGROS, C. 1956. Un *Deronectes* nouveau d'Espagne (Coleoptera, Dytiscidae). *Bull. Soc. Ent. Francé*, 61: 134-136.
- LÉON-HILAIRE, F. 1924. Contribution à la Faune Entomologique de la Catalogne. Notes de Chasse sur les Coléoptères du Val d'Aran. Aquicoles. *Buttl. Inst. cat. Hist. nat.*, 2a ép., 4: 115-120.
- LINDBERG, H. 1939. Inventa entomologica itineris Hispanici et Maroccani quod a 1926 fecerunt Harald et Hakan Lindberg. XXIII. In Spanien und Marokko gefundene Coleoptera Adephaga. *Soc. Scient. Fenn., Comm. Biol.* V, 7: 1-35.

- MAKHAN, D. 1996. Descriptions of three new species of *Hydrochus* (Coleoptera: Hydrochidae). *Phegea*, 24: 183-185.
- MARTÍNEZ Y SÁEZ, F. 1873. Datos sobre algunos coleópteros de los alrededores de Cuenca. *An. Soc. esp. Hist. nat.*, 2: 53-75.
- MARTORELL, M. 1879. *Catálogo sinonímico de los insectos encontrados en Cataluña aumentados con los recientes hallados por el autor en los diversos órdenes de coleópteros, hemípteros, himenópteros, ortópteros, lepidópteros, dípteros y neurópteros*. Sucesores de N. Ramírez y cía., Barcelona, 201 pp.
- MASCAGNI, A. *Süßwasserfauna von Mitteleuropa. Band 20: Insecta Coleoptera Heteroceridae*. Gustav Fischer, Stuttgart, in press.
- MATEU, J. 1954. Coleópteros de Sierra Nevada. Familias: Dytiscidae, Hydrophilidae, Dryopidae, Catopidae, Silphidae, Pselaphidae, Histeridae, Cleridae, Cantharidae, Dasytidae, Aderidae, Anthicidae. *Archos Inst. Acim.*, Almería, 2: 89-101.
- MATTHEWS, A. 1899. *A monograph of the coleopterous families Corylophidae and Sphaeriidae*. P. B. Mason ed., London, 220 pp. 9 pls.
- MEDINA, M. 1895. Coleópteros de Andalucía existentes en el Museo de Historia Natural de la Universidad de Sevilla, clasificados por D Francisco de P. Martínez y Sáez. *Actas Soc. esp. Hist. nat.*, 24: 25-61.
- MENZIES, I. S. & COX, M. L. 1996. Notes on the natural history, distribution and identification of British reed beetles. *Brit. j. Ent. Nat. Hist.*, 9: 137-162.
- MILLÁN, A., RIBERA, I., FOSTER, G. N. & SÁNCHEZ-MECA, J. J. 1998. Distribution of *Laccobius atrocephalus atrocephalus* Reitter, 1872 and *L. atrocephalus ytenensis* Sharp, 1910 in the Iberian Peninsula (Coleoptera, Hydrophilidae). *Misc. Zool.*, 20: 113-117.
- MILLÁN, A., RIBERA, I., FRESNEDA, J. & FERY, H. 1997. *Agabus brunneus* (Fab.) a circum-Mediterranean species complex. *Latissimus*, 9: 2-5.
- MILLÁN, A. & SOLER, A. G. 1990. *Herophydrus musicus* (Klug, 1833), primera cita para la Península Ibérica (Coleoptera, Dytiscidae). *Boln. Asoc. esp. Ent.*, 14: 272.
- MONTES, C. & SOLER, A. G. 1985. *Canthydrus diophthalmus* (Reiche & Saulcy, 1855), nuevo Noterinae para el continente europeo. *Annali Mus. civ. Stor. nat. Giacomo Doria*, 85: 187-199.
- MONTES, C. & SOLER, A. G. 1986. *Lista faunística y bibliográfica de los Coleópteros acuáticos Dryopoidea (Dryopidae & Elmidae) de la Península Ibérica e Islas Baleares*. Asociación Española de Limnología, Listas de la Flora y Fauna de las Aguas Continentales de la Península Ibérica Nº 3, Madrid, 38 pp.
- MONTES, C. & SOLER, A. G. 1988. A new species of the genus *Ochthebius* (Subgenus *Calobius*) (Coleoptera: Hydraenidae) from Iberian hypersaline waters. *Aq. Inse.*, 10: 43-47.
- MORÓDER, E. 1919. [Anuncio de un *Cercyon* nuevo de Valencia]. *Bol. R. Soc. esp. Hist. nat.*, 19: 338-339.
- MORÓDER, E. 1923. Coleópteros del lago de la Albufera de Valencia. *Bol. R. Soc. esp. Hist. nat.*, 23: 70-73.
- MORÓDER, E. 1924. *Coleópteros acuáticos de la región valenciana*. Anales del Instituto Nacional de 2ª Enseñanza de Valencia, Trabajo del Laboratorio de Hidrobiología Española nº 21, Valencia, 12 pp.
- MOTSCHULSKY, V. von. 1849. Coléoptères reçus d'un voyage de M. Handschuch dans le midi de l'Espagne. *Bull. Soc. Imp. Natur. Mosc.*, 22(3): 52-163.
- MULSANT, E. 1844. *Historie Naturelle des Coléoptères de France. Part III, Palpicornes*. Paris, 196 pp.
- NARDI, G. 1998. *Hygrotus lagari* (Fery), a species new to France. *Latissimus*, 10: 14.
- NILSSON, A. N. 1998. Ádám's checklist of Hungarian Dytiscidae and the stability of nomenclature. *Latissimus*, 10: 1-3.
- NILSSON, A. N. & ANGUS, R. B. 1992. A reclassification of the *Deronectes*-group of genera (Coleoptera: Dytiscidae) based on a phylogenetic study. *Ent. Scand.*, 23: 275-288.
- NILSSON, A. N. & HOLMEN, M. 1995. *Fauna Entomologica Scandinavica, Vol. 32: The Aquatic Adepaga (Coleoptera) of Fennoscandia and Denmark. II. Dytiscidae*. Scandinavian Science Press Ltd., Copenhagen, 188 pp.
- NILSSON, A. N. & ROUGHLEY, R. R. 1997. A classification of the family Dytiscidae (Coleoptera). *Latissimus*, 8: 1-4.
- NYHOLM, T. 1964. *Cyphon putoni* Bris. und mit ihm nächstverwandte Arten (Col. Helodidae). Studien über die Familie Helodidae. VII. *Opusc. Ent.*, 29: 41-56.
- NYHOLM, T. 1967. Zur Kenntnis der Gattung *Hydrocyphon* Redtenbacher (Col. Helodidae). Studien über die Familie Helodidae. VIII. *Opusc. Ent.*, 32: 9-48.

- NYHOLM, T. 1972. Drei neue *Hydrocyphon*-Arten aus dem Mittelmeergebiet (Coleoptera). *Ent. scand.*, 3: 33-39.
- NYHOLM, T. 1976. Neue paläarktische Arten der Gattung *Cyphon* Paykully. V. (Coleoptera: Helodidae). (Studien über die Familie Helodidae. XVII). *Ent. scand.*, 7: 283-292.
- NYHOLM, T. 1977. Beiträge zur Kenntnis der paläarktischen Helodiden 6-7. Studien über die Familie Helodidae XVIII-XIX. *Ent. scand.*, 8: 97-108.
- OLIVEIRA, P. 1882. *Catalogue des Insectes du Portugal. Coleopteres*. Imprensa da Universidade de Coimbra, Coimbra, 393 pp.
- OLMI, M. 1972. The Palearctic species of the genus *Dryops* Olivier (Coleoptera, Dryopidae). *Boll. Mus. Zool. Univ. Torino*, 5: 69-132.
- OLMI, M. 1976. *Fauna d'Italia Vol. XII: Coleoptera Dryopidae-Elminthidae*. Edizioni Calderini, Bologna, 280 pp.
- d'ORCHYMONT, A. 1925a. Contribution à l'étude des Hydrophilides II. *Bull. Ann. Soc. Ent. Belg.*, 65: 139-169.
- d'ORCHYMONT, A. 1925b. Contribution à l'étude des Hydrophilides III. *Bull. Ann. Soc. Ent. Belg.*, 65: 261-295.
- d'ORCHYMONT, A. 1930. Nouvelles notes sur quelques *Hydraena* paléarctiques. *Bull. Ann. Soc. Ent. Belg.*, 70: 218-228.
- d'ORCHYMONT, A. 1934a. Notes sur quelques Hélophores paléarctiques et néarctiques (Col. Palpic.). *Bull. Ann. Soc. Ent. Belg.*, 74: 251-261.
- d'ORCHYMONT, A. 1934b. Contribution à l'étude des *Hydraena* du sud de la France. *Bull. Mus. roy. Hist. nat. Belg.*, 10(46): 1-29.
- d'ORCHYMONT, A. 1935. Inventa entomologica itineris Hispanici et Maroccani quod in 1926 facerunt Harald et Hakan Lindberg. XXIII. Palpicornia. *Soc. Scient. Fenn., Comm. Biol.*, V. 1: 1-22.
- d'ORCHYMONT, A. 1936a. Quelques synonymies nouvelles d'Hydrophilidae (Col.). *Bull. Mus. roy. Hist. nat. Belg.*, 12(23): 1-29.
- d'ORCHYMONT, A. 1936b. Revision des «*Coelostoma*» (s.str.) non Américains. *Mém. Mus. roy. Hist. nat. Belg. 2 sér.*, 7: 1-38.
- d'ORCHYMONT, A. 1936c. Les *Hydraena* de la Péninsule Ibérique. *Mém. Mus. roy. Hist. nat. Belg.*, 2 sér., 6: 1-49.
- d'ORCHYMONT, A. 1938. Notes sur quelques *Limnebius*. *Bull. Anns. Soc. Ent. Belg.*, 78: 275-291.
- d'ORCHYMONT, A. 1940. Les Palpicornia des îles Atlantiques. *Mém. Mus. roy. Hist. nat. Belg. 2 sér.*, 20: 1-86.
- d'ORCHYMONT, A. 1941a. Palpicornia (Coleoptera). Notes diverses et espèces nouvelles. I. *Bull. Mus. roy. Hist. nat. Belg.*, 17(1): 1-23.
- d'ORCHYMONT, A. 1941b. Nouvelles notes sur quelques *Ochthebius* paléarctiques du sous-genre *Asiobates* (Coleoptera: Hydraenidae). *Bull. Mus. roy. Hist. nat. Belg.*, 17(8): 1-23.
- d'ORCHYMONT, A. 1942. Le groupe de l'*Ochthebius* (*Hymenodes*) *metallescens* Rosenhauer (Coleoptera Palpicornia Hydraenidae). *Bull. Mus. roy. Hist. nat. Belg.*, 18(51): 1-16.
- d'ORCHYMONT, A. 1943. Notes sur la tribu Berosini Bedel. (Coleoptera Palpicornia Hydrophilidae). *Bull. Mus. roy. Hist. nat. Belg.*, 19(42): 1-12.
- d'ORCHYMONT, A. 1945. Notes sur le genre *Hydroscapa* Leconte (Coleoptera Polyphaga Staphyliniformia). *Bull. Mus. roy. Hist. nat. Belg.*, 21(25): 1-16.
- PARDO, L. 1933. Datos para el estudio de la fauna Hidrobiológica española. *Bol. Pesca y Caza*, 5: 1-15.
- PÉREZ-ARCAS, L. 1865. Insectos nuevos o poco conocidos de la fauna española. *Rev. Progr. C. Exact. Fis. Nat.*, 15: 413-444.
- PERKINS, P. D. 1997. Life on the effective bubble: exocrine secretion delivery systems (ESDS) and the evolution and classification of beetles in the family Hydraenidae (Insecta: Coleoptera). *Anns Carnegie Museum*, 66: 89-207.
- PETITPIERRE, E. *Fauna Iberica: Coleoptera Chrysomelidae I*. CSIC, Madrid, in press.
- PIC, M. 1898. Diagnoses de Coléoptères malacodermes. *Flle. jeun. Nat.*, 27: 26-28.
- PIC, M. 1908. Descriptions ou diagnoses et notes diverses. Suite. *L'Échange*, 24: 81-83.

- PORTEVIN, G. 1931. *Histoire naturelle des Coléoptères de France. Vol. II. Polyphaga: Lamellicornia, Palpicornia, Diversicornia*. Paul Lechevalier & Fils., Paris, 542 pp.
- RÉGIL, J. A. 1985. *Coleópteros adéfagos acuáticos de la provincia de León*. Resumen Tesis Doctoral, Departamento de Zoología, Universidad de León, León, 31 pp.
- RÉGIL, J. A. & VEIGA, A. 1984. Interesantes aspectos morfológicos en: *Scarodytes halensis* (F., 1787) y *Stictonectes lepidus* (Oliv., 1795) (Col. Dytiscidae). *Boln. Asoc. esp. Ent.*, 8: 219-226.
- RÉGIMBART, M. 1903. Description d'un *Hydroporus* nouveau (Col.). *Bull. Soc. ent. Fr.*, 15: 254-255.
- REICHARD, H. 1973. A critical study of the suborder Myxophaga, with a taxonomic revision of the Brazilian Torridincolidae and Hydroscaaphidae (Coleoptera). *Arquiv. Zool.*, 24: 73-162.
- REITTER, E. 1903. Siebzehnter Beitrag zur Coleopterenfauna von Europa und den angrenzenden Ländern. *Wien. Ent. Zeitg.*, 22: 173-178.
- REY, C. 1884. Noticies sur les Palpicornes et diagnosis d'espèces nouvelles ou peu connus. *Revue Ent.*, 1(9): 245-276.
- REY, C. 1886. Histoire naturelle des Coléopteres de France (Suite). *Annls Soc. Linn. Lyon*, 32(1885): 1-186.
- RIBERA, I. 1992. *Estudio de los Hydradephaga (Coleoptera) del Pirineo y Prepirineo: morfometría y ecología*. Col.lecció de Tesis Doctorals Microfitxades núm. 1729, Publicacions Universitat de Barcelona, Barcelona, 9 pp + 1 microfiche.
- RIBERA, I. 1993. Two strategies to cope with temporary habitats used by some Pyrenean Hydradephaga. *Latissimus*, 2: 2-5.
- RIBERA, I. 1999. Biogeography and conservation of the Iberian aquatic Coleoptera. *Biol. Conserv.*, in press.
- RIBERA, I. & AGUILERA, P. 1995. Métodos de recolección y estudio de coleópteros acuáticos. *Bol. SEA*, 12: 43-48.
- RIBERA, I. & AGUILERA, P. 1996. Els Estanys de Capmany: the missing Spanish pingo (or palsa) fens? *Latissimus*, 7: 2-6.
- RIBERA, I., AGUILERA, P., BILTON, D. T., FERY, H., FRESNEDA, J., HERNANDO, C. & FOSTER, G. 1995. Towards a critical checklist of Iberian water beetles - some old records reconsidered. *Latissimus*, 6: 3-7.
- RIBERA, I., BILTON, D. T., AGUILERA, P. & FOSTER, G. N. 1996. A North African-European transition fauna: water beetles (Coleoptera) from the Ebro delta and other Mediterranean coastal wetlands in the Iberian Peninsula. *Aq. Conser.: Marine and Freshwater Ecosystems*, 6: 121-140.
- RIBERA, I. & FOSTER, G. N. 1996. One picture is worth a thousand words, but there is no substitute for the real thing. *Trend. Ecol. Evol.*, 11: 176.
- RIBERA, I. & HERNANDO, C. 1998. Description of *Limnebius millani* sp. n. from the Sierra de Alcaraz (SE Spain) (Insecta: Coleoptera: Hydraenidae). *Ann. Naturhist. Mus. Wien.*, 100B: 199-202.
- RIBERA, I., HERNANDO, C. & AGUILERA, P. 1999a. Notes on the status of *H. interruptus* Heyden and *H. martinae* Makhan. *Latissimus*, 11: 22-23.
- RIBERA, I., HERNANDO, C. & AGUILERA, P. 1999b. *Hydrochus tariqi* sp.n. from south Spain (Coleoptera: Hydrochidae). *Koleopt. Rudsch.*, 69: in press.
- RIBERA, I., HERNANDO, C., AGUILERA, P. & MILLÁN, A. 1998. Especies poco conocidas o nuevas para la fauna ibérica de coleópteros acuáticos (Coleoptera: Dytiscidae, Hydrophilidae, Hydraenidae, Dryopidae). *Zapateri, Revta aragon. ent.*, 7(1997): 83-90.
- RIBERA, I., HERNANDO, C., FRESNEDA, X., AGUILERA, P., FOSTER, G. N. & SIGNAL, S. 1993. A preliminary checklist of the Hydradephaga from the Pyrenees. *Latissimus*, 3: 6-9.
- RIBERA, I., ISART, J. & VALLE, M. A. N. 1988. Contribución al conocimiento de los Coleópteros acuáticos (Adephaga) de la Cerdeña. *Actas III Congr. ibér. Ent.*, Granada: 637-650.
- RIBERA, I. & MILLÁN, A. 1999. Description of *Ochthebius (Asiobates) irenae* sp. n. from the Iberian Peninsula, with notes on its ecology. *Aq. Inse.*, in press.
- RIBERA, I., RICHOUX, P. & PETITPIERRE, E. 1998. *Donacia obscura* Gyllenhal in Spain. *Latissimus*, 10: 10.
- RIBERA, I., SCHÖDL, S. & HERNANDO, C. 1997. *Enochrus ater* (Kuwert) and *E. salomonis* (Sahlberg) (Coleoptera: Hydrophilidae), two widespread but overlooked species new to the European fauna. *Hydrobiologia*, 354: 183-188.

- RICO, E. 1997. Distribución de los Elmidae (Coleoptera: Dryopoidea) en la Península Ibérica e islas Baleares. *Graellsia*, 52(1996): 115-147.
- RICO, E. 1998. A revision of the *Limnius perrisi* subspecies group (Coleoptera, Elmidae) in the Iberian Peninsula. *Aq. inse.*, 20: 133-139.
- RICO, E., PÉREZ, L. C. & MONTES, C. 1990. *Lista faunística y bibliográfica de los Hydradephaga (Coleoptera: Haliplidae, Hygrobiidae, Gyrinidae, Noteridae, Dytiscidae) de la Península Ibérica e Islas Baleares*. Asociación Española de Limnología, Listas de la Flora y Fauna de las Aguas Continentales de la Península Ibérica N° 7, Madrid, 216 pp.
- ROCCHI, S. 1981. Dytiscidi del Portogallo con descrizione di una nuova specie di *Hydroporus* (Coleoptera Dytiscidae). *Boll. Soc. Ent. Italiana*, 113: 149-153.
- ROMERO-ALCARAZ, E., SÁNCHEZ-PIÑERO, F. & ÁVILA, J. M. 1997. Los Sphaeridiinae (Coleoptera: Hydrophilidae) en una zona del suroeste ibérico. I: Composición faunística y fenología. *Boln. Asoc. esp. Ent.*, 21(3-4): 221-237.
- ROSENHAUER, W. G. 1856. *Die Thiere Andalusiens nach dem Resultat einer Reise zusammengestellt, nebst den Beschreibungen von 249 neuen oder bis jetzt noch unbeschriebenen Gattungen und Arten*. Theodor Blaesing, Erlangen, 429 pp.
- ROTTENBERG, A. Baron von, 1874. Revision der europäischen *Laccobius*-Arten. *Berl. ent. Z.*, 18: 305-322.
- ROUGHLEY, R. E. 1990. A systematic revision of species of *Dytiscus* Linnaeus (Coleoptera: Dytiscidae). Part. 1. Classification based on adult stage. *Quaest. Ent.*, 26: 383-557.
- RUFFO, S. 1964. Contributti alla conoscenza della distribuzione dei Coleotteri Crisomelidi nella regione Appenninica L. Orsodacnini, Donaciini, Criocerini. *Mem. Mus. Civ. St. Nat. Verona*, 12: 41-96.
- SABATER, F., MURILLO, J. & CAMPENY, R. 1986. Macroinvertebrados de las lagunas temporales de Ca L'Estany de Tordera (Catalunya, N.E. España). *Actas VIII Jornadas Asoc. esp. Ent.*, Sevilla: 1241-1251.
- SAHLBERG, J. 1913. Coleoptera mediterranea orientalia, quae in Aegypto, Palaestina, Syria, Caramania atque in Anatolia occidentali anno 1904 collegerunt John Sahlberg et Unio Saalas. *Öfversigt af Finska Vetenskaps-Societetens Förhandlingar*, 55(1912-1913): 1-282.
- SAINTE-CLAIRE DEVILLE, J. 1913. Coléoptères peu connus ou nouveaux por la faune Française (Hydrophilidae). *Bull. Soc. Ent. Fr.*, 396-398.
- SÁINZ-CANTERO, C. E. 1993. *Hydraena (Hydraena) albai* sp.n. from Southern Spain (Coleoptera, Hydraenidae). *Aq. Inse.*, 15: 129-134.
- SÁINZ-CANTERO, C. E. & ALBA-TERCEDOR, J. 1989. *Hydraena (Haenydra) tatii* sp.n. from Southern Spain (Coleoptera, Hydraenidae). *Aq. Inse.*, 11: 111-114.
- SÁINZ-CANTERO, C. E., ZAMORA-MUÑOZ, C. & JÄCH, M. A. 1995. Primera cita para la coleopterofauna ibérica: *Ochthebius (Ochthebius) merinidicus* Ferro, 1985 (Col. Hydraenidae). *Nouv. Revue Ent. (N.S.)*, 12: 103-104.
- SANFILIPPO, N. 1982. *Agabus (Gaurodytes) striolatus* Gyll. nuovo per la fauna italiana. *Doriana*, 5: 1-4.
- SANTAMARIA, S. 1993. New and interesting Laboulbeniales (Fungi, Ascomycotina) from Spain, II. *Nova Hedwigia*, 56: 409-422.
- SCHAEFER, L. 1975. Une espèce nouvelle d'Hydrophilidae (Col.). *Ann. Soc. Hort. Hist. Nat. Hérault*, 115: 129-130.
- SCHAUFUSS, L. W. 1862. Beitrag zur Käfer-Fauna Spaniens. *Sitz. natur. Gess. Isis Dresden*, 10-12: 189-204
- SCHAUM, H. 1864. Neue Hydroporen aus Europa und dem gemäßigten Asien. *Berl. ent. Z.*, 8: 109-113.
- SCHERER, G. 1978. Chrysomelidae: Donaciinae. In: J. Illies (ed.). *Limnofauna Europaea*. Gustav Fischer, Stuttgart: 319-322.
- SCHILSKY, J. 1907. Vol. 44. In: H. C. Küster & G. Kraatz (eds). *Die Käfer Europa's*. Bauer und Raspe, Nürnberg.
- SCHÖDL, S. 1991. Revision der Gattung *Berosus* Leach. 1. Teil: Die paläarktischen Arten der Untergattung *Enopturus* (Coleoptera, Hydrophilidae). *Koleopt. Rdsch.*, 61: 111-135.
- SCHÖDL, S. 1993. Revision der Gattung *Berosus* Leach 3. Teil: Die paläarktischen und orientalischen Arten der Untergattung *Berosus* s.str. (Coleoptera: Hydrophilidae). *Koleopt. Rdsch.*, 63: 189-233.

- SCHÖDL, S. 1997. Taxonomic studies on the genus *Enochrus* (Coleoptera: Hydrophilidae). *Entomol. Probl.*, 28: 61-66.
- SCHÖDL, S. 1998. Taxonomic revision of *Enochrus* (Coleoptera: Hydrophilidae) I. The *E. bicolor* species complex. *Ent. Probl.*, 29: 111-127.
- SEABRA, A. F. de, 1942. Aditamento ao catálogo dos Coleópteros de Portugal, do Dr. Manuel Paulino de Oliveira. *Mem. Estud. Mus. zool. Univ. Coimbra*, 136: 1-33.
- SEABRA, A. F. de, 1943. Contribuições para o inventário da fauna lusitânica. *Insecta Coleoptera. Mem. Estud. Mus. zool. Univ. Coimbra*, 142: 1-152.
- SEIDLITZ, G. 1867. Einige entomologische Excursionen in den Castilischen Gebirgen im Sommer 1865. *Ber. Entomol. Z.*, 11:167-193.
- SEIDLITZ, G. 1872. *Fauna Baltica. Die Käfer (Coleoptera) der Ostseeprovinzen Russlands*. Königsberg, 240 pp.
- SEIDLITZ, G. 1887. Bestimmungs-Tabellen der Dytiscidae und Gyrinidae des Europäischen Faunengebietes. *Verh. naturf. Verein Brünn*, 25: 1-136.
- SHARP, D. 1872. Descripciones de algunas especies nuevas de coleópteros. *An. Soc. esp. Hist. Nat.*, 1: 259-271.
- SHARP, D. 1874. On a new family of European Coleoptera. *Entomologist's mon. Mag.*, 11:101-104.
- SHARP, D. 1877. List of aquatic Coleoptera collected by Camille Van Volxem in Portugal & Morocco. *Ann. Soc. Ent. Belg.*, 20: 112-115.
- SHARP, D. 1882. On aquatic carnivorous Coleoptera or Dytiscidae. *Sc. Trans. Roy. Dublin Soc.*, 2: 178-1003, pls. 6-14.
- SHARP, D. 1915a. Studies in Helophorini. 4.- The Empleuri. *Entomologist's mon. Mag.*, 51: 130-138.
- SHARP, D. 1915b. Studies in Helophorini. 6.- *Gephelophorus* and *Meghelophorus*. *Entomologist's mon. Mag.*, 51: 198-204.
- SHARP, D. 1916a. Studies in Helophorini. 10.- *Helophorus*. *Entomologist's mon. Mag.*, 52: 108-112, 125-130, 164-177.
- SHARP, D. 1916b. Studies in Helophorini. 11.- *Atracthelophorus* and *Cyphelophorus*. *Entomologist's mon. Mag.*, 52: 193-200.
- SMETANA, A. 1974. Revision of the genus *Cymbiodyta* Bed. (Coleoptera: Hydrophilidae). *Mem. ent. Soc. Can.*, 93: 1-113.
- SMETANA, A. 1980. Revision of the genus *Hydrochara* Berth. (Coleoptera: Hydrophilidae). *Mem. ent. Soc. Can.*, 111: 1-100.
- SOLER, A. G. 1972. *Los Coleópteros acuáticos de las Marismas del bajo Guadalquivir*. Resumen tesis doctoral, Servicio de Publicaciones de la Universidad de Sevilla, Sevilla, 42 pp.
- TRAISET. 1895. [Notas sobre anticídicos e hidrocántaros de los alrededores de Barcelona]. *Actas Soc. Esp. Hist. Nat.*, 24: 182-183.
- TOURNIER, H. 1874. Matériaux pour servir a la monographie de la tribu des Eriirrhinides de la famille des Curculionides (Coléoptères). *Ann. Soc. ent. France*, 17: 63-116.
- UHAGÓN, S. 1874. [Notas sobre Reise nach Spanien de Heyden, 1870.] *Actas Soc. esp. Hist. nat.*, 3: 63-65.
- UHAGÓN, S. 1875. [Nota sinonímica sobre *Hydroscapha*.] *Actas Soc. esp. Hist. nat.*, 4: 11-12.
- UHAGÓN, S. 1876. Coleópteros de Badajoz. *An. Soc. esp. Hist. nat.*, 5: 45-78.
- UHAGÓN, S. 1879. Coleópteros de Badajoz. Segunda parte. *An. Soc. esp. Hist. nat.*, 8: 187-216.
- UHAGÓN, S. 1887. Coleópteros de Badajoz. Tercera parte. *An. Soc. esp. Hist. nat.*, 16:373-404.
- URBANELLI, S., SALLICANDRO, P., DE VITTO, E., COLONELLI, E. & BULLINI, L. 1996. Molecular reexamination of the taxonomy of *Ochthebius* (*Calobius*) (Coleoptera: Hydraenidae) from the Mediterranean and Macaronesian regions. *Ann. Entomol. Soc. Am.*, 89: 623-636.
- VALLADARES, L. F. 1985. *Hydraena nigrita* Germ. nueva para la fauna de la Península Ibérica. (Coleoptera, Hydraenidae). *Actas do II Congreso Ibérico de Entomología*, 2: 428-431.
- VALLADARES, L. F. 1986. Los palpicornia acuáticos de la provincia de León. I. *Ochthebius* Leach, con la descripción de una nueva especie. (Coleoptera. Hydraenidae). *Actas VIII Jornadas de la Asoc. esp. Ent., Sevilla*: 649-664.

- VALLADARES, L. F. 1988. Descripción de *Hydrochus angusi* n.sp. del norte de España (Coleoptera, Hydrophilidae). *Nouv. Revue Ent. (N.S.)*, 5: 83-87.
- VALLADARES, L. F. 1989. Separación específica de las dos subespecies de *Hydraena cordata* Schaufuss, 1833 sensu Berthélemy (1965). (Coleoptera, Hydraenidae). In: *Abstracts Volume*, International Congress of Coleopterology, Barcelona: 143.
- VALLADARES, L. F. 1992. Separación específica de las dos subespecies de *Hydraena cordata* Schaufuss, 1833 sensu Berthélemy (1965) (Coleoptera: Hydraenidae). *Elytron*, 5, Supp(1991): 141-148.
- VALLADARES, L. F., DÍAZ-PAZOS, J. A. & DELGADO, J. A. *Hydrochus ibericus* sp. n. from the Iberian Peninsula (Coleoptera: Hydrochidae). *Aq. inse.*, in press.
- VALLADARES, L. F. & MONTES, C. 1991. *Lista Faunística y Bibliográfica de los Hydraenidae (Coleoptera) de la Península Ibérica*. Asociación Española de Limnología, Listas de la Flora y Fauna de las Aguas Continentales de la Península Ibérica nº 10, Madrid, 93 pp.
- VALLADARES, L. F. & RIBERA, I. 1993. Sobre la presencia de *Hydrochara caraboides* (Linnaeus, 1758) e *Hydrophilus piceus* (Linnaeus, 1758) en la Península Ibérica (Coleoptera: Hydrophilidae). *Zool. baetica*, 4: 7-12.
- VALLADARES, L. F. & RIBERA, I. *Lista Faunística y Bibliográfica de los Hydrophiloidea (Coleoptera) de la Península Ibérica e islas Baleares*. Asociación Española de Limnología, Listas de la Flora y Fauna de las Aguas Continentales de la Península Ibérica, in press.
- VEGA, A., HERRERA, L., BERGERANDI, A. & ARLEGUI, R. 1981. Fauna entomológica de la charca de Muniain (Navara). *Munibe*, 33(1-2): 101-105.
- VIVES, E. & GONZÁLEZ, C. F. 1995. Coleópteros crisomélidos de la colección Español Auqué (1ª parte). (Col. Chrysomelidae). *Zapateri, Revta. aragon. ent.*, 4(1994): 49-60.
- VONDEL, B. van, 1991. Revision of the Palearctic species of *Haliplus* subgenus *Liaphlus* Guignot (Coleoptera: Haliplidae). *Tijds. Ent.*, 134: 75-144.
- VONDEL, B. van, 1997. *Süßwasserfauna von Mitteleuropa. Band 20(2): Insecta Coleoptera Haliplidae*. Gustav Fischer Verlag, Stuttgart, 95 pp.
- VOSS, E. 1978. Curculionidae. In: J. Illies (ed.). *Limnofauna Europaea*. Gustav Fisher, Stuttgart: 326-328.
- WATTL, J. 1835 *Reise durch Tyrol, Oberitalien und Piemont nach dem südlichen Spanien II*. Passau, 247 pp.
- WEHNCKE, E. 1872. Fünf neue europäische Dytisciden. *Berl. ent. Z.*, 16: 135-136.
- WEISE, J. 1898. Ueber neue und bekannte Chrysomeliden. *Arch. Naturgesch.*, 64: 177-224.
- WEISE, J. 1877. Kurze revision der *Limnichus*- und *Pelochares*- Arten. *Deutsch. Entomol. Z.*, 21: 299-302.
- WINKLER, A. 1924. *Catalogus Coleopterorum regionis palaearticae, pars 2*. A. Winkler, Wien, pp. 113-240.
- WOOLDRIDGE, D. P. 1978. *Paracymus* of the Palearctic faunal region (Coleoptera, Hydrophilidae). *J. Kansas ent. Soc.*, 51: 123-130.
- ZARIQUIEY, R. 1916. Alguns Coleòpters catalans. *Butll. Inst. catal. Hist. nat.*, 16: 110.
- ZARIQUIEY, R. 1917a. Algunos Coleópteros Catalanes. *Butll. Inst. catal. Hist. nat.*, 17: 130-132.
- ZARIQUIEY, R. 1917b. Insectes nous per a Catalunya. *Butll. Inst. catal. Hist. nat.*, 17: 101.
- ZIMMERMANN, A. 1920. Dytiscidae, Haliplidae, Hygrobiidae, Amphizoidae. In: *Coleopterorum Catalogus, pars 71*. W. Junk, Berlin, 325 pp.
- ZIMMERMANN, A. 1934. Monographie der paläarktischen Dytisciden. V. Colymbetinae (I. Teil: Copelatini, Agabini: Gattung *Gaurodytes* Thoms.). *Koleopt. Rdsch.*, 20: 138-214.