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A taxonomic revision of *Deronectes* SHARP, 1882 (Insecta: Coleoptera: Dytiscidae) (part I)

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Abstract

The Palearctic predaceous water beetle genus *Deronectes* SHARP, 1882, contains 39 species to date. The authors present the first part of a revision, in which 28 of these species are treated, four of which are divided into subspecies. A classification into ten groups (including the *parvicollis*-group) and a key to the species is provided. The species of the *D. parvicollis*-group require further investigation and will be treated in the second part of this revision.

Five taxa are described as new: *Deronectes perrinae* sp.n. from Northern Africa, *Deronectes witzgalli* sp.n. from Turkey, *Deronectes angelinii* sp.n. from Italy, *Deronectes platynotus mazzoldii* ssp.n. from Greece, and *Deronectes aubei sanfilippoi* ssp.n. from southern France and northern Spain. *Deronectes brannanii* (SCHAUFUSS, 1869) and *Deronectes semirufus* (GERMAR, 1845) are recognised as valid species. *Hydroporus bombycinus* LEPRIEUR, 1876, and *Hydroporus sublaevis* REY, 1887, are found to be junior subjective synonyms of *Hydroporus fairmairei* LEPRIEUR, 1876. *Deronectes moestus* (FAIRMAIRE, 1858) is split into two subspecies *D. moestus moestus* and *Deronectes moestus inconspectus* (LEPRIEUR, 1876). *Deronectes latus* (STEPHENS, 1829) is recorded from Turkey for the first time.

Stictotarsus bertrandi (LEGROS, 1956) - originally included in *Deronectes* - is treated in a short additional note, and is recorded from Portugal for the first time.

Lectotypes are designated for the following nominal species: *Hydroporus opatrinus* GERMAR, 1824, *Hydroporus latus* STEPHENS, 1829, *Hydroporus castaneus* HEER, 1837, *Hydroporus aubei* MULSANT, 1843, *Hydroporus semirufus* GERMAR, 1845, *Hydroporus delarouzei* JACQUELIN DU VAL, 1857, *Hydroporus moestus* FAIRMAIRE, 1858, *Hydroporus lareynii* FAIRMAIRE, 1858, *Hydroprous vestitus* FAIRMAIRE, 1859, *Hydroporus bicostatus* SCHAUM, 1864, *Hydroporus brannanii* SCHAUFUSS, 1869, *Hydroporus bombycinus* LEPRIEUR, 1876, *Hydroporus inconspectus* LEPRIEUR, 1876, *Deronectes doriae* SHARP, 1882, *Hydroporus peyerimhoffi* RÉGIMBART, 1906, and *Hydroporus latus pyrenaeus* SCHAEFER, 1930.

Key words: Coleoptera, Dytiscidae, *Deronectes, Stictotarsus*, revision, new species, lectotypes, new synonyms, description, new records.

Zusammenfassung

Die Gattung *Deronectes* SHARP, 1882, wird revidiert und dabei eine Einteilung in zehn Gruppen vorgenommen. Im vorliegenden ersten Teil der Arbeit werden die insgesamt 28 Arten der ersten neun Gruppen berücksichtigt, welche in Europa, Nordafrika sowie in Kleinasien und bis zum Kaukasus verbreitet sind. Bei den aktuell bekannten elf Vertretern der zehnten Gruppe (*D. parvicollis*-Gruppe) handelt es sich um Arten, deren systematische Stellung und Verbreitung noch weiterer Untersuchungen bedarf. Sie sind fast ausschließlich in Kleinasien, im Mittleren Osten und in Mittelasien verbreitet, allerdings dringen *Deronectes parvicollis* (SCHAUM, 1864) bis in den Balkan und *Deronectes abnormicollis* SEMENOW, 1900, bis nach China vor (Erstmeldung). Die Behandlung dieser Arten wird im zweiten Teil der Revision erfolgen, in der vorliegenden Arbeit werden sie lediglich der Vollständigkeit halber im Index mit aufgelistet.

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Fünf Taxa werden neu beschrieben: *Deronectes perrinae* sp.n. aus Nordafrika, *Deronectes witzgalli* sp.n. aus der Türkei, *Deronectes angelinii* sp.n. aus Italien, *Deronectes platynotus mazzoldii* ssp.n. aus Griechenland und *Deronectes aubei sanfilippoi* ssp.n. aus den Pyrenäen und Nordspanien. *Deronectes brannanii* (SCHAUFUSS, 1869) und *Deronectes semirufus* (GERMAR, 1845) werden als valide Arten, *Hydroporus bombycinus* LEPRIEUER, 1876 und *Hydroporus sublaevis* REY, 1887, als jüngere subjektive Synonyme des *Hydroporus fairmairei* LEPRIEUR, 1876, erkannt. *Deronectes moestus* (FAIRMAIRE, 1858) wird in die beiden Subspezies *D. moestus moestus* und *D. moestus inconspectus* (LEPRIEUR, 1876) aufgespalten.

Für die folgenden nominellen Arten werden Lectotypen festgelegt: *Hydroporus opatrinus* GERMAR, 1824, *Hydroporus latus* STEPHENS, 1829, *Hydroporus castaneus* HEER, 1837, *Hydroporus aubei* MULSANT, 1843, *Hydroporus semirufus* GERMAR, 1845, *Hydroporus delarouzei* JACQUELIN DU VAL, 1857, *Hydroporus moestus* FAIRMAIRE, 1858, *Hydroporus lareynii* FAIRMAIRE, 1858, *Hydroprous vestitus* FAIRMAIRE, 1859, *Hydroporus bicostatus* SCHAUM, 1864, *Hydroporus brannanii* SCHAUFUSS, 1869, *Hydroporus bombycinus* LEPRIEUR, 1876, *Hydroporus inconspectus* LEPRIEUR, 1876, *Deronectes doriae* SHARP, 1882, *Hydroporus peyerimhoffi* RÉGIMBART, 1906, und *Hydroporus latus pyrenaeus* SCHAEFER, 1930.

Deronectes latus (STEPHENS, 1829) wird mit zwei weiblichen Exemplaren zum ersten Mal für die Türkei gemeldet. Möglicherweise handelt es sich bei der betreffenden Population sogar um eine neue Unterart oder Art. Da jedoch männliche Tiere zur Zeit nicht zur Verfügung stehen, soll in der vorliegenden Arbeit auf die Beschreibung eines neuen Taxons verzichtet werden.

Deronectes bertrandi LEGROS, 1956, wurde von NILSSON & ANGUS (1922: 280) in die Gattung *Stictotarsus* transferiert. Da diese Statusänderung noch weitgehend unbemerkt geblieben zu sein scheint, wird die Art in einer kurzen Notiz ebenfalls behandelt, wobei sie erstmals für Portugal gemeldet werden kann.

Introduction

Most species of *Deronectes* are uniformly black or brown in colour and of similar habitus. This probably explains, why many taxa have been misinterpreted or incorrectly synonymised in the past. In the fifty years since GERMAR (1824) and STEPHENS (1829) described *Hydroporus opatrinus* and *Hydroporus latus* respectively, a number of works have been published, which document the great uncertainty about the identity of various taxa (see for example AUBÉ 1838: 564, FAIRMAIRE & LABOULBÈNE 1854: 209, REICHE 1862: 293, AUBÉ 1867: 257, AUBÉ 1868: 45, SCHAUM 1864: 112, SCHAUFUSS 1869: 9). Even SHARP (1882: 422) believed *Hydroporus hispanicus* to be the female of *H. opatrinus*. LEPRIEUR (1876a-e) successfully addressed a number of taxonomic problems and gave the first key to this part of Hydroporini, termed the "*opatrinus*-group" which is identical with the genus *Deronectes* as currently defined. Since that time a large number of new species have been described, but only the species with a cordiform pronotum (WEWALKA 1970) and the costate species (FERY & BRANCUCCI 1987) have been revised. In the present work all known species of the genus are classified into ten well defined groups. The species of the *D. parvicollis*-group will, however, be treated in the second part of the revision.

Material and Acknowledgements

Excellent collaboration with numerous colleagues and museums has enabled us to study around 8000 specimens of *Deronectes*. The following acronyms for collections are used in the text:

Acronyms

BML	British Museum, London, Great Britain (L. Jessop, S. Hine)	CAM	coll. Dr. A. Millán, Murcia, Spain
		CAN	coll. Dr. A. Nilsson, Umeå, Sweden
CAL	coll. A. Lagar Mascaro, Barcelona, Spain	CCB	coll. C. Brandstetter, Bürs, Austria
CAK	coll. A. Kapp, Rankweil, Austria	CDB	coll. Dr. D. Bilton, Plymouth, Great Britain

CFA	coll. F. Angelini, Francavilla Fontana, Italy
CFP	coll. F. Pederzani, Ravenna, Italy
CGF	coll. Dr. G. Foster, Ayr, Great Britain
CGS	coll. Dr. G. Süselbeck, Gundelfingen, Germany
CGW	coll. Prof. Dr. G. Wewalka, Wien, Austria
CHB	coll. H. Bußler, Feuchtwangen, Germany
CHF	coll. Dr. H. Fery, Berlin, Germany; in part deposited in the NMW
CHH	coll. H. Hebauer, Rain, Germany
CHS	coll. H. Shaverdo, Minsk, Belarus
CIR	coll. I. Ribera, Murcia, Spain
CJC	coll. J. Cuppen, Wageningen, The Netherlands
CJF	coll. J. Fresneda, Llesp, El Pont de Suert, Spain
CJG	coll. J. González, Santiago de Compostela, Spain
CJS	coll. J. Stastny, Liberec, Czech Republic
CKD	coll. Prof. Dr. K. Dettner, Bayreuth, Germany
CLH	coll. L. Hendrich, Berlin, Germany
CMB	coll. M. Balke, Berlin, Germany
CMT	coll. M. Toledo, Brescia, Italy
CNS	coll. N. Sanfilippo, Genova, Italy; now deposited in the MCGE
CPM	coll. Dr. P. Mazzoldi, Brescia, Italy
CRA	coll. Dr. R. Angus, Surrey, Great Britain
CRC	coll. R. Carr, Maidstone, Great Britain
CRG	coll. Dr. R. Gerecke, Tübingen, Germany
CSR	coll. S. Rocchi, Florence, Italy
DEI	Deutsches Entomologisches Institut, Eberswalde, Germany (Dr. L. Zerche)
ETH	Eidgenössische Technische Hochschule, Zürich, Switzerland (Prof. Dr. W. Sauter)
HNHM	Hungarian Natural History Museum, Budapest, Hungary (Dr. Gy. Szél)
INAT	Institut National Agronomique de Tunisie, Tunis, Tunisia (Prof. Dr. M. Jarraya)
IRSN	Institut Royal des Sciences Naturelles de Belgique, Brussels, Belgium (Dr. K. Desender, M. Cludts)
ITZA	Instituut voor Taxonomische Zoölogie, Amsterdam (B. Brugge)
MCGE	Museo Civico di Storia Naturale "G. Doria", Genova, Italy (Dr. R. Poggi)
MCTR	Museo Civico di Storia Naturale, Trieste, Italy (Dr. G. Alberti)
MCVR	Museo Civico di Storia Naturale, Verona, Italy (R. Salmaso)
MGHN	Musée Guimet d'Histoire Naturelle, Lyon, France (J. Clary)
MHNG	Muséum d'Histoire Naturelle, Geneva, Switzerland (Dr. I. Löbl)
MNB	Museum für Naturkunde, Humboldt-Universität, Berlin, Germany (Dr. F. Hieke, Dr. M. Uhlig, B. Jaeger)
MNHN	Muséum National d'Histoire Naturelle, Paris, France (Dr. H. Perrin)
MRTO	Museo Regionale di Scienze Naturali, Torino, Italy (Dr. P. Giachino, Dr. M. Daccordi)
MZL	Musée Zoologique, Lausanne, Switzerland (Dr. D. Chérix)
NMB	coll. Dr. M. Brancucci, deposited in the Naturhistorisches Museum Basel, Switzerland
NMW	Naturhistorisches Museum Wien, Austria (Dr. M. Jäch)
SMTD	Staatliches Museum für Tierkunde, Dresden, Germany (Dr. R. Emmerich, Dr. R. Krause)
SMNS	Staatliches Museum für Naturkunde Stuttgart, Germany (Dr. W. Schawaller)
ZMH	Zoological Museum Helsinki, Finland (Dr. O. Biström)
ZMSP	Zoological Museum St. Petersburg, Russia (Dr. B. Katajev)
ZSM	Zoologische Staatssammlung, München, Germany (Dr. G. Scherer, Dr. M. Baehr)

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The following abbreviations are used in the text: hw (handwriting), TL (total length) and MW (maximum width).

In the listings of studied material the number of specimens is given first, followed by the locality, and in some cases further data, the date of collecting, the collector, the collection and the museum where the specimen is kept. Label texts are provided with quotation marks for all types and other specimens of particular interest, and if a text is partly incomplete or inexact. If specimens from different localities have the same collector and originate from the same collection and/or museum these data are presented after the last label text only. In some cases the handwriting is noted after the label text. Where this is not specified, the author was either unknown or considered unimportant, or the text was printed. Simple museum labels are cited exceptionally. Comments in square brackets are those of the present authors.

Most of the additional material studied has been dissected, but the sex is mentioned only if this is of particular interest. For all species the male genitalia are figured and in most cases the parameres and the habitus. In a few species other important characteristics are figured also. Details of the elytra are shown without scale bars, but with a magnification 2.5 that of the habitus figures. In the distribution maps important records which could not be pinpointed exactly are shown with questionmarks.

Notes on zoogeography, biology and phylogeny

The genus *Deronectes* has a strictly Palearctic distribution. It ranges from Northern Africa and the Iberian Peninsula over most parts of Europe to Asia Minor, Iran, Turkmenistan and the Southwest of Siberia to Afghanistan, Cashmere and the extreme West of China (*Deronectes abnormicollis* SEMENOW, 1900, first record from China; see the second part of this revision). Two centres of distribution can be recognised: The Iberian Peninsula (including the Balearics and the French Pyrenees) with fifteen species (ten of them endemic) and the region from Asia Minor to the Middle East with seventeen species (it is very likely that additional taxa remain undescribed in this region, where investigations have been less exhaustive to date). Six species are recorded from Northern Africa, three of them endemic. Eighteen of the European species are found in the Western Mediterranean. Only three species can be found in Central Europe, including *D. latus,* which is the species with the largest area of distribution, ranging from the French Pyrenees and the British Isles to Scandinavia, Russia, Bulgaria and Turkey. With the exception of this species and *D. moestus*, *D. fairmairei* and *D. platynotus* (GERMAR), *Deronectes* species have rather restricted areas of distribution. Finally it should be noted, that only four species have been found in the Balkans, all of which interestingly have their centre of distribution outside this area: *D. moestus* (ssp. *inconspectus*), *D. platynotus*, *D. latus*, and *D. parvicollis* (SCHAUM).

Deronectes species usually live amongst gravel in small, swift- or even strongly-flowing streams with sparse vegetation, and single specimens are found in ponds only exceptionally. Most species prefer mountainous regions, some occuring at high altitude (e.g. *Deronectes wewalkai* FERY & FRESNEDA up to ca. 2000 m in central Spain).

Deronectes species have never been reported to fly, although their hind wings are well developed. Together with geographical isolation this probably limited capacity for dispersal accounts for the evolution of the apparently closely related species: *D. latus*, *D. angelinii* sp.n., and *D. angusi* FERY & BRANCUCCI; *D. aubei* (MULSANT), *D. semirufus* and *D. delarouzei* (JACQUELIN DU VAL); *D. ferrugineus* FERY & BRANCUCCI and *D. wewalkai; D. sahlbergi* ZIMMERMANN and *D. witzgalli* sp.n.; and the rather localised distribution of species such as *D. depressicollis* (ROSENHAUER), *D. peyerimhoffi* (RÉGIMBART), *D. algibensis* FERY & FRESNEDA and *D. fosteri* AGUILERA & RIBERA.

A phylogenetic analysis of the *Deronectes*-group of genera, which includes *Deronectes*, *Stictotarsus* ZIMMERMANN, 1919, *Scarodytes* GOZIS, 1914, and *Nebrioporus* RÉGIMBART, 1906, was presented by NILSSON & ANGUS (1992). These authors defined the *Deronectes*-group of genera within the northern hemisphere Hydroporini on the basis of two supposed synapomorphies: "(1) Mesosternal fork and anteromedial process of metasternum not connected and (2) male pro- and mesotarsomeres 1 - 3 without adhesive discs ventrally." (NILSSON & ANGUS 1992: 276). They suggested that *Deronectes* is "probably

monophyletic" and "the sister-group to all other genera included in the *Deronectes*-group" (NILSSON & ANGUS 1992: 281). Additionally, they transferred all *Potamonectes* without hooked parameres and *Deronectes bertrandi* LEGROS, 1956, to *Stictotarsus* and treated all *Potamonectes* with hooked parameres as *Nebrioporus*.

A phylogenetic analysis of the genus *Deronectes* is planned for the future. For the construction of the determination keys in the present work, we have used characteristics - some of them introduced for the first time - in a manner which may be a first step towards such an analysis.

Systematics

Deronectes SHARP

Deronectes SHARP, 1882: 418, 865 (partim). - SEIDLITZ 1887: 49 (partim). - ZIMMERMANN 1919: 156, 183 (partim). - ZIMMERMANN 1920: 117 (partim). - FALKENSTRÖM 1930: 29 (partim). - ZIMMERMANN 1932: 94 (partim). - GUIGNOT 1933: 441. - BALFOUR-BROWNE, F. 1934: 175. - BALFOUR-BROWNE, J. 1944: 186. - GUIGNOT 1947: 133. - ZAITZEV 1953: 188. - GUIGNOT 1959: 431. - WEWALKA 1970: 126. - FRANCISCOLO 1979: 430. - NILSSON, ROUGHLEY & BRANCUCCI 1989: 293. - NILSSON & ANGUS 1992: 275. - PEDERZANI 1995: 41.
Deronectes (*Bartheus*) HOULBERT, 1934: 64.
Scabronectes FALKENSTRÖM, 1939: 88.

Type species of *Deronectes* SHARP (by subsequent designation of F. BALFOUR-BROWNE 1934: 179): *Hydroporus latus* STEPHENS, 1829.

Type species of *Bartheus* HOULBERT (as subgenus of *Deronectes*): *Hydroporus latus* STEPHENS, 1829.

Type species of *Scabronectes* FALKENSTRÖM: not designated.

The subgenus *Bartheus* was erected for *D. latus* only, and defined by the absence of longitudinal lateral impressions on the pronotum and the disc of the elytra without longitudinal swellings or costae. It has already been rejected by GUIGNOT (1947: 134) who considered it to be based on trivial characters. The erection of the name *Scabronectes* instead of *Deronectes* was also rejected by GUIGNOT (1959: 432). The name is not available because it was not accompanied by type fixation.

Deronectes was established by SHARP (1882: 418, 865) for a group of species formerly treated as *Hydroporus*. He split his new genus into four groups: "group 1" included all species which belong to *Deronectes* as defined today; "group 2" included today's *Stictotarsus duodecimpustulatus* (F.) and *Stictotarsus procerus* (AUBÉ); the species of "groups 3 and 4" have been treated, before the work of NILSSON & ANGUS (1992), as *Potamonectes* by European authors.

NILSSON & ANGUS (1992: 277) defined the genus *Deronectes* as follows: "Dorsal surface uniformly ferrugineous to black. Metacoxal processes with interlaminary bridge exposed. Metatibias with anterior surface covered with spiniferous punctures. Metatarsomere 5 about twice as long as tarsomere 4. Palaearctic species."

The larvae of *Deronectes* will be treated separately (DETTNER & al., in preparation). NILSSON & ANGUS (1992: 281) give the following characteristics: "... absence of setal fringes on legs ... presence of only few secondary setae in basal half of urogomphus ...". See also BERTRAND (1928: 69).

Diagnosis of the species groups

In addition to the characters given above, we present some others which are common to the whole genus below, together with some explanations:

Prosternal apophysis lanceolate, often with a distinct longitudinal carina, but in some cases roof-like or almost flat (in contrast to SHARP 1882: 419); in many species furnished with small transversal carinae and fine setae at the margins (see for example Fig. 25).

Some species with pronotum narrowed behind the middle, resulting in the base of the pronotum being narrower than the elytra at the shoulders. Such pronota are termed cordiform. Several species with considerable sexual dimorphism in the form of the pronotum: "Where such sexual difference exists, it is always the case that the female has the base of the thorax narrower than the male." (SHARP 1882: 866). Disc of pronotum often with a slight furrow in the centre.

Upper surface with a more or less uniform, fine and dense primary puncturation, but diameter of punctures smaller than the distance between them. We do not mention this puncturation in the descriptions of the species. Most species with an additional coarser secondary puncturation. Puncture lines on elytra sometimes weak or imperceptible between the coarse punctures.

Pronotum and elytra more or less covered with short setae of different colour. These characters are used by several authors to distinguish between different species, but are avoided here because both are variable even within populations, and the setae are very often rubbed off during the insect's lifetime or as a result of specimen preparation.

Elytra often with two or three discal longitudinal swellings or distinct costae which we term first, second and third beginning with the inner one.

Ventral surface covered with a dense and fine sculpture, thus in most parts matt; largely of the same colour as the upper surface or darker, with head, prosternum and epipleura mostly somewhat paler at least in part; immature specimens with venter typically paler. In the descriptions of the species we use the term "major parts of ventral surface" mentioning only the colour of the meso- and metathorax and the abdomen.

♂♂: median lobe symmetric; parameres identical, of variable form, sometimes characteristic of the group, but of limited use for distinguishing between individual species. Median articles of the antennae in some species flat and sometimes distinctly broadened perpendicularly. Protarsi and mesotarsi more or less enlarged. Protarsal claws often developed, and specifically mentioned only if conspicuous.

♀♀: Antennae, protarsi, mesotarsi and protarsal claws simple, and therefore not mentioned in the descriptions. Gonocoxae and gonocoxosterna are used for distinguishing between species exceptionally. In a few species - particularly in some of the subspecies - the exact determination of females is difficult or even impossible. In these cases the geographical distribution must be taken into consideration.

Furthermore we want to emphasise a few difficulties in determination. For instance some species (*Deronectes hispanicus* (ROSENHAUER), *D. fosteri*, and *D. witzgalli* sp.n.) have a pronotum which is narrowed before the base, but with the base not distinctly narrower than the elytra at the shoulders. They are nevertheless included in the *D. opatrinus*- and *D. doriae*-groups respectively, with species which have a distinctly cordiform prono-

tum. Some taxa (*Deronectes costipennis costipennis* BRANCUCCI, *D. algibensis*, and *D. hispanicus*) have strong elytral longitudinal swellings, so might be ranked among the truly costate species (*D. bicostatus-group*). For instance *D. costipennis costipennis* with its one strong longitudinal swelling, was originally placed in this group. Subsequent studies have shown that it undoubtedly belongs to the *D. platynotus*-group, however. Such points should be borne in mind when using the keys to species group.

Key to the species groups

1 Species with oval shape in dorsal view; pronotum not cordiform, without longitudinal impression parallel to each side; elytra without carinae; brown colour, sometimes with pale areas. ♂♂: median lobe with complicated structure (e.g. Fig. 52). ..... **I. *latus*-group**

\- Species less oval in dorsal view; pronotum cordiform or not, with or without longitudinal impression parallel to each side; elytra with or without carinae; species uniformly black or brown. ♂♂: median lobe simple. 2

2 Habitus short, but parallel, almost stocky, with base of pronotum as wide as or even wider than base of elytra and sides of elytra less rounded. Last visible abdominal segment without notch at the posterior margin. 3

\- Habitus more oblong, not stocky. Most species with a notch at the posterior margin of the last visible abdominal segment; species without distinct notch have a cordiform pronotum. 4

3 Elytra behind the shoulders with a distinct notch; habitus flat in lateral view. ..... **II. *aubei*-group**

\- Elytra without notch; habitus less flat in lateral view. ..... **III. *platynotus*-group**

4 Pronotum not cordiform, largest width behind or in the middle; pronotal base almost as wide as elytra between shoulders. 5

\- Pronotum cordiform, greatest width in the middle or before the middle, straightly or concavely narrowed to base, which is smaller than elytra between shoulders. 8

5 Each elytron with a distinct costa and one or two additional weaker costae. ..... **IV. *bicostatus*-group**

\- Elytra without distinct costae, at most with longitudinal swellings. 6

6 Prosternal apophysis roof-like, without carina and distinct setae. ..... **V. *moestus*-group**

\- Prosternal apophysis with a sharp carina, sides broadened, flat, sculptured and with distinct setae (e.g. Fig. 25). 7

7 Pronotum broadest behind or near the middle; sides of elytra more rounded, habitus not parallel. ♂♂: median lobe dorsally parallel before apex which is sharply truncate. ..... **VI. *fairmairei*-group**

\- Pronotum broadest in the middle; sides of elytra less rounded, habitus more parallel. ♂♂: median lobe dorsally not parallel before apex. ..... **VII. *theryi*-group**

8 Pronotum without distinct longitudinal impression parallel to each side; not bulged, at most a little depressed near the sides or weakly bulged near the posterior angles. ..... **X. *parvicollis*-group**

\- Pronotum with a longitudinal impression parallel to each side, between impression and side broadly bulged. 9

9 Secondary puncturation on elytra larger, puncture lines imperceptible. Last visible abdominal segment with a distinct notch. Larger species (4.6 - 5.8 mm) from the western Mediterranean. ..... **VIII. *opatrinus*-group**

- Secondary puncturation on elytra smaller or almost invisible; puncture lines perceptible. Last visible abdominal segment without distinct notch. Smaller species (3.5 - 5.3 mm) from Greece, Asia Minor, and Caucasia. ..... **IX. *doriae*-group**

Description of the species

We have tried to keep the description of the species complete, but as short as possible. Thus characters which are used in the keys and those which are common for the genus or respective group are not repeated in the descriptions unless very prominent.

I. The *Deronectes latus*-group

This group includes three species, which differ from all other species of the genus due to the complicated structure of the male median lobe (Figs. 52 - 54) and the form of the last visible abdominal segment in females (Fig. 5). Furthermore they are characterised by their oval habitus, reddish brown colour, coarse punctures on pronotum and elytra, and the lack of longitudinal impressions beside the margins of the pronotum. Surface matt, puncture lines on elytra absent.

Major parts of ventral surface dark brown to black, sometimes with metacoxae and abdomen brownish. Legs brown, antennae brown, articles not darkened. Prosternal apophysis carinate, sides broadened and with setae. Metasternum, metacoxae and the first abdominal segment with coarse punctures. Last visible abdominal segment with a distinct notch (Figs. 4, 5).

The shape of the metacoxal cavities shows some peculiarities, which are however difficult to examine (see SHARP 1882: 866, FALKENSTRÖM 1939: 88).

♂♂: Protarsal claws elongate and straightened. Parameres (Figs. 55, 56, 57) very characteristic for the group, but variable and not reliable for distinguishing between the species.

♀♀: Each elytron in the posterior third, close to the margin with an unpunctured and often shining longitudinal swelling. Margins of the last visible abdominal segment with a characteristic sinuation before apex (Fig. 5). Posterior angles of the pronotum in all three species variable, in most cases more rounded than those of the males, sometimes even truncate (Fig. 3), but we have also studied females with angles more or less as rectangular as those of the males. Metacoxal lines less carinate, without distinct elevation.

The species of this group are distributed over large parts of Europe, *D. latus* is recorded from Turkey for the first time.

Key to the species of the *Deronectes latus*-group

1 Habitus more rounded, surface more shining, with puncturation less dense and prominent. ♂♂: apex of median lobe in lateral view less bent (Fig. 52) and broader. Smaller species (4.0 - 4.9 mm) with a wide distribution from the French Pyrenees to Russia and Turkey; in Italy only north of the Apennines. ..... **1. *latus***

- Habitus more oblong, surface less shining, with puncturation denser and more prominent. ♂♂: apex of median lobe in lateral view more bent and narrower. Lager species (4.4 - 5.1 mm). 2

2 Longitudinal swellings on elytra less prominent; median lobe Fig. 53. Species from Italy (Apennines). ..... **2. *angelinii* sp.n.**

- Longitudinal swellings on elytra more prominent; median lobe Fig. 54. Species from northern Spain. ..... **3. *angusi***

1. *Deronectes latus* (STEPHENS)

Hydroporus latus STEPHENS, 1829: 192. - LEPRIEUR 1876b: 105. - LEPRIEUR 1876c: 121. - LEPRIEUR 1876d: 53. - LEPRIEUR 1876e: 568. - SHARP 1882: 423.
Hydroporus ovatus STURM, 1835: 40.
Hydroporus castaneus HEER, 1837: 54.
Hydroporus (*Deronectes*) *latus* var. *pyrenaeus* SCHAEFER, 1930: 103.
Deronectes latus (STEPHENS): ZIMMERMANN 1932: 101. - GUIGNOT 1947: 135. - ZAITZEV 1953: 189. - FRANCISCOLO 1979: 435.
Deronectes (*Bartheus*) *latus* (STEPHENS): HOULBERT 1934: 65.

Type material:

Hydroporus latus: **Lectotype** ♂ (present designation): originally without labels, in a row together with the paralectotypes after a small label "latus" [hw Stephens], "Lectotype, Hydroporus latus Stephens, des. Fery & Brancucci 1989" [red] (BML). **Paralectotypes:** 1 ♂, 1 ♀, same as holotype, with the respective red paralectotype label (BML). **Type locality:** Great Britain, "Marton Lodge, Yorkshire".

Hydroporus castaneus: **Lectotype** ♂ (present designation): small light red triangular label and a second small label with "a", "Lectotype, Hydroporus castaneus Heer, des. Fery & Brancucci 1989" [red] (ETH); no further syntypes located. Prof. Dr. W. Sauter kindly communicated, that the triangular label means "ex. coll. Heer" and according to a hand-written catalogue the "a" means "Lac de Joux (Museum Escher)"; this is the locality mentioned by HEER in the original description. **Type locality:** Switzerland, Vaud, Lac de Joux.

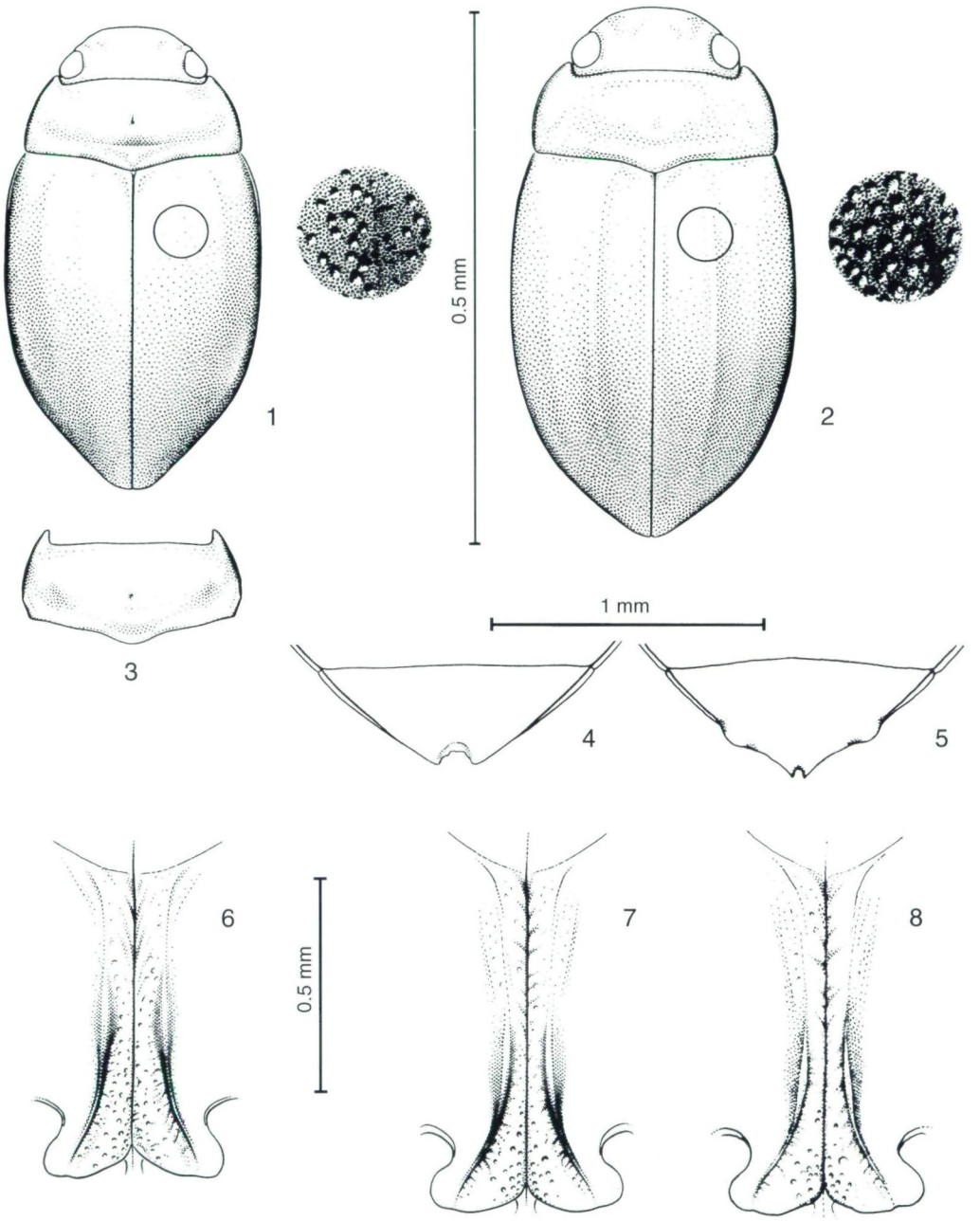
Hydroporus ovatus: We have found in the MNB nine specimens in a row after a large label "ovatus St." [hw Erichson], first specimen with "10134", the others with "Hist. Coll Nr. 10134" and "German", the 7th additionally with "ovatus St. Cat. *, Hercyn [= Harz]" [hw unrecognizable], the 8th with "58", the 9th with a small green label. We are not able to treat these specimens or some of them as syntypes of *H. ovatus*, because Erichson usually added an asterisk on the first label if syntypes. **Type locality:** Germany, "Halle in Preußen" and "Harz".

Hydroporus latus pyrenaeus: **Lectotype** ♂ (present designation): "Argelès, H. Pyr. [= Hautes Pyrénées] 13.5.30, L. Schaefer" [hw Schaefer], "Lectotype, Hydroprus (Deronectes) latus var. pyrenaeus Schaefer, des. Fery 1991" [red] (MNHN). **Paralectotype**: 1 ♀, "Argelès, H. Pyr. [= Hautes Pyrénées], 2.3.30, L. Schaefer" [hw Schaefer], "Type" [red], "v. pyrenaeus" [hw Schaefer] and the respective red paralectotype label (MNHN). **Type locality:** France, Pyrenees, Argelès (near Lourdes).

Remark: In accordance with article 45g of the International Code of Zoological Nomenclature 1985 the rank of the last taxon is subspecific, because SCHAEFER in his original description - which has been published before 1961 - not only stressed the different colour of the ventral surface, but also mentioned the probability that it might be "une race de l'ensemble de la chaîne" [of the Pyrenees]. Nevertheless we cannot find any distinct differences to specimens from central Europe.

Additional material: France: 4 exs., "Valmondois [NW Paris], Seine et Oise, 6. 91"; 3 exs., "Valmondois, 5.88"; 4 exs., idem, but "8.88"; 1 ex., "Morlaix [Bretagne], E. Hervé", "ovatus"; 1 ex., "Hydroporus Latus Stephens, Gehin, France", "67-56", "Deronectes latus Steph., J. Balfour-Browne det." [hw J. Balfour-Browne]; 1 ex., "France", "Vendé" [hw Sharp]; 2 exs., "France", "Rouen" [hw Sharp] (BML). 3 exs., "Gall. mer.", "Coll. Kraatz"; 2 exs., "Normandie", "Coll. Stierlin" (DEI). 1 ex., "Vienne, J. Perret"; 1 ex., "Fontaine de Vaucluse (Vaucluse), Dr A. Chobaut", "Coll. Reitter", "F. Guignot det., Deronectes latus

Steph." (HNHM). 4 exs., "Ariége, Aulus, VIII.1908"; 2 exs., "Vosges, Lac des Corbeaux, VIII.1928"; 1 ex., "Calvados, Figuefleur, 21.4.1901", coll. Guignot; 2 exs., "Rouen"; 2 exs., "Evreux", ex Leprieur, coll. Pic; 5 exs., "Evreux", coll. Sédillot; 2 exs., "Calvados, Figuefleur, 21.4.1901"; 1 ex., "Valmondois [NW Paris], G. Odier"; 1 ex., "Env. de Chevreuse, VI.27"; 1 ex., "Rouen"; 1 ex., "Vallé d'Andelle", coll. Bourgeois (MNHN). 5 exs., "2981", "Rouen, Coll. Chevrolat, Det. Sharp 82"; 1 ex., "2981", "Rouen, Coll. Leprieur", "Coll. Séverin, Determin. Leprieur 1891"; 1 ex., "Vichy"; 1 ex., "Gerardmer, A. Puton" [hw Puton], "Collection, Dr. Guignot"; 1 ex., "Franchimont, R. Hoegne, 13.VIII.47"; 19 exs., "Champeaux, Mche [= Manche] 7.95" (IRSN). 3 exs., "1500 m", "Aulus (Ariège), VIII 1908, Dr F. Guignot" (MGHN). 1 ex., "Valmondois, Seine et Oise", coll. Mancini (MCGE). 2 exs., Moloy [ca. 40 km NW Dijon], river l'Ignon, 14.3.1983, Leblanc leg. (CJF). **Italy:** 1 ♂, 2 ♀♀, "Treviso, Soligo, Minelli, 21.3.67" (CFA). 1 ♀, "Zaule b [= near]. Triest, E. Pretner" (MRTO). 1 ♀, idem (NMB). 2 ♂♂, 3 ♀♀, "Umg. Muggia [S Trieste], Istr. J. Müller"; 1 ♂, 4 ♀♀, "Trieste, IV.22, Dintorni Za [= Zaule]"; 1 ♀, "Zaule, Triest, 10.5.913"; 3 ♂♂, 1 ♀, "Rosandra [stream near Trieste], III.20"; 1 ♂, "Villanova Friuli [ca. 100 km N Udine] 9.18" (MCTR). 1 ♀, "Zaule, Pretner"; 1 ♀, "Triest Zaule, 10.5.1913"; 4 ♂♂, 2 ♀♀, "Trieste, Zaule, 19.10.1913, E. Pretner leg."; 1 ♀, "Trieste, Noghera, Ospa" (MCGE). 1 ♀ " Italia, Trieste, III.1921" (MCVR). 4 ♂♂, 1 ♀, "Trieste, Zaule 29-X-1913, E. Pretner" (CFP). **Great Britain:** 1 ex., "Bow, VII. 44", "N. Devon, England" (IRSN). 2 exs., "Haytor, S Devon" (MNHN). 5 exs., Scotland, Dumfriesshire, Ae Bridgend, 17.6.1946 (CRA). 2 exs., Hampshire, New Forest, Black-Water, 5.8.1987; 1 ex., Wales, Pembrokeshire, 6.5.1964, Angus leg.; 2 exs., Scottland, Dumfries, Stream Margloly Bridge, N Glenkiln, 11.6.1994, Bilton leg. (CHF). **Belgium:** 8 exs., spring of river Inde, S Aachen, 23.10.1980; 6 exs., Vesdre, between Eupen and Verviers, 15.5.1979, Dettner leg.; 1 ex., Roetgen, Vesdre, between Eupen and Verviers, 15.5.1979, Plymakers leg. (CKD). 2 exs., "Eupen, Bellesforterbrücke, Vesdre, 26.3.50, R. Mouchamps"; 64 exs., Eupen, diverse collectors (IRSN). 2 exs., "6.95, Versluys, Houthem [SE Ypern]"; 18 exs., Weser, near Eupen, 19.5.1993, Beutel leg. (NMW). **Netherlands:** 3 exs., Winterswijk, Ratum, Veldboomsweg, Ratumsbeek, 11.8.1982; 1 ex., Witten, Epen, Geul bij Bruck Epen-Camerig, 21.8.1978, Cuppen leg.; 1 ex., Oyerdinkel, Welpelo, Ruenbergerbeek, 21.4.1983, Enserink leg. (CJC) (see also CUPPEN 1988). **Germany**: 26 exs., near Clausthal, Riehn, 3.9.1909, 28.8.1909, 29.8.1909 and IX.1913, "Coll. Dr. Ihssen"; 1 ex., near Hamburg, Sachsenwald, 9.6.1922, "Coll. Dr. Ihssen"; 4 exs., "Berlin"; 1 ex., "Einsdetten, Rheinland"; 1 ex., "Thüringen"; 1 ex., Saxonia, Kleinröhrsdorf, 2.6.1922 (MNB). 2 exs., Bavaria, Walchensee, 19.9.1976, Hebauer leg. (HNHM). 1 ex., "Saxe, Coll. Chevrolat, Det. Sharp 82" (IRSN). 5 exs., Bavaria, Walchensee, 20.10.1975 and IX.1976, Hebauer leg. (CFA). 9 exs., "Nordeiffel, Kalltal, near Zerkall, 1980"; 9 exs., Bavaria, Fichtelgebirge, Fichtelseemoor, 20.7.1991, 21.8.1991 and 19.9.1991, Dettner leg. (CKD). 15 exs., Bavaria, Walchensee, 1.9.1976, Hebauer leg. (CHF). **Switzerland:** 1 ex., "Lausanne, Rolle V.", "Deronectes latus Steph." (MNB). 1 ex., "Swiss" (IRSN). 1 ex., "Lausanne", coll. Fairmaire (MNHN). **Austria:** 2 exs., "Austria", "latus" [green, hw Leprieur], "Deronectes latus Steph., Coll. Reitter" (HNHM). 3 exs., Schwechat, 14.6.1980 (NMW). 2 exs., "Styria", "Collectio Kaufmann"; 3 exs., "Kritzendorf A.i., coll. Vogel" (IRSN). 2 exs., "Stiria, 1875, D. Horvath", "D. latus Steph., teste D. Sharp" (MCGE). 2 ♀♀, "Austria Vorarlberg, Langen b. Bregenz, Kirchwald 25.5.94, 570 m Molassebach, leg. Ing. Kapp 2472" (CAK). **Denmark**: 1 ex., "Norholm, 4/7-18", "Dania", "E. Rosenberg", "Paul Meyer 1927" (DEI). **Norway:** 3 exs., "Norwegen, Kongsberg, Ths Münster", "Coll. Paul Meyer, 1909" (DEI). **Sweden:** 2 exs., Västerbotten, Avanes, Vindeln, 26.7.1983; 3 exs., idem, Boksholmen, Lunea; 1 ex., Halland, Rolfsan, Gasevadholm, 10.5.1985; 1 ex., Norrbotten, Rane alv, Klingersa, 1.7.1986, Nilsson leg. (CHF). **Poland:** 1 ex., "Schmiedebg. [S Legnica, Silesia], 14.VIII.19, Dr. Feige"; 1 ex., "Hessberge [Silesia] ... [illegibel]", "Coll. Schilsky", "Deronectes latus Steph." (MNB). 1 ex., "Liegnitz" [= Legnica], "Coll. Letzner-Rottenberg" (DEI). 5 exs., "Pommern, Coeslin, Lüllwitz", "Deron. latus Steph., Coll. Reitter" (HNHM). 4 exs., "Schlesien [= Silesia], Letzner" (DEI). 1 ex., "Silesia" [hw Wehncke], ex Wehncke, coll. Oberthür (MNHN). **Czech Republic:** 2 exs., "Böhmerwald, Schwarzer See, 1010 m, 29.7.1912, H. Hedicke S. G."; 1 ex., "Erzgeb. [= Erzgebirge] ... [illegible]", "Coll. Schilsky" (MNB). 1 ex., Moravia bor., Visné Lhoty, 5.5.1996, Mantic leg. (CJS). **Belarus:** 1 ♂, 1 ♀, Minsk, Volozhensk district, Pervomaisky, Isloch river, 4.6.1996; 1 ♂, 1 ♀, 2 km SE Vitebsk, 1.9.1994, Shaverdo leg. (CHS). **Russia:** 1 ex., "Königsberg", "Coll. Letzner-Rottenberg" (DEI). 1 ex., "Koenigsberg" (IRSN). **Slovenia:** 6 exs., "Wochein, Diener, 1898", "coll. Dr. J. Fodor" (HNHM). **Croatia:** 1 ♂, "Hydroporus latus, Dalmatia, Erber", "80", "80 Hydr. latus, Dalmatia, Erber"; 1 ♂, 1 ♀, "Austria, Croatia" (ZMSP). 1 ♀, "Istr. Sicciole [ca. 60 km SSW Trieste], 17.4.1938, Springer leg." (MCGE). **Bosnia:** 2 exs., "Apfelbeck, Lubin.-Th., bei Saraj. [= near Sarajevo]", "D. latus, Coll. F. Speiser" (HNHM). 14 exs., Jahorina, W Bare [SE Sarajevo], Rijeka Cemernica, 1000 m, 14.6.1990 (CRG, CHF). **Montenegro:** 1 ♀, Vasojevici, R. Lim and Andrejevica, 750 m, 6.6.1990, Bückle and Gerecke leg. (CRG). **Bulgaria:** 1 ♂, "Vitosa plan., Bulg./9.V.39,



Figs. 1 - 8: (1 - 2): Habitus of (1) *Deronectes latus*, (2) *Deronectes angusi*; (3 - 5): (3) *Deronectes latus*: (3) pronotum (♀) with posterior angles truncate, (4) last visible abdominal segment, ♂; (5) idem, ♀; (6 - 8): (6) Metacoxal lines of *Deronectes latus*, (7) *Deronectes angelinii* sp.n., (8) *Deronectes angusi*.

Turkey: 2 ♀♀, Erzurum, road between Tortum and Erzurum, stream, 19.7.1992, Mazzoldi leg. (CPM) (**first record from Turkey**). **Doubtful locality:** 1 ex., "Alger, Poupill." [green], coll. Fairmaire (MNHN).

Remark: The following data have been communicated by C. Brandstetter and are used in the distribution map (Fig. 126) also: 2 exs., Austria, Salzburg, Faistenau, Tauglbach, 31.5.1993; 7 exs., Salzburg, Fuschl, 28.4.1993; (COLDAT, "Datenbank des ersten Vorarlberger Coleopterologischen Vereins (Bürs)"; unpublished data).

Diagnosis: Habitus: Fig. 1. Head, sides of pronotum, sides, first third and apex of elytra often paler than the rest of the brown surface, especially in living material. Suture darkened. Old material mostly uniformly dark brown in colouration. Pronotum with a slight impression near the posterior angles. Each elytron with two very slight longitudinal swellings on the disc and another broad swelling in their posterior half near the margin, but all often indistinct.

♂♂: Median lobe: Fig. 52; paramere: Fig. 55. Metacoxal lines carinate, almost parallel, anteriorly often distinct, the maximum elevation of the carinae is situated in the middle of the lines (Fig. 6). Last visible abdominal segment (Fig. 4).

♀♀: Distinctly different from males (see the common characteristics of the group); last visible abdominal segment: Fig. 5; a specimen with posterior angles of pronotum truncate in Fig. 3.

Measurements (mean values in brackets): TL 4.0 - 4.9 mm (4.44 mm), MW 2.2 - 2.6 mm (2.44 mm), ratio of TL/MW 1.76 - 1.89 (1.82).

Remarks: Specimens from England, Sweden, and Germany often have a puncturation on the elytra which is somewhat denser and more prominent than in specimens from e.g. France, northern Italy, and Croatia.

The two females from Turkey have the surface rather matt and with a somewhat denser puncturation and the longitudinal swellings more distinct than usual; the posterior angles of the pronotum are neither strongly rounded nor truncate. We cannot exclude the possibility that Turkish populations represent a distinct subspecies or even species, but prefer to avoid further speculations in the absence of males (TL 4.5 - 4.6 mm, MW 2.5 mm, ratio of TL/MW 1.80 - 1.84).

Distribution: From the French Pyrenees over most parts of Europe (in Italy only north of the Apennines); northern and central parts of the European (former) USSR (ZAITZEV: 1953: 189); Turkey? (first record) (Fig. 126). In this figure we have also used records from Sweden given by NILSSON & PERSSON (1989: 100) and from Denmark given by M. Holmen (personal communication). In addition NILSSON & HOLMEN (1995: 78) give eastern Finland, all three Baltic states, and Karelia.

2. *Deronectes angelinii* sp.n.

Deronectes latus (STEPHENS): LUIGIONI 1929: 158. - FRANCISCOLO 1979: 435. - ANGELINI 1984: 75.

Type locality: Italy, Lombardia, Pavia, Varzi, Val Staffora.

Holotype (♂): "31.6.1991, Italia, Lombardia, Pavia prov., Val Staffora, nr. Varzi, Toledo leg.", "Holotype, Deronectes angelinii sp.n., Fery det. 1997" [red] (CHF). **Paratypes:** 7 ♂♂, 10 ♀♀, same data as holotype (CMT, CHF). 1 ♂, 1 ♀, "I Lombardia PV, Val Staffora, 30.VI.1991, leg. Toledo M.", "Bed of Staffora, near

S. Ponzo m. 281" (CJF). 9 ♂♂, 3 ♀♀, "I-Val Staffora PV, Castano, 30.VI.1991, leg Mazzoldi P.", "River Staffora, 440 m", "Deronectes latus (Steph.), det. Mazzoldi 1992" (CPM, CHF). 1 ♂, 2 ♀♀, "Carro, Pavareto Cave, La Spezia, Torr. Trave, 14-8-1991, N. Sanfilippo"; 2 ♀♀, "Carro, La Spezia, Torr. Trave, 17-V-1992, N. Sanfilippo"; 1 ♀, "Carro, La Spezia, Rio Romaceto, 8-V-1992, N. Sanfilippo"; 1 ♀, "Carro, La Spezia, Rio Vecchia, 27-VII-1993, N. Sanfilippo"; 1 ♂, 1 ♀, " Carro, La Spezia, Rio Fiumicello, 7-VI-1985, N. Sanfilippo"; 1 ♀, " Carro, La Spezia, Rio Fiumicello, m 450, 1-VI-1985, N. Sanfilippo", "Deronectes latus (Steph.), Fery det. 90"; 3 ♂♂, 1 ♀, "Genova, Rio di Creto, 10-V-59, N. Sanfilippo" [hw Sanfilippo]; 1 ♀, "Albisola Lig., T. Sansobbia, 10-X-54, Sanfilippo" [hw Sanfilippo]; 1 ♀, "Fornovo di Taro [ca. 20 km SW Parma], torr. Ceno, m. 200, 4-VI-78, N. Sanfilippo"; 2 ♀♀, "Lig. Occ. Ellera, T. Sansobbia, 6-VII-47, Sanfilippo" [hw Sanfilippo]; 2 ♂♂, 4 ♀♀, "Rio delle Valle Montesordo, Finale Lig., Franciscolo, 19-4-54" [hw Franciscolo], "Liguria Occ."; 1 ♂, 2 ♀♀, "Rio Creto, Foce nel F. Scrivia, Genova, Franciscolo, 8-V-55" [hw Franciscolo]; 3 ♀♀, "Novara, Lago d'Orta, 27-VIII-904, Casiccia"; 1 ♂, 2 ♀♀, "foce t. Bagnetta, m 290, riva destra", on backside "Lago d'Orta, 27 agosto 1904", "Novara Piem., Lago d'Orta, Foce torr. Bagnetta, 7.8.1904, Casiccia ...."; 1 ♂, "Piemonte, Calizzano, Piem., F. Invrea, VII-22"; 1 ♀, "Calizzano, Piem. VII-1922, F. Invrea" (CNS). 3 ♂♂, 2 ♀♀, "Liguria occ., Finalborgo, Rio Valle Montesordo, 10.3.57 Franciscolo" [hw Binaghi], one male with additional "latus subsp. enotriae, n. subsp. Binaghi" [hw Binaghi]; 1 ♂, "Liguria occ., Finalborgo, Rio Valle Montesordo, 10.3.57 M. Franciscolo" [hw Franciscolo]; 4 ♂♂, 2 ♀♀, "Liguria, Final Borgo, 12-55, Ghidini"; 2 ♀♀, "Liguria, Rio di Creto, Genov. 10.V.59, Binaghi" [hw Binaghi]; 1 ♂, 1 ♀, "App. Ligure, Cabella Ligure, torrente Borbera, 1-V-64, Binaghi" [hw Binaghi], coll. Binaghi; 1 ♂, 3 ♀♀, "Casella, Valle Scrivia [near Genova], VII-IX 1935, C. Mancini"; 3 ♀♀, "Casella, Valle Scrivia, VIII-X 1936, C. Mancini"; 1 ♂, "Genova, Rio di Creto, 10-V-59, Sanfilippo" [hw Sanfilippo], "Deronectes latus, Det. Sanfilippo" (MCGE). 3 ♀♀, " Carro, La Spezia, Rio Fiumicello, m 450, 7-VI-1985, N. Sanfilippo", "Deronectes latus (Steph.), Fery det. 90"; 3 ♀♀, "Genova, Rio di Creto, m 600, 10-V-1959, N. Sanfilippo", "Deronectes latus (Steph.), Fery det. 90"; 2 ♂♂, 1 ♀, "Liguria Occ., Albisola torr., Sansobbia m 50, 10-X-1954, N. Sanfilippo" [hw Sanfilippo], "Deronectes latus (Steph.), Fery det. 90"; 2 ♂, 1 ♀, "Cabella Lig., Piem. torr. Borbera m 500, 1-V-1964, N. Sanfilippo", "Deronectes latus (Steph.), Fery det. 90" (CNS, CHF). 3 ♂♂, 1 ♀, "Genova, Rio di Creto, 10-V-59, Sanfilippo" [hw Sanfilippo], "Deronectes latus Steph., Det. Sanfilippo" (MRTO). 1 ♂, "Lig. Occ. Ellera, T. Sansobbia, 6-VII-1947, Sanfilippo" [hw Sanfilippo]; 1 ♀, "Casella, Valle Scrivia, VII-IX 1932, C. Mancini" (MCVR). 1 ♀, "Liguria, Albenga (SV) [= Savona] torr. Centa, 2/IX/73, leg. Angelini F."; 1 ♂, 1 ♀, "dint. Vignale (NO) [= Novara, W Milano], 4-IV-82 Pescarolo", "Deronectes latus"; 1 ♂, "Piemonte, Vignale (NO) [= Novara, W Milano], 18.IX.77, leg. Pescarolo" (CFA). 1 ♂, 1 ♀, "Liguria, Final Borgo, 11.XII.1955, Ghidini", "Deronectes latus, det. Ghidini?" (CPM). 1 ♀, "Varzi (PV) [= Pavia], T. Staffora, Schizerrotto, 31.V.92"; 3 ♀♀, "Genova, Rio di Creto, 10.5.59, Sanfilippo", "Deronectes latus Steph., Det. Sanfilippo 60"; 1 ♀, "Liguria, T. Sansobbia, Ellera, 6-VII-47, Sanfilippo"; 1 ♀, "Appennino Parmense, Varano de Melagari [ca. 30 km SW Parma], Vianino, Torr. Ceno, m. 250, 4/6/1978, leg. F. Pederzani" (CFP). All paratypes with the respective red label.

Additional material: Italy: 1 ♂, "12427", "Sicily", "Fry Coll., 1905-100" (BML). 1 ♀, "Piemonte, Torino, Mirafiori .....[illegible], 28-III-921, Capra", "Deronectes latus Steph." (MCGE). 1 ex., "Lombardie, Coll. Chevrolat, Det. Sharp 82" (IRSN). 2 ♂♂, "Sila, Acri (CS) [= Cosenza] m 499, F. Mucone, 20.VII.71 Angelini", one specimen with additional "Deronectes latus", "oenotriae Binaghi in litteris, det. Pederzani"; 1 ♀, "I. d'Elba, Marciana m. 400, Uviale di Marciana, 2-IX-63 Pederzani", "Deronectes n.ssp., det Angelini F."; 2 ♂♂, 1 ♀, "Monti Picentini [ca. 80 km E Napoli], Bagnoli Irpino (AV) [= Avellino], f. Calore m 500, 6-8-72, leg. Angelini F." (CFA). 2 ♂♂, 1 ♀, "Turania (RI) [= Rieti], F. Turano [ca. 40km S Rieti], 22.9.93 Volpe"; 2 ♂♂, "Acri, F. Mucone, (CS) [= Cosenza] 20-VIII-1971, leg. Angelini F." (CFP). 2 ♂♂, "Piemonte, 28.-VII-40, Pianfei" (CNS). 4 ♂♂, "I. d'Elba, Marciana m. 400, Uviale di Marciana, 2-IX-63 Pederzani" (MCVR, CFP, CHF). 2 ♂♂, "Is. d'Elba, Marciana, 24-VI-73, N. Sanfilippo" (CNS, CHF).

Diagnosis: Habitus oval, like that of *D. angusi* (Fig. 2), a little more oblong than in *D. latus*. Colour of surface brown, often with head, sides and disc of pronotum, first third, sides and apex of elytra paler. Head with very fine primary puncturation and a few coarse punctures, which become denser before frons. Pronotum with coarse punctures, with two areas alongside the middle more or less lacking these punctures, thus more shining; slight impressions near the posterior angles. Elytra less rounded than in *D. latus*, with a secondary puncturation which is on average coarser than in *D. latus*, but less coarse than

in *D. angusi*. Longitudinal swellings on the disc more prominent than in *D. latus*, but less than in *D. angusi*. Marginal swelling in the posterior half prominent.

Ventral surface dark brown, head, parts of prosternum and metacoxae a little paler. Metacoxae with coarse punctures, which are less prominent on metasternum. Legs brown, partially darkened. Antennae brown, not darkened distally.

♂♂: Median lobe (Fig. 53) like that of *D. angusi*, but in lateral view with apex less bent, thinner and without dorsal elevation as in *D. latus*. Paramere: Fig. 56. Metacoxal lines carinate, the maximum elevation of the carinae is situated behind the middle (Fig. 7), but not as far back as in *D. angusi* (Fig. 8). Last visible abdominal segment as in *D. latus* (Fig. 4).

♀♀: Distinctly different from males (see the common characteristics of the group); last visible abdominal segment as in *D. latus* (Fig. 5), as well as posterior angles of pronotum sometimes truncate (Fig. 3).

Measurements (mean values in brackets): TL 4.4 - 5.0 mm (4.74 mm), MW 2.3 - 2.7 mm (2.49 mm), ratio of TL/MW 1.85 - 2.0 (1.90).

Distribution: Italy, Apennines, including Sicily and Elba, replaced by *D. latus* to the north of the Apennines (Fig. 126).

Remark: We have been tempted to treat *D. angelinii* sp.n. as a subspecies of *D. latus* because of their close geographical distribution. The new species' similarity to *D. angusi* with respect to the habitus, the shapes of the metacoxal lines and the median lobe confirm its separate status however.

Derivatio nominis: We name this species in honour of the Italian entomologist Fernando Angelini, who has supported our work with a lot of material and important information.

3. *Deronectes angusi* FERY & BRANCUCCI

Deronectes latus (STEPHENS): BRANCUCCI 1981: 96. - GONZÁLEZ & NOVOA 1988: 64. - RICO & al. 1990: 104.
Deronectes angusi FERY & BRANCUCCI, 1990: 430.

Type locality: Spain, Burgos, SE Arlanzon, Pineda de la Sierra.

Holotype (♂): "22.5.90, España, Prov. Burgos, SO Arlanzon, Pineda de la Sierra, Bach [= brook], Fery leg.", "Holotype, Deronectes angusi n.sp., det. Fery & Brancucci" [red] (NMB). **Paratypes:** 13 ♂♂, 11 ♀♀, same data as holotype; 4 ♂♂, 3 ♀♀, idem, but 13.6.1990 (NMB, MNB, NMW, BML, CGF, CGW, CRA, CNS, CHF). 1 ♀, idem, but 22.7.1989 (CHF). 1 ♂, "Rio Arlanzon s/barrage, 14.6.1960, Aubert leg." (MHNG). 2 ♀♀, "Lugo, Neira de Rei, Baralla, 10.8.1986 González leg." (CJG). 7 ♂♂, 3 ♀♀, "6.6.90, España, Prov. Lugo, Baleira, Camporredondo [near Fonsagrada], Fery leg." (CJF, CHF); all paratypes with the respective red label.

Additional material: Spain: 1 ♀, same data as holotype, 15.7.1991, Fresneda leg. (CJF). 18 exs., Lugo, Camporredondo, near Fonsagrada, 5.7.1992 and 27.6.1993; 7 exs., León, Noceda, NE Ponferrada, 27.6.1993, Fery leg. (CHF).

Remark: D. Bilton has communicated to have seen specimens from La Coruña province (coll. C. de Paz, Santiago de Compostela, Spain).

Diagnosis: Habitus more oblong than in *D. latus* (Fig. 2). Surface coloured like that of *D. latus*. Coarse punctures on the surface on average denser and coarser than in *D. latus*, longitudinal swellings of the elytra more distinct, particularly the one near the margin in posterior half. Impressions near the posterior angles of pronotum indistinct.

♂♂: Median lobe: Fig. 54; paramere: Fig. 57. Metacoxal lines carinate, almost parallel, distance between them smaller than in *D. latus*, anteriorly mostly indistinct. The maximum elevation of the carinae in contrast to *D. latus* distinctly behind the middle of the lines (Fig. 8). Last visible abdominal segment as in *D. latus* (Fig. 4).

♀♀: Distinctly different from males (see the common characteristics of the group); last visible abdominal segment as in *D. latus* (Fig. 5). Posterior angles of pronotum in most specimens studied somewhat truncate (Fig. 3).

Measurements (mean values in brackets): TL 4.6 - 5.1 mm (4.88 mm), MW 2.4 - 2.7 mm (2.57 mm), ratio of TL/MW 1.76 - 2.0 (1.90).

Distribution: Northern regions of Spain (Fig. 126).

Remark: Robert Angus has found distinct differences between the chromosomes of *D. latus* and *D. angusi* (personal communication; see FERY & BRANCUCCI 1990: 432).

II. The *Deronectes aubei*-group

The striking characteristic of the three species of this group is a notch behind the shoulders of the elytra. They have a relatively parallel, stocky habitus, because the pronotum is widest near the middle or behind, with the base not narrower than the elytra between the shoulders and its maximum width not much less than that of the elytra. The elytra are depressed, resulting in a rather flat habitus in lateral view. Pronotum with longitudinal impressions parallel to each side. Pronotum and elytra with distinct short setae, which may be lost.

Prosternal apophysis with a sharp carina, sides broadened and with distinct setae. Last visible abdominal segment without notch. Antennae reddish, not darkened.

All species are very similar and their determination is difficult, particularly in the females. Males of *D. aubei aubei* and *D. aubei sanfilippoi* ssp.n. can easily be separated from those of *D. semirufus* and *D. delarouzei* on the shape of the median lobe. We have found constant differences in the inner concave surface of the median lobe also, but this feature is hard to recognise. For the last two species differences in larval morphology have been observed by DETTNER & al. (in preparation).

The area of distribution of the group is divided in two by the valley of the Rhone in France: *D. aubei aubei* and *D. semirufus* living to the east of this valley and *D. delarouzei* and *D. aubei sanfilippoi* ssp.n. to the west of it (Fig. 127). We assume that *D. aubei aubei* and *D. aubei sanfilippoi* on the one hand and *D. semirufus* and *D. delarouzei* on the other are descended from two species, formerly distributed over large parts of central and southern Europe. Through geographical isolation the populations east and west of the Rhone have differentiated into the four taxa recognised today.

Key to the species of the *Deronectes aubei*-group

1 Pronotum parallel behind middle or even slightly diverging; notch behind the shoulders usually less prominent. In lateral view margin of the elytra less sinuate and habitus more depressed (Fig. 12). Mature specimens mostly reddish to dark brown. ♂♂: median lobe in dorsal view narrowed far before the apex, only slightly converging to the apex (Figs. 58, 59). 2

- Pronotum behind middle slightly converging; notch behind the shoulders usually very prominent. In lateral view margin of the elytra strongly sinuate and habitus less depressed (Fig. 13). Mature specimens mostly dark brown or black. ♂♂: median lobe in dorsal view not narrowed, evenly converging to the apex (Figs. 60, 61). 3

2 Subspecies from mountain ranges of middle Europe, northern Italy, and France east of the Rhone. ..... **4a.** ***aubei aubei***

- Subspecies from mountain ranges of northern Spain, and France west of the Rhone. ..... **4b.** ***aubei sanfilippoi*** **ssp.n.**

3 Species from Italy and the French Alpes Maritimes. ..... **5.** ***semirufus***

- Species from the Pyrenees. ..... **6.** ***delarouzei***

4a. *Deronectes aubei aubei* (MULSANT)

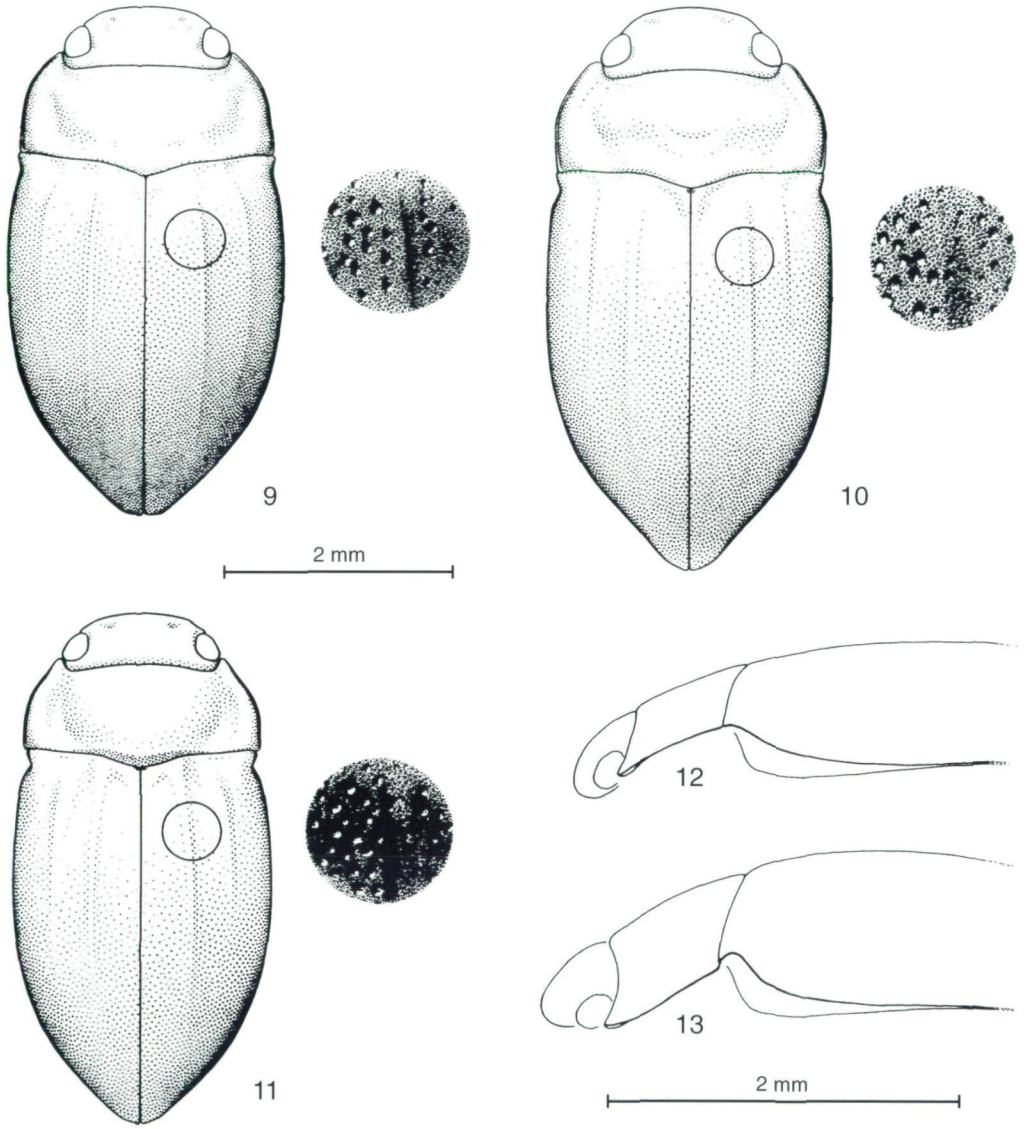
Hydroporus Aubei MULSANT, 1843: 276, 277. - SCHAUM 1864: 112 (partim). - LEPRIEUR 1876b: 105. - LEPRIEUR 1876d: 53. - LEPRIEUR 1876e: 569. - SCHAUM & KIESENWETTER 1868: 51.
Hydroporus semirufus GERMAR: LEPRIEUR 1876c: 122. - SHARP 1882: 422 (partim).
Deronectes semirufus (GERMAR): SEIDLITZ 1887: 51 (partim).
Deronectes Aubei (MULSANT): ZIMMERMANN 1919: 184 (partim). - GANGLBAUER 1904: 354 (partim). - ZIMMERMANN 1932: 101 (partim). - GUIGNOT 1947: 136 (partim).
Deronectes aubei (MULSANT): GHIDINI & SANFILIPPO 1961: 82. - FRANCISCOLO 1979: 436.

Type locality: France, "Guier mort, au pied des montagnes de la Grande-Chartreuse" (near Grenoble).

Lectotype ♂ (present designation): first specimen in a row of three, after a label "Aubei Muls:*, Alp. Gall. Muls.", "10133", "Zool. Mus. Berlin", "Lectotype, Hydroporus aubei Mulsant, des. Fery & Brancucci 1996" [red]; the next two specimens in the row are syntypes of *H. semirufus* (see below) (MNB).

Remark: According to PAULIAN (1944) the syntypes of *Hydroporus aubei* as well as other types in Mulsant's collection must be assumed to be destroyed. Nevertheless we suppose that the lectotype belongs to the syntype series and may have come to the MNB through the exchange of material.

Additional material: France: 2 ♂♂, 2 ♀♀, only a small round white label, coll. Rey (MGHN); the legend in a catalogue of Rey, held in the MGHN, indicates that this label refers to la Grande Chartreuse; there is, however, no evidence that this might be syntypes of *H. aubei*. 2 exs., "Gallia mer.", "Coll. C. Felsche, Geschenk [= gift] 1907" (SMTD). 1 ex., "St Martin-Vésubie (Alpes Maritimes), Ste Claire Deville", coll. Oberthür; 2 exs., "St Martin-Vésubie, (Alp. M.) VIII.1933, L. Schaefer", coll. Guignot (MNHN). 3 exs., Menton, river Bevera, 29.9.1971, Sanfilippo leg. (CNS). 15 exs., Alpes Maritimes, Sospel, Moulinet, 900 m, 24.8.1985, 12.7.1988 and 30.7.1991, Fery leg. (CRA, CHF). **Italy:** 19 exs., Val Pesio, 12.7.1909, Pinker leg. (IRSN). 1 ex., "1. Prov. Cuneo 6. 27, Crissolo 1300-1500 m, Paul Meyer leg.", "semirufus Germar"; 3 exs., "Certosa di Pesio, Ligur. Alp., 20.7.1911" (DEI). 4 exs., Tuscany, Coloretta (Massa), torrente Gordana, 700 m, 6.8.1972; 1 ex., Appennini Parmense, Corniglio dint., Lago Scuro, 1500 m, 24.7.1987; 9 exs., Piemonte, Boves, torrente Colla, 750 m, 14.7.1961; 1 ex., Piemont, Terme di Valdieri, torrente Gesso, 750 m, 23.9.1982; 5 exs., Liguria, Varese Liguria, torrente Borsa, 350 m, 25.5.1985; 4 exs., Belluno-Agordo, Rio Valle di Solan [= Dolomites, Venezia Giulia], 23.9.1962; 1 ex., Val Pesio, Ardua, torrente Pesio, 1000 m, 25.6.1990; 2 exs., Novara, Gignese, Mte Mottarone [Lago Maggiore, Lombardia], 700 m, 19.8.1963; 2 exs., Piemont, Alpi Graie, Ponte Canavase [ca. 50 km N Torino], torrente Soana, 20.7.1961; 10 exs., Tenda, Alpes Maritimes, Lago Miniera, 26.7.1958; 12 exs., Piemonte, Domodossola, Val Vigezzo, 800 m, 4.7.1961, Sanfilippo leg. (CNS, CHF). 5 exs., "Nava, Alpi Marittime, 20-30-VIII-1924 F. Solari", "Aubei, det. Dodero, 1929 [?]"; 1 ♀, "Valle Ampola, Giudicarie, Trentino, C. Mancini 1917", coll. Mancini (MCGE). 5 exs., Giazza, Verona, Malga di Porto di Sopra, 1200 m, 1.5.1981, Sette leg.; 1 ex., "Piemonte 900 s/m, Bossea [ca. 25 km S Mondovi] (CN) [= Cuneo], 8-1971, leg. M. Meregalli"; 1 ex., "Piemonte 2000 SLM, 17-8-1970, Malciaussia (v. Viu), L. nero, legit D. Gianasso"; 1 ex., "Trentino, Monte Baldo, m. 1000, 19.V.28", on backside "Pra d. Stua., Avio", "Deronectes aubei Muls, det Angelini 1973"; 1 ex., "Cuneo,



Figs. 9 - 13: (9 - 11): Habitus of (9)*Deronectes aubei aubei*, (10) *Deronectes semirufus*, (11) *Deronectes delarouzei*; (12 - 13): Margin of elytra in lateral view of (12) *Deronectes aubei aubei*, (13) *Deronectes semirufus*.

Pietraporzio m 1200, F. Stura di Demonte, 2.9.64 Coll. G. Sama", "Deronectes aubei Muls., det. Pederzani" (MCVR). 4 exs., Lombardia, Brescia, Gardone Val Trompia, Val d'Inzino, 6.10.1985, Toledo leg. (CJS). 1 ♀, "Italia Lombardei 3125, Val Taleggio Olda [N Bergamo], 640 m 22.6.1995, Ufer, leg. Ing. Kapp", "Deronectes aubei, Ing. Kapp det. 1996" (CAK). 3 ♂♂, 1 ♀, Tuscany, Casoli, N Lucca, Rio Lombricese, ca. 400 m, 3.9.1991; 1 ♂, 1 ♀, Tuscany, Casoli, N Lucca, 11.9.1992, Dettner leg. (CKD). 1 ♂, Parma, Anzola, torrente Ceno, 19.5.1992, Toledo leg. (CMT). 1 ex., "Italia (BS) [= Brescia], Val Cavellina, 570 m, 13.VI.87, Grottolo M. leg." (CCB). 10 exs., Lombardia, Brescia, Valle della Cavallina, Pezzaze, 13.6.1987,

Mazzoldi leg. (CPM, CJF, CHF). 2 exs., Piemont, Col de la Lombarde, 2100 m, 4.10.1983, Fery leg. (CHF). **Switzerland:** 9 exs., Ticino, Cabio, Val di Muggio, 544 m, 30.7.1983, Brancucci leg. (NMB) (further records in BRANCUCCI 1984: 31). **Austria:** 1 ♂, Vorarlberg, Rankweil Weitried, Frutz-Au, 430 m, 27.4.1994, Kapp leg. (CAK) (see also BRANDSTETTER & KAPP 1995: 177). **Germany:** 1 ex., "Schwarzwald" [= Black Forest], "Coll. Kraatz", "Zimmermann det." (DEI). 4 ♀♀, "Aubei, Schwarzwald [= Black Forest], Mayer", "Aubei" [hw Ganglbauer?], "Deronectes aubei (Muls.), det. Wewalka" (NMW) (all specimens light reddish brown; see GANGLBAUER 1904: 353). 1 ex., "Rippoldsau [W Freudenstadt, Black Forest]", "coll. Stierlin" (together with *D. platynotus platynotus*); 1 ex., "Rippoldsau", "coll. Stierlin", "H. Aubei Muls., v. Heid." [hw Stierlin] (DEI). 1 ♀, Black Forest, Baden-Württemberg, Tränklesbach, 28.10.1993, Süselbeck leg. (CGS) (see SÜSELBECK 1997: 105). **Doubtful localities:** 2 exs., "Sardinien, Coll. O. Leonhard" [hw Leonhard], one of them with additional "Hydrop. Aubei Muls." [hw Leonhard]; 1 ex., "Schlesien [= Silesia, Poland], Letzner", "Zimmermann det." (DEI). 1 ♀, "Eure" [Eure and Loire department, W Paris], "D. semirufus Grm., Coll. F. Speiser" (HNHM).

Diagnosis: Habitus: Fig. 9. Mostly light reddish brown to brown, particularly when alive, otherwise often darker. Head and posterior angles of pronotum paler. Sides of pronotum in posterior half parallel or slightly diverging. Large punctures on elytra distinct. Longitudinal swellings on elytra weak, almost unpunctured. Margin of elytra in lateral view less sinuate behind shoulders (Fig. 12).

Ventral surface reddish brown, centre of metasternum darkened, abdomen black, except the posterior margins of the abdominal segments. Legs reddish brown. Larger punctures on metacoxae distinct, on metasternum very sparse. Metacoxal lines distinctly diverging forwards.

♂♂: Median lobe (Fig. 58) in dorsal view large in basal half, then narrower and almost parallel, tapering to the apex in distal third; in lateral view with a large base, in apical third less broad than in *D. aubei sanfilippoi*; inner concave surface rather flat or rounded in cross-section, not roof-like, with a small but distinct carina in the middle third. Paramere: Fig. 62. Protarsal claws somewhat elongate and straightened.

♀♀: Without conspicuous differences to males.

Measurements: TL 4.1 - 4.6 mm, MW 2.0 - 2.3 mm.

Distribution: France east of the Rhone, Northern Italy, South Switzerland, Western Austria, Southwest Germany (Schwarzwald [= Black Forest]) (Fig. 127). Records from the "Riesengebirge" and "Schlesien" (Poland) seem to be incorrect (HORION 1941: 398). The record from Calabria (FRANCISCOLO 1961: 160) requires confirmation.

4b. *Deronectes aubei sanfilippoi* ssp.n.

? *Hydroporus Aubei* MULSANT: SCHAUM 1864: 112 (partim). - LEPRIEUR 1876d: 54 (partim). - LEPRIEUR 1876e: 570 (partim).
? *Hydroporus semirufus* GERMAR: SHARP 1882: 422 (partim).
? *Deronectes semirufus* (GERMAR): SEIDLITZ 1887: 51 (partim).
? *Deronectes Aubei Delarouzei* (JACQUELIN DU VAL): ZIMMERMANN 1919: 184 (partim). GANGLBAUER 1904: 354 (partim). - ZIMMERMANN 1932: 102 (partim).
? *Deronectes Aubei* var. *semirufus* (GERMAR): GUIGNOT 1947: 136 (partim).
? *Deronectes Delarouzei* (JACQUELIN DU VAL): GUIGNOT 1947: 137 (partim).
Deronectes aubei semirufus (GERMAR): GHIDINI & SANFILIPPO 1961: 84.
Deronectes aubei (MULSANT): RICO & al. 1990: 101.

Type locality: Spain, Oviedo, Picos de Europa, between Sotres and Tielve.

Holotype (♂): "11.8.84, Espagna [sic!], Picos de Europa, Prov. Oviedo, Tielve, Rinnsal [= small headwater stream], 1100 m, Fery leg.", "Holotype, Deronectes aubei sanfilippoi ssp.n., Fery det. 1996" [red] (CHF). **Paratypes:** 14 ♂♂, 7 ♀♀, same data as holotype (NMB, CAN, CHH, CLH, CHF). 9 ♂♂, 8 ♀♀, idem, 8.6.1990 (CRA, CHF). 8 ♂♂, 4 ♀♀, idem, 25.7.1991; 5 ♂♂, 4 ♀♀, idem, 7.7.1995; 1 ♂, "26.8.89, España, Prov. León, Umg. [= near] Posada de Valdeon [Picos de Europa], Bach [= brook], 1200 m, Fery leg."; 1 ♀, idem, 8.6.1990; 2 ♀♀, idem, 25.7.1991; 1 ♀, idem, ca. 1100 m, 26.8.1989, Fery leg. (CHF). 4 ♂♂, 1 ♀, "ESP - Picos de Europa, Pto del Ponton, 15.6., leg. H. Hebauer 1991" (CHH, CHF). 1 ♂, "E: Cantabria, Suano, W Reinosa, Bach, 900 m, 5.VI.91, leg. Wunderle and Zerche" (DEI). 2 ♀♀, "Spanje, Cantabria, Rio Cubo [Santander, SW Potes], 13.VI.1990, leg. + det. J. Cuppen"; 1 ♂, "Spanje, Cantabria, Valdeprado [Santander, SE Potes], 12.VI.1990, 950 m, leg. det. J. Cuppen" (CJC). 2 ♂♂, "León, 30TUN4974, Arroyo Mostachal, 10.6.1990, Foster and Carr leg." (CGF, CRC); all paratypes with the respective red label.

Additional material: Spain: 2 exs., "H. aubei, Soto!" [Logroño], "Ex. Musaeo, S. de Uhagon, 1904", coll. Oberthür; 2 exs., "Pyrénées, Val d'Aran, F. Léon-Hilaire", "Bourdiou[?], 7.VII.21", coll. Legros (MNHN). 2 ♂♂, Lléida, Valle de Arán, Toran, 15.6.1988, Ribera leg. (CIR). 1 ex., idem (CGF). 2 ♀♀, Navarra, Eugi, near Barranco Olazar, 17.8.1991, Fresneda leg. (CJF). **France:** 1 ex., small blue label, "Podemont [?]" [hw Cl. Müller], "Sammlung Cl. Müller" (ZSM). 1 ex., "Lozère, Ecoffet, 1849" [round]; 1 ex.,."Aubei, Lioran"; 1 ex., "Cévennes, Souverbie, 1849", coll. Fairmaire; 2 exs., "Rech dal Bac Arrissal" [Pyrénées Orientales], "J. Fabresse 1901"; 14 exs., "Lioran"; 2 exs., "Lozère"; 3 exs., "Villefort, Lozère, Ste Claire Deville"; 1 ex., "Cévennes"; 11 exs., "Vernet, Oberthür", one with additional "semirufus, Régbt., Ann. soc. ent. Fr. 1895 p. 317"; 2 exs., "Pyr.-Or. [= Pyrénées Orientales], Vernet-les-Bains", coll. Oberthür; 1 ex., "Htes Pyrénées" [= Hautes Pyrénées], "semirufus, Htes Pyrén."; 6 exs., "Lioran, Simon" [round, hw Leprieur], "Aubei" [green, hw Leprieur], ex Leprieur, coll. Pic; 15 exs., "L'Allagnon, Lioran" [hw Régimbart], "semirufus" [hw Régimbart], coll. Régimbart; 6 exs., Lourdes, Hautes Pyrénées, 24.8.1930; 6 exs., Argelès [near Lourdes], 31.8.1930; 6 exs., La Massane, Pyrénées Orientales, 11.7.1934, Schaefer leg., coll. Schaefer; 1 ♂, "Lioran, ... Puton"; 1 ♂, "Aulus, Ariège, VIII 1920"; 1 ♂, 2 ♀♀, "B.-Pyrénés [= Pyrénées Atlantiques], Aspeigt [= Bois d'Aspeigt, ca. 35 km S Pau], V.1947" [hw Guignot], coll. Guignot; 2 exs., "Le Lioran, Cantal, Août 1912"; 29 exs., "St Jacques des Blats (Cantal), dans la Cère, 25.VIII.26, R. P.", coll. Peschet; 4 exs., "Le Lioran, 1946, Cantal, F. Cantonnet"; 1 ex., "Thiézac, Cantal, VI.43, H. Henrot"; 1 ex., "Lioran, Bordes ruisseau, 15-VI-43"; 17 exs., "Bielle [Pyrénées Atlantiques, ca. 30 km S Pau], VII.49 B.P., C. Legros", coll. Legros (MNHN). 1 ex., Vernet-les-Bains, Pyrénées Orientales, 22.7.1926; 2 exs., idem, VII.1926; 3 exs., Lourdes, Hautes Pyrénées, 24.8.1930, Schaefer leg., "Det. Dr. Guignot, Deronectes Aubei var. semirufus Ger." [hw Guignot], coll. Audras (MGHN). 1 ex., "Cantal, Gallia Centr.", "Aubei"; 2 exs., "Gallia, Cantal", "Deronectes Aubei Muls., Coll. Reitter" (HNHM). 2 ♂♂, "La Lioran"; 1 ♂, "Saint-Béat, Méhande [S St Gaudens, Pyrénées], coll. Ribaut"; 1 ♀, "Pyrénées, Ariège, A. Peyronnet"; 2 ♀♀, "11292", "Cantal, Fauvel"; 1 ♂, "2978", "Pyrénées or. [= Pyrénées Orientales], Coll. Chevrolat, Det. Sharp 82"; 1 ex., "Cantal, Gall. Centr." [hw Régimbart]; 11 exs., "Le Lioran (Cantal)"; 1 ex., "Grandrieu, Lozère. 7.91" (IRSN). 2 exs., "Vernet-les-Bains, (Pyr. orient.) [= Pyrénées Orientales], 7.26 L. Schaefer", "Deronectes Aubei Muls., Emm. Reitter" (ITZA). 4 exs., Pyren., Héas, G. de Béas [near Gavarnie, Hautes Pyrénées], 1600 m, 12.7.1967; 1 ex., Pyren., Arreau, Val de Neste, 750 m, 10.7.1967, Sanfilippo leg. (CNS). 2 exs., Vernet-les-Bains, 660 m, 24.7.1970, Brancucci leg. (NMB). 1 ♂, Pyrénées Atlantiques, Forêt d'Iraty, 30.7.1985, Bilton leg. (CGF). 3 ♀♀, Gard, Cévennes, Valat de l'Homme Mort, near Valleraugue/Ardaillers, 3.9.1994, Dettner leg. (CKD). 1 ex., Pyr. or. [= Pyrénées Orientales], Mont-Louis, Cerdanya, 1930 m, Rech dal Bac Arissal, 7.7.1990, Fresneda leg. (CJF). 3 exs., Pyrénées Orientales, Céret, Riunogues, 300 m, 31.7.1984; 1 ex., Pyrénées Atlantiques, near Larrau, Forêt d'Iraty, 1400 m, 28.8.1989; 38 exs., Pyrénées Orientales, NW Prats de Mollo, river Parcigule, 1000 m, 12.7.1991 and 20.7.1996, Fery leg. (CHF). **Spain or France:** 1 ex., "Pirenei Orientali, ne Collez. Morel [?]", "aubei var semirufus Germ." (MCVR).

Diagnosis: Habitus like that of the nominotypical subspecies (see Fig. 9). Mature specimens dark reddish brown, also when alive. Head and posterior angles of pronotum paler. Sides of pronotum in posterior half parallel or slightly diverging. Elytra with coarse punctures more distinct and denser than in *D. aubei aubei*. Longitudinal swellings on elytra weak, partially covered by coarse punctures. Margin of elytra in lateral view like that of *D. aubei aubei* (Fig. 12).

Ventral surface black, head, parts of the prosternum and posterior margins of the abdominal segments paler. Legs dark brown. Metacoxae and metasternum with coarse punctures. Metacoxal lines only slightly diverging forwards, less than in all other representatives of the group.

♂♂: Median lobe (Fig. 59) in dorsal view larger in basal half, then tapering to the apex, less parallel than in *D. aubei aubei*; in lateral view with a smaller base, in apical third wider; inner concave surface more roof-like in cross-section in the middle third, carina indistinct. Paramere like that of the nominotypical subspecies (Fig. 62). Protarsal claws somewhat elongate and straight.

♀♀: Without conspicuous differences to males.

Measurements: TL 4.1 - 4.7 mm, MW 2.1 - 2.4 mm.

Distribution: Spain and France: Cantabrian mountains, Pyrenees, Massif Central (Cévennes, Lozère) (Fig. 127).

Remarks: GHIDINI & SANFILIPPO (1961: 84) reported three "curious" specimens from "La Massane" which seemed to be "*D. aubei semirufus* sensu Guignot", with genitalia very close to *D. aubei*, but with "... tibie posteriori ... cosi marcati e diversi dalla f. typ ...". We have not been able to study these specimens, but have little doubts that they are *D. aubei sanfilippoi* ssp.n., because Schaefer has found this subspecies in the same region (see additional material) and we have found it ourselves in a small stream at Riunogues which is very close to La Massane (Pyrénées Orientales, near Collioure). On the other hand we have not been able to find striking differences in the posterior tibia in other species of this group.

In contrast to *D. semirufus* and *D. delarouzei*, we assume a subspecific status for *D. aubei aubei* and *D. aubei sanfilippoi*. This is due to the small differences between these taxa and their less prominent geographical isolation.

Derivatio nominis: In honour of his entomological work we name this subspecies after the famous Italian specialist of Dytiscidae Nino Sanfilippo, who left us in 1994.

5. *Deronectes semirufus* (GERMAR)

Hydroporus semirufus GERMAR, 1845: pl. 3. - LEPRIEUR 1876c: 122 (partim?). - SHARP 1882: 422 (partim).
Hydroporus Aubei (MULSANT): LEPRIEUR 1876d: 54 (partim?). - LEPRIEUR 1876e: 570 (partim?). - SCHAUM & KIESENWETTER 1868: 51.
Deronectes Aubei (MULSANT): ZIMMERMANN 1919: 184 (partim). - SEIDLITZ 1887: 50 (partim).
Deronectes Aubei semirufus (GERMAR): GANGLBAUER 1904: 354 (partim). - ZIMMERMANN 1932: 102 (partim).
Deronectes Aubei var. *semirufus* (GERMAR): GUIGNOT 1947: 136 (partim).
Deronectes delarouzei (JACQUELIN DU VAL): GHIDINI & SANFILIPPO 1961: 82. - FRANCISCOLO 1979: 438. - PEDERZANI 1991: 126.

Type locality: Italy, "Italia media", "mont. Pis." [= Pisa?].

Lectotype ♂ (present designation): "collaris Dhl., Ital. mont. Pis.", "Hist. Coll. Nr. 10133", "Zool. Mus. Berlin", "Lectotype, Hydroporus semirufus Germar, des. Fery & Brancucci 1989" [red]; second specimen in a row of three (the first one is the lectotype of *Hydroporus aubei*, see above) (MNB). **Paralectotype**: 1 ♂, third specimen in the row, "Hist. Coll. 10133", "Zool. Mus. Berlin" and the respective red paralectotype label (MNB).

Additional material: France: 3 exs., "Gallia mer." [hw Zimmermann]; 3 exs., "Gallia mer." "Samml. A. Zimmermann"; 1 ex., "Gallia m.", "Sammlung Cl. Müller" (ZSM). 1 ex., "Alp. mar. gall., Peira-Cava 900 m, 4-IX-1934, A. d'Orchymont" (IRSN). 2 exs., "Gallia", "Coll. Kraatz"; 1 ex., "St. Martin Vésubie, Alpes Maritimes, 30.VII.07", "coll. Künnemann" (DEI). 1 ex., Alpes Maritimes, Sospel, Bevera, 350 m, 19.9.1964; 2 exs., idem, Col de Turini, 19.9.1964, Sanfilippo leg. (CNS). 1 ex., Menton, Castillon, river Careï, 20.6.1989, Fresneda leg. (CJF). 14 exs., N Monti, river Careï, 2.4.1983, Dettner leg. (CKD). 48 exs., Monti, Alpes Maritimes, river Careï, 2.10.1983, 4.1.1984, 24.8.1985, 11.7.1988, 31.8.1989 and 18.6.1990, Fery leg. (CRA, CHH, CLH, CHF). **Italy:** 3 exs., "Torigliglio, (Genua) 94 Soler", "Deronect. aubei"; 1 ex., "Bologna", "Alte Sammlung"; 1 ex., "Bologna" [hw Cl. Müller], "Sammlung Cl. Müller" (ZSM). 1 ex., "Emilia, Lago Casito [?], 27.III.905, A. Fiori"; 1 ex., "Emilia, Bisuone [?], 9.IX.93, A. Fiori"; 2 exs., "Emilia, Verginata [?], 24.VII.905, A. Fiori"; 1 ex., "Emilia, Barigarta [?], 7.IX.93, A. Fiori"; 1 ex., "Emilia, S. Maria Zaro [?], 24.VII.910, A. Fiori"; 2 exs., "Emilia, Castiglione, 22.VI.904, A. Fiori"; 1 ex., "Emilia, M. Ponna [?], 6.VIII.905, A. Fiori"; 2 exs., "Emilia, M. Sparzuo, Porta [?], VI.901, A. Fiori"; 5 exs., "Liguria, Busalla, 4.VIII.97, A. Fiori"; 1 ex., "Liguria, Nava, 6.VIII.910, A. Fiori"; 1 ex., "Piemonte, Val Pesio, 16.VIII.97, A. Fiori"; 2 exs., "Toscana, Gambuia [?], 23.5.900, A. Fiori"; 1 ex., "Abruzzo, Isola, 27.7.98, A. Fiori"; 1 ex., "Italia, Vallombrosa, 6.VIII.96, A. Fiori"; 2 exs., "Torriglia, 20.VII.1892, A. Solari", "Deronectes Aubei"; 2 exs., "Cuneo, 6.902", "Deronectes semirufus"; 1 ex., "Valumbrosa [sic!, = Vallombrosa?], D. Steiner", "Coll. Schilsky", "Aubei Muls."; 2 exs., "Garfagnana, Castelnuovo [Tuscany, 25 km E Massa] A. Dodero", "Deronectes semirufus Germar" (MNB). 2 exs., "Dhl., aa 37" [hw Dahl?], "semirufus" [hw Ganglbauer], "Deronectes delarouzei (J.-D.), det. Wewalka", second specimen with additional label "Collaris, Dhl." (see GANGLBAUER 1904: 353) (NMW). 1 ex., "Italia, Reitter: Leder", "H. Aubei Muls., Coll. F. Speiser" (HNHM). 7 exs., "Emilia, Busalla, 4.8.97, A. Fiori", coll. Oberthür; 2 exs., "Oberthür, Vallombrosa" [round, hw Leprieur], "Aubei" [green, hw Leprieur], ex Leprieur, coll. Pic; 4 exs., "Garfagnana, Castelnuovo [Tuscany, 25 km E Massa] A. Dodero", coll. Guignot (MNHN). 2 exs., "2978", "Appenin, Bertolini"; 1 ex., "Italia (Trentino), 780 m, St. 156, 30-VI-31 (Orch.)" (IRSN). 1 ex., "Emilia, M Cimone [ca. 40 km N Treviso], 1926", "D. aubei Muls., semirufus Germ."; 1 ex., "Emilia, Sestola, Cervarola"; 2 exs., "Alpi Maritt., Val Tanaro, Rio Dicarnino, 1490 m, 25.11.52", "Ormea, Piem., M. Franciscolo", "Deronectes aubei Muls., det. 1973 Franciscolo" [hw Franciscolo]; 2 exs., "Genova, Scofferra V.49, Sanfilippo" [hw Sanfilippo]; 1 ex., "Campagna, 4.V.64"; 1 ex., "Pirazz.", "Imola [SE Bologna]", "ex coll. Moscardini"; 2 exs., "Sila, Lorica (CS) [= Cosenza] S.S. 108, sul Torr. Frappa II, 1250 m, 7.7.1971, Angelini leg."; 1 ex., "Lucania, Terranova (PZ) [= Potenza], torr. Duglia, m 1320, 22.7.1974, Angelini leg." 1 ♀, "Gambarie, VI-58", "Aspromonte (Calabria)", "Deronectes delarouzei Duval, 1962, Franciscolo det" [hw Franciscolo]; 1 ♀, idem, but "Deronectes delarouzei Duval, Det 1961, Franciscolo" [hw Franciscolo]; 1 ♂, idem, but "Deronectes Aubei Mulsant [sic!], Det 1961, Franciscolo" [hw Franciscolo], "Deronectes delarouzei Du Val, det. Angelini 1980" (MCVR). 3 exs., "Vallombrosa, 26/VII.02" [Apennines, see GANGLBAUER 1904: 353] (DEI). 1 ex., Marche, Acquasanta, Umito [SW Ascoli], Valle del Rio Volpara, 1200 m, 26.7.1993, Toledo leg. (CMT). 2 exs., Calabria, Aspromonte, E Piano di Zervo, Scorda-river, 31.7.1986; 1 ex., Calabria, Catena Costiera, Fiume Caronte, 24.7.1986; 2 exs., Calabria, Serra San Bruno, torrente San Brunello, 28.7.1986, Bückle and Gerecke leg. (NMB). 7 exs., Calabria, Gambarie, Aspromonte, 1300 m, 23.9.1972; 2 exs., Abruzzo, Terrama, Monti della Laga, 1250 m, 5.6.1977; 2 exs., App. Tosc. Em., Zumzeri, Monte Spiaggi [Tuscany], 1550 m, 21.8.1972; 5 exs., Tuscany, Alpi Apuane, Vinca, torrente Aulella, 900 m, 1.6.1986; 2 exs., App. Ligure, Mte Aioha, Rio Ceresola [east of Genova], 1300 m, 5.5.1989; 2 exs., Liguria, Carro, La Spezia, Rio Fiumicello, 400 m, 15.4.1984; 3 exs., App. Ligure, Chiusola, M. Gottero, 1300 m [east of Genova], 1.7.1979; 3 exs., Liguria or., Varese Ligure, torrente di Cavizzano, 400 m, 27.10.1984; 1 ex., Gran Sasso, Aquila, Campotosto, Ortolano, P. Vomano, 1100 m, 14.6.1988, Sanfilippo leg.; 5 exs., Sila, Lorica, Cosenza, torrente Frappa II, 1250 m, 7.7.1971; 1 ex., idem, torrente Rovalecchio, 1300 m, 6.7.1971, Angelini leg.; 1 ex., Sicilia, Mti Nebrodi, Portella Femmina, Morta, 1.6.1969, Bucciarelli leg. (CNS). 7 exs., "Tenda, Luglio 24, A Dodero 1903", coll. Binaghi; 1 ex., "Alpi Apuane", "Canale Verona, VI.912, C. Mancini" coll. Mancini (MCGE). 2 exs., Ligurian Alpes, near Genova, 500 m, 2.10.1982; 60 exs., Tuscany, near Piombino, between Moterotondo and Castelnuovo, 30.7.1988; 35 exs., Tuscany, Casoli, N Lucca, ca. 480 m, 25.8.1993 and 11.9.1992; 23 exs., idem, Grotta del'Onda, 700 m; 18 exs., Tuscany, SE Greve, Casole, 30.3.1997 and 2.5.1997, Dettner leg. (CKD). 18 exs., Apulia, M. Sibillini, M. Priora, 1300 m, 21.7.1993, Toledo leg. (CMT, CJF, CHF). 2 exs., Calabria, Cosenza, Pellegrino, Orsomarso, 1000 m, 9.10.1990, Gerecke leg. (CRG). 1 ex., Tuscany, Firenze, Passo Muraglione, 6.8.1989, Toledo leg. (CJS). 3 exs., Sila, Lorica, Cosenza, torrente Rovalecchio, 1300 m, 6.7.1971; 2 exs., Sila, Camigliatello, Cosenza, fiume Mucone, 1350 m, 31.7.1972, Angelini leg.; 2 ♂♂,

Piemonte, Bossea [ca. 35 km ESE Cuneo], 4.8.1971, Meregalli leg.; 3 ♂♂, Veneto, Brentino [E Garda, Lago di Garda], 3.5.1979, Sette leg. (CFA). 17 exs., Calabria, S Serra S. Bruno, 7.5.1990; 10 exs., idem, Germano, Sila, 1000 m, 21.6.1983; 3 exs., idem, N Gambarie, Aspromonte, 1000 m, 20.6.1983; 9 exs., idem, Fiume di Catona, 20.6.1983; 34 exs., idem, Fiume Favazzina, 20.6.1983; 22 exs., Sicily, 10 km NW Cesaro, torrente Torli 1, 9.5.1990; 18 exs., Liguria, Col di Melogno, 900 m, 1.10.1983; 1 ex., Piemont, Lerma, Val Piota, 26.6.1988, Fery leg. (CHF). **Doubtful localities:** 1 ex., "Lappland [= Lapponia]", "Coll. Kraatz", "Zimmermann det."; 4 exs., "Sardinia", "2703"; 2 exs., "Corsica", "Coll. Kraatz", "Zimmermann det.", "Deronect. v. semirufus" (DEI). 1 ex., "Dalm. [= Dalmatia]", "Sammlung Cl. Müller" (ZSM). 1 ♀, "Sardinien", "Deronectes aubei", "7308", "R.I.Sc.N.B., I.G. 17.259", "det. Deronectes aubei Muls." (IRSN).

Diagnosis: Habitus: Fig. 10. Mature specimens blackish brown, with head and posterior angles of pronotum paler; immature specimens light reddish brown and difficult to separate from *D. aubei aubei* on external characteristics. Sides of pronotum more rounded, less parallel in posterior half than in *D. aubei*. Maximum width somewhat before the base. Often base of pronotum wider than elytra between shoulders, resulting in a striking corner as shown in Fig. 11 for *D. delarouzei*. The puncturation of the pronotum and the elytra is very variable. We have studied specimens with disc of pronotum without coarse punctures and sparse punctures on elytra, but also examples (mainly from Calabria and Sicily) which are totally covered by dense and coarse punctures. Longitudinal swellings on elytra usually weak, but more prominent in those specimens with strong puncturation. Setae on pronotum and elytra sometimes very conspicuous. Margin of elytra in lateral view strongly sinuate behind shoulders (Fig. 13).

Major parts of ventral surface black. Legs brown. Metacoxae with distinct coarse punctures, on metasternum less distinct. Metacoxal lines diverging forwards.

♂♂: Median lobe (Fig. 60) in lateral view more evenly tapering to apex; inner concave surface in the middle third not roof-like in cross-section, flat and rounded, without carina. Paramere: Fig. 63. Protarsal claws a little elongate.

♀♀: Without conspicuous differences to males.

Measurements: TL 4.3 - 5.0 mm, MW 2.3 - 2.6 mm, ratio of TL/MW about 1.9.

Distribution: Italy, France (Alpes Maritimes) (Fig. 127). The record from Croatia (Dalmatia) (GUÉORGUIEV 1971: 14, sub *D. aubei*) requires confirmation (see the additional material also).

6. *Deronectes delarouzei* (JACQUELIN DU VAL)

Hydroporus Delarouzei JACQUELIN DU VAL, 1857: 34.
Hydroporus Aubei var. *Delarouzei* JACQUELIN DU VAL: SCHAUM 1864: 112 (partim). - LEPRIEUR 1876d: 54 (partim?).
Hydroporus Aubei (MULSANT): LEPRIEUR 1876e: 570 (partim). - SCHAUM & KIESENWETTER 1868: 51.
Hydroporus semirufus GERMAR: SHARP 1882: 422 (partim).
Deronectes Delarouzei (JACQUELIN DU VAL): SEIDLITZ 1887: 50 (partim). - ZIMMERMANN 1919: 185.
Deronectes Aubei Delarouzei (JACQUELIN DU VAL): GANGLBAUER 1904: 354 (partim). - ZIMMERMANN 1932: 102 (partim).
Deronectes delarouzei (JACQUELIN DU VAL): GUIGNOT 1947: 137 (partim). - FRESNEDA & HERNANDO 1988: 29. - RICO & al. 1990: 103 (partim).

Type locality: France, Hautes Pyrénées, near Cauterets.

Lectotype ♂ (present designation): "pyren" [hw Jacquelin du Val], "Museum Paris, Coll. Jacquelin du Val", "Lectotype, Hydroporus delarouzei Jacquelin du Val, des. Fery & Brancucci 1989" [red] (MNHN).

Paralectotypes: 1 ♂, 1 ♀, very small label without any text; 4 ♂♂, "Museum Paris, Coll. Jacquelin du Val" (MNHN); all paralectotypes prepared in the same manner as the lectotype and provided with the respective red paralectotype label.

Additional material: Spain: 3 exs., Pyrenees, Huesca, Balneario de Pantecosa [ca. 40 km N Sabiñánigo], 1600 m, 13.7.1967, Sanfilippo leg. (CNS). 1 ex., Lléida, El Pont de Suert, Ribagorcana, 6.4.1983; 3 exs., Lléida, Barruera, Barranc de Calvo, 21.7.1986; 1 ex., Girona, Queralbs, Torrent de Balma, 12.4.1982; 1 ex., idem, Salt del Grill, 11.4.1982; 2 exs., Huesca, Barbaruens, Barranco Bilse, 20.4.1986; 2 exs., Barcelona province, Borreda, Castell de Palmerola, 25.4.1982, Fresneda leg. (CJF). 25 exs., Huesca, W El Pont de Suert, Bonansa, 900 m, 24.2.1985, Fresneda leg. (as *D. aubei* in FRESNEDA & HERNANDO 1988: 30); 31 exs., idem, 16.6.1990, Fery leg. (CJF, CHF). 1 ♀, Barcelona province, Sierra de Ensija, Saldes, 23.7.1996; 31 exs., Girona, S Puigcerda, 1300 m, 17.5.1990, Fery leg. (CHF). **France:** 2 exs., "Delarouzei, N var. Club [?, illegible], Eaux Bonne", "Coll. Kraatz", "Deronectes Aubei, var. semirufus Germ.", "Zimmermann det." (DEI). 1 ex., "Hydroporus delarouzei, Gallia", "Coll. L.W. Schaufuss", "semirufus Germ., Italia" (MNB). 3 exs., "Hautes Pyrénées, Cauterets, R. Oberthür, Juillet 1881", two with "Aubei" [green, hw Leprieur]; 2 exs., "Oberthur, Cauterets" [round, hw Leprieur], "Aubei" [green, hw Leprieur]; 1 ex., "Cauterets, Delarouzei", "Cauterets, Delarouz" [round, hw Leprieur], "Aubei" [green, hw Leprieur, ex Leprieur, coll. Pic; 1 ex., "Cauterets, H. Pyr. [= Hautes Pyrénées] 1857, Dr Delarouzée", "Hydroporus Delarouzéei [sic!] Duval" [hw Delarouzée?], small red round label, coll. Peschet [probably syntype collected by Delarouzée; preparation identical to that of the syntypes from coll. Jacquelin du Val]; 1 ex., "Pyr.-Or. [= Pyrénées Orientales], Vernet-les-Bains", coll. Oberthür (MNHN). 1 ex., Vernet-les-Bains, Pyrénées Orientales, 2.7.1926, "Delarouzeei [sic!]"; 2 exs., Vernet-l-Bains, VII.1926, "Deronectes Delarouzeei" [sic!]; 1 ex., Pierrefitte, Hautes Pyrénées [near Lourdes], 16.10.1930, "Deronectes Delarouzeei" [sic!]; 2 exs., Cauterets, Hautes Pyrénées, VII.1939, Schaefer leg., coll. Audras (MGHN). 1 ex., "1292", "Pyrenées, Coll. Leprieur"; 1 ex., "Pyr. or. [= Pyrénées Orientales], Coll. Chevrolat, Det. Sharp 82"; 1 ex., "Cauterets, Hautes Pyrénées"; 1 ex., "Cauterets"; 1 ex., "Pyr. sup. [= Hautes Pyrénées] gall., Gavarnie 1500 m, 22-IX-1934, A. d'Orchymont", "Dr. F. Guignot det. 1948, Deronectes Delarouzei du Val" [hw Guignot]; 4 exs., "Les Eaux Bonnes (Basse Pyr.)", "Aubei var. Delarouzei"; 1ex., "Hautes Pyrénées, Cauterets, R. Oberthür, Juillet 1881"; 1 ex., "Pierrefitte (H. Pyr.), L. Schaefer" (IRSN). 2 exs., "Auvergne", "Coll. D. v d. Hoop" (ITZA). 2 exs., Pyrénées Orientales, Vernet-les Bains, 400 m, 24.7.1979; 1 ex., Ariège, Rouze/Conflens, 950 m, 25.6.1976, Brancucci leg. (NMB). 1 ex., "Pierrefitte (H. Pyr.) [= Hautes Pyrénées, near Lourdes], L. Schaefer" (CJS). 4 exs., Cauterets, Lac Noir, 3.7.1930, Schaefer leg. (CFA). **France or Spain:** 1 ex., "Pyr.", "Collection v. Seidlitz"; 1 ex., "Pyr. Sdlz", "Collection v. Seidlitz"; 1 ex., "Pyren. ... [illegible]" [hw Cl. Müller], "Sammlung Cl. Müller" (ZSM). 1 ex., "Pyr. or. [= Pyrénées Orientales]"; 1 ex., "Pyrenées" (IRSN). 6 exs., Andorra, near Bagnole [?], 950 m, 21.7.1967, Sanfilippo leg. (CNS).

Diagnosis: On average smaller than *D. semirufus*, habitus more elongate (Fig. 11), almost parallel, and more depressed in lateral view. Upper surface blackish brown, with head and posterior angles of pronotum paler. Pronotum with sides less rounded than in *D. semirufus*, maximum width near the base; posterior angles as wide as elytra between shoulders, but sometimes wider (see Fig. 11). Larger punctures on pronotum and elytra on average less coarse and dense than in *D. semirufus*. Longitudinal swellings on elytra weak. Setae on pronotum and elytra mostly not very prominent. Margin of elytra in lateral view as in *D. semirufus* (Fig. 13).

Major parts of ventral surface black. Legs reddish brown, femora darkened. Metacoxae and metasternum with sparse indistinct coarse punctures. Metacoxal lines diverging forwards.

♂♂: Median lobe (Fig. 61) in lateral view broader in middle third, thus less evenly tapering to apex; in dorsal view more pointed than *D. semirufus*; inner concave surface roof-like in cross-section in the middle third. Paramere: Fig. 64. Protarsal claws slightly elongate, but evenly curved.

♀♀: Without conspicuous differences to males.

Measurements: TL 4.0 - 4.7 mm, MW 2.0 - 2.3 mm, ratio of TL/MW about 2.0.

Distribution: Spanish and French Pyrenees (Fig. 127).

Remark: As far as we know, neither *D. aubei sanfilippoi* ssp.n. and *D. delarouzei* nor *D. aubei aubei* and *D. semirufus* have been found together with the exception of two records: GHIDINI & SANFILIPPO (1961: 85) report the last two species from Nava, Liguria (Solari leg.), and FRANCISCOLO (1961: 160) from Gambarie, Calabria. We have been able to study five specimens from Nava (Piemonte, Solari leg., MCGE), but all of them proved to be *D. aubei aubei*. One *D. semirufus* from Nava (Fiori leg., MNB) may have been found in another brook. All specimens found by ourselves near Gambarie and those collected by Franciscolo (see additional material) have proved to be *D. semirufus*.

Furthermore we have studied 24 *D. aubei aubei* and one *D. semirufus* from Val Pesio (Piemonte), but there is no evidence that both species have been found at the same locality. K. Dettner has found *D. aubei aubei* and *D. semirufus* near Casoli, Tuscany, the first in a single small stream, the second in several others at an altitude between 400 and 500 m, but never found both species together. So we conclude for the moment, that the species of this group do not coexist.

III. The *Deronectes platynotus*-group

The four species are relative small, their habitus is rather compact and parallel. The pronotum is broadest in the middle and supplied with a longitudinal impression parallel to each side. The sides are rounded to the anterior and posterior angles, except in *Deronectes hakkariensis* WEWALKA which has the sides almost parallel behind the middle. Puncture lines on elytra imperceptible.

The prosternal apophysis is provided with a sharp carina, sides broadened and with distinct setae. All species have (like those of the *aubei*-group) the posterior margin of the last visible abdominal segment without notch. The species are distributed over large parts of Europe and in Asia Minor.

Key to the species of the *Deronectes platynotus*-group

1 Pronotum not rounded behind middle, rather straight, very slightly converging to the posterior angles. Median lobe in lateral view smaller in distal part (species from Turkey). ..... **9. *hakkariensis***

\- Pronotum rounded to anterior and posterior angles. Median lobe in lateral view large in distal part (European species). 2

2 Median lobe in dorsal view evenly narrowed in apical half, apex less tapered or even truncate (species from central Europe to Greece). 3

\- Median lobe in dorsal view strongly tapered in apical half (species from the Iberian Peninsula). 4

3 Median lobe in dorsal view with apex not truncate (subspecies from central Europe to Albania). ..... **7a. *platynotus platynotus***

\- Median lobe in dorsal view with apex truncate (subspecies from Greece). .... **7b. *platynotus mazzoldii* ssp.n.**

4 Elytra vaulted, middle part of surface flattened, sides abruptly declined, resembling as having each a costa. ..... **8a. *costipennis costipennis***

- Elytra not vaulted, whole surface flat. ..... **8b. *costipennis gignouxi***

7a. *Deronectes platynotus platynotus* (GERMAR)

Hydroporus platynotus GERMAR, 1834: pl. 3. - LEPRIEUR 1876a: 62. - LEPRIEUR 1876b: 105. - LEPRIEUR 1876c: 121. - LEPRIEUR 1876d: 53. - LEPRIEUR 1876e: 569. - SHARP 1882: 423.
Hydroporus murinus STURM, 1835: 42.
Deronectes platynotus (GERMAR): ZIMMERMANN 1932: 103. - GUIGNOT 1947: 137. - FRANCISCOLO 1979: 439. - FERY & BRANCUCCI 1989: 305 (designation of lectotype).

Type material:

Hydroporus platynotus: **Lectotype** (♂): first specimen in a row of eight, after a big label "platynotus Germ., German. Saxon. Märk." [hw Germar], additional labels: "10132", "Zool. Mus. Berlin", "Lectotype, Hydroporus platynotus Germar, des. Fery & Brancucci 1989" [red] (MNB). **Paralectotypes:** 2 ♂♂, 1 ♀, in the row after the lectotype, with "Hist Coll., Nr. 10132" and the respective red paralectotype label. The following specimens in the row have not been considered to be paralectotypes, the first of them has an additional label "murinus Strm., Saxon" (MNB). **Type locality:** Germany, "Habitat Pirnae, Saxonia".

Hydroporus murinus: not located with certainty; the one specimen cited above might be considered as lectotype. **Type locality:** Germany, "Harz".

Additional material: Netherlands: 6 exs., "Eupen, Rellesforterbrücke, r. Vesdre 26.3.50, R. Mouchamps", "c 65'7", "R. Mouchamps det. 1950, Deronectes platynotus Germ." (IRSN). 1 ex., Eupen, Camerig, ter Graat, geul, 25.5.1975, Mollen-Pillot leg. (CJC) (see also CUPPEN 1988). **Belgium:** 1 ex., "Herou (Ourth), 1.10.1929, (A. d'Orchymont), 474", "R. Mouchamps det. 1947, Deronectes platynotus Germ." (IRSN). 16 exs., Weser, near Eupen, 19.5.1993, Beutel leg. (NMW). 3 exs., Roetgen, Vesdre, between Eupen and Verviers, 15.5.1979, Plymakers and Dettner leg. (CKD). **Luxemburg:** 1 ex., "Luxemburg, C. v. Nidek" (CFA). **Germany:** 1 ex., "Heilbronn", "coll. Dr. J. Fodor" (HNHM). 4 exs., "Salziger See, Coll. Neidhold" [near Halle?]; 21 exs., Bavaria, Nonnenwald, Starnberger See, 8.4.1934, 18.5.1932 and 26.4.1934, "Coll. Dr. Ihssen"; 6 exs., "Schwarzwald, E. Scriba"; 2 exs., "Birx, Rhön, 16.VI.18"; 4 exs., "Dr. Felge, Frankenheim, Rhön" (MNB). 1 ex., Bavaria, Bayerischer Wald, Eisenstein, 18.5.1976, Hebauer leg. (MCVR). 1 ex., "Saxon", "F. Guignot det., Deronectes platynotus Germ." [hw Guignot]; 3 exs., Bavaria, Deggendorf, 13.6.1976, Hebauer leg. (HNHM). 2 exs., Bavaria, Deggendorf, 18.5.1976; 1 ex., Bavaria, Bayerischer Wald, Saulochschlucht, 20.7.1976, Hebauer leg. (CFA). 1 ex., "Rippoldsau" [W Freudenstadt, Black Forest], "coll. Stierlin" (together with *D. aubei aubei*) (DEI). 13 exs., Inde/Walheim, near Aachen, 1978/79; 7 exs., Nordeiffel, Kalltal, near Zerkall, 1980; 1 ex., Bavaria, Fichtelgebirge, Fichtelseemoor, Hüttenlohe, 31.5.1991, Dettner leg.; 1 ex., Black Forest, Calw, Calmbächle, 6.7.1996, Kostenbader leg. (CKD). 17 exs., Bavaria, Fichtelgebirge, Fichtelberg, Bußler leg.; 7 exs., Bavaria, Bayerischer Wald, Deggendorf, 3.9.1976; 2 exs., Bavaria, Holzkirchen, 16.8.1975, Hebauer leg.; 4 exs., Bavaria, Tölz, Leismühl, 2.-7.4.1985, Balke leg. (CHF). **Austria:** 2 exs., "Lunz, A.i., Schmidt" (MNB). 2 exs., "8.8.81, A. inf., Umg. Lunz, Kl. Ötscherbach"; 1 ex., "b. Pfaffen. [?], Lunz, 17.8.66" (NMW). 1 ex., "Lunz, Holdhaus"; 1 ex., "Krems N. Oe., Carl Mandl" (IRSN). 2 exs., "Austria", "Deronectes platynotus, Coll. Reitter" (HNHM). 1 ex., Vorarlberg, Langener Kirchwald, 560 m, 9.5.1992, Brandstetter leg. (CCB). **Czech Republic:** 3 exs., "Hohenstadt" (MRTO). 1 ex., "Hohenstadt, Moravia, V. Zoufal.", (MNB). 1 ex., "Hohenstadt, Moravia, V. Zoufal." (NMW). 1 ex., "Hohenstadt, V. Zoufal", "H. platynotus, Coll. F. Speiser"; 1 ex., "M. Ostrau [= Ostrava], V. Zoufal", "Deronectes platynotus, Coll. Reitter"; 3 exs., "Morava, V. Zoufal", "Deronectes platynotus, Coll. Reitter" (HNHM). 4 exs., "Hohenstadt, V. Zoufal."; 2 exs., "Moravie, Heyne" (IRSN). 2 exs., "Moravia, Reitter" (DEI). 5 exs., Bohemia mer., Sumava, Antygl, 10.5.1958; 2 exs., Bohemia bor., Jizerske Hory, Hejnice, 6.5.1990; 3 exs., Bohemia occ., Krivolatska, Zvicovec, Hradiste, 25.7.1988, J. Stastny leg. (CJS). **Poland:** 4 exs., "17, 1098", "Deronectes platynotus, Tatra, Zakopane 26/8[?]", "Zakopane", "ex collectio J. Kinel, Mus. Zool. Polonicum, Warszawa, 79/91", "det Kinel, Deronectes platynotus Grm." (MRTO). 1 ex., "Silesia, Ob. Weistritz, Bodemeyer leg." (CFA). **Poland/Czech Republic:** 1 ex., "Riesengebirge, D. Wehncke", "platynotus Germ." (MNB). 3 exs.,

"Besciden, Reitter"; 1 ex., "Beskiden, V. Zoufal" (DEI). 2 exs., "Austria [?], Beskiden 1912, leg. Zouf." (CFA). **Bosnia:** 3 exs., Bitovnja, Nevra potok, affluent to river Zeljeznica, 800 m, 28.5.1990; 2 exs., Zvijezda Pl., Vares, Ocevije pass, 1100 m, 15.6.1990, Cit and Gerecke leg. (CRG, CHF). **Montenegro:** 1 ♀, Montenegro, Lijeva Rijeka, Lebaja, 900 m, 4.6.1990, Cit and Gerecke leg. (CRG). **Macedonia:** 3 exs., "Yugosl Malo ez., Perister [SW Bitola], 23.7.1959, Tr Petkovski"; 18 exs., "Yugosl Golijmo ez., Perister, 23.7.1959, Tr Petkovski" (NMB, CHF). **Albania:** 1 ♂, 1 ♀, "Maranaj [?]", "Albania, leg Bischoff, 1937", "Deronectes platynotus Grm., det. Gschwendt." (MNB). **Doubtful or inexact localities:** 2 exs., "Gallia.[= France?, or Galicia in Poland/Ukraine?] Coll. E. Friv.", "Friv. 1689", "Hydroporus opatrinus Ill., Coll. E. Frivaldszky" (HNHM). 2 exs., "Italia", on backside of the label: "Hydroporus silphoides Bon., coll. G. Dahl" (CFA); for the name "*silphoides*" see ZAITZEV (1915: 251). 2 exs., "Hongrie"; 1 ex., "Coll. R.I.Sc.N.B., France, Ardennes, Ex. coll. Bettinger, Hautes Rivières, 20.VIII...9 [?, illegible] (IRSN).

Remark: The following data have been communicated by C. Brandstetter and are used in the distribution map (Fig. 128) also: "Salzburg, Faistenau Tauglbach" (COLDAT, "Datenbank des ersten Vorarlberger Coleopterologischen Vereins (Bürs)"; unpublished data).

Diagnosis: Habitus: Fig. 14. Surface black, matt, with short setae. Head and often also posterior angles of pronotum dark brown. Elytra with dense coarse punctures, longitudinal swellings weak.

Major parts of ventral surface black. Legs reddish to dark brown, femora darkened. Antennae reddish brown, last articles sometimes a little darkened. Metacoxae with sparse and indistinct coarse punctures. Metacoxal lines diverging forwards.

♂♂: Median lobe: Fig. 70; paramere: Fig. 65. Anterior claws slightly elongate. Antennae with articles four to seven enlarged, but somewhat variable.

♀♀: Antennae simple or median articles slightly enlarged.

Measurements: TL 3.8 - 4.5 mm, MW 2.1 - 2.5 mm.

Distribution: Central Europe, from The Netherlands and Belgium to Poland, in the south-east to Serbia (GUÉORGUIEV 1971: 15), Romania ("Siebenbürgen") (HORION 1941: 398), Bosnia and Albania (Fig. 128). Most probably not in France (GUIGNOT 1947: 137) and Italy (FRANCISCOLO 1979: 439). Records for southern Bulgaria (HLISNIKOVSKY 1954: 97, GUÉORGUIEV 1987: 85) may represent *D. platynotus mazzoldii* ssp.n.

7b. *Deronectes platynotus mazzoldii* ssp.n.

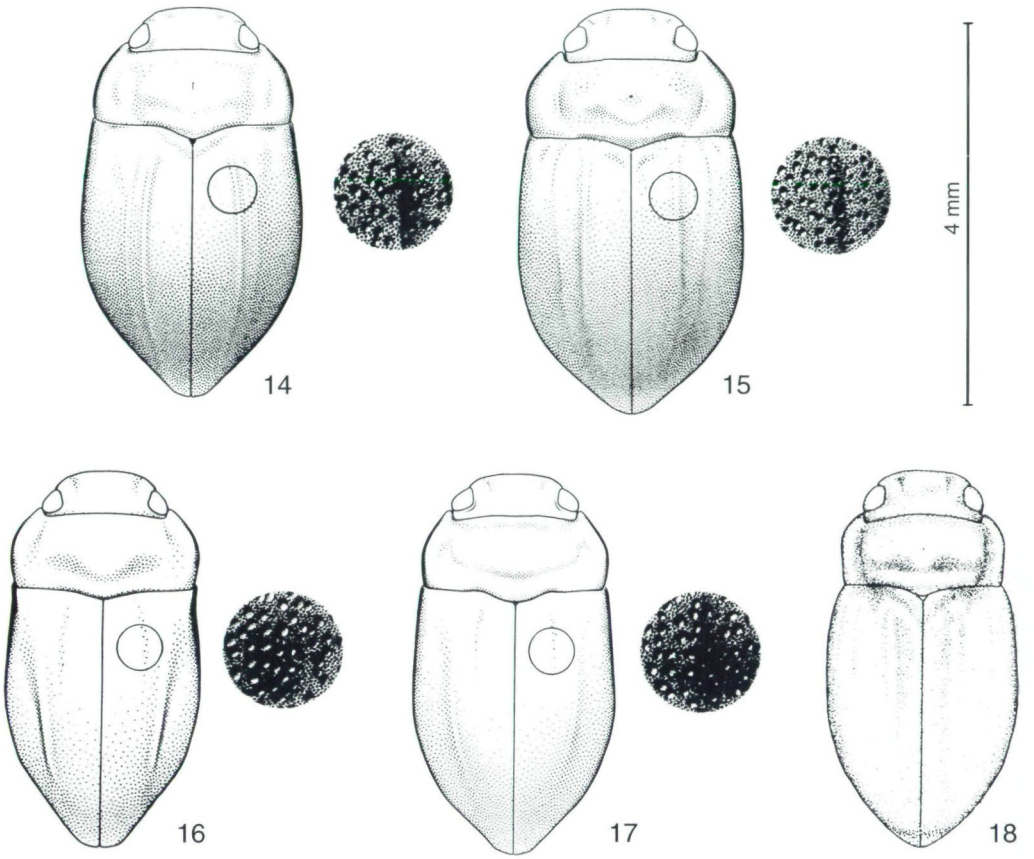
? *Deronectes platynotus* (GERMAR): HLISNIKOVSKY 1954: 97. - GUÉORGUIEV 1987: 85.

Type locality: Greece, Mount Olymp.

Holotype (♂): "GR.-Mt. Olympos, Prionia, 25.VII.1989, l. Mazzoldi P.", "Mavrolongos river, near Prionia, m 1000 - 1070", "Holotype, Deronectes platynotus mazzoldii ssp.n., Fery det. 1996" [red] (CHF). **Paratypes:** 13 ♂♂, 19 ♀♀, same data as holotype; 2 ♂♂, 17 ♀♀, idem, but "l. Toledo, M."; some of the specimens with additional "Deronectes platynotus (Germ.), det. Mazzoldi 1989" (CMT, CPM, CHF). 3 ♂♂, 2 ♀♀, "GR-Olymp 2.7., Prienia, Suppantsch 86", "Deronectes platynotus Germ., det. G. Wewalka 87" (NMW, CGW). 2 ♀♀, "Griechenl. 10.5.1971, 30 km SW Katerini, leg. Wewalka" (CGW); all paratypes with the respective red label.

Additional material: Greece: 1 ♂, "Greece, Gyftokampos, (Epirus: Zagoria) [near the Albanian frontier], 1100 m. 26.VII.1981, B. Malkin" (NMB). **Uncertain material:** 1 ♀, Greece, "Monte Ossa [Thessaly], 1000 m, 1.6.1987, P. Brandl leg." (CHB). 1 ♀, Greece, Florina, river Skopos, 600 m, 21.8.1990, Schmidl leg. (CLH).

Diagnosis: Habitus (Fig. 15) like that of the nominotypical subspecies. All specimens we have studied have the upper surface dark brown and not black, with sides and particularly posterior angles of pronotum often paler. Head with punctures becoming pro-



Figs. 14 - 18: Habitus of: (14) *Deronectes platynotus platynotus*, (15) *Deronectes platynotus mazzoldii* ssp.n., (16) *Deronectes costipennis costipennis*, (17) *Deronectes costipennis gignouxi*, (18) *Deronectes hakkariensis*.

gressively denser to frons. Pronotum with coarse punctures which are sparse on disc, dense near anterior and posterior margin and sides. Puncturation of elytra denser and more distinct than in the nominotypical subspecies; longitudinal swellings weak.

Major parts of ventral surface black. Legs brown, femora slightly darkened. Antennae brownish, not darkened. Metacoxae with some indistinct coarse punctures. Metacoxal lines diverging forwards.

♂♂: Median lobe (Fig. 71) in dorsal view with apex truncate. Paramere: Fig. 66. Protarsal claws elongate, straight, curved at point, anterior claw a little shorter. Antennae with articles four to seven more distinctly enlarged than in the nominotypical subspecies, but somewhat variable also.

♀♀: Antennae simple or median articles slightly enlarged.

Measurements: TL 3.8 - 4.7 mm, MW 2.1 - 2.5 mm.

Distribution: Northern Greece (Fig. 128).

Remark: The one male from Gyftokampos (see additional material) has the median lobe a little less truncate. The other two Greek females not originating from the locus typicus cannot be determined with certainty. Thus for the moment we assume a subspecific status for the new taxon, an opinion which may be changed if further material becomes available.

Derivatio nominis: We name this subspecies in honour of the Italian entomologist Paolo Mazzoldi, who collected it together with Mario Toledo. We thank Fernando Pederzani, who has drawn our attention to this new taxon.

8a. *Deronectes costipennis costipennis* BRANCUCCI

Deronectes costipennis BRANCUCCI, 1983: 138.
Deronectes costipennis costipennis FERY & BRANCUCCI, 1989: 303. - RICO & al. 1990: 102.

Type locality: Portugal, Guarda, Serra da Estrêla, Penhas Douradas.

Holotype (♂): "Portugal, Serra da Estrêla, Penhas Douradas, 1600 - 1700 m, rivière de montagne, VI.1959, J. Aubert leg.", "Holotype, Deronectes costipennis n.sp., des. Brancucci" [red, hw Brancucci] (MZL).

Additional material: Portugal: 134 exs., Guarda, Serra da Estrêla, W Manteigas, Penhas Douradas, 1250 m, 14.5.1985, 27.3.1986, 21.7.1987, 6.7.1988, 4.8.1989, 3.6.1990, 12.6.1990 and 22.7.1991; 31 exs., idem, E Manteigas, 22.7.1991; 2 exs., idem, W Manteigas, Sabugeiro, 1400 m, 14.8.1985, Fery leg. (CHF). **Spain:** 2 exs., Lugo, Xistral, 12.9.1988, Paz leg. (CHF).

Diagnosis: Habitus: Fig. 16. Surface black, sides of pronotum and posterior angles seldom paler. Disc of elytra with two longitudinal swellings, the external one strongly developed in the second third, here elytra falling abruptly to the sides. In addition a short third swelling behind the shoulders and a lateral one in the second third. Large punctures on elytra dense.

Major parts of ventral surface black to dark brown. Legs brown, femora darkened. Antennae reddish brown, last articles not darkened. Prosternal apophysis: Fig. 23. Metasternum and metacoxae with sparse coarse punctures. Metacoxal lines diverging forwards.

♂♂: Median lobe: Fig. 72; paramere: Fig. 67. Anterior claws and tarsi little developed. Median articles of antennae indistinctly enlarged.

♀♀: Without conspicuous differences to males.

Measurements: TL 4.0 - 4.3 mm, MW 2.1 - 2.3 mm.

Distribution: Portugal (Serra da Estrêla), north-west of Spain (Fig. 128).

Remark: The strong longitudinal swelling on the disc of the elytra might be interpreted as a costa, which caused the authors in a previous work (FERY & BRANCUCCI 1987: 67) to treat this species as belonging to the *D. bicostatus*-group. The discovery of the second subspecies *Deronectes costipennis gignouxi* FERY & BRANCUCCI (1989) however clearly demonstrates that *D. costipennis* belongs to the *D. platynotus*-group.

8b. *Deronectes costipennis gignouxi* FERY & BRANCUCCI

Deronectes costipennis gignouxi FERY & BRANCUCCI, 1989: 303. - RICO & al. 1990: 103.
? *Deronectes costipennis* BRANCUCCI: GONZÁLEZ & al. 1989: 309.

Type locality: Spain, León, Picos de Europa, Posada de Valdeon.

Holotype (♂): "5.7.88, España, Prov. León, P. de Valdeon [Picos de Europa], Bach 1200 m, Fery leg.", "Holotype, Deronectes costipennis gignouxi n.ssp., des. Fery & Brancucci" [red] (NMB). **Paratypes:** 28 ♂♂, 23 ♀♀, same data as holotypes (HNHM, IRSN, MNB, NHMB, NHMW, ZSM, CFP, CGW, CJF, CLH, CMB, CNS, CHF). 1 ♂, idem, 20.3.1989 (CHF). All paratypes with the respective red label.

Additional material: Spain: 116 exs., same data as holotype, but 26.8.1989, 8.6.1990 and 25.7.1991; 1 ex., Oviedo, Cerredo, S Cangas de Narcea, 1200 m, 19.8.1989; 1 ex., idem. 1300 m, 20.8.1989; 16 exs., Oviedo, Torga, SW Cangas de Narcea, near Luiña, 20.8.1989, Fery leg.; 5 exs., León, Picos de Europa, Pto de las Señales, 29.7.1986, Garrido leg.; 2 exs., idem, Pto del Ponton, 15.6.1991, Hebauer leg. (CHF).

Diagnosis: Habitus: Fig. 17. External longitudinal swellings of elytra distinct, but much less developed than in the nominotypical subspecies; elytra not falling abruptly to the sides. With respect to other external characteristics this subspecies equals *D. costipennis costipennis*.

♂♂: Median lobe: Fig. 73; paramere: Fig. 68. Anterior claws and tarsi little developed.

♀♀: Without conspicuous differences to males.

Measurements: TL 3.8 - 4.4 mm, MW 2.0 - 2.4 mm.

Distribution: Northern Spain (Fig. 128).

Intergrades: We have studied four females from Orense, Galicia, Sierra do Invernadeiro, Barranco da Guasenza, 2.6.1990, González leg. (CHF), which have the external longitudinal swellings on the elytra less distinct than in the nominotypical subspecies, the elytra falling less abruptly to the sides also, but both characteristics much more developed than in *D. costipennis gignouxi*. In figure 128 the record of this intermediate form is indicated with an asterisk, and clearly shows that the locality is situated between the areas of distribution of both subspecies. These observations again justify our hypothesis (FERY & BRANCUCCI 1989), that these taxa cannot be treated as distinct species.

9. *Deronectes hakkariensis* WEWALKA

Deronectes hakkariensis WEWALKA, 1989: 96.

Type locality: South-east of Turkey, Hakkari, E Uludere.

Holotype (♂): "SO Turkey, Uludere Paß (46), 31.5.1987, leg. Jäch", "Holo-Typus ♂, Deronectes hakkariensis sp.n., Wewalka 1988" [red, hw Wewalka] (NMW).

Diagnosis: Habitus: Fig. 18 (drawing after WEWALKA 1989: 96). So far the holotype is the only known specimen. Head reddish-brown, pronotum and elytra dark brown. Disk and posterior angles of pronotum as well as elytra near the suture and their apex paler. Sides of pronotum behind the middle not rounded, almost parallel, therefore resembling at first sight *D. moestus*. Elytra with coarse punctures, longitudinal swellings weak.

Major parts of ventral surface black. Legs reddish brown. Antennae reddish brown, articles not darkened. Without coarse punctures, metacoxal lines diverging forwards. The last visible abdominal segment without notch.

♂♂: Median lobe: Fig. 74; paramere: Fig. 69 (drawings after WEWALKA 1989: 96). Anterior claws not developed. Articles of antennae not enlarged.

♀♀: So far unknown.

Measurements: TL 4.1 mm, MW 2.0 mm.

Distribution: Turkey, Hakkari, Uludere; known only from the locus typicus (Fig. 128).

Remark: Having studied only the holotype we are not absolutely sure about the status of *D. hakkariensis*. When more material becomes available, the species may be transferred to another group of *Deronectes*.

IV. The *Deronectes bicostatus*-group

This group is defined on the structure of the elytra which have one distinct first costa on each, situated approximately in the middle between suture and side, and one or two additional weaker costae (or strong longitudinal swellings) between the first one and the sides; and with an additional longitudinal swelling in the posterior half, laterally near the margin. Before the apex the elytra fall quite abruptly from the first costa to the sides. These characteristics are very striking, but there are three taxa from other groups which might be erroneously placed here: *Deronectes hispanicus* and *D. algibensis* because of their strong longitudinal elytral swellings, and *D. costipennis costipennis* with one strong swelling on each elytron.

Other characters of the group are: distinct impression parallel to each side of the pronotum, which is bulged between this impression and the side; elytra and pronotum with strong and coarse punctures, puncture lines on elytra absent. Surface matt, with short setae. Antennae reddish brown with last articles slightly darkened. Metacoxae and metasternum with sparse coarse punctures. Metacoxal lines diverging forwards. Last visible abdominal segment with a notch. The four representatives of this group are endemic to mountain ranges of the Iberian Peninsula.

Key to the species of the *Deronectes bicostatus*-group

1 Body flat; colour dark brown or black; clypeus not shining between punctures. ♂♂: protarsal claws not developed. 2

\- Body vaulted; colour reddish-brown; clypeus shining between punctures; ♂♂: protarsal claws distinctly elongate. 3

2 Elytra with two costae; puncturation of the head sparse, punctures separated by more than their own diameter; distributed in mountain ranges of Portugal and central and northern Spain, at both high and moderate elevations. ..... **10. *bicostatus***

\- Elytra with three costae; puncturation of the head very dense, reticulation visible but not distinct; distribution restricted to mountain ranges of Andalusia, Spain. ... . **11. *depressicollis***

3 ♂♂: aedeagus in dorsal view parallel before apex; length of anterior protarsal claw 9/10 of posterior one; ♀♀: anterior angles of pronotum strongly elevated; distributed in mountain ranges of Portugal and northern Spain. ..... **12. *ferrugineus***

\- ♂♂: aedeagus in dorsal view evenly tapered before apex; anterior protarsal claw only 3/4 the length of posterior one, strongly curved at apex; ♀♀: anterior angles of pronotum less elevated; distributed in mountain ranges of central Spain. ..... **13. *wewalkai***

10. *Deronectes bicostatus* (SCHAUM)

Hydroporus bicostatus SCHAUM, 1864: 111. - LEPRIEUR 1876a: 62. - LEPRIEUR 1876b: 105. - LEPRIEUR 1876c: 121. - LEPRIEUR 1876d: 53. - LEPRIEUR 1876e: 568. - SHARP 1882: 423.
Deronectes bicostatus (SCHAUM): ZIMMERMANN 1932: 99. - RICO & al. 1990: 102.

Type locality: Spain, Sierra de Guadarrama, El Escorial.

Lectotype ♂ (present designation): small blue label without any text, "Escorial, Typ Seidlitz" [hw Schaum and Cl. Müller], "Sammlung, Cl. Müller", "Lectotypus" [red label] (unauthorised and unpublished designation), "Deronectes bicostatus (Schaum), det. M. Brancucci 86" [hw Brancucci], "Lectotype, Hydroporus bicostatus Schaum, des. Fery & Brancucci 1989" [red] (ZSM). **Paralectotype:** 1 ♀, "Hisp., 1 Sz." [typical Seidlitz label], "Collection, v. Seidlitz" [glue-card and pin same as lectotype] and the respective red paralectotype label (ZSM). **Remark:** The syntypes have been collected by Seidlitz and not by Schaum (see SCHAUM 1864: 111).

Additional material: Portugal: 3 exs., "San Martinho d'Ante [SE Vila Real] 94"; 2 exs., "Portugal" [hw Zimmermann], "Samml. A. Zimmermann" (ZSM). 4 exs., "S. Martinho, Portug."; 1 ex., "S. Martinho, C. de Barros" (NMW). 1 ex., "Portugal VI.59, Serra de Estrella, ruisseau sur Loriga" [hw Aubert] (NMB). 49 exs., Guarda, Serra Estrêla, Sameiro E Manteigas, 600 m, 9.8.1984 and 27.3.1986; 38 exs., Guarda, Serra Estrêla, Penhas Douradas, 1150 m, 14.8.1985, 21.7.1987, 6.7.1988 and 3.6.1990; 1 ex., Guarda, Serra Estrêla, near Sabugeiro, 1400 m, 14.8.1985; 18 exs., Guarda, Serra Estrêla, near Manteigas, 4.8.1989, 3.6.1990 and 22.7.1991; 19 exs., Porto, Duoro Litoral, N Recarei, 800 m, 28.3.1986; 40 exs., idem, S Recarei, 28.3.1986; 7 exs., Viseu, Sierra de Montemuros, Vilar, NW Castro Daire, 3.6.1990; 53 exs., Vila Real, E Chaves, 22.3.1989; 3 exs., Vila Real, Escariz, 1000 m, 22.3.1989 and 5.8.1989; 21 exs., Porto, N Arouca, 23.3.1989; 4 exs., Viana do Castelo, Serra de Soajo near Merufe, 700 m, 28.3.1986; 2 exs., idem, Sistelo, 25.12.1991; 96 exs., idem, N Ponte de Lima, 25.12.1991, 5.5.1993 and 11.3.1997; 10 exs., idem, Serra de Arga, 700 m, 30.1.1994 and 10.3.1997 Fery leg. (CHF). **Spain:** 1 ex., "Guadarrama" [hw Cl. Müller], "Sammlung, Cl. Müller"; 1 ex., "La Granja" [= San Ildefonso, Segovia], [hw Cl. Müller], "Sammlung Cl. Müller", both specimens most probably collected in 1865 by Cl. Müller (KIESENWETTER 1865: 389), no syntypes because the species already has been described in 1864; 2 exs., "Spanien" [hw Zimmermann] (ZSM). 11 exs., Cantabria, Reinosa 15.6.91, Hebauer leg. (CJS). 1 ex., Salamanca, Sierra de Gata, Vegas, 7.7.1988; 4 exs., idem, Agallas, 7.7.1988; 8 exs., idem, Puerto Viejo, 7.7.1988; 7 exs., Cáceres, Sierra de Gata, Robledillo de Gata, 7.7.1988; 1 ex., idem, Portilla Alta, 500 m, 8.7.1988; 1 ex., idem, Nuñomoral, 8.7.1988; 3 exs., Salamanca, Sierra de Francia, near Peña, 8.7.1988; 7 exs., Avila, Sierra de Gredos, Tormellas, 8.7.1988; 1 ex., idem, Gredos, 1800 m, 8.7.1988; 2 exs., idem, Bohoyo, 8.7.1988; 5 exs., idem, Navalonguila, 8.7.1988; 2 exs., idem, Nava del Barco, 8.7.1988; 12 exs., idem, Navalguijo, E El Barco de Avila, 3.8.1989; 3 exs., Madrid, Sierra de Guadarrama, Lozoya, 1300 m, 24.07.1987 and 22.7.1989; 2 exs., Zamora, Donado, E Puente de Sanabria, 23.7.1987; 2 exs., idem, Justel, 21.3.1989; 6 exs., León, Tabladillo, near Astorga, 23.7.1987 and 26.8.1989; 5 exs., León, N Villafranca del Bierzo, Paradaseca, 24.7.1991; 4 exs., Oviedo, Cerredo, S Cangas de Narcea, 1300 m, 20.8.1989; 5 exs., Lugo, S Quiroga, 13.8.1989, Fery leg. (CHF).

Diagnosis: Habitus oblong oval (Fig. 19), mature specimens black. First costa highest on posterior two thirds, without coarse punctures.

Major parts of ventral surface black. Prosternal apophysis: Fig. 24. Legs dark brown, femora black except the apex.

♂♂: Median lobe: Fig. 75; paramere: Fig. 79. Protarsi and mesotarsi enlarged, protarsal claws simple, but somewhat longer than those of the females.

♀♀: Anterior of pronotum with a flat area in lateral view, which however is smaller than in *D. ferrugineus* or *D. wewalkai*.

Measurements: TL 4.2 - 5.0 mm, MW 2.3 - 2.6 mm.

Distribution: Central and northern regions of Portugal and Spain (Fig. 129).

11. *Deronectes depressicollis* (ROSENHAUER)

Hydroporus depressicollis ROSENHAUER, 1856: 50. - SCHAUM 1864: 111. - LEPRIEUR 1876a: 62. - LEPRIEUR 1876b: 105. - LEPRIEUR 1876c: 121. - LEPRIEUR 1876d: 53. - LEPRIEUR 1876e: 568. - SHARP 1882: 792.

Deronectes depressicollis (ROSENHAUER): SEIDLITZ 1887: 50 (partim). - ZIMMERMANN 1932: 99. - FERY & BRANCUCCI 1987: 69. - RICO & al. 1990: 103 (partim).

Deronectes bicostatus (SCHAUM): ZIMMERMANN 1932: 100. - RICO & al. 1990: 102.

Type locality: Spain, Algeciras.

Holotype (♂): "Algeciras", "Thiere Andalusiens, Rosenhauer", "Museum Paris, coll. R. Oberthür, ex Wehncke", "Holotype, Deronectes depressicollis Rosenhauer" [red, hw Brancucci] (MNHN).

Additional material: Spain: 22 ♂♂, 9 ♀♀, Jaén, Sierra de Cazorla, spring of river Guadalquivir, 11.7.1987, Fresneda and Hernando leg. (CJF, CHF). 10 exs., Granada/Almeria, Sierra Nevada, Pto de la Ragua, 13.6.1991, Hebauer leg.; 3 exs., Granada, Guadix, 19.5.1991, Snizek leg. (CJS). 1 ex., Jaén, Rio Zumeta, 21.8.1982, Millán leg. (CAM). 4 exs., Granada, Sierra Nevada, Capileira, 1700 m, 2.10.1985, Hendrich leg.; 61 ex., Almeria, Sierra Nevada, N Bayarcal, 1000 m, 17.3.1986 and 12.7.1987; 15 exs., idem, 1600 m, 5.8.1985, 22.3.1988 and 1.8.1989; 68 exs., idem, 1800 m, 1.8.1989, 29.5.1990 and 20.7.1991; 13 exs., idem, near Laujar, Paterna del Rio, Rio de Alcolea, 1000 m, 4.8.1985; 2 exs., Jaén, Sierra de Cazorla, E Mogón, Rio Aguacebas Grande, 30.6.1988 and 2.8.1989, Fery leg. (CHF).

Diagnosis: Habitus short oval (Fig. 20). Mature specimens black. Pronotum strongly rounded, broadest in the middle. First costa provided with some coarse punctures; second and third costa weaker, the second longer than the third; both are provided with coarse punctures also.

Major parts of ventral surface black. Prosternal apophysis: Fig. 25. Legs dark brown, femora partially darkened.

♂♂: Median lobe: Fig. 76; paramere: Fig. 80. Protarsi and mesotarsi not developed, protarsal claws simple.

♀♀: Similar to males. Anterior of pronotum - in contrast to the other representatives of this group - without flat area in lateral view.

Measurements: TL 4.0 - 4.9 mm, MW 2.1 - 2.6 mm.

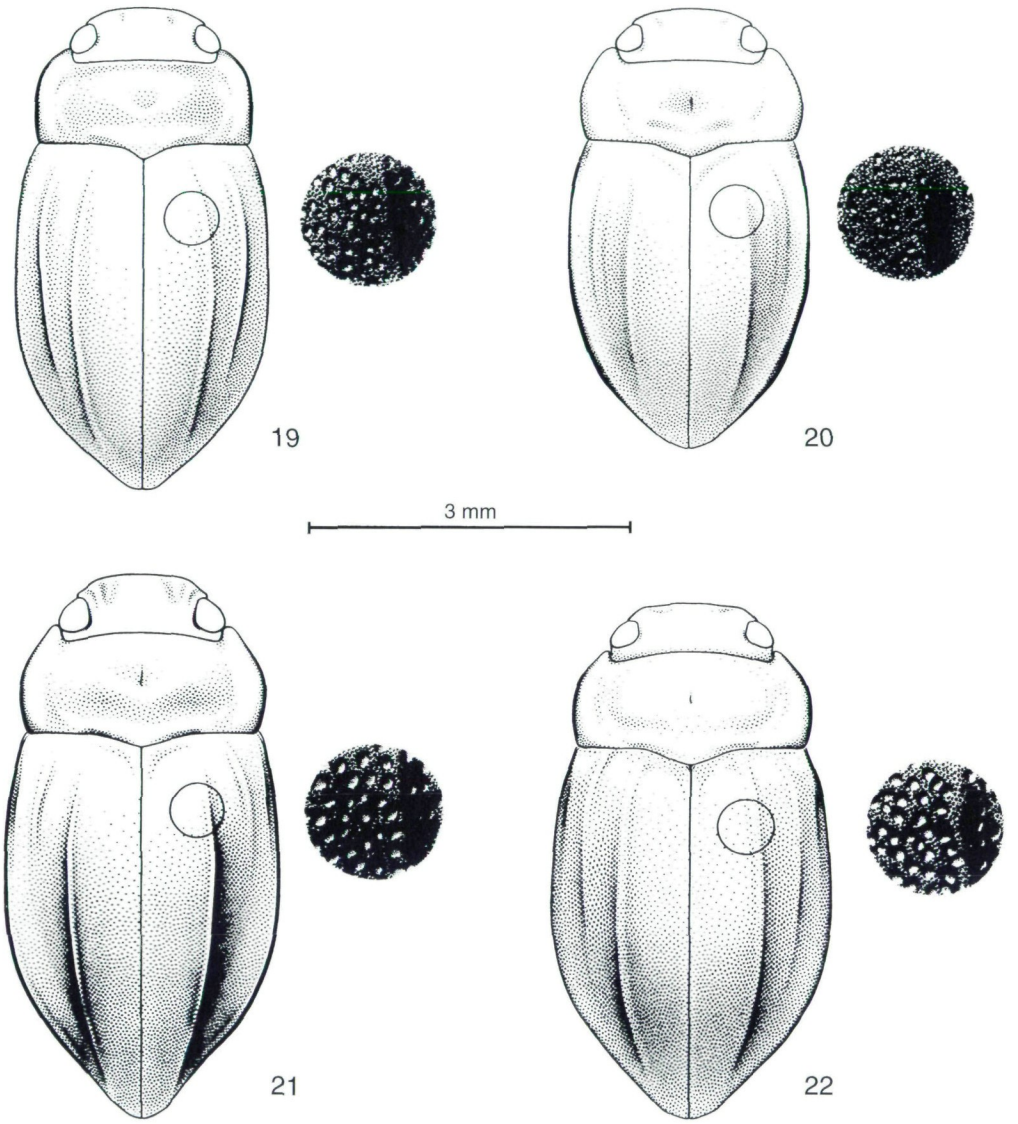
Distribution: Spain, Andalusia; the species seems to be restricted to the higher altitudes of the Sierra Nevada, Sierra de Cazorla, Sierra de Segura (Fig. 129) and Sierra de Almijara (SAINZ-CANTERO & CORTES-ROMERO 1997: 254). The record "Algeciras" (holotype) may reflect the inexact label information used by many authors during the last century. Nevertheless there is a chance that the species may be present in the mountainous regions north of Gibraltar (Sierra de Algibe, Sierra de Grazalema).

12. *Deronectes ferrugineus* FERY & BRANCUCCI

Deronectes ferrugineus FERY & BRANCUCCI, 1987: 70. - FERY & FRESNEDA 1988a: 247. - RICO & al. 1990: 105.

Type locality: Portugal, Guarda, Serra da Estrêla, Penhas Douradas.

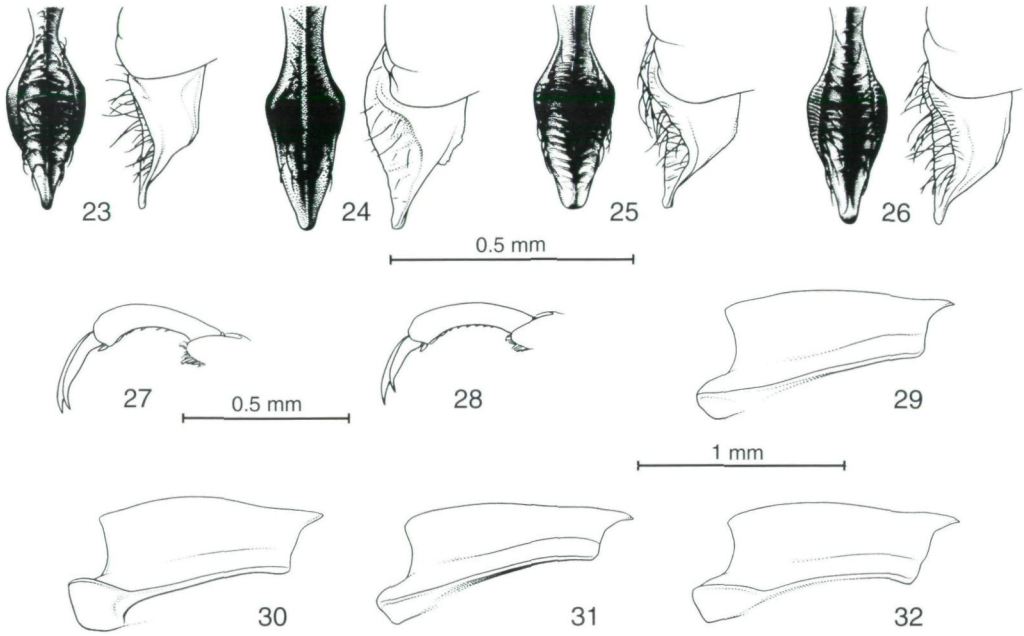
Holotype (♂): "14.8.85, Portugal, Serra Estrela, Penhas Douradas, Bach [= brook], 1150 m, Fery leg.", "Holotype, Deronectes ferrugineus n.sp., det. H. Fery & M. Brancucci" [red] (NMB). **Paratypes:** 10 ♂♂, 19 ♀♀, same data as holotype; 3 ♂♂, 1 ♀, idem, 1250 m, 14.8.1985; 11 ♂♂, 8 ♀♀, idem, 1000 m, 14.8.1985; 4 ♂♂, 2 ♀♀, idem, 27.3.1986; 2 ♂♂, 4 ♀♀, idem, but near Sabugeiro, 1400 m, 14.8.1985, Fery leg. (NMB,



Figs. 19 - 22: Habitus of: (19) *Deronectes bicostatus*, (20) *Deronectes depressicollis*, (21) *Deronectes ferrugineus*, (22) *Deronectes wewalkai*.

HNHM, MCVR, MNHN, MZL, NMW, ZSM, CAN, CHH, CGW, CIR, CLH, CMB, CNS, CPM, CHF); all paratypes with the respective red label.

Additional material: Portugal: 13 exs., Portugal, Beira Alta, Guarda, Serra da Estrêla, near Penhas Douradas, 1150 m, 21.7.1987 and 6.7.1988; 31 ex., idem, 1000 m, 21.7.1987, 4.8.1989, 12.6.1990, 3.7.1990 and 22.7.1991; 4 exs., idem, W Manteigas, 1100 m, 22.7.1991; 1 ex., idem, Loriga, 21.7.1987; 1 ex., idem, near Manteigas, 3.6.1990; 10 exs., idem, near Torre, 1300 m, 12.6.1990; 90 exs., Vila Real, Escariz, 1000 m, 22.3.1989 and 5.8.1989; 18 exs., Viseu, Serra de Montemuros, Vilar, NW Castro Daire, 3.6.1990; 5 exs., Minho, N Ponte de Lima, 23.7.1991, Fery leg. (CHF and in diverse other collections). **Spain:** 2 exs., Salamanca, Sierra de la Peña de Francia, Monsagro, 1150 m, 5.8.1990, Fresneda and Leblanc leg.; 4 exs.,



Figs. 23 - 32: (23 - 26): Prosternal apophysis of: (23) *Deronectes costipennis costipennis*, (24) *Deronectes bicostatus*, (25) *Deronectes depressicollis*, (26) *Deronectes ferrugineus*; (27 - 28): Anterior claws of ♂♂ of: (27) *Deronectes ferrugineus*, (28) *Deronectes wewalkai*; (29 - 32): Pronotum in lateral view of: (29) *Deronectes ferrugineus* (♂), (30) idem (♀), (31) *Deronectes wewalkai* (♂), (32) idem (♀).

Santander, Vada, 7.9.1987, Garrido leg.; 2 exs., Orense, Montes do Invernadeiro, 5.5.1989, González leg.; 23 exs., Zamora, near Puente de Sanabria, Calabor, 5.8.1989; 27 exs., Lugo, Seara, N Quiroga, 13.8.1989; 15 exs., León, N Villafranca del Bierzo, Paradaseca, 24.7.1991 and 6.7.1992; 9 exs., León, Noceda, NE Ponferrada, 6.7.1992, Fery leg. (CHF).

Diagnosis: Habitus oblong oval (Fig. 21). Upper surface reddish brown. First costa strongly raised, highest on posterior two thirds; the second often perceptible only on basal third, without coarse punctures.

Major parts of ventral surface reddish brown, metacoxae darkened, mature specimens with abdomen darkened. Prosternal apophysis: Fig. 26. Legs reddish brown.

♂♂: Median lobe: Fig. 77; almost parallel dorsally before apex, apex rounded. Paramere: Fig. 81. Protarsi and mesotarsi enlarged, onychium longer and more bent than those of the females. Protarsal claws elongate, almost straight, the anterior one indistinctly shorter and slightly curved at apex (Fig. 27). Anterior angles of the pronotum in lateral view with a small flat area (Fig. 29).

♀♀: Pronotum in dorsal view with anterior angles more pointed, in lateral view these are strongly bent upwards, with a large flat area (Fig. 30).

Measurements: TL 4.7 - 5.3 mm, MW 2.6 - 2.7 mm.

Distribution: Portugal, Serra da Estrêla; Spain, mountain ranges of the northern provinces, the most southern locality is the Sierra de la Peña de Francia in Salamanca (Fig. 129).

13. *Deronectes wewalkai* FERY & FRESNEDA

Deronectes wewalkai FERY & FRESNEDA, 1988a: 241. - RICO & al. 1990: 108.

Type locality: Spain, Madrid, Sierra de Guadarrama, Lozoya.

Holotype (♂): "24.7.87, España, Prov. Madrid, Sierra de Guadarrama, Lozoya, Bach, ca. 1300 m, Fery leg.", "Holotype, Deronectes wewalkai n.sp., det. Fery & Fresneda" [red] (NMB). **Paratypes:** 7 ♂♂, 6 ♀♀, same data as holotype; 1 ♂, 2 ♀♀, "23.7.87, España, Prov. Madrid, Sierra de Guadarrama, östl. [= east of] P. de Navacerrada, 1700 m, Fery leg.", "Gebirgsbach [= headwater stream]"; 5 ♂♂, 1 ♀, "24.7.87, España, Prov. Guadalajara, Somosierra, Umg. [= near] Colmenar d. S., Bach [= brook], ca.1200 m, Fery leg." (MNB, NMB, CGW, CJF, CHF and in the Zoological Museum of Barcelona, Spain); all paratypes with the respective red label.

Additional material: Spain: 7 exs., Madrid, Escorial; 2 exs., "La Granja" [= San Ildefonso, Segovia], coll. Oberthür (MNHN). 36 exs., Madrid, Sierra de Guadarrama, Lozoya, 1300 m, 9.7.1988 and 22.7.1989; 3 exs., Guadalajara, Somosierra, near Colmenar de la Sierra, 1200 m, 22.7.1989; 5 exs., Guadalajara, Sierra de Alto Rey, Bustares, 16.6.1990; 63 exs., Avila, Sierra de Gredos, 1800 m, 8.7.1988, 3.8.1989 and 13.6.1990; 2 exs., idem, Nava del Barco, 8.7.1988; 5 exs., idem, Bohoyo, 8.7.1988 and 3.8.1989, Fery leg. (CHF).

Diagnosis: Habitus oblong oval (Fig. 22). Upper surface reddish brown. Elytral structure like that of *D. ferrugineus*, but second costa often more prominent.

Major parts of ventral surface reddish brown, mature specimens with black abdomen. Prosternal apophysis as in *D. ferrugineus* (Fig. 26). Legs reddish brown.

♂♂: Median lobe: Fig. 78; almost evenly tapering to the apex dorsally, with apex bent ventrally in lateral view. Paramere: Fig. 82. Protarsi and mesotarsi enlarged, onychium longer and more bent than those of the females. Protarsal claws elongate and unequal, anterior one shorter and more bent (Fig. 28). Anterior angles of pronotum in lateral view (Fig. 31) similar to those of the males of *D. ferrugineus*.

♀♀: Pronotum in dorsal view with anterior angles more pointed, with a large flat area in lateral view (Fig. 32), but smaller than in the females of *D. ferrugineus*.

Measurements: TL 4.5 - 5.1 mm, MW 2.4 - 2.7 mm.

Distribution: Spain, central mountain ranges: Sierra de Gredos, Sierra de Guadarrama, Somosierra and Sierra de Alto Rey (Fig. 129).

V. The *Deronectes moestus*-group

This group includes three species one of which is divided into two subspecies. Their homogeneity and their affinity to *D. fairmairei* have caused great confusion since FAIRMAIRE (1858) described *Hydroporus moestus* and *Hydroporus vestitus* one year later (FAIRMAIRE 1859: 27), a name which was preoccupied by *Hydroporus vestitus* GEBLER, 1848. LEPRIEUR (1876a-e) treated the species around *D. moestus* and replaced the name *vestitus* with *fairmairei*, but unfortunately, he caused further confusion by describing *H. fairmairei* again under the name *Hydroporus bombycinus* (1876c: 122), as we will show below.

The shape of the prosternal apophysis is used as an important characteristic of the *D. moestus*-group in the present work. It is roof-like, not broadened laterally (at most in a small basal part), and without distinct setae. GUIGNOT (1933: 443; 1947: 135) was the first to separate *D. moestus* from *D. fairmairei* (= *Deronectes bombycinus* sensu GUIGNOT) using this feature. WEWALKA (1971: 209), using in addition the male genitalia, was able

to distinguish between *D. perrinae* sp.n. (= *Deronectes bombycinus* sensu WEWALKA) and *D. fairmairei* for the first time.

Further characteristics of this group are: distinct longitudinal impression parallel to each side of the pronotum, maximum width of pronotum behind the middle or at least near the middle (*D. brannanii*), distinctly narrower than the maximum width of elytra, which are rounded laterally, and a median lobe which is not truncate. Habitus oblong oval, upper surface black, matt, with short setae. Elytra with weak longitudinal swellings. Major parts of ventral surface black. Metacoxal lines diverging forwards. Last visible abdominal segment with a notch. Protarsal claws of the males simple. The group has its centre of distribution in the western Mediterranean, with one species extending into Greece.

Key to the species of the *Deronectes moestus*-group

1 Elytra between the primary puncturation with almost imperceptible additional coarser punctures. ♂♂: median lobe dorsally narrowed before apex, almost parallel (Fig. 90). Species from Tunisia and Algeria. ..... **16. *perrinae* sp.n.**

\- Elytra between the primary puncturation with distinct additional coarser punctures. ♂♂: median lobe dorsally not parallel before apex. 2

2 Habitus more elongate, maximum width of pronotum near the middle, evenly rounded to anterior and posterior angles. Species endemic to the Balearics (Spain). .... **15. *brannanii***

\- Habitus less elongate, maximum width of pronotum behind the middle. 3

3 Large punctures on elytra less distinct and dense. ♂♂: median lobe laterally with basal part smaller (Fig. 87). ♀♀: apex of gonocoxosternum less prominent (Fig. 114). Subspecies endemic to Corsica and Sardinia. ..... **14a. *moestus moestus***

\- Large punctures on elytra more distinct and dense. ♂♂: median lobe laterally with basal part larger (Fig. 88). ♀♀: apex of gonocoxosternum more prominent (Fig. 115). ..... **14b. *moestus inconspectus***

14. *Deronectes moestus* (FAIRMAIRE)

In the original description of *Hydroporus inconspectus*, LEPRIEUR (1876c: 122) compared his new taxon with *H. moestus* and defined it by the relatively greater width of the pronotum, the stronger puncturation of the surface and the greater total length. SHARP (1882: 422, 797) treated it as a simple variety of *H. moestus* and until today all authors followed his opinion. However, Sharp not only misinterpreted this taxon. He also took *H. fairmairei* for a variety of *H. moestus*, and confused *H. fairmairei* and *D. perrinae* sp.n. calling them *H. bombycinus*. This can be understood by considering that in Sharp's time it was unusual to study genitalia, and that the external similarity between representatives of the *D. moestus*-group and *D. fairmairei* coupled with the numerous publications about them and their distribution - in many cases contradictory - have caused great confusion. GUIGNOT (1959: 435) did not separate the species of this group in a satisfactory manner and provided "Algérie" as area of distribution for *D. moestus*, something which seems to be true for *D. perrinae* sp.n. only.

All authors since Leprieur have included populations from the whole distribution area under *D. moestus* as a single taxon. We have instead decided to split *D. moestus* into two subspecies. This decision is based on a few separating characteristics and on geographical distribution. It is supported by differences in the larval morphology, which have been observed by DETTNER & al. (in preparation). The species does, however, present considerable problems, and our interpretation should be viewed as provisional.

14a. *Deronectes moestus moestus* (FAIRMAIRE)

Hydroporus moestus FAIRMAIRE, 1858: 455. - SCHAUM 1864: 112 (partim). - AUBÉ 1867: 258 (partim). - LEPRIEUR 1876a: 62 (partim?). - LEPRIEUR 1876b: 104 (partim?). - LEPRIEUR 1876c: 122. - LEPRIEUR 1876d: 53. - LEPRIEUR 1876e: 569. - SHARP 1882: 422 (partim).
Deronectes moestus (FAIRMAIRE): ZIMMERMANN 1919: 185 (partim). - ZIMMERMANN 1932: 103 (partim). - GUIGNOT 1947: 138 (partim). - FRANCISCOLO 1979: 439 (partim).

Type locality: France, Corsica, Bastia.

Lectotype ♂ (present designation): "Bastia, Lareynie" [hw Fairmaire?], "moestus n.sp." [hw Fairmaire], small white label, "moestus!" [green, hw Leprieur], "Museum Paris, 1906, Coll. Léon Fairmaire", "Lectotype, Hydroporus moestus Fairmaire, des. Fery & Brancucci 1989" [red] (MNHN). **Paralectotypes:** 1 ♂, 1 ♀, both on the same pin, "Moestus, Corsica" [hw Fairmaire], a small blue label without text, "Muséum Paris, 1906, Coll. Léon Fairmaire" and the respective red paralectotype label (MNHN).

Additional material: France (Corsica): 4 exs., all on the same pin, "Moestus, Corse" [hw Aubé], three of the glue-cards on underside labelled "Corse" [hw Aubé], "moestus!" [green, hw Leprieur], coll. Fairmaire; 1 ex., "Corse, Raymond" [round, hw Leprieur], "7", "Fairmairei = vestitus" [green, hw Leprieur]; 1 ex., "Corse, M'bille [?]" [round, hw Leprieur], "Fairmairei = vestitus" [green, hw Leprieur], ex Leprieur, coll. Pic; 3 exs., "Coll du Buyss." [hw Guignot]; 1 ex., "Piana (Corse), 30.6.35, L. Schaefer" [hw Schaefer]; 1 ex., "Piana, Corse 6. 1935, L. Schaefer" [hw Schaefer]; 1 ex., "Corte, Corse 16.6.35, L. Schaefer" [hw Schaefer], coll. Guignot (MNHN). 1 ex., "moestus, Corse" [hw Fairmaire?]; 4 exs., "Corsica", "Sharp Coll., 1905-313"; 1 ex., idem, but with additional label "Moestus Fair., Corsica" [hw Sharp?]; 1 ex., "Ajaccio, Corse", "117", "Deronectes moestus Fairm." (BML). 3 exs., "Korsika, Biguglia"; 1 ex., "Korsika, Ajaccio"; 1 ex., "Ajaccio, Schneider"; 2 exs., "Corsica, 20.4.05", "Coll. Dr. Ihssen"; 2 exs., "Corsica, Dr. Manes" (MNB). 2 exs., "Corsica", "moestus, Corse", "moestus!" [green, hw Leprieur], "Deronectes moestus Fairm., Coll. Reitter" (HNHM). 5 exs., "Corsica, Cervione, Burlini IV.30", "Deronectes moestus Fairm., det. Burlini"; 1 ex., Folelli dint. Fiume Alto, 10.8.1976; 1 ex., Foresta di Tartagine, 750 m, 27.8.1980; 2 exs., Casta, Campo Castingu, 300 m, 4.10.1975, Sette leg. (MCVR). 1 ex., "Ajaccio, 6150, Corse" (IRSN). 2 exs., "Corse", "Rey", "Hydr. vestitus" (ZSM). 6 exs., N San Nicolao, 18.7.1994, Zerche leg. (DEI). 1 ex., Venaco de la Tavignano, 19.4.1982, Leblanc leg.; 81 exs., Serriera, N Porto, 5.8.1974, 7.8.1974, 13.4.1979, 14.4.1979, 8.8.1979, 31.3.1980, 2.4.1980, 10.4.1980, 18.7.1982 and 9.7.1983; 1 ex., Piniito, N Serriera, Porto, 12.4.1979; 2 exs., Porto, 30.7.1974 and 23.7.1986; 1 ex., Casamozza, 19.4.1974; 1 ex., Barchetta, 13.4.1981; 4 exs., Cargèse, 13.4.1981; 12 exs., Galeria, Tuarelli, 15.8.1974, 13.4.1979, 28.7.1981, 12.7.1983 and 20.7.1986; 23 exs., Sagone, 8.4.1980 and 9.4.1981; 1 ex., Asco, 800 m, 13.7.1983; 36 exs., Ponte Leccia, 13.7.1983; 1 ex., ca. 1 km S Zonza, 20.4.1995; 2 exs., 10 km WSW Solenzara, 21.4.1995, Fery leg. (CHF). **Italy (Sardinia):** 3 exs., "Sardegna 1872, S. Vito, R. Gestro, Apsi", "Deronectes moestus Fairm., J. Balfour-Browne det." [hw J. Balfour-Browne] (BML). 1 ex., "opatrinus?, Sardin. Raymond", "Coll. L.W. Schaufuss", "opatrinus Germ., Europa mer."; 1 ex., "Sardegna, Iglesia, 13.5.90, A. Fiori" [hw Fiori]; 1 ex., "Sardegna sett. Adriano, A. Fiori" [hw Fiori]; 1 ex., "Sardinia, Tempio, Frkl. Müller" (MNB). 1 ex., "Sardin" [hw Schaum?]; 1 ex., "Sard"; 1 ex., "opatrinus, Sard.", "Kiesenwetter", "Sammlung Cl. Müller"; 1 ex., Villasimius, 14.5.1954; 1 ex., Castiades, 21.9.1957, Jünger leg. (ZSM). 1 ex., "Sardaigne, Det. Baudi", "det. Baudi, Deronectes fairmairei Lepr."; 2 exs., "Paganetti, Terra Nova S.", "det. Deronectes moestus Fairm." (IRSN). 1 ex., "Sardinia, Tempio, Krausse", "Guignot det., Deronectes moestus Fairm." [hw Guignot] (HNHM). 10 exs., Arbatax, 24.5. - 24.6.1963; 2 exs., La Caletta, 24.5. - 20.6.19965; 3 exs., Bosa, 24.5. - 24.6.1963, Budberg leg. (NMW). 1 ex., "Sardegna, Iglesias [?], VII-939 Pomini"; 1 ex., "Sardegna, Orgosolo [Nuoro] VII-939 Pomini"; 1 ex., "Sardegna, A. Chiedono [?], VII-939 Pomini";

2 exs., "Sardegna, Villacideo [?], IX.77 Leo"; 1 ex., "Sardegna, Decimomannu [?], 8.VI.1976, P. Leo", "Deronectes moestus Fairm, det. Angelini 1981"; 4 exs., "Sardegna, Assemini [?], VI.1939, U. Lostia" (MCVR). 1 ♂, "Nuoro Sard., Rio Sadali, Stolfa 7.8.41", "Guignot det. 1952, Deronectes bombycinus Lepr." (see ANGELINI 1978: 50) (MCTR). 22 exs., SW Lago Alto di Flumendosa, 800 - 1000 m, 5.9.1978 and 28.8.1980; 1 ex., Monteleone Rocca Doria, Fiume Tempo, 7.4.1980; 2 exs., Gennargentu, between Lanusei and Villanova Strisaili, 24.8.1980; 4 exs., S Monte Limbara, Cant. Tucconi, 12.9.1980; 2 exs., Mufflon reserve, 890 m, 12.9.1985; 5 exs., near Tertenia, Rio di Quirra, 9.5.1985, Dettner leg. (CKD). 1 ex., Nuoro, Laloni, Funtanamela, Rio Bau Onu, 10.9.1988, Meloni leg. (CLH). 6 exs., river Cannas, Cagliari-Muravera, 24.7.1988, Toledo leg. (CJS). 20 exs., San Priamo Cágliari, Rio Picocca, 12.5.1995; 6 exs., near Orgosolo, Nuoro, 650 m, 6.5.1995; 2 exs., Monti Sette Fratelli, Cágliari, 450 - 750 m, 13.5.1995, Angelini leg. (CFA). 2 exs., Sassari, Viddalba, 31.5.1985; 6 exs., Sassari, Valledoria, 23.5.1985, Feller leg.; 1 ex., Villanova, Strisalli, 20.6.1976, Malkin leg. (NMB, CHF).

Diagnosis: Habitus: Fig. 33. Elytra with coarse punctures, but smaller and sparser than in *D. moestus inconspectus*; puncture lines almost imperceptible.

Legs dark brown or blackish, tarsi dark brown. Antennae reddish, with the last seven or eight articles darkened distally. Metacoxae with few very indistinct coarse punctures.

♂♂: Median lobe (Fig. 87) in lateral view with a small basal part and rounded in the concave basal part. Paramere: Fig. 83.

♀♀: Apex of gonocoxosternum elongate (Fig. 114), but somewhat variable. Gonocoxa: Fig. 120.

Measurements: (mean values in brackets): **Corsica:** TL 4.1 - 5.0 mm (4.59 mm), MW 2.1 - 2.5 mm (2.31 mm), ratio of TL/MW 1.90 - 2.02 (1.99). **Sardinia:** TL 4.4 - 4.9 mm (4.65 mm), MW 2.2 - 2.5 mm (2.37 mm), ratio of TL/MW 1.92 - 2.04 (1.96).

Remark: Some specimens from Sardinia have a surface puncturation which is less distinct and sparser than in specimens from Corsica. Sometimes the median lobe in lateral view is slightly parallel before the apex. Thus they might be considered as belonging to *D. perrinae* sp.n., which has, however, a surface puncturation much finer and sparser still and female gonocoxosterna which are not so elongate.

Distribution: Endemic to Corsica and Sardinia (Fig. 130).

14b. *Deronectes moestus inconspectus* (LEPRIEUR) stat.n.

Hydroporus opatrinus GERMAR: AUBÉ 1836: 274.
Hydroporus moestus FAIRMAIRE: AUBÉ 1867: 257 (partim).
Hydroporus inconspectus LEPRIEUR, 1876c: 122. - LEPRIEUR 1876d: 53. - LEPRIEUR 1876e: 569. - SCHAUM 1864: 112 (partim).
Hydroporus moestus var. *inconspectus* LEPRIEUR: SHARP 1882: 422, 797. - RÉGIMBART 1895: 14 (partim).
Deronectes moestus (FAIRMAIRE): ZIMMERMANN 1919: 185 (partim). - ZIMMERMANN 1932: 103. - GUIGNOT 1947: 139. - GUIGNOT 1959: 435 (partim). - FRANCISCOLO 1979: 439 (partim). - RICO & al. 1990: 106.
Hydroporus Brannani (SCHAUFUSS): BAGUENA 1935: 86 (misidentified?).
Deronectes moestus var. *inconspectus* (LEPRIEUR): GUIGNOT 1947: 139. - GUIGNOT 1959: 435.

Type locality: France, "Hautes Pyrénées".

Lectotype ♂ (present designation): "Reiche, H'pyr [= Hautes Pyrénées]" [round, hw Leprieur], "5", "inconspectus" [green, hw Leprieur], "Muséum Paris, ex Leprieur, Coll. M. Pic", "Lectotype, Hydroporus inconspectus Leprieur, des. Fery & Brancucci 1989" [red] (MNHN). **Paralectotypes:** 2 ♂♂, "Doubs, Blamont,

9.64 [?]" [round, hw Leprieur], "5", "inconspectus" [green, hw Leprieur]; 1 ♂, "Neuland [?], Août 64" [round, hw Leprieur]; "6", "inconspectus, var?" [green, hw Leprieur]; 1 ♀, "Javet, Gal. mer." [round, hw Leprieur], "Abd. maculés, Sericeo-pilosus ♂?" [hw Leprieur], "inconspectus" [green, hw Leprieur]; 2 ♀♀, "Banduer [?], Carcassonne" [round, hw Leprieur], "inconspectus" [green, hw Leprieur], "Muséum Paris, ex Leprieur, Coll. M. Pic"; 1 ♀, "164" [light-green], small grey label, small green label, "inconspectus, Lepr." [green, hw Leprieur], "No. 305, H. moestus, DS" [hw Sharp], "Museum Paris, 1906, Coll. Léon Fairmaire" (MNHN). 4 ♂♂, 1 ♀, "Tappes, Nice" [hw Leprieur], "Type" "inconspectus, type!" [green, hw Leprieur], "Typus" [red], "H. inconspectus, Lepr. Lepr.[sic!]" [hw Stierlin], "coll. Stierlin" (DEI). 1 ♂, "Tappes, Nice" [hw Leprieur], "inconspectus, type!" [green, hw Leprieur], "Sammlung v. Seidlitz" (ZSM); all paralectotypes with the respective red label.

Additional material: Morocco: 1 ex., "Arhbala, 11.6.42", "Moy.-Atl., 1730 m", "Maroc, H. Otin", "R. Mouchamps det., Deronectes moestus Fairm" [specimen without abdomen] (IRSN). 3 exs., Tetouan, 600 m, 25.5.1994; 1 ex., Demnate 1000 m, 6.6.1994, Majzlan leg. (NMW). 7 exs., near Todra, V.1996, Šťastný leg.; 1 ex., Tazeka, Taza, 5.5.1994, Mor leg. (CJS). 2 exs., Haut Atlas, Tizi-n-Test, 1500 m, 19.5.1989, Brandl leg. (CHB). 2 exs., W Tanger, Cap Spartel, 30.3.1988; 3 exs., S Ceuta, Fnidek [= Castrillo], 30.3.1988; 2 exs., 40 km S Tanger, 26.3.1988; 2 exs., Ksar es Seghir, E Tanger, 25.3.1988, Fery leg. (CHF). **Spain:** 1 ♂, "Hydroporus moestus ♂, Type mihi, D. S., Ribadesella [Oviedo province]" [on glue-card, hw Sharp], "Europe"; 1 ♀, idem, but with female sex symbol and additional labels "Type 305. H. moestus" [hw Sharp], "Europe" [hw Sharp]; 2 exs., "Hydroporus moestus, D.S." [hw Sharp], "Ribadesella" [hw Sharp]; 1 ex., "Ribadesella" [oval, hw Sharp], "Deronectes moestus Fairm., J. Balfour-Browne det."; 1 ex., "Hydroporus moestus" [on glue-card, hw Sharp], "D. S., Malaga" [hw Sharp]; 2 exs., Jaén, Jaén-Valdepenas road, Rio Frio, 1100 - 1200 m, 25.5.1967; 1 ex., Jaén, 12 km S Jaén, Rio Eliche, 500 - 600 m, 25.5.1967; 1 ex., Granada, Durcal, 28 km S Granada, 700 - 800 m, 26.5.1967; 1 ex., Cordoba, Cordoba-Villaviciosa road, 8 km NNW of Cordoba, 400 - 500 m, 13.5.1967, Bacchus and Levey leg.; 16 exs., "Ronda, Spain, G.C.C."; 5 exs., "Cuenca, G.C.C.", "G.C. Champion Coll., B.M. 1927 - 409" (BML). 13 exs., "Espagne, Jimera [= Jimena near Jaén?], J. Fabresse, VI.1907", coll. Oberthür (MNHN). 1 ex., Girona, Rosas, VI.1966, Budberg leg. (NMW). 1 ex., "Sierra Segura [Jaén], Molinico, 1894, M. Korb" (ZSM). 1 ex., "Hispania (Andalusia), Jaén, 350 m, 14.9.1935, A. d'Orchymont"; 3 exs., idem, 500 m; 2 exs., idem, 370 m, "R. Mouchamps det. 1947, Deronectes moestus Fairm., v. inconspectus Lepr." (IRSN). 1 ex., "Andalusia, Ronda, 8.5.24, W. Liebmann", "Coll. W. Liebmann, Arnstadt" (DEI). 1 ex., Teruel, Sierra de Albarracin, Col de Orihuela, V.1959; 2 exs., Malaga, Sierra de Ronda, 2.5.1959; 1 ex., idem, between Burgo and Yunquera, VI.1959, Aubert leg. (NMB). 5 exs., Jaén, Rio Madera, 28.8.1982; 1 ex., Albacete, Rio Zumeta, 1.8.1983; 1 ex., Albacete, Rio Mundo-Laminador, 15.3.1986, Millán leg. (CAM). 19 exs., Malaga, Velez Malaga, Rio Alcaucin, 25.8.1996, 26.8.1996 and 6.9.1996, Dettner leg. (CKD). 3 exs., Huesca, Puntillo Cires, 22.2.1986; 6 exs., Huesca, Tolva, 1000 m, 4.4.1986, Fresneda leg.; 1 ex., Granada, Guadix, 29.12.1983; 2 exs., Granada, Lentegi, N Almuñecar, 23.3.1988 and 1.7.1988; 1 ex., Granada, NE Granada, near Alfacar, 30.6.1988; 1 ex., Huelva, SE Aracena, Valdezufre, 21.7.1991; 2 exs., Huelva, W Aracena, Morales, 14.3.1997; 2 exs., Huelva, NW Aracena, Cortelazor, 14.3.1997; 17 exs., Jaén, Sierra de Segura, Hornos, 30.6.1988; 17 exs., Jaén, Sierra de Cazorla, E Mogón, 11.7.1987; 1 ex., idem, Rio Aguacebas Grande, 1500 m, 2.8.1989; 1 ex., idem, Rio Aguacebas del Gil Cobo, 20.7.1991; 1 ex., idem, Torre de Vinagre, 11.7.1987; 10 exs., idem, W Nava de San Pedro, 28.5.1990; 11 ex., Jaén, Pozo Alcon, S Cazorla, 1.8.1989; 2 exs., Logroño, S Najera, Anguiano, 26.6.1993; 1 ex., Burgos, SE Arlanzon, 22.5.1990; 1 ex., Guadalajara, El Pedregal, E Molina de Aragon, 19.5.1990; 2 exs., Guadalajara, Orea, SE Molina de Aragon, 15.6.1990; 2 exs., Guadalajara, SW Molina de Aragon, Poveda, 20.5.1990; 4 exs., Teruel, Sierra de Albarracin, Orihuela del Tremedal, 1600 m, 19.5.1990; 12 exs., Malaga, Sierra de las Nieves, El Burgo, 30.5.1990; 1 ex., Malaga, W Alora, 30.5.1990; 2 exs., Cádiz, Sierra de Algibe, 10 km N Jimena de la Frontera, 1.7.1988; 3 exs., idem, 4 km N Jimena de la Frontera, 31.3.1988 and 25.3.1989; 14 exs., Navarra, N Roncal, W Zuriza, 28.7.1991; 19 exs., idem, near Roncal, Garde, 27.7.1991 and 9.7.1992; 15 exs., Huesca, Bonansa, W El Pont de Suert, 900 m, 16.6.1990; 79 exs., Barcelona province, Sierra de Ensija, Saldes, 23.7.1996 and 17.3.1997, Fery leg. (CHF). **France:** 3 exs., "Vence, a. m. [= Alpes Maritimes] Fagniez"; 1 ex., "Sommières, E. Tisson" (HNHM). 3 exs., "Carcassonne" [hw Régimbart?]; 1 ex., "Peyreleau, Aveyron 7.91"; 1 ex., "Lozère"; 4 exs., "Ispagnac, Lozère, 7.91"; 12 exs., "Balsièges, Lozère"; 6 exs., "Rocamadour, Lot, France, H.G.C." (BML). 7 exs., "Nyons, 87 " [near Orange] (ZSM). 27 exs., Lavandon, Alpes Maritimes, V.1961, v. Breuning leg. (MNB). 2 exs., "Pyr. or. [= Pyrénées Orientales], Prades", "J. Fabresse, 1901"; 1 ex., "Saulcy, Reiche [?], Pyren. alt. [= Hautes Pyrénées]" [hw Reiche?], "Kiesenwetter", "Sammlung Cl. Müller" (ZSM). 1 ex., "La Sauzette, 29.7.1906", "R. Mouchamps det. 58, Deronectes moe-

stus var. inconspectus Lepr."; 3 exs., "St Pons, 28.5.01", "Collection Dr. Guignot", "Guignot det. Deronectes Moestus var. inconspectus Lep." (IRSN). 19 exs., Var, near Collobrières, 11.4.1981; 1 ex., Var, N Maures Mountains, S Vidauban, 1000 m, 3.4.1985; 1 ex., Var, between La Rayol and Cavalaire sur Mer, 27.3.1983; 7 exs., Var, Cavalaire, 7.4.1983; 3 exs., N Mazangue, St Baume, N Toulon, 8.4.1983; 5 exs., Var, Le Mayon, La Garde-Freinet, Maures Mountains, 26.3.1986, Dettner leg. (CKD). 4 exs., Cavalaire, 6.8.1981, Leblanc leg.; 9 exs., Var, Toulon, St. Anne d' Evenos, 11.8.1980 and 6.4.1981; 1 ex., Var, near Barjols, 19.8.1985; 1 ex., Aude, Corbières, Quillan, 26.6.1992, Fery leg. (CHF). **Italy:** 3 exs., "Calabria, Antonimina, 1905, Paganetti", "coll. Dr. F. Fodor"; 1 ex., "Calabria, Antonimina, 1905, Paganetti"; 2 exs., Poretta, Bologna, 28.5.1961, Chiesa leg.; 5 exs., "Italia, Sta Margherita [near Rapallo]", "Deronectes bombycinus Lepr., Coll. Reitter" (HNHM). 12 exs., "Liguria, Torre 2 km W of Pogli, trib. of Torr. Arroscia, nr. Albenga, 7.4.1958, J. Balfour-Browne"; 2 exs., "Liguria, Torre Mirula, N Marina di Andora, 8.4.1958, J. Balfour-Browne"; 11 ex., "Lombardie", "Nap. Pini", one specimen with additional label "Deronectes moestus Fairm., J. Balfour-Browne det." (BML). 3 exs., "Dr. Feige, Ligure, San Margherita"; 1 ex., "St. Margherita, Ligure, 16. - 19.3.1910, R. Heymons S."; 2 exs., "Piemonte, Cariare Bigliani, A. Fiori", "Deronectes bombycinus"; 2 exs., "Liguria, Desideao [?], 30.7.910, A. Fiori"; 2 exs., "Liguria, Ferrania, 6.8.97, A. Fiori", "Vide, Ganglbauer", "bombycinus beigesteckt [= added]"; 2 exs., "Liguria, M. Fascia, 18.8.910, A. Fiori", "Hydroporus platynotus [sic!]"; 1 ex., "Genova, Ruta, 13.3.1893, A. Solari"; 1 ex., "Italia 26.3.05", "Nervi [near Genova]"; 1 ex., "Genova, 8.1899, A. Solari"; 2 exs., "San Remo, Schneider"; 4 exs., "Emilia, Bologna, 24.6.907, A. Fiori"; 1 ex., "Emilia, Paderno [?], 18.7.95, A. Fiori"; 2 exs., "Emilia, M. Capra, 1.5.98, A. Fiori"; 2 exs., "Emilia, Pavulto, 21.7.905, A. Fiori"; 2 exs., idem, 5.9.93, "Vide Ganglbauer"; 2 exs., "Abruzzo, Isola, 27.7.96, A. Fiori"; 1 ex., "Napoli, S. Maria C., 19.10.97, O. Ravel"; 1 ex., "Sorrento, Schultze", "opatrinus Germ.", "Coll. Schilsky"; 1 ex., "Calabria, Borace [?], 7.4.83, A. Fiori"; 4 exs., "Sicilia, Palermo, Exc. Dr. Studt G."; 1 ex., "Ins. Elba, 1908, Paganetti", "Deronectes moestus Fairm.", "Deronectes moestus (Fairm.), det. Wewalka 1976"; 1 ex., "Ins. Elba", "Deronectes moestus Fairm., det. Gschwendt."; 1 ex., "Lazio, Monte Cavo, P. Luigioni"; 1 ex., "Basilicata, Stigliano, IX.904, A. Fiori" [hw Fiori] (MNB). 1 ex., "Ins. Elba, 1908"; 2 exs., "Bologna, Ital."; 1 ex., "Bologna, 21.4.01, L. Pozzi"; 1 ex., "Calabria, Antonimina, 1905"; 1 ex., "I-Lazio (Roma), Fiume Aniene, Mandela 350 m", "23.VIII.1992, leg. Schönmann" (NMW). 1 ex., "Sic.","Sammlung Cl. Müller" (ZSM). 1 ex., "Calabria, St Christina, lg. Paganetti"; 1 ex., "Calabria, Antonimina, lg. Paganetti", "R. Mouchamps det. 58, Deronectes moestus var. inconspectus Lepr."; 1 ex., "Emilia, Poretta S.E.: Affl. Reno, R. g. 400 m, 29-VII-1933, A. d'Orchymont"; 1 ex., "Toscana, Pracchia N.E.: Tor. Orsigna 605 m. 31-VII-1933, A. d'Orchimont", "Deronectes moestus Fairm."; 3 exs., "Ins. Elba, Holdhaus", "R. Mouchamps det., Deronectes moestus Fairm" (IRSN). 5 exs., "Rio di Iso, Isoverde, Genova, 22.3.53, M. Franciscolo", "Deronectes bombycinus var. fairmairei Lepr., det. Franciscolo" (MRTO). 2 exs., Lucania, Venosa, torrente Valone, 350 m, 19.7.1974; 1 ex., Lucania, S. Arcangelo, F. Agri, 252 m, 23.9.1974; 1 ex., Lucania, Cersósimo [near Noépoli], can. Lappio, 560 m, 22.7.1974; 3 exs., Lucania, Picerno, 470 m, 21.7.74; 2 exs., Lucania, Avigliano, 700 m, 21.7.1974; 3 exs., Lucania, Sarnelli, Avigliano, 760 m, 20.7.1974; 1 ex., Lucania, Melfi, 300 m, 18.7.1974; 4 exs., Lucania, Possidente, Avigliano, 800 m, 20.7.1974; 3 exs., Lucania, Baragiano, 370 m, 21.7.1974; 1 ex., Lucania, Ruoti, 600 m, 21.7.1974; 1 ex., Lucania, Corleto Pert., La Fiumarella, 610 m, 21.7.1974; 3 exs., Lucania, Banzi, Vallone Ginestrello, 370 m, 17.7.1974; 3 exs., Lucania, Vaglio, torrente Tiera, 620 m, 16.7.1974; 1 ex., Lucania, Gannano, Stigliano, F. Agri., 110 m, 23.9.1974; 2 exs., Lucania, Aliano, fiumara Gorgoglione, 310 m, 24.9.1974; 1 ex., Lucania, Tursi, F. Sinni, 100 m, 25.9.1974; 1 ex., Lucania, Accettura, torrente Salandrella, 530 m, 24.9.1974; 4 exs., Lucania, Ferrandina, 240 m, 25.9.1974; 3 exs., Campania, Aquilonia, torrente P. Rago, 400 m, 20.7.1974; 1 ex., Umbria, Assisi, F. Tescio, 500 m, 8.6.1975; 1 ex., Sila, Acri, 499 m, F. Mucone, 20.8.1971; 2 exs., Abruzzo, zone limitr. Parco naz. Pizzone, torrente Pescara, 700 m, 9.8.1972, Angelini leg.; 6 exs., "Verona, Cancello, 22-10-938, C.B. Cartolari"; 1 ex., "Verona, Bertachina, 25-4-939, C.B. Cartolari"; 1 ex., Verona, Mezzane, 25.5.1986, Schizzerotto leg.; 1 ex., "Rep. S. Marino, Burlini VI 52", "ex coll. Burlini"; 1 ex., "Treviso, X 937"; 2 exs., "Treviso, Cornuda, Minelli 11.4.65"; 6 exs., "Isola di S. Sofia [60 km S Ravenna], 3-8-69"; 1 ex., "Piemonte 500 SLM, 11-9-1971, Torino - Collina, Pino T., legit D. Gianasso"; 4 exs., Romagna, Valbiano, 13.8.1968, Sama leg. (MCVR). 2 exs., Lazio, Itri, 26.6.1974, Zampetti leg. (CSR). 2 exs., Lucania, Vaglio, 2.10.1970 and 28.4.1971; 1 ex., Lucania, Moliterno, 24.7.1969; 2 exs., Sila, Acri, 499 m, F. Mucone, 20.8.1971; 2 exs., Liguria, Genova, Molassana, 12.5.1958, Bucciarelli leg.; 1 ex., Piemonte, Gallareto [Asti?], 27.7.1970, Meregalli leg.; 1 ex., Calabria, Aspromonte, Antonomina, Fium. Portigliola, 4.6.1994, Angelini leg.; 2 exs., Liguria, Genova, Creto, IV.1911, Rossi leg. (CFA). 17 exs., Tuscany, near Piombino, between Monterotondo and Castelnuovo, ca. 400 m, 4.8.1988 and 30.8.1988; 70 exs., Tuscany, Monterotondo, 7.8.1988; 2 exs., Tuscany, near Monterotondo, Rio Secco, 14.8.1988; 1 ex., Tuscany,

Casoli, N Lucca, ca. 400 m, 11.9.1992, Dettner leg. (CKD). 5 exs., Tuscany, S. Godenzo, Fosso di Falterona, 9.8.1970; 1 ex., Tuscany, Madonna del Sasso, Fosso Cerreta, 8.9.1986; 1 ex., Tuscany, Suvereto, F. Cornia, VII.1974; 2 exs., Tuscany, Reggello Montanino, 16.2.1974, Rocchi leg.; 2 exs., Isola d'Elba, Marciana, 400 m, Uviale di Marciana, 2.9.1963; 2 exs., Isola d'Elba, Marciana Alta, VI.1973, Pederzani leg.; 6 exs., Sicily, near Castelbuono, 29.3.1983 and 18.6.1983; 1 ex., Sicily, Scillato, Madonie, 600 m, 27.3.1983; 5 exs., Sicily, Nicosia, 19.6.1983; 5 exs., Sicily, Gangi, 19.6.1983; 2 exs., Calabria, Caulonia, 21.6.1983; 8 exs., Calabria, Plati, 20.6.1983; 4 exs., Tuscany, Cetona, 16.6.1983; 4 exs., Tuscany, Aquapendente, 22.6.1983; 2 exs., Umbria, Amelia, Terni, 23.6.1983; 46 exs., Abruzzi, Manoppello, W Chieti, 24.4.1984 and 23.3.1985; 17 exs., Piemont, Lerma, Val Piota, 26.6.1988, Fery leg. (CHF). **Switzerland:** 1 ex., "Genf", "Schaum als opatrinus" [hw Cl. Müller], "Sammlung Cl. Müller" (ZSM). **Croatia:** 1 ex., "Dalmatia, Csiki", "Zelenika, 1906, VI.24.", "Coll. E. Csiki" (HNHM). 5 exs., oriental Istria, 15. - 17.5.1990, Rabac, Wrase leg. (CLH). **Croatia/Montenegro:** 4 exs., "Savina [near Hercegnovi], Paganetti"; 6 exs., "Castelnuovo [= Hercegnovi], Hummler" (MNB). 6 exs., "Savina, Paganetti"; 4 exs., "Castelnuovo, Hummler" (NMW). 4 exs., "Savina, Paganetti"; 6 exs., "Castelnuovo, Hummler" (HNHM). 2 exs., "Savina, Paganetti", "det. Deronectes moestus Fairm." (IRSN). 1 ex., Hercegnovi, near Savina, 10.4.1984, Fery leg. (CHF). **Montenegro:** 1 ♀, "Budua [= Budva] Hummler", "Deronectes bombycin. Lepr." (MCTR). 2 exs., "Cattaro [= Kotor]" (HNHM). **Macedonia:** 1 ♂, "L'Ochrida [= Ohrid, W Bitola], Parenzann 12 [?]" (MCTR). **Greece:** 1 ex., "Kymi, Euboea or., V.26, Holtz", "Deronectes moestus Frm., det. Gschwendt." (MNB). 4 exs., "Parnass, Kruper", "Coll. Séverin, Determin Régimb. 1891", "Régimbart det. 1891, Deronectes Moestus Fairm."; 3 exs., "Evvia [= Euboea]: Lutsa, 30.5.1930, A. d'Orchymont", "A. Ball det. 1936, Deronectes moestus Fairm."; 1 ex., idem, but "Evvia, H. Athanasios" (IRSN). 1 ex., Corfou, Georgios, VI.1977; 1 ex., Euboea, Dafni, 1.5.1975; 1 ex., Keffalinia, Nikolaos, 27.9.1980; 1 ex., Naxos, Koronis, V.1976; 1 ex., Lilaia, 29. - 30.5.1976, Malicky leg.; 3 exs., Euboea, Steni, 29.9.1992; 2 exs., idem, Steni-Stroponas, 700 - 900 m, 29.9.1992; 2 exs., idem, 650 m, 30.9.1992; 2 exs., idem, Agia Athanasios, 28.9.1992; 1 ex., Skyros, 1 km W Skyros, 28.9.1992, Jäch leg. (NMW). 1 ex., "Attica, Reitter", "Deronectes bombycinus Lepr., Coll. Reitter"; 1 ex., "Apfelbeck, Corfu"; 1 ex., "Attica, Reitter", "Deronectes moestus Fairm, Coll. Reitter" (HNHM). 16 exs., Kipi, (Epirus: Zagoria), 750 m, 27.6. - 1.7.1981; 1 ex., Gyftokampos, (Epirus: Zagoria), 1100 m, 26.7.1981; 1 ex., Vitina, (Peloponnesos), 14.7.1981; 1 ex., Dimitri Mitropulous, 11 km W Vitina (Peloponnesos) 1000 - 1100 m, 11. - 14.7.1981, Malkin leg. (NMB). 19 exs., Corfou, Agheos Matheos, 15.4.1984 and 25.3.1985, Fery leg. (CHF). **Doubtful or inexact localities:** 1 ex., "Algeria", "Algeria" [hw Sharp], "Sharp Coll., 1905-313", "Deronectes moestus Fairm., J. Balfour-Browne det." [hw J. Balfour-Browne]; 2 exs., "Egypt", "Egypt, Millingen" [hw Sharp], "Sharp Coll., 1905-313", "Deronectes moestus Fairm., J. Balfour-Browne det." [hw J. Balfour-Browne] (BML). 1 ex., "Barbaira [= Northern Africa], 1906" (IRSN). 1 ♂, "Moestus" [red ink, hw Aubé?], small grey label, "Fairmairei Lep." [green, hw Leprieur], "No. 305, H. moestus, DS" [hw Sharp], coll. Fairmaire (MNHN). 1 ♂, small blue label, "Schaum als [= as] opatrinus" [hw Cl. Müller], "Sammlung Cl. Müller" (ZSM). 8 specimens in a row after a label "Opatrinus, Germ. Ulissip. [?], Sieb." [hw Gerstäcker], "10131", "Zool. Mus. Berlin", one specimen with additional "silphoides, Dyt. silph., Ponza. Ital.", a second with additional label "silphoides, Ponza. Ital. mont. Pis.", and a third with additional "Ital. Dahl." [hw Dahl?] (MNB); we do not believe that these specimens have to be treated as syntypes of *Hydroporus opatrinus*; for the name "*silphoides*" see ZAITZEV (1915: 251).

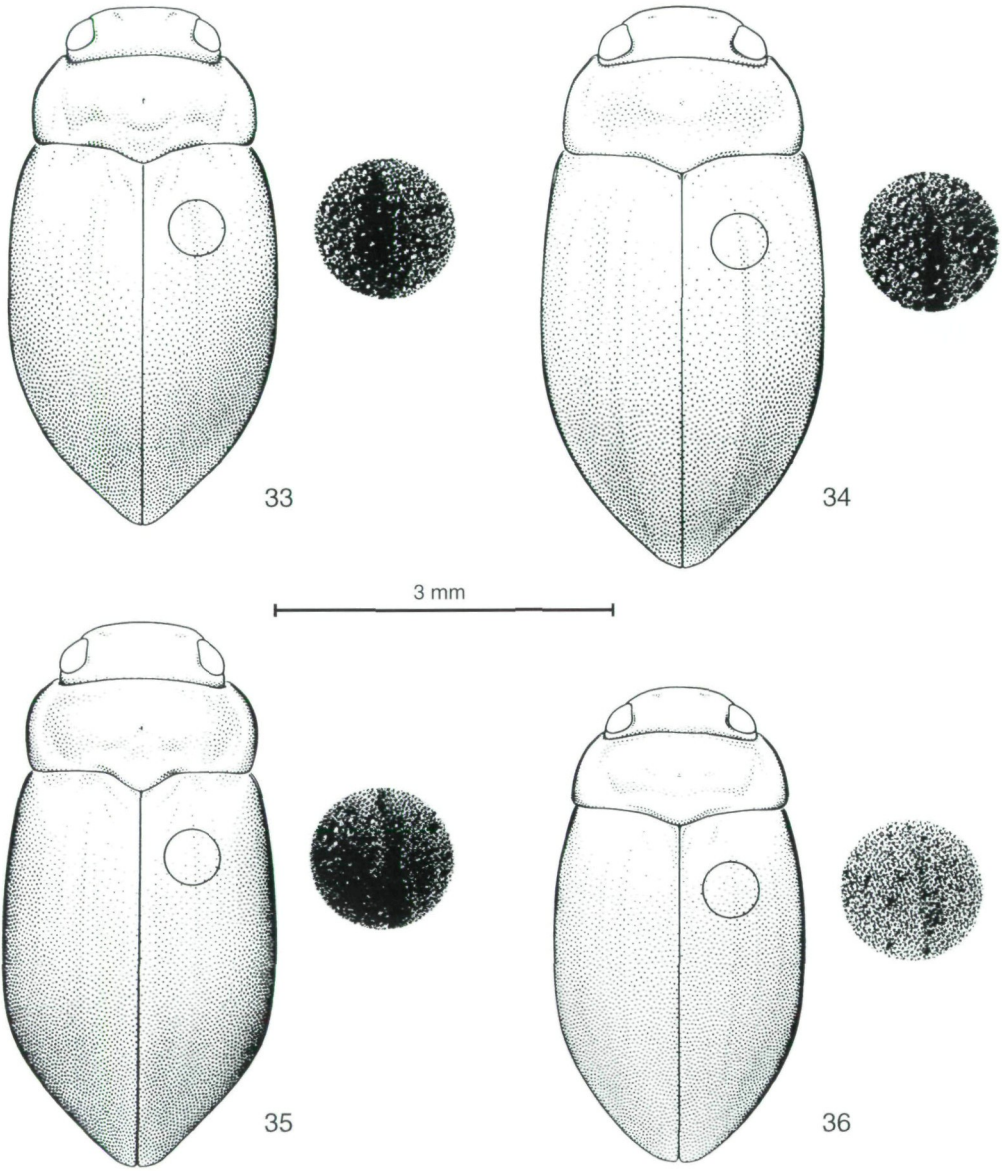
Diagnosis: Habitus: Fig. 34. Elytra with coarse punctures, more distinct and dense than in the nominotypical subspecies. Puncture lines imperceptible in amongst the puncturation.

Colour of legs and antennae like *D. moestus moestus*. Metacoxae and metasternum with some coarse punctures, somewhat more distinct than in the nominotypical subspecies.

♂♂: Median lobe (Fig. 88) in lateral view with basal part larger and concave inner side near the base with a straighter outline than in the nominotypical subspecies. Paramere: Fig. 84.

♀♀: Gonocoxosternum (Fig. 115) with apex more elongate than in the nominotypical subspecies, but somewhat variable, see for example Fig. 116. Gonocoxa: Fig. 121; also variable, see Fig. 122.

Measurements (mean values in brackets): **France:** TL 4.7 - 5.6 mm (5.07 mm), MW 2.3 - 2.85 mm (2.53 mm), TL/MW 1.85 - 2.08 (2.00). **Spain:** TL 4.7 - 5.6 mm (5.15 mm), MW 2.4 - 2.8 mm (2.59 mm), TL/MW 1.93 - 2.08 (1.99). **Morocco:** TL 4.7 - 5.2 mm



Figs. 33 - 36: Habitus of: (33) *Deronectes moestus moestus*, (34) *Deronectes moestus inconspectus*, (35) *Deronectes brannanii*, (36) *Deronectes perrinae* sp.n.

(4.93 mm), MW 2.3 - 2.5 mm (2.48 mm), TL/MW 1.90 - 2.02 (1.99). **Italy: Piemont:** TL 4.7 - 5.1 mm (4.82 mm), MW 2.4 - 2.6 mm (2.44 mm), TL/MW 1.91 - 2.04 (1.97); **Isola d'Elba:** TL 4.8 - 5.0 mm (4.9 mm), MW 2.4 - 2.5 mm (2.45 mm), TL/MW 1.96 -2.04 (1.98); **Tuscany:** TL 4.6 - 5.0 mm (4.72 mm), MW 2.2 - 2.5 mm (2.35 mm), TL/MW 1.96 - 2.09 (2.00); **Abruzzi:** TL 4.5 - 5.1 mm (4.83 mm), MW 2.2 - 2.5 mm (2.41 mm), TL/MW 1.95 - 2.06 (1.99); **Umbria:** TL 4.6 - 5.0 mm, MW 2.4 - 2.6 mm,

TL/MW 1.91 - 1.92; **Emilia:** TL 4.8 - 5.0 mm, MW 2.4 - 2.5 mm, TL/MW 2.0; **Calabria:** TL 4.5 - 5.1 mm (4.73 mm), MW 2.3 - 2.6 mm (2.37), TL/MW 1.93 - 2.04 (1.98); **Sicily:** TL 4.6 - 5.1 mm (4.86 mm), MW 2.3 - 2.5 mm (2.41 mm), TL/MW 1.90 - 2.03 (1.99). **Croatia/Montenegro/Macedonia:** TL 4.55 - 4.9 mm (4.79 mm), MW 2.2 - 2.45 mm (2.39 mm), TL/MW 1.96 - 2.02 (1.99). **Greece:** TL 4.4 - 4.95 mm (4.75 mm), MW 2.3 - 2.5 mm (2.37 mm), TL/MW 1.91 - 2.09 (2.00).

In all cases larger than *D. moestus moestus*. Populations in the western part of the range contain the largest specimens. Specimens from all regions have a ratio of TL/MW of around 2.0 like the nominotypical subspecies.

Distribution: Western Mediterranean, large parts of France, in the north-east as far as Reims (GUIGNOT 1947: 139) (extinct?), Switzerland (extinct?), Croatia, Dalmatia and Greece (Fig. 130). GUÉORGUIEV (1987: 85) gives a record for Bulgaria (Pirin). GUIGNOT (1947: 139) and RICO & al. (1990: 107) give records from Portugal. We have neither found ourselves nor studied any material from this country. Nevertheless the existence of the species in Portugal is probable, and is supported by the records from Huelva province, Aracena, near the Portuguese frontier (see additional material).

Remark: We have studied several specimens from Tunisia, Algeria and Egypt labelled as *D. moestus*. They have proved to be either *D. fairmairei* or *D. perrinae* sp.n., with the exception of four specimens (see doubtful localities) which we believe to be mislabelled. The species is most probably absent from Algeria and Tunisia. As BEDEL & PEYERIMHOFF (1925: 355) and GUIGNOT (1959: 435) have stated, the locality "Egypt" is undoubtedly erroneous.

Discussion: *D. moestus inconspectus* from France, Spain, Morocco and northern Italy can be easily distinguished from *D. moestus moestus* from Corsica and Sardinia even on external characteristics, but specimens from other regions could be regarded as more or less intermediate between the two. Those from Croatia, Montenegro, Macedonia, Greece, Sicily, Calabria, Abruzzi, Elba and Piemont are somewhat smaller than Spanish specimens for example, but their puncturation and the shape of the median lobe tend distinctly more towards Spanish specimens than to *D. moestus moestus*. On the other hand we have studied small series from Tuscany, Lazio and Emilia which do have the median lobe of a form which tends a little towards that of the nominotypical subspecies. Nevertheless we have decided to rank them all with *D. moestus inconspectus* due to their closer morphological affinity with this subspecies. The existence of these apparently intermediate populations has led us to treat the two taxa as subspecies.

15. *Deronectes brannanii* (SCHAUFUSS)

Hydroporus vestitus FAIRMAIRE: SCHAUFUSS 1869: 9.
Hydroporus Brannanii SCHAUFUSS, 1869: 9.
Hydroporus (Deronectes) Brannani SCHAUFUSS: RÉGIMBART 1901: 324.
Hydroporus moestus FAIRMAIRE: SHARP 1882: 422.
Deronectes moestus var. *Brannani* (SCHAUFUSS): ZIMMERMANN 1919: 185. - ZIMMERMANN 1932: 104. - GUIGNOT 1959: 435.
Deronectes moestus (FAIRMAIRE): RICO & al. 1990: 106 (partim).
Deronectes moestus var. *brannani* (SCHAUFUSS): FRANCISCOLO 1979: 441.

Type locality: Spain, Majorca, Arta.

Lectotype ♀ (present designation): "Mallorca", "Arta, 22/5" [hw L.W. Schaufuss], "vestitus?, Brannanii, Balear. m." [hw L.W. Schaufuss], "Zool. Mus. Berlin", "Lectotype, Hydroporus brannanii Schaufuss, des. Fery & Brancucci 1989" [red] (MNB). **Paralectotypes:** 1 ♀, on the same pin as holotype; 1 ♀, "Type", "Brannanii, Balear. m" [hw L.W. Schaufuss], "Hydrop. Brannani Schauf. Baleares"; 1 ♀, "Type", "Hydrop. Brannani Schauf. I. Baleares" [hw as on label of last specimen, most probably originally on the same pin], "Zool. Mus. Berlin" (MNB). 1 ♂, small blue label, "Brannani Schfs., Balearen Schfs." [hw von Heyden], "moestus synopsis" [green, hw Leprieur], "Lepr. vid.", "Syntypus" [red], coll. Heyden (DEI); all paralectotypes with the respective red label.

Additional material: Spain (Majorca): 2 ♂♂, "Hydrop. Brannani Schauf. Type, Mallorca" [not hw L.W. Schaufuss!]; glue-card same as holotype, probably syntypes, but specimens badly damaged; 2 ♂♂, "Pollenza, Mallorca, Breit", "Hydroporus Brannani, det. Breit"; 2 ♂♂, "Pollenza, Mallorca, Breit", "Deronectes Brannani Schauf."; 2 exs., "Pollenza, Mallorca, Breit"; 1 ex., "Pollensa, 16.VII.1956, R. Lopez", "Deronectes moestus var. brannani Schauff, Lagar det. 1957"; 2 exs., "Balearen, Dr. Will.", "Deronectes moestus brannani Schauf., det. G. Wewalka 76" (MNB). 2 exs., "Balearen", "Merkl", "17279", coll. Koltze (DEI). 13 exs., "Pollenza, Mallorka, Breit", "coll. Dr. J. Fodor" (HNHM). 2 exs., "Hydroporus Brannani Schauf., Ind. auth. [?, illegible], = H. moestus var. D.S., Majorca" [on glue-card, hw Sharp] (BML). 4 exs., "Pollenza, Mallorca, Breit", "Brannani"; 1 ex., "Mallorca, Balearen" [hw Zimmermann]; 2 exs., "Mallorca Balear., Wilh. Popp", "Samml. A. Zimmermann"; 1 ex., "Mallorca" [hw Cl. Müller], "Brannanii, Type Schfss" [hw Cl. Müller], probably this is a syntype also (ZSM). 3 exs., "Mallorca Bal., Soller, Frnkl. Müller", "Staud. vend. '33, Deronectes Brannani Schauf."; 7 exs., "Pollenza, Mallorca, Breit" (IRSN). 29 exs., Majorca, near Campanet, 11.2.1990, Fery leg. (CHF).

Diagnosis: Habitus oblong oval, more elongate than in all other species of the group (Fig. 35). Maximum width of the pronotum in the middle or close behind. Elytra with small and sparse coarse punctures, puncture lines perceptible. Longitudinal swellings weak or almost absent.

Prosternal apophysis sometimes with very few single hairs. Legs reddish, paler than those of all other representatives of the group, femora somewhat darkened. Antennae reddish, with the last seven or eight articles darkened distally. Metacoxae and metasternum without coarse punctures.

♂♂: Median lobe: Fig. 89; paramere: Fig. 85.

♀♀: Apex of gonocoxosternum elongate (Fig. 117). Gonocoxa: Fig. 123.

Measurements: (mean values in brackets): TL 4.4 - 4.9 mm (4.76 mm), MW 2.1 - 2.5 mm (2.28 mm), TL/MW 1.96 - 2.19 (2.09).

Distribution: Spain, endemic to the Balearics. We have studied only specimens from Majorca and are doubtful about the existence of the species on the other Balearic Islands (Fig. 130).

Remark: FRANCISCOLO (1979: 441) already recognised that *D. brannanii* might be a subspecies or even a distinct species rather than a variety of *D. moestus*. We decided to treat the taxon as a species not only because of differences in genitalia and external characteristics, but also the presence of differences in the larvae (DETTNER & al., in preparation).

16. *Deronectes perrinae* sp.n.

Hydroporus bombycinus LEPRIEUR: SHARP 1882: 422 (partim). - RÉGIMBART 1895: 15 (partim).
Deronectes bombycinus (LEPRIEUR): ZIMMERMANN 1932: 104 (partim). - GUIGNOT 1947: 139 (partim). - GUIGNOT 1959: 436 (partim). - WEWALKA 1971: 209. - FRANCISCOLO 1979: 441.
? *Deronectes moestus* (FAIRMAIRE): GUIGNOT 1959: 434 (partim).

Type locality: Algeria, Skikda, Djebel Filfila.

Holotype (♂): "Djebel Filfila, Skikda [N Constantine], Algérie, 20.6.71, Constantin leg.", "Holotype, Deronectes perrinae sp.n., Fery det. 1996" [red] (CHF). **Paratypes: Algeria:** 2 ♀♀, labelled as the holotype (CHF). 3 ♀♀, "Djebel Guergour, près Sétif, Algier" [hw Guignot]; 1 ♀, idem, but with additional label "D. bombycinus, R. Peschet det." [hw Peschet?]; all with "Museum Paris, 1960, Coll. F. Guignot"; 1 ♀, "Région du Mont Ouarsenis, de Vauloger", "Muséum Paris, ex Coll. R. Oberthür, 1952, ex Wehncke"; 1 ♂, 1 ♀, "Algérie, Lambèze, L. Bleuse, Juin 1885", male with additional blue label without text and "Deronectes bombycinus Lepr.", "ex Wehncke, Museum Paris, ex Coll. R. Oberthür"; 1 ♂, "Kabylie, Mekla, Carret"; 2 ♂♂, "Dra ben Konddu [?], 26.6.05" [hw Peyerimhoff], "Algérie, de Peyerimhoff" [hw Peyerimhoff], "Fairmairei (bombycinus)" [hw Peyerimhoff], coll. Ste Claire-Deville; 3 ♂♂, "Blidah, Algérie", one with additional "11" and "Sharp videt", another with "envoyé à Sharp sous le nom de Bombycinus Reiche vel. nov. spec." [hw Ancey?], coll. Pic/Ancey (MNHN). 1 ♂, "Rouiba, Algérie", coll. Fauvel; 1 ♂, "Algerie" (IRSN). 1 ♂, "Algeria", "Algeria" [sic!, blue, round, hw Sharp?], "Sharp Coll., 1905-313"; 1 ♂, "Type 306" [hw Sharp], "Algeria", "Algeria" [sic!, hw Sharp], "Sharp Coll., 1905-313"; 1 ♀, "Alger, Poug [?, illegible]", "827", "Coll. Chevrolat", "Sharp Coll., 1905-313" (BML). 1 ♂, "Zwischen [= between] Blidah u. Medeah, 7. - 8.84" [blue], "Zool. Mus. Berlin" (MNB). 2 ♂♂, "Algeria" [hw Zimmermann?], "34 Db", "coll. Gärtner", "Deronectes bombycinus Lepr." (DEI). 1 ♂, "Algeria, Desbrochers '95"; 1 ♂, "Tunis [hw Zimmermann?], Staudinger" (ITZA). 1 ♀, "Algérie, Lambèze, L. Bleuse, Juin 1885", "Deronectes bombycinus Lepr." (NMB). **Tunisia:** 1 ♂, 1 ♀, "Teboursouk, Dr Sicard" [hw Guignot]; 1 ♂, idem, but first label with additional "Tunisie"; all with "Museum Paris, 1960, Coll. F. Guignot"; 1 ♂, 2 ♀♀, all on the same pin, "Mt de Chid, Tunisie" [hw Régimbart]; 1 ♂, "Montagne de Chid" [hw Régimbart] "Tunisie (Dr Sicard)" [hw Régimbart]; 1 ♀, "Teboursouk" [hw Régimbart]; 1 ♀, "Ain Draham, Dr Normand" [hw Régimbart]; all with "Museum Paris, Coll. Maurice Régimbart, 1908"; 2 ♂♂, "Tunisie, Teboursouk", "Muséum Paris, ex Coll. R. Oberthür, 1952, ex Wehncke" (MNHN). 1 ♀, "Tunisie. Coll. Schramm" (IRSN). 2 ♂♂, "Teboursouk", one with additional "bombycinus Lepr." (MNB). 1 ♂ "Tunisi, (Reitt.)" (MCVR). 2 ♂♂, "Tunis, Merkl" [hw Cl. Müller], "Sammlung Cl. Müller"; 1 ♂, "Tunis", "Samml. A. Zimmermann"; 4 ♂♂, 6 ♀♀, "Teboursouk, 93 Sic." [hw Sicard?], "Hydroporus bombycinus" [hw Sicard?], all on the same pin, isolated and provided with copies of the original label by the present authors (ZSM, CHF). 1 ♂, "Tunis" [hw Zimmermann?]; 1 ♂, 1 ♀, "Tunis; 1 ♂, "Tunis" [hw Zimmermann?], "Coll. Plason", "R. Mouchamps det., Deronectes bombycinus Lep." [hw Mouchamps] (NMW). 3 ♂♂, 1 ♀, "Tunis", "coll. Stierlin" (DEI). 1 ♂, "Tunis" [hw Zimmermann?]; 1 ♂, "Tunis", "Coll. Wewalka" (CGW). 1 ♂, "Tunis", "Coll. Wewalka" (CFP). 6 ♂♂, 15 ♀♀, "Tunisia N.W., Aïn Draham, Oued Babouch m 600, 1.VI.95 Pederzani"; 12 ♂♂, 2 ♀♀, "Tunisia N.W., Aïn Draham m 800, Oued Beni Mtir, 1. - 2.VI.95 Pederzani" (CFP, CGW, CHF). 1 ♀, "Tunis" [hw Zimmermann]; 1 ♂, "Tunis" (CHF). Many specimens provided with an additional label "Deronectes bombycinus (Lepr.), det. Wewalka 71"; all paratypes with the respective red label.

Additional material: Tunisia: 1 ♂, "Tunis" [hw Zimmermann], "Samml. A. Zimmermann"; 1 ♂, "Tunis, Régimbart vid." [hw Cl. Müller], "Sammlung Cl. Müller", "Deronectes bombycinus (Lepr.), det. Wewalka 71"; both specimens without last abdominal segment and aedeagus; two aedeagi on external glue-cards with "Penis D. bombycin" [hw Zimmermann], "Samml. A. Zimmermann" (ZSM). Not studied intensively: a few specimens from Teboursouk, El Feidja, Aïn Draham and Fernana, all in coll. Normand (INAT). **Algeria:** 1 ex., "Ouarsenis, Algérie, J. Surcouf", coll. Ste Claire-Deville; last abdominal segments lost (MNHN). Not studied intensively: a few specimens from Bougie and Batna; all in coll. Normand (INAT). **Doubtful or inexact localities:** 1 ♀, "Fairmaire" [hw Wehncke], ex Wehncke, coll. Oberthür; 1 ♂, "busiet [?, illegible]"; 2 ♀♀, idem, both on the same pin, with additional "Hydroporus bombycinus Lep., Rég. vidit" [hw Pic], ex Leprieur, coll. Pic; the last three at the end of a row with six syntypes of *H. bombycinus* in the coll. Pic, but certainly not known to Leprieur, because he always has added his green labels (see syntypes of *H. bombycinus* at *D. fairmairei*) (MNHN). 1 ♂, "Portugal" (CGW). 1 ♂, "Portugal", "515 Coll. Dr Mouchamps", "Pavel Riha leg., Deronectes bombycinus Lepr." [hw Mouchamps]; 1 ♀, "France mer. Coll. Chevrolat, Det. Sharp. 82.", "Sharp det. 1882, Deronectes bombycinus Lepr."; 1 ♀, "Italie" (IRSN). 1 ♂, "Lusitania", "Merkl", "2706"; 1 ♂, without any label, coll. Koltze (DEI).

Diagnosis: Habitus: Fig. 36. Surface black, more shining than in other representatives of the group, with short setae. Larger punctures of elytra very small and sparse, almost imperceptible. These punctures are even smaller than those of *D. fairmairei*. Puncture lines distinct.

Legs brown, paler than those of *D. moestus*. Antennae reddish, with last five or six articles slightly darkened distally. Metacoxae and metasternum without coarse punctures.

♂♂: Median lobe (Fig. 90) in dorsal view narrowed before apex and nearly parallel. Paramere: Fig. 86.

♀♀: Apex of gonocoxosternum (Fig. 118) in contrast to that of the other representatives of the group evenly rounded. Gonocoxa: Fig. 124.

Measurements: TL 4.2 - 4.8 mm, MW 2.1 - 2.5 mm.

Distribution: Algeria, Tunisia (Fig. 130); the records from Portugal are considered as being erroneous.

Derivatio nominis: We name this species in honour of Dr. Hélène Perrin, who has supported our work in a very generous manner.

VI. The *Deronectes fairmairei*-group

The two species of this group are - in contrast to the otherwise similar *D. moestus*-group - characterised by the shape of the prosternal apophysis, which is provided with a sharp carina, broadened laterally and with distinct setae. Further characters of the group are: distinct longitudinal impression parallel to each side of the pronotum, maximum width of pronotum behind the middle or at least near the middle (*D. peyerimhoffi*), elytra rounded laterally and a truncate median lobe.

Major parts of ventral surface black, without coarse punctures. Metacoxal lines diverging forwards. Last visible abdominal segment with a distinct notch.

The species are distributed in the western Mediterranean.

Key to the species of the *Deronectes fairmairei*-group

1 Pronotum with maximum width behind the middle, somewhat broader than elytra between shoulders. Smaller black species (4.4 - 5.4 mm) from the western Mediterranean. ..... **17. *fairmairei***

\- Pronotum with maximum width near the middle; upper side brownish red. Larger species (5.3 - 6.0 mm), endemic to mountain ranges of Algeria. ..... **18. *peyerimhoffi***

17. *Deronectes fairmairei* (LEPRIEUR)

Hydroporus vestitus FAIRMAIRE, 1859: 27. - AUBÉ 1867: 258. - LEPRIEUR 1876a: 62. - LEPRIEUR 1876b: 104. - LEPRIEUR 1876c: 121.
Hydroporus Fairmairei LEPRIEUR, 1876c: 121 (replacement name). - LEPRIEUR 1876d: 53. - LEPRIEUR 1876e: 569.
Hydroporus bombycinus LEPRIEUR, 1876c: 122. - LEPRIEUR 1876d: 53. - LEPRIEUR 1876e: 569. - LEPRIEUR 1876a: 62. - LEPRIEUR 1876b: 105. - SHARP 1882: 422. - RÉGIMBART 1895: 15 (partim). - BAGUENA 1935: 87. **(syn.n.)**
Hydroporus fairmairei LEPRIEUR: SHARP 1882: 795.
Hydroporus moestus FAIRMAIRE: SHARP 1882: 795.
Hydroporus sublaevis REY 1887: 2. **(syn.n.)**
Deronectes opatrinus var. *sublaevis* (REY): GOZIS 1910-1915: 142. - GUIGNOT 1933: 456.
Deronectes Fairmairei (LEPRIEUR): ZIMMERMANN 1932: 104 (partim).
Deronectes bombycinus (LEPRIEUR): GUIGNOT 1933: 453. - GUIGNOT 1959: 436 (partim).
Deronectes bombycinus var. *Fairmairei* (LEPRIEUR): GUIGNOT 1947: 139. - GUIGNOT 1959: 436.
Deronectes bombycinus ab. *fairmairei* (LEPRIEUR): KOCHER 1958: 23.
Deronectes fairmairei (LEPRIEUR): FRANCISCOLO 1979: 441 (partim). - RICO & al. 1990: 104.

Type material:

Hydroporus vestitus: **Lectotype** ♀ (present designation): "Fairm, Beziers" [round, hw Leprieur], "type" [hw Fairmaire], "Fairmairei, Lep. type" [green, hw Leprieur], "Muséum Paris, ex Leprieur, Coll. M. Pic", "Lectotype, Hydroporus vestitus Fairmaire, des. Fery & Brancucci 1989" [red] (MNHN). **Type locality:** France, Béziers.

Remark: The name *vestitus* was replaced by LEPRIEUR (1876c-e), because it was preoccupied by *Hydroporus vestitus* GEBLER, 1848 (see FERY & WEWALKA 1992).

Hydroporus bombycinus: **Lectotype** ♂ (present designation): "Oran [Algeria]", [hw Reiche?], small grey label without identifiable text, "Bombycinus!, Reiche in Coll., inédit" [green, hw Leprieur], "No. 306 mihi, DS" [hw Sharp], "Muséum Paris, 1906, Coll. Léon Fairmaire", "Lectotype, Hydroporus bombycinus Leprieur, Fery det. 1996" [red] (MNHN). **Paralectotypes** (all from Algeria): 1 ♂, "Bone, jan 53" [round, hw Leprieur], "8", "161", "bombycinus" [green, hw Leprieur]; 1 ♀, idem, but "Bone, Janv. 54"; 1 ♀, idem, but "Bone, mai 52"; 1 ♀, idem, but "Edough, Avril 58"; 1 ♂, "Bone, juin 53" [round, hw Leprieur], "type" [hw Fairmaire?], "161", "Type", "bombycinus" [green, hw Leprieur]; 1 ♀, "Bou Saada 1875" [round, hw Leprieur], "bombycinus" [green, hw Leprieur]; all with additional "Museum Paris, ex Leprieur, Coll. M. Pic"; after the row of the last six syntypes in the coll. Pic., we have found three *D. perrinae* sp.n., but without any evidence that they might be syntypes of *H. bombycinus* (see "doubtfull or inexact localities" of *D. perrinae* sp.n.); 1 ♂, "Bone, mai 52" [round, hw Leprieur], "161", "bombycinus Lepr." [green, hw Leprieur], "Muséum Paris, 1906, Coll. Léon Fairmaire"; 1 ♂, "Bou Saada 1875" [round, hw Leprieur], "Bombycinus, type Lepr." [green, hw Leprieur], coll. Aubé; 1 ♂, "... [illegible] Leprieur, B. Saada, 1825 [?]"[round, hw Leprieur], "Bombycinus! Lepr. type" [green, hw Leprieur], "bombycinus Lepr." [hw?], coll. Bourgeois (MNHN). 2 ♂♂, "Type", "Bombycinus Alg., Type Lepr.", "Bombycinus Lepr. Algeria", "Coll. L.W. Schaufuss", "Zool. Mus. Berlin" (MNB). 1 ♀, "Bou Saada 1875" [round, hw Leprieur], "Type", "bombycinus" [hw Leprieur?], "Syntypus" [red], "H. bombycinus Lepr. Lepr." [hw Stierlin], "vielleicht [= maybe] Type" [red]; 1 ♂, 1 ♀, "Bône, juin 53" [round, hw Leprieur], "bombycinus Lepr." [green, hw Leprieur], "22", "Lepr. vid.", "Seidl. vid." (DEI); all paralectotypes with the respective red label. **Type locality:** Algeria, Oran.

Hydroporus sublaevis: **Holotype** (♀): small round black label, "9.", in the coll. Rey after a label "sublaevis R., opatrinus var." [hw Rey] (MGHN). The legend in a catalogue of Rey, held in the MGHN, indicates that this label refers to "Provence (Var, Alp. Mar.) etc.", which corresponds with the locality given by REY (1887: 2). According to the original description no further syntypes seem to exist: "... et je possède, des environs d'Hyères, un échantillon dans lequelle [the puncturation] est presque effacée, ce qui lui donne une teinte plus brillante. Je l'ai nommé provisoirement *H. sublaevis R.*". The holotype seems to have been studied neither by des Gozis nor by Guignot, because otherwise they clearly would have been able to recognise that it is not *D. opatrinus*. **Type locality:** France, Var, Hyères.

Additional material: Tunisia: 9 exs., "Tunisie, ... Meilah [?, illegible], de Vauloger", ex Wehncke, coll. Oberthür (MNHN). 1 ex., "Tunisia Nord, oued 9 km de Nefza, vers Sejnane, 3. - 4.VI.95 Pederzani" (CFP). 9 exs., 40 km SW Teboursouk, 9.4.1992, Fery leg. (CHF). **Algeria:** 1 ex., "bombycinus, type!, Bou Sàada" [hw?], "Muséum Paris, 1935, Coll. M. Sedillot"; there is no evidence, that this specimens might be a syntype of *H. bombycinus*; 19 exs., "Au Sud de Bou Sàada, R. Oberthür, 1875"; 4 exs., "Bou Sàada, R. Oberthür, 1875"; 2 exs., "Dr Puton, Tebessa, bombycinus"; 1 ex., "Bou Sàada" [hw Wehncke?], "Oberthür"; 1 ex., "Algeria, ... [illegible]" [hw Wehncke?], "Leprieur" [hw Wehncke?]; 1 ex., "Bone, (Hénon), Coll. de Vauloger"; 2 exs., "Oranais, L. Maghrina", "Ex Musaeo A. Carret, 1908", ex Wehncke, coll. Oberthür (MNHN). 1 ♀, "Type 306." [hw Sharp], "Algeria", "Sharp Coll., 1905-313", "Bou-Saada/75" [hw Sharp], "Algeria" [hw Sharp]; specimen totally dissected; 1 ex., idem, but with additional label "H. bombycinus Lep." [hw Sharp]; 1 ex., "Au Sud de Bou Sàada, R. Oberthür, 1875", "Hydroporus bombycinus, teste Oberthur" [hw Sharp] (BML). 1 ex., "bombycinus Lep., Bou Saada, Baudi", "Reitter", "Bombycinus!" [green, hw Leprieur], "Deronectes bombycinus Lepr., Coll. Reitter" (HNHM). 1 ex., "bombycinus, Alg., Puton" [hw Puton?], "Sammlung v. Seidlitz"; 1 ex., "Au Sud de Bou-Saada, R. Oberthür, 1875"; 1 ex., "Bou Saada, Mai 82" [round, hw Leprieur], "bombycinus type" [green, hw Leprieur], "Sammlung v. Seidlitz"; no syntype of *H. bombycinus* because original description already in 1876!; 1 ex., "Algeria" [hw Cl. Müller], "Db", "Sammlung Cl. Müller" (ZSM). 1 ex., "Tabessa, Coll. Le Thierry", "Coll. Séverin, Détermin. Leprie. 1891", "2977", "Deronectes bombycinus Leprieur, Tebessa", "Leprieur det. 1891, Deronectes bombycinus Lepr.", "Comp. au Type par l'auteur", black round label; 1 ex., "Bone, Algeria" (IRSN). 1 ♀, "bombycinus, Algier", "Coll. Kraatz", "Zimmermann det." (DEI). 2 exs., "C. Bone, 5.1934, Dr Normand"; 1 ex., "Brancs., Algiers" (ITZA). 1 ex., "Bone, Algeria" (CFP). **Morocco:** 1 ex., Ouarzazate, Oued Fiut, 19.5.1988, Magnani leg.; 1 ex., Haut Atlas, Tizi n'Test, 2000 m, 15.6.1986, Sama leg. (CFP). 1 ♂, 1 ♀, Benslimane [50 km

E Casablanca] (ZMH). 2 exs., Moyen Atlas, Azrou, road to Aïn Leuh, 1400 m, 29.5.1996; 1 ex., idem, oued Tanefnit near Oum-er-Rbia, 1200 m, 28.5.1969, Pederzani leg. (CFP). 1 ex., Ouarzazate, Taliounine, 5.4.1985, Wewalka leg.; 33 exs., W Tanger, Cap Spartel, 30.3.1988; 2 exs., S Ceuta, Fnidek, [= Castrillo], 30.3.1988; 1 ex., Moyen Atlas, Maamar near Khenifra, 29.3.1988, Fery leg. (CHF). **Portugal:** 15 exs., Algarve, 6 km W Barranco do Velho, Rio do Quintos, 200 m, 9.5.1966; 5 exs., ca. 20 km N Barranco do Velho, Rio do Beirada, 300 m, 10.5.1966; 2 exs., ca. 10 km W Barranco do Velho, Rio Seco, 250 m, 10.5.1966; 1 ex., 2.5 km W Silves, Rib. de Falcao, 60 m, 10.5.1966; 2 exs., Alentejo, 4.5 km S Almodovar, Rib. d'Oevias, 300 m, 8.5.1966, Bacchus leg. (BML). 2 exs., "Portugal" [hw Zimmermann], "Samml. A. Zimmermann" (ZSM). 14 exs., "Portugal Algarve, Env. Loulé, H. Coiffait VII.61" (MRTO). 2 exs., Algarve, Odelouca, 19.2.1982, Cuppen leg. (CJC). 10 exs., Porto de Lagos, Ribeira de Boina, 20.8.1987, Fresneda leg. (CJF). 172 exs., Algarve, N Faro, 1.4.1988; 2 exs., Algarve, NE Faro, 25.3.1986, Fery leg. (CHF). **Spain:** 5 exs., Jaén, Jaén-Priego road, 8 km S of Martos, Rio Salado de Porcuna, 400 - 500 m, 26.5.1967; 4 exs., 15 km NW of Jaén, 400 - 500 m, 25.5.1967; 2 exs., Jaén-Valdepenas road, Rio Frio, 1100 - 1200 m, 25.5.1967, Bacchus and Levey leg.; 1 ex., "Andalusia" [hw Sharp], "bombycinus, extreme var." [hw Sharp] (BML). 2 exs., "Espagne, (Alicante) Altea V.58", "R. Mouchamps det., Deronectes bombycinus var. fairmairei Lepr." (IRSN). 1 ex., Teruel, SW Morella, 3.5.1981, Zwick leg.; 99 exs., Malaga, Velez Malaga, Rio Alcaucin, 6.9.1996, 25.8.1996 and 26.8.1996, Dettner leg. (CKD). 2 exs., "Espagne VI.59, Sierra de Ronda, Rio Grande entre Tolox et Alozaina" [hw Aubert]; 1 ex., "Sierra de Ronda, Ubrique, 2.VI.59, J. Aubert " [hw Aubert] (NMB). 1 ex., Malaga, Estepona, V.1965, Budberg leg.; 1 ex., "Valencia, Hispania" (NMW). 1 ♂, "Almeria", "Hispania, Reitter", "A. Zimmermann det.", "bombycinus Lepr.", "Sammlung P. Franck", "Deronectes bombycinus Lepr., det. V. Guéorguiev 1970" (MRTO). 2 exs., Zaragoza, Ariza, Rio Najima, 27.8.1985; 1 ex., Huesca, Areny, Barranco Colls, 3.3.1987; 3 exs., Castellón, Morella, Rio Morella, 21.7.1987; 1 ex., Huesca, Tolva, 4.4.1986, Fresneda leg.; 2 exs., Almeria, Sorbas, Molinos, Rio Aguas, 25.12.1982; 1 ex., Cordoba, Baena, Arroyo Marbella, 20.12.1982; 1 ex., Cordoba, Espejo, Charca Espejo, 21.11.82, Baena leg. (CJF). 1 ex., Murcia, Rio Mula, 20.5.1981, Millán leg.; 4 exs., Huesca, Tolva, 1000 m, 4.4.1986, Fresneda leg.; 2 exs., Tarragona, Calaceite, 4.8.1984; 1 ex., Guadalajara, El Pobo de Duenas, E Molina de Aragon, 19.5.1990; 4 exs., idem, Setiles, 20.5.1990 and 15.7.1991; 1 ex., Almeria, Sierra de los Filabres, Chercos, 29.5.1990; 1 ex., Malaga, Sierra de las Nieves, 30.5.1990; 1 ex., Alicante, E Alcoy, Cuatrerondeta, 7.2.1996, Fery leg. (CHF). **France:** 1 ex., "Marseul, Gal mer?" [round, hw Leprieur], "Fairmairei = vestitus Frm." [green, hw Leprieur], ex Leprieur, coll. Pic (MNHN). 3 exs., "Vence, a. m. [= Alpes Maritimes] Fagniez" (HNHM). 1 ex., "Beziers" [hw Sharp] (BML). 4 exs., "Mt Alaric, 20.9.06 [near Carcassonne]"; 1 ex., "Menton, Ste Cl. Deville", "Claire Deville, Provence", "Deronectes bombycinus Lepr." (MNB). 2 exs., "Nice, Ste. Claire Deville"; 1 ex., "Nizza" [hw Zimmermann] (ZSM). 1 ex., "Remoulins, Gard, VI.1928" [hw Guignot], "Collection Dr. Guignot", "Guignot det. Deronectes Bombycinus Lepr. v. Fairmairei"; 2 exs., "Le Beausset 11, Mol. de Boissy", "R. Mouchamps det. Deronectes bombycinus var. fairmairei Lepr."; 1 ex., "2977", "Fr. mer., Coll. Chevrolat, Det. Sharp 82"; 1 ex., "Lézignan, 8.09", "R. Mouchamps det., Deronectes bombycinus var. fairmairei Lepr."; 1 ex., "Menton, Alp. mar.", "Guignot det. 1952, Deronectes bombycinus var. Fairmairei Lepr." [hw Guignot]; 2 exs., "Menton Le Carei, 9-IX-68, R. van Dorsselaer"; 4 exs., "Menton, Alpes Maritimes, Ste Claire-Deville"; 1 ♂, "Béziers", "Vestitus! Fairm, Fairmairei! Lep., comparé au type Fairm." [green, hw Leprieur], "bombycinus" (IRSN). 1 ♂, "opatrinus, Nizza, Peragallo, Kiesw. vid.", small blue triangle, "non moestus Fairmairei!" [green, hw Leprieur], "Lepr. vid.", "bombycinus", "Seidl. vid.", "20"; 1 ex., "La Londe, Hyères, Dietze" (DEI). 1 ex., Vailhauques, Hérault, VIII.1971; 2 exs., Monti, Alpes Maritimes, 28.6.1928, Schaefer leg.; 3 exs., "Pézènes (Ht) [= Hérault], 10.73, L. Schaefer" (CFA). 2 exs., Var, N Maures Mountains, S Vidauban, 1000 m, 3.4.1985, Dettner leg. (CKD). 4 exs., Var, Toulon, St. Anne d'Evenos, 1.8.1975 and 6.4.1981; 55 exs., idem, Ollioules, 11.8.1980 and 6.4.1981, Fery. leg. (CHF). **Italy:** 1 ex., "Lombardia" (BML). 92 exs., Nervi [near Genova], 15.4. - 1.5.1954; 49 exs., Liguria, Sta Margherita [near Rapallo], IX.1952, S. Breuning leg. (IRSN). 5 exs., "Albenga, Pozze ZT. Centa, 31.V.59, Sanfilippo", "Deronectes bombycinus ssp. Fairmairei Lepr., det. Sanfilippo" (MRTO). **Doubtful or inexact localities:** 3 exs., "Barbaira [= Northern Africa], 1906" (IRSN). 1 ex., "Magenta, XII. 75, Mekassa", "H. bombycinus Lepr.", "Coll. Odier, B.M. 1921-288"; we are not sure if this is Magenta in Algeria, or in Italy, east of Milano (BML). 7 exs., "Chanzy [W of Lake Geneva, Switzerland] 1890, de Vauloger", "Muséum Paris, ex Coll. R. R. Oberthür, ex Wehncke" (MNHN). 1 ex., "Dôle, Suisse, VII 55" (IRSN).

Diagnosis: Habitus oblong oval (Fig. 37). Surface black, matt, often with distinct setae. Larger punctures on elytra relative small and sparse, puncture lines visible. Longitudinal swellings weak or even absent.

Legs dark brown, in large parts almost black. Antennae reddish brown, with the last seven articles darkened distally.

♂♂: Median lobe (Fig. 91) in dorsal view parallel with apex sharply truncate, in lateral view rather straight. Paramere: Fig. 93. Protarsal claws simple.

Remark: Specimens from Morocco often have the median lobe in dorsal view less divergent to the apex than specimens from other regions.

♀♀: Without conspicuous differences to males. Gonocoxosternum with apex rounded (Fig. 119). Gonocoxa: Fig. 125.

Measurements: TL 4.4 - 5.4 mm, TL 2.3 - 2.7 mm.

Distribution: Western Mediterranean (Fig. 131).

Remark: ANGELINI (1978: 50) reports *D. bombycinus* from Sardinia. We have studied the specimen and found it to be *D. moestus moestus* (see additional material of that subspecies).

18. *Deronectes peyerimhoffi* (RÉGIMBART)

Hydroporus Peyerimhoffi RÉGIMBART, 1906: 204.
Deronectes Peyerimhoffi (RÉGIMBART): ZIMMERMANN 1932: 105. - GUIGNOT 1959: 433.

Type locality: Algeria, Massif du Mouzaïa, Aïn Tadinart.

Lectotype ♂ (present designation): "Aïn Tadinart, du Mouzaïa, 12 Sept. 06" [hw Peyerimhoff?], "Peyerimhofi [one "f" only!] Reg., n.sp. types." [hw Régimbart], "Museum Paris, Coll. Peyerimhoff", "Lectotype, Hydroporus (Deronectes) peyerimhoffi Régimbart, des. Fery & Brancucci 1989" [red] (MNHN). **Paralectotypes:** 1 ♂, 1 ♀, originally together with the lectotype on the same pin, specimens isolated and provided with labels with the respective texts by Fery; 1 ♂, 1 ♀, same labels as lectotype, but Régimbart's determination label; 1 ♂, "Tadinart, Mouzaïa, Peyer. Sept." [hw Peyerimhoff], "Type", "Deronectes Peyerimhoffi", coll. Peschet (MNHN); all paralectotypes with the respective red label.

Additional material: Algeria: 1 ♀, "O. Tamesgnida, Mouzaïa, 12 - 9.1906" [hw Peyerimhoff]; 1 ex., "Aïn Takrarat, Mouzaïa, 29.4.1922" [hw Peyerimhoff]; 1 ex., "Tala Bonidhen [?], Akonker [?] Djur..., fin juillet 1913" [hw Peyerimhoff?], coll. Peyerimhoff; 1 ex., "Aïn Takrarat, Mouzaïa, Alg." [hw Régimbart], "de Peyerimhof [sic!], 1400 m., Sept. 06" [hw Régimbart?], female sex-symbol; 1 ex., "Aïn Takrarat, Mouzaïa, Algéria" [hw Régimbart], "de Peyerimhof [sic!], 1400 m, Sept. 06" [hw Régimbart?], male sex symbol, "Peyerimhofi [sic!], Rég. Type" [hw Régimbart], coll. Régimbart; 2 ♂♂, "O. Tadinart, Mouzaïa, VIII.1907" [hw Peyerimhoff], "Deronectes Peyerimhoffi Régimbt." [hw Peyerimhoff], ex Leprieur, coll. Pic; 1 ex., "Massif des Mouzaïa", male sex-symbol, "leg. Peyerimh." [hw Guignot]; 1 ex., "Crète du Djurdjura, Peyerimh. leg." [hw Guignot], female sex-symbol, coll. Guignot; 2 exs., "Tadinart (Mouzaïa)", coll. Bourgeois; 2 ♂♂, "Aïn Tadinart, du Mouzaïa, Août 1906" [hw Peyerimhoff], one specimen with additional "Deronectes Peyerimhoffi Régt" [hw Peyerimhoff], coll. Bedel; no syntypes, because RÉGIMBART (1906: 205) explicitly writes "... en septembre 1906..." (MNHN). 1 ex., "Massif des Mouzaïa", "Peyr. 08", "Deronectes Peyerimhoffi" [hw Régimbart] (ZSM).

Diagnosis: Habitus oblong oval (Fig. 38). Surface reddish brown, matt, with distinct setae. Elytra with coarse punctures small and sparse. Longitudinal swellings weak, puncture lines hardly perceptible.

Legs reddish brown. Antennae reddish, not darkened.

♂♂: Median lobe (Fig. 92) very large; in dorsal view parallel with apex sharply truncate; in lateral view straight, apex bent. Paramere: Fig. 94. Protarsi and mesotarsi broadened; protarsal claws elongate, almost straight.

♀♀: Without conspicuous differences to males.

Measurements: TL 5.3 - 6.0 mm, MW 2.8 - 3.0 mm.

Distribution: Mountain ranges of Algeria (Fig. 131).

VII. The *Deronectes theryi*-group

This group includes two species which are characterised by a pronotum with its maximum width near the middle, not much narrower than the elytra, rounded evenly to the anterior and posterior angles, and with a longitudinal impression parallel to each side. Their habitus is almost parallel-sided. Elytra without puncture lines. Major parts of ventral surface dark brown or black, legs dark brown with femora darkened, antennae reddish brown, last articles somewhat darkened distally. The prosternal apophysis has a sharp carina, sides broadened and with distinct setae. Metacoxae and metasternum with coarse punctures, metacoxal lines strongly diverging forwards. Last visible abdominal segment with a notch. ♂♂: Anterior claws simple. The species are restricted to the extreme south of Spain and the High and Middle Atlas of Morocco.

Key to the species of the *Deronectes theryi*-group

1 Upper side with coarse punctures, but these being less dense, shining between them; longitudinal swellings on the elytra weak. Species from Morocco. ..... **19. *theryi***

\- Upper side with very dense coarse punctures, matt; longitudinal swellings on the elytra distinct. Species from South of Spain. ..... **20. *algibensis***

19. *Deronectes theryi* (PEYERIMHOFF)

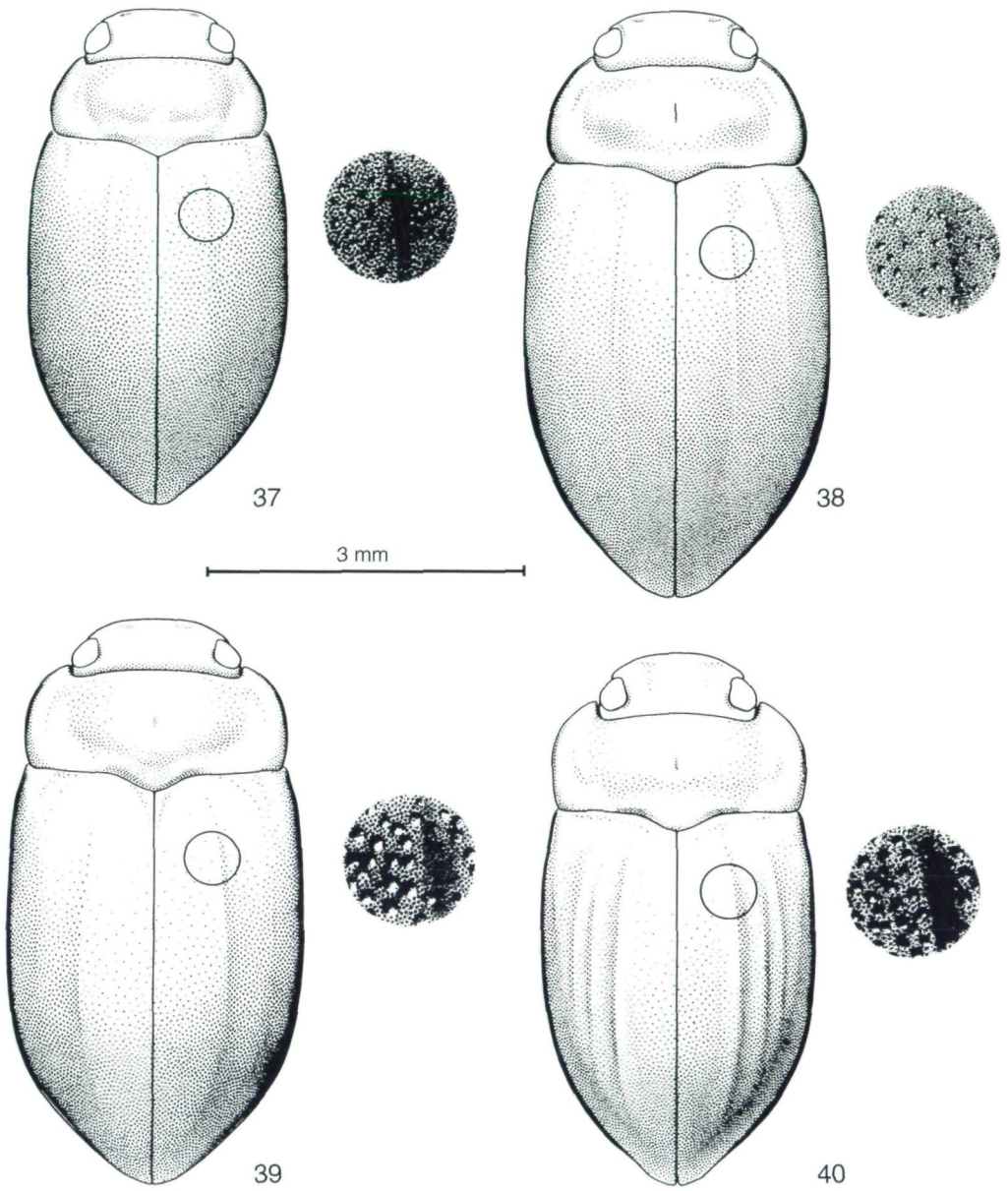
Hydroporus Theryi PEYERIMHOFF in: BEDEL & PEYERIMHOFF 1925: 356 (see also the footnote 1 on page 351).
Deronectes Theryi (BEDEL): ZIMMERMANN 1932: 105. - GUIGNOT 1959: 436.
Deronectes theryi (PEYERIMHOFF): BRANCUCCI 1979: 31. - KOCHER 1958: 23.

Type locality: Morocco, Moyen Atlas, Aïn Leuh ("1er type").

Syntypes: 1 ♀, "Tizi n'Tachdirt, Gr. Atlas maroc., juillet, 23, 3200 m" [hw Peyerimhoff], "Theryi Peyerh., deuxième type, color normal, moin large, pronotum moins impressioné que chez le 1er" [same label material and ink as first label, hw somewhat different, but probably also Peyerimhoff], "Museum Paris, Coll. Peyerimhoff" (MNHN). We have not been able to find the "first" type; in any case the specimen studied should be a syntype, but we avoid designating a lectotype.

Additional material: Morocco: 2 exs., "Ras el Oued, Taza, Maroc, Coll. Théry", coll. Legros; 1 ex., "Ras el Oued, Taza 15/8/32", "Deronectes Theryi Peyer, paraTIPE [sic!]", ex Leprieur, coll. Pic; 1 ex., "Ras el Oued, Taza", female sex symbol, "Maroc, Coll. Théry"; 1 ex., idem, but with additional label "Comp. au type par Théry", coll. Guignot; 1 ex., "Ras el Oued Taza", "Comp. au type par Théry 1934"; 1 ex., "Ras el Oued Taza (Maroc) 15.VIII.1932", coll. Peschet (MNHN). 1 ex., "Maroc: Vallée de l'oued N'Fis, 5.6.1934, 1200 m, A. Ball 28 M 12", "A. Ball det. 1938, Deronectes theryi Bedel" (IRSN). 2 exs., Marrakech, Ourika-Valley, Ahrbalou, 1000 m, 14. - 18.5.1975, Malkin leg. (NMB). 1 ex., Haut Atlas, Tizi n'Test, 1900 m, 22.5.1991, Sama leg. (CMT). 13 exs., Haut Atlas, Tizi n' Test, 2000m, 15.6.1986 and 16.6.1986, Sama leg. (MCVR). 30 exs., Haut Atlas, Oukaïmeden, 3000 m, 9.8.1985 and 27.3.1988; 90 exs., idem, but 2600 m, 9.8.1985, Fery leg. (NMB, CHF and divers other collections).

Diagnosis: Habitus oblong oval, rather parallel (Fig. 39). Upper surface dark brown or black, with distinct setae. Pronotum and elytra covered with coarse punctures, but shining between, not matt. The two longitudinal swellings on each elytron are not very prominent.



Figs. 37 - 40: Habitus of: (37) *Deronectes fairmairei*, (38) *Deronectes peyerimhoffi*, (39) *Deronectes theryi*, (40) *Deronectes algibensis*.

♂♂: Median lobe (Fig. 95) in dorsal view with apex pointed. Paramere: Fig. 97.

♀♀: Without conspicuous differences to males.

Measurements: TL 4.7 - 5.5 mm, MW 2.5 - 2.8 mm.

Distribution: Morocco, High and Middle Atlas (Fig. 127).

20. *Deronectes algibensis* FERY & FRESNEDA

Deronectes algibensis FERY & FRESNEDA, 1988b: 337. - RICO & al. 1990: 100.

Type locality: Spain, Cádiz, Sierra de Algibe.

Holotype (♂): "19.7.87, España, Prov. Cadiz, nördl. Jimena d. l. Frontera, Zufluß [= affluent] d. Rio Hozgarganta, Fery leg.", "1 km südl. V.[entorrillo] las Canillas", "Holotype, Deronectes algibensis n.sp., det. Fery et Fresneda" [red] (MNB). **Paratypes:** 3 ♂♂, same data as holotype; 1 ♂, 1 ♀, idem, 24.3.1988; 5 ♂♂, 2 ♀♀, idem, 1.7.1988; 2 ♀♀, idem, but 2 km S Ventorrillo, 18.3.1986; 1 ♂, idem, 1.7.1988; 1 ♂, idem, but 7 km S Ventorrillo, 31.3.1988; 4 ♂♂, 4 ♀♀, "1.7.88, España, Prov. Cadiz [crossed out], nördl. Jimena d. l. Frontera, Zufluß [= affluent] d. Rio Hozgarganta, Fery leg.", "La Sauceda, Prov. Malaga" [ca. 500 m]; 1 ♂, idem, but 14.7.1987, Fresneda leg. (MNB, NMB, CFP, CGW, CJF, CHF). All paratypes with the respective red label.

Additional material: Spain:: 4 exs., Cádiz, S Pto de Galiz, 2.9.1996, Dettner leg. (CKD, CHF). 1 ex., Cádiz, between Los Barrios and Alcala, 28.3.1994, Bückle and Gerecke leg.; 2 exs., Cádiz, Sierra de Algibe, N Jimena de la Frontera, 7 km S Ventorrillo las Canillas, ca. 200 m, 25.3.1989 and 15.2.1990; 8 exs., Malaga, Sierra de Algibe, N Jimena de la Frontera, 5 km NW Ventorrillo las Canillas, ca. 500 m, 25.3.1989; 25 exs., Cádiz, NW Algeciras, near Facinas, 1.6.1990, Fery leg. (CHH, CJG, CLH, CMB, CSR, CHF).

Diagnosis: Habitus oblong oval, rather parallel (Fig. 40). Upper surface dark brown or black, setae very short, rather imperceptible. Each elytron with three strong longitudinal swellings, but in contrast to the species of the *bicostatus*-group these not abruptly falling to the sides before the apex. Pronotum and elytra, including the longitudinal swellings, densely covered with coarse punctures, not shining between them.

♂♂: Median lobe (Fig. 96) in dorsal view with apex truncate. Paramere: Fig. 98.

♀♀: Without conspicuous differences to males.

Measurements: TL 4.9 - 5.3 mm, MW 2.3 - 2.7 mm.

Distribution: South of Spain, mountain ranges in Cádiz and Malaga provinces (Fig. 127).

Remark: *Deronectes algibensis* shows some affinities to *D. depressicollis* such as the round sides of the pronotum and the strong elytral longitudinal swellings, but nevertheless is easily distinguished on its larger total length and further characteristics given in the descriptions of both species.

VIII. The *Deronectes opatrinus*-group

The four species of this group have a cordiform pronotum with a longitudinal impression parallel to each side. Elytra with coarse punctures, puncture lines imperceptible. Major parts of ventral surface black. Prosternal apophysis carinate, broadened laterally. Last abdominal segment with a notch. The species are distributed in the western Mediterranean.

Key to the species of the *Deronectes opatrinus*-group

1 Posterior angles of pronotum very obtuse (±120°, females even more) and rounded; dark brown species, endemic to Corsica. ..... **23. *lareynii***

\- Posterior angles of pronotum rectangular to weakly obtuse (±110°). 2

2 Protibiae narrow at the base, strongly diverging in the first third and almost parallel in the two following thirds (Fig. 45); brown to dark brown species from the Spanish pre-Pyrenees. ..... **24. *fosteri***

- Protibiae almost evenly diverging from base to anterior end; black species. 3

3 Puncturation on clypeus very dense, head matt, not shining between punctures; each elytron with two or three distinct longitudinal swellings. ..... **22. *hispanicus***

- Puncturation on clypeus less dense, head shining between punctures; longitudinal swellings on the elytra weak. ..... **21. *opatrinus***

21. *Deronectes opatrinus* (GERMAR)

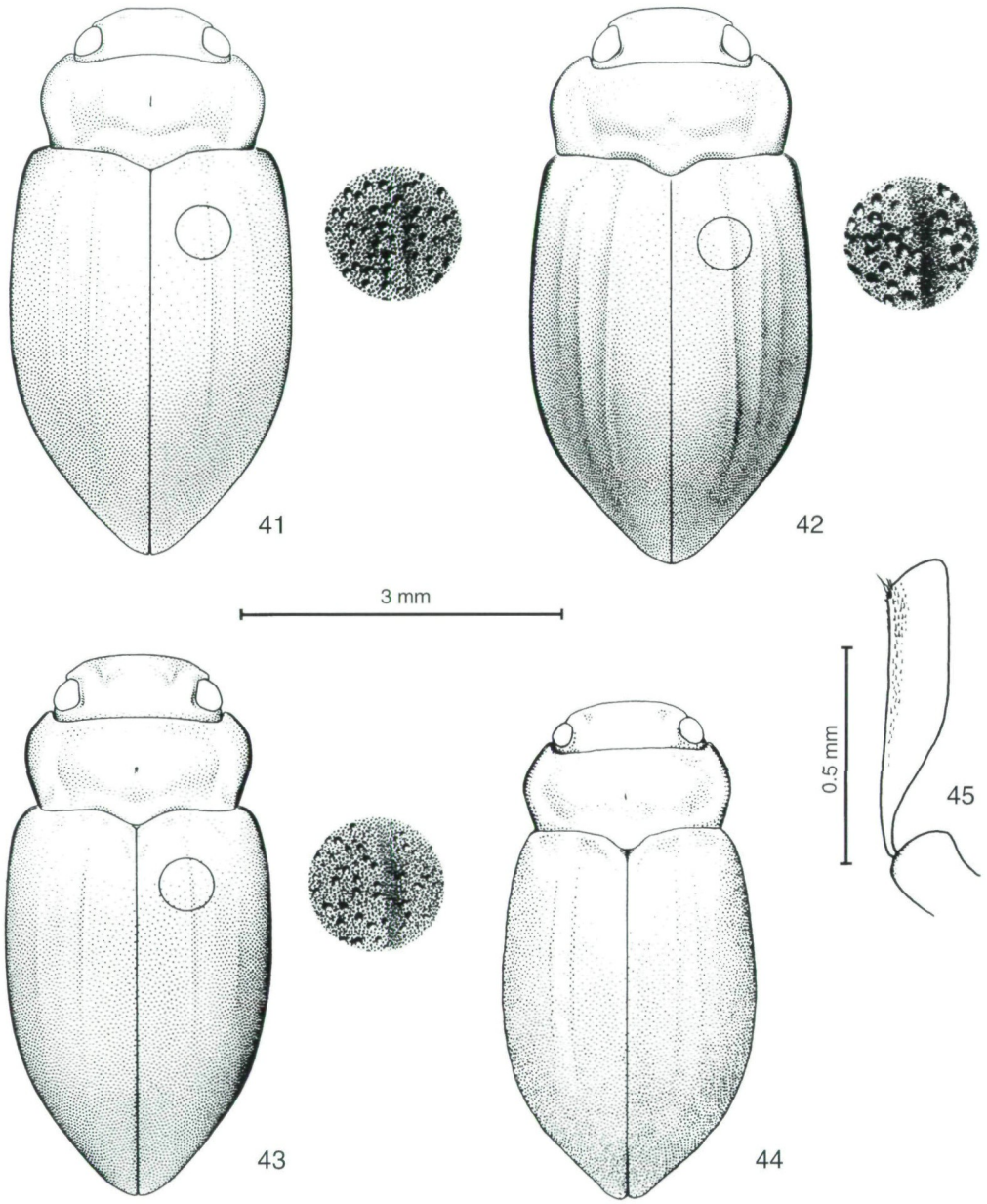
Hydroporus opatrinus GERMAR, 1824: 31. - GERMAR 1834: pl. 2. - AUBÉ 1867: 257 (partim). - AUBÉ 1868: 45. - LEPRIEUR 1876a: 62. - LEPRIEUR 1876b: 104. - LEPRIEUR 1876c: 121. - LEPRIEUR 1876d: 53. - LEPRIEUR 1876e: 568. - SHARP 1882: 421.

Deronectes opatrinus (GERMAR): ZIMMERMANN 1932: 107. - GUIGNOT 1947: 139. - WEWALKA 1970: 128. - FRANCISCOLO 1979: 442. - RICO & al. 1990: 107.

Type locality: France, "Gall. mer.".

Lectotype ♂ (present designation): second specimen in a row of two specimens, after a big label "Dejean, Gall. mer. (Schipp.) [= collector Schippel]", "opatrinus, Dj * Gall. m.", "Hist. Coll. Nr. 10130", "Zool. Mus. Berlin" "Lectotype, Hydroporus opatrinus Germar, des. Fery & Brancucci 1989" [red] (MNB). **Paralectotypes:** 1 ♂, first specimen in the row (see above), "10130", "Zool. Mus. Berlin" (MNB). 1 ♂, "Collect Reiche" [round, hw Leprieur], "opatrinus!, ex Schaum" [green, hw Leprieur], "Muséum Paris, ex Leprieur, Coll. M. Pic" (MNHN); all paralectotypes with the respective red label.

Additional material: Portugal: 1 ex., Algarve, near Loulé, VIII.1961, Coiffait leg. (CKD). 1 ex., "Vila Real" (IRSN). 1 ex., Portalegre, Serra de Marvao, Ribera de Nisa, 450 m, 17.6.1985, Sartori leg.; 1 ex., Algarve, near Lonte, VIII.1961, Coiffait leg. (NMB). 2 exs., Algarve, Porto de Lagos, Ribera da Boina, 20.8.1987, Fresneda leg. (CJF). 3 exs., Beja, N Odemira, Ribera do Torgal, 25.3.1986 and 20.7.1987; 1 ex., Vila Real, Escariz, ca. 1000 m, 5.8.1989; 1 ex., Algarve, Serra de Monchique, near Alferce, 12.3.1997; 2 exs., Algarve, ca. 10 km SSE Caldes de Monchique, 13.3.1997, Fery leg. (CHF). **Spain:** 1 ex., "Catalonia, Villajuiga", "R. Mouchamps det. 1948, Deronectes opatrinus Germ." (IRSN). 1 ex., Ciudad Real, Sierra Morena, Almuradiel, Rio Cabezamalo, V.1959; 1 ex., Cádiz, Sierra de Ronda, Ubrique, 2.6.1959; 1 ex., Malaga, Navalgamella, 28.7.1960; 3 exs., Jaén, Organos de Despeñaperros, 2.8.1960 and 1.10.1960; 1 ex., Logroño, Laguna de Camero, 9.4.1960, Aubert leg. (NMB). 4 exs., Girona, Rosas, VI.1966; 1 ex., idem, 26.6.1966, Budberg leg. (NMW). 1 ex., Cádiz, S Pto de Galiz, 2.9.1996, Dettner leg. (CKD). 7 exs., Girona, Llagostera, 26.5.1984; 5 exs., idem, San Feliu, 28.5.1984, Hebauer leg.; 1 ex., Girona, La Junquera, Rio Llobregat, 25.5.91, Snizek leg. (CJS). 6 exs., Barcelona province, Seva, S Vic, 650 m, 20.6.1990, Mazzoldi leg. (CMT). 1 ex., Huelva, Rio Caliente el Repilado, 25.5.1990; 1 ex., Villaviciosa de Cordoba, Arroyo de la Tolva, 17.12.1982, Baena leg.; 1 ex., Avila, Arenas de S. Pedro, Rio Pelayo, 2.8.1993, Fresneda and Hernando leg.; 1 ex., Zaragoza, Beraton, Moncayo, Rio Isuelda, 10.4.1993, Fresneda leg.; 5 exs., Salamanca, Monsagro, Sierra de Francia, Peña Francia, Monsagro, 1150 m, 5.8.1990; 3 exs., idem, El Cabaco, 1130 m, 5.8.1990, Fresneda and Leblanc leg. (CJF). 3 exs., Palencia, E Sahagun, Ledigos, 8.7.1995 and 9.3.1997; 1 ex., Girona, La Bajol, near La Junquera, 2.1.1984; 3 exs., Girona, San Feliu, 15.3.1986; 3 exs., Girona, near Cadaques, 8.2.1990; 1 ex., Léon, N Léon, W La Robla, 5.6.1990; 21 exs., Léon, SW Astorga, Tabladillo, 23.7.1987, 24.3.1989 and 26.8.1989; 1 ex., Zamora, E Sanabria, Justel, 26.8.1989; 20 exs., Cáceres, Moraleja, Rivera de Acebo, 9.8.1984; 7 exs., Cáceres, N Guadelupe, 2.4.1988; 3 exs., Cáceres, N Coria, Acebo, 7.7.1988; 2 exs., Cáceres, Sierra de Gata, Nuñomoral, 8.7.1988; 3 exs., Cáceres, S Coria, Cañaveral 27.5.1990; 10 exs., Ciudad Real, Montes de Toledo, Retuerta del Bullaque, 27.5.1990; 37 exs., Ciudad Real, SW Puertollano, Fuencaliente, 25.6.1990; 2 exs., Ciudad Real, ca. 70 km N Andujar, 16.3.1997; 4 exs., Ciudad Real, ca. 75 km N Andujar, 16.3.1997; 5 exs., Ciudad Real, ca. 40 km SE Puertollano, NE Tamaral, 16.3.1997; 7 exs., Jaén, ca. 60 km N Andujar, 16.3.1997; 1 ex., idem, but 8 km N Andujar; 1 ex., Logroño, Ezcaray, 1300 m, 27.8.1989; 6 exs., Burgos, SE Arlanzon, Pineda de la Sierra,



Figs. 41 - 45: (41 - 44): Habitus of: (41) *Deronectes opatrinus*, (42) *Deronectes hispanicus*, (43) *Deronectes lareynii*, (44) *Deronectes fosteri*; (45): Protibia of *Deronectes fosteri* (♂).

20.3.1989, 22.7.1989, 22.5.1990 and 15.7.1991; 2 exs., Badajoz, N Aracena, Fuentes de Léon, 14.3.1997; 1 ex., Huelva, SE Aracena, Valdezufre, 21.7.1991; 1 ex., Huelva, N Aracena, Hinojales/Cañaveral, 14.3.1997; 80 exs., Cádiz, N Jimena de la Frontera, divers localities near Ventorrillo las Canillas, 19.7.1987, 24.3.1988, 31.3.1988, 1.7.1988, 26.3.1989 and 15.2.1990; 5 exs., Malaga, N Jimena de la Frontera, NW Ventorrillo las Canillas, La Sauceda, 500 m, 1.7.1988, 25.3.1989 and 3.7.1992, Fery leg.

(CHF). **France:** 1 ex., "Hydroporus opatrinus J [?] Niger [?, illegible], h. in Gallia merid." [hw Dejean], "Ex Musaeo Dejean"; 1 ex., "opatrinus, h. in Hispania" [hw Dejean], "Ex Musaeo Dejean", "D. Sharp Monogr."; 2 exs., "Ex Musaeo Dejean", "D. Sharp Monogr.", ex Wehncke, coll. Oberthür; 1 ex., "Collioure", ex Leprieur, coll. Pic (MNHN). 2 exs., "Hte. Vienne, L. Bleuse" (MNB). 1 ex., "Brisout, Collioure" [hw Leprieur], "opatrinus, type." [green, hw Leprieur], "Deronectes opatrinus Germ., Coll. Reitter" (HNHM). 1 ex., "Caux, Herault, IX 1928", "Collection Dr. Guignot", "Guignot det. Deronectes opatrinus Germ."; 2 exs., "Fontenay le Cte, (R. Valette)" (IRSN). 1 ex., Guzargues, Hérault, 5.6.1970, Riboulet leg.; 1 ex., "France, St. Gély Hérault, Schaefer 6.56"; 1 ex., "Htes Pyrénées (Cauterets), L. Bleuse"; 2 exs., Pyrénées Orientales, Collioure, Le Rimbaud, 200 m, 6.8.1962, Pederzani leg. (MCVR). 2 exs., Cévennes, Le Saltet, 26.7.1993, Boukal leg. (CLH). 7 exs., Vailhauques, Hérault, VIII.1971, Schaefer leg. (CFA). 9 exs., Pyrénées Orientales, SW Collioure, river Ravane, 10.4.1996; 1 ex., idem, S Argelès sur Mer, Lavall, Massane Valley, 12.4.1996; 1 ex., idem, Riunogues near Cèret, 5.4.1996, Dettner leg. (CKD). 71 exs., Pyrénées Orientales, Riunogues, near Céret, 31.7.1984, 26.7.1985 and 7.3.1991; 23 exs., idem, Banyuls, 21.8.1984 and 7.2.1990; 58 exs., idem, Collioure, 28.12.1983, 1.8.1984 and 16.5.1990, Fery leg. (CHF). **Doubtful or inexact localities:** 2 exs., "Chanzy [W of Lake Geneva; Switzerland] 1890, de Vauloger", "Deronectes opatrinus" (ZSM). 1 ex., "opatrinus!, donné par Fairm. comme type de son vestitus" [green, hw Leprieur], coll. Fairmaire (MNHN).

Diagnosis: Habitus oblong oval (Fig. 41); upper surface black and matt, with short setae. Puncturation on clypeus less dense than in *D. hispanicus*, head shining between punctures. Pronotum distinctly cordiform, sides concavely sinuate before base (see fig. 6 in FERY & FRESNEDA 1988b: 343). Each elytron with two longitudinal swellings, which are separated by a smooth unpunctured furrow; sometimes in anterior half with a third but weak swelling. The puncturation and the swellings of the elytra are less prominent than in *D. hispanicus*.

Legs dark brown. Antennae reddish brown, from fourth article darkened distally. Carina on prosternal apophysis smaller than in *D. hispanicus*, sides distinctly broadened, setae developed. Metacoxae and metasternum without coarse punctures. Metacoxal lines strongly diverging forwards.

♂♂: Median lobe: Fig. 99; paramere: Fig. 103. Protarsal claws simple.

♀♀: Pronotum converging stronger to the base than in the males.

Measurements: TL 5.1 - 5.6 mm, MW 2.6 - 2.8 mm.

Distribution: Spain, Portugal, south and southwest of France (Fig. 132). Records from Switzerland, Lorraine (GUIGNOT 1947: 140) and Northern Italy (FRANCISCOLO 1979: 442) strongly require confirmation. Records from Germany are undoubtedly erroneous (HORION 1941: 399).

Remark: The species often is mistaken for *D. hispanicus*, but can be easily distinguished by the puncturation of the clypeus.

22. *Deronectes hispanicus* (ROSENHAUER)

Hydroporus hispanicus ROSENHAUER, 1856: 49. - SCHAUM 1864: 112. - AUBÉ 1868: 45. - LEPRIEUR 1876a: 62. - LEPRIEUR 1876b: 104. - LEPRIEUR 1876c: 120. - LEPRIEUR 1876d: 53. - LEPRIEUR 1876e: 568.

Hydroporus opatrinus GERMAR: AUBÉ 1867: 256 (partim). - SHARP 1882: 422. - LAGAR 1946: 70.

Deronectes hispanicus (ROSENHAUER): ZIMMERMANN 1932: 108. - GUIGNOT 1947: 140. - WEWALKA 1970: 128. - FERY & FRESNEDA 1988b: 344 (designation of lectotype). - RICO & al. 1990: 105.

Deronectes opatrinus septensis LAGAR, 1968: 61.

Type material:

Hydroporus hispanicus: **Lectotype** (♀): "Algeciras", "hispanicus Rsh.", "Thiere Andalusiens Rosenhauer", "Museum Paris, coll. R. Oberthür, ex Wehncke", "Lectotype, Hydroporus hispanicus Rosenhauer, des. Fery & Fresneda 1988" [red] (MNHN); no further syntype located. **Type locality:** Spain, Algeciras.

Deronectes opatrinus septensis: **Holotype** (♀): red genus-label, "Ceuta: Arroyo Bombas, 3.V.1944, A. Lagar leg." [hw Lagar], "Holotipo", "Deronectes opatrinus septensis, nov. ssp., Lagar. 1967" [hw Lagar] (CAL). **Type locality:** Morocco, Castrillo [= Fnidek], south of Ceuta.

Additional material: Morocco: 1 ♀, S Ceuta, Fnidek [= Castrillo], 30.3.1988, Fery leg. (CHF); **first record from Morocco**, except *D. opatrinus septensis*. **Spain:** 1 ex., "Ronda, Spain, G.C.C." (BML). 200 exs., Granada, Alfacar, 1907, Frabresse leg., coll. Oberthür (MNHN). 1 ex., Jaén, Sierra de Cazorla, Nava de San Pedro, V.1959; 1 ex., Malaga, Sierra de Ronda, between Yunquera and Burgo, VI.1959, Aubert leg. (NMB). 1 ex., Malaga, Estepona, V.1965; 7 exs., Girona, Rosas, VI.1966 and 26.6.1966, Budberg leg. (NMW). 5 exs., Jaén, Rio Madera, 28.8.1982 (CAM). 7 exs., Girona, Llagostera 26.5.1984; 5 exs., idem, San Feliu, 28.5.1984, Hebauer leg.; 5 exs., Malaga, Sierra de Ronda, San Pedro, 1000 m, 14.5.1991, Snizek and Boukal leg.; 1 ex., Sevilla, Lebrija, 12.5.1991, Kantner leg. (CJS). 1 ex., Cádiz, Sierra del Pinar, 7.7.1974, Montes leg. (CFA). 8 exs., Malaga, Velez Malaga, Rio Alcaucin, 25.8.1996, 26.8.1996 and 6.9.1996, Dettner leg. (CKD). 2 exs., Cádiz, Pto de Galiz, 2.9.1996, Dettner leg. (CKD, CHF). 2 exs., Malaga, 5 km N Torrox, 8.1.1992, Foster leg.; 12 exs., Girona, San Feliu, 31.3.1984 and 15.3.1986; 6 exs., Girona, Tossa de Mar, 15.3.1986; 1 ex., Cádiz, 4 km S Ubrique, 15.3.1997; 7 exs., Cádiz, E Facinas, 500 m, 7.8.1984 and 1.6.1990; 192 exs., Cádiz, N Jimena de la Frontera, divers localities near Ventorrillo las Canillas, 18.3.1986, 19.7.1987, 24.3.1988, 31.3.1988, 1.7.1988, 26.3.1989 and 15.2.1990; 7 exs., Malaga, N Jimena de la Frontera, NW Ventorrillo las Canillas, La Sauceda, 500 m, 1.7.1988 and 26.3.1989; 4 exs., Malaga, S Ronda, 23.3.1988 and 14.2.1990; 3 exs., Malaga, Sierra de las Nieves, Ronda, 16.2.1990; 5 exs., Jaén, Sierra de Cazorla, E Mogón, 11.7.1987; 2 exs., idem, Rio Aguacebas Grande, 30.6.1988; 1 ex., idem, Rio Aguacebas del Gil Cobo, 20.7.1991; 30 exs., Granada, N Almuñecar, Lentegi, 23.3.1988 and 1.7.1988, Fery leg. (CHF). **France:** 3 exs., "10-02", "P.-O.-P.[Pyrénées Orientales - Portes] Vendres, Dr Normand", "Source du bassin" [hw Régimbart?], "Deronectes hispanicus" [hw Régimbart] (ZSM). 6 exs., "Pyr. O [= Pyrénées Orientales] Collioure, Dr Normand", "Mas Rimbaud" [hw Normand?] (HNHM). 5 exs., "La Sauzette, 29.7.60"; 1 ex., "Amélie les B., 5.04 - de Boissy", "R. Mouchamps det., Deronectes hispanicus Rosenh."; 1 ex., "Argelès (Pyr. orient.), IV 1935", "Collection Dr. Guignot", "Guignot det. Deronectes hispanicus Ros." (IRSN). 1 ex., "Pyrenae", "ex coll. Fischer", "Deronectes opatrinus Germ.", "ex coll. Burlini"; 1 ex., "Pirenei Orientali, Port. Vendres, Dr. Normand", "Deronectes moestus var. brannani Schauf." [sic!] (MCVR). 16 exs., Gard, NW St Jean du Gard, 210 m, 8.6.1981; 5 exs., Pyrénées Orientales, SW Collioure, Ravane, 10.4.1996; 1 ex., idem, S Argelès sur Mer, Lavall, Massane Valley, 12.4.1996; 6 exs., idem, Riunogues near Céret, 5.4.1996, Dettner leg. (CKD). 5 exs., Hérault, Vailhauques, VIII.1971, Schaefer leg. (CFA). 80 exs., Pyrénées Orientales, near Céret, Riunogues, 31.7.1984, 26.7.1985, 7.2.1990 and 17.3.1991; 1 ex., idem, N Banyuls, 21.8.1984; 6 exs., idem, Col de Banyuls, 7.2.1990; 2 exs., idem, Collioure, 1.8.1984 and 16.5.1990; 5 exs., idem, Cosprons, near Argelès, 7.2.1990, Fery leg. (CHF). **Inexact localities:** 1 ♀, "Hydroporus Hispanicus zur Ansicht." [hw Schaum], coll. Aubé (MNHN). Probably this is the specimen mentioned by AUBÉ (1867: 256).

Diagnosis: Habitus oblong oval (Fig. 42); upper surface black and matt, setae very short. Pronotum at the middle almost as wide as elytra. Clypeus densely covered with punctures, not shining between them. Pronotum less cordiform, sides not concavely sinuate before base. Puncturation, longitudinal swellings and furrows on elytra stronger than in *D. opatrinus*.

Legs almost black. Antennae with last articles slightly darkened. Carina on prosternal apophysis strongly developed, sides slightly broadened, setae reduced or often imperceptible. Metacoxae with some coarse punctures; metacoxal lines strongly diverging forwards.

♂♂: Median lobe (Fig. 100) in dorsal view with apex truncate. Paramere: Fig. 104. Protarsal claws simple.

♀♀: Sides of pronotum slightly more converging towards the base than in males (see fig. 6 in FERY & FRESNEDA 1988b: 343).

Measurements: TL 4.9 - 5.8 mm, MW 2.3 - 2.9 mm.

Distribution: South of Spain, northern Morocco, Pyrénées Orientales, south of France west of the Rhone (Fig. 132). Records from Portugal as well as other additional regions seem to originate from confusion with *D. opatrinus* or *D. moestus inconspectus*.

23. *Deronectes lareynii* (FAIRMAIRE)

Hydroporus Lareynii FAIRMAIRE, 1858: 455.
Hydroporus coarcticollis REICHE, 1862: 293.
Hydroporus opatrinus GERMAR: AUBÉ 1867: 256 (partim).
Hydroporus Lareyniei FAIRMAIRE: LEPRIEUR 1876a: 62. - LEPRIEUR 1876b: 104. - LEPRIEUR 1876c: 120. - LEPRIEUR 1876d: 53. - LEPRIEUR 1876e: 568.
Hydroporus hispanicus ROSENHAUER: AUBÉ 1868: 45.
Hydroporus lareynei FAIRMAIRE: SHARP 1882: 421.
Deronectes Lareyniei (FAIRMAIRE): ZIMMERMANN 1932: 108. - GUIGNOT 1947: 138.
Deronectes lareynei (FAIRMAIRE): WEWALKA 1970: 134.

Type material:

Hydroporus lareynii: **Lectotype** ♂ (present designation): the original glue-card on the underside with "4 57" [or "4 37"], "Type", "Lareynii, n.sp." [light-blue, hw Fairmaire], "Lareyniei" [green, hw Leprieur?], "Opatrinus Germ., hispanicus Rosenh." [red ink, hw Aubé], "Muséum Paris, 1906, Coll. Léon Fairmaire", "Lectotype, Hydroporus lareynii Fairmaire, des. Fery & Brancucci 1997" [red] (MNHN); no further syntype located. **Type locality:** France, Corsica.

Hydroporus coarcticollis: According to HORN & al. (1990: 35) the collection of J. Bellier de la Chavignerie, who collected the specimens on which Reiche based his description, came to the collection Oberthür (MNHN) in 1889. We have not been able to find syntypes either in this collection nor in the collection Reiche (MNHN). Without any doubt Reiche was caused to consider "that sex to be a distinct species" by the striking form of the female's pronotum (SHARP 1882: 421). **Type locality:** France, Corsica.

Additional material: France (Corsica): 2 exs., "Hydrop. Lareynii, Corsica" [hw Fairmaire], coll. Fairmaire (MNHN). 1 ex., "Corsica", "Lareyniei!" [green, hw Leprieur], "Deron. Lareyniei Fairm., Coll. Reitter" (HNHM). 1 ex., Bastia, Col de Tegnime, 11. - 12.7.1955, Kühnelt leg. (NMW). 1 ex., N San Nicolao, 18.7.1994, Zerche leg. (DEI). 2 exs., Monte d'Oro, 7.9.1966; 4 exs., Col de Vergio, 1200 m, 9.9.1966, Sama leg.; 1 ex., "Corsica", "Reitter detrminirt. [sic!, = determined]"; 1 ex., Foresta di Vizzavona, 1100 m, 7.8.1979, Sette leg. (MCVR). 4 exs., Col de Veigio, 1200 m, IX.1966, Sama leg.; 1 ex., Foreste Carozzica, F. Stranciacone, 1000 m, 30.9.1975, Sette leg.; 1 ex., Ghisoni, Forêt de Marmano, 15.7.1967, Pederzani leg. (CFA). 10 exs., Col de Verde, 1700 m, 23.7.1982; 1 ex., idem, 1600 m, 22.7.1983; 1 ex., Lac de Rina, 1900 m, 23.7.1982; 13 exs., near Ghisoni, 1600 m, 22.7.1983; 5 exs., idem, 700 m, 21.7.1983; 20 exs., Valdu Niellu, 1500 m, 18.7.1983; 3 exs., Haut Asco, 900 m, 13.7.1983; 1 ex., idem, 1100 m, 15.7.1986; 29 exs., idem, 1200 m, 13.7.1983; 16 exs., idem, Bergerie de Manica, 1200 m, 15.7.1986; 46 exs., E Evisa, 1100 m, 15.7.1986; 1 ex., Lac de Nino, 1600 m, 18.7.1983; 9 exs., N Aullène, 5 km N Col de Vaccia, 21.4.1995, Fery leg. (CHF).

Diagnosis: Habitus oblong oval (Fig. 43); upper surface reddish to dark brown, often with distinct short setae. Pronotum not concavely sinuate before base. Disc of pronotum without coarse punctures, shining; elytra with coarse punctures smaller and less dense than in *D. opatrinus*, somewhat shining between them. Longitudinal swellings weak, almost unpunctured.

Legs reddish brown, often darkened. Antennae not darkened. Carina of the prosternal apophysis weak, sides broadened, with setae. Metacoxae and metasternum without coarse punctures. Metacoxal lines less diverging forwards than in *D. opatrinus*.

♂♂: Median lobe (Fig. 101) in dorsal view with apex rounded. Paramere: Fig. 105. Sides of pronotum before the posterior angles almost straight, angles obtuse (±120°); antennae with articles five to nine or ten extended, flattened and broadened. Notch on last visible abdominal segment small, but perceptible. Anterior claws equal, elongate, straight, curved before point.

♀♀: Sides of pronotum before the posterior angles strongly converging, angles obtuse (±140°) (in contrast to GUIGNOT 1947: 138), shoulders more prominent; articles of antennae less broadened and flattened than those of the males; sides of last visible abdominal segment sinuate close to apex, this sinuation beeing followed by a distinct notch.

Measurements: TL 4.7 - 5.3 mm, MW 2.3 - 2.4 mm.

Distribution: France, endemic to the mountain ranges of Corsica (Fig. 132).

24. *Deronectes fosteri* AGUILERA & RIBERA

Deronectes fosteri AGUILERA & RIBERA 1996: 39. - RIBERA & al. 1996: 6.

Type locality: Spain, Barcelona province, Saldes, Pla de l'Espinal.

Holotype (♂): "Hisp. Barcelona, Saldes: Pla de l'Espinal, 11.2.1995 P. Aguilera leg.", "Deronectes fosteri, Holotypus, Aguilera & Ribera det. 1995" [red] (NMW). **Paratypes:** 1 ♀, same data as holotype, but "Paratype" (NMW). 1 ♂, 2 ♀♀, idem, but 1.4.1995 (CIR). 1 ♂, 1 ♀, idem (CHF). 2 ♂♂, 1 ♀, idem, but 10.6.1995, Aguilera, Ribera and Bilton leg.; 1 ♀, idem and with additional label "Chromosome prep. 4., 15.vi.1996, R. B. Angus" (CRA); all with red paratype label. Further paratypes in CDB, CGF, CJF and coll. C. Hernando (see AGUILERA & RIBERA 1996: 39).

Additional material: Spain: 1 ♂, "140595 Sabiñanigo HUS [Huesca], Lasoasa: afl. bco. los Valles, 134032 IR & PA leg." (CIR). 1 ♀, Barcelona province, Sierra de Ensija, Saldes, 23.7.1996; 19 ♂♂, 21 ♀♀, idem, 17.3.1997, Fery leg. (CHF).

Diagnosis: Habitus elongate, less oval than in the other species of the group (Fig. 44). Upper surface reddish to dark brown, setae indistinct. In contrast to the original description (AGUILERA & RIBERA 1996: 40) pronotum with posterior angles obtuse (±110°), margins slightly sinuate before base, if at all. Disc of pronotum and elytra with coarse punctures smaller and less dense than in *D. opatrinus*; in some specimens shining between them, but in others almost matt. Longitudinal swellings on elytra weak, almost unpunctured; puncture lines imperceptible.

Legs dark brown. Antennae brown, last articles a little darkened. Prosternal apophysis with a narrow carina, sides broadened, with setae. Metacoxae and metasternum with some flat coarse punctures. Metacoxal lines slightly diverging forwards.

♂♂: Median lobe: Fig. 102; paramere: Fig. 106. Protarsal onychium long, claws simple. Protibia narrow at base, but strongly widened in the proximal two thirds and almost parallel distally (Fig. 45). Antennae with articles four to seven slightly elongate.

♀♀: Protibia somewhat less parallel in the proximal two thirds. Protarsal onychium shorter.

Measurements: TL 4.6 - 5.2 mm, MW 2.49 - 2.55 mm (after AGUILERA & RIBERA 1996: 39, 43).

Distribution: The species seems to be restricted to mountain ranges in the Spanish central and oriental pre-Pyrenees (Fig. 132).

Remark: We wish to express our gratitude to P. Aguilera and I. Ribera for letting us study parts of their type material before the publication of their work.

IX. The *Deronectes doriae*-group

This group includes four species which have a cordiform pronotum with longitudinal impressions parallel to each side. Based on the almost uniform puncturation of the head, WEWALKA (1970: 126) placed the species of this group close to *D. opatrinus* and *D. hispanicus*, separating them all from the species of our *D. parvicollis*-group. We do not attach such a great importance to this feature, and have the feeling that the distinct geographical separation gives reason to divide the complex into the *D. opatrinus*- and *D. doriae*-groups. Furthermore in contrast to the *D. opatrinus*-group all species have the last visible abdominal segment without a distinct notch and the elytra with smaller or almost invisible coarse punctures, but puncture lines perceptible. Major parts of ventral surface black, without coarse punctures. Legs dark brown. Prosternal apophysis with setae. Males with protarsal claws simple.

The species are distributed from Asia minor to Caucasia.

Key to the species of the *Deronectes doriae*-group

1 Larger species (4.5 - 5.5 mm), more broadly oval. 2

\- Small (3.7 - 4.2 mm) and narrow oval species. 3

2 Puncturation on clypeus very dense, head matt, not shining between punctures. ♂♂ with mesotibiae simple. ..... **25. *doriae***

\- Puncturation on clypeus less dense, head shining between punctures. ♂♂ with mesotibiae bent (Fig. 49). ..... **26. *wittmeri***

3 Posterior angles of pronotum ± rectangular, margin before the base concavely sinuate (Fig. 50); species from western Turkey and the adjacent Aegean Islands. ..... **27. *sahlbergi***

\- Posterior angles of pronotum obtuse, margin before base rectilinear or even convex (Fig. 51); species from Antalya province, Turkey. ..... **28. *witzgalli* sp.n.**

25. *Deronectes doriae* SHARP

Deronectes doriae SHARP, 1882: 421. - ZAITZEV 1953: 190. - WEWALKA 1989: 97.
Deronectes Doriae SHARP: ZIMMERMANN 1932: 107.
Deronectes doriai SHARP: GUIGNOT 1949: 13. - WEWALKA 1970: 132.

Type locality: "Caucasia".

Lectotype ♀ (present designation): "Type" [round, red margin], "Caucasa, Doria 62.", Sharp coll, 1905-313.", "Type 307" [hw Sharp], "Deronectes doriae n.sp." [hw Sharp], "Lectotype, Deronectes doriae Sharp, Fery det. 1996" [red] (BML). We have not been able to locate the second syntype.

Additional material: Turkey: 1 ex., "Türkei (Gümüshane), 17.7.73, leg. Wewalka", "Deronectes doriai Sharp, det. G. Wewalka" (ZSM). 1 ♀,"Asia minor, Karakeuy [ca. 20 km S Bilecik], v. Bodemeyer" (DEI). 1 ♂, "As. min. 15.6.68, Kizilcahamam [ca. 70 km N Ankara], leg. Wewalka", "Deronectes doriai Sharp, det. Wewalka"; 1 ex., Kizilcahamam, 13. - 16.6.1968, Holzschuh leg.; 2 ♂♂, "NW Anatolien (47) Uludag S Bursa, leg. Jäch 31.7.1988", "Deronectes doriai Sharp, det. G. Wewalka 88"; 1 ♀, Mugla, E Beyobasi [ca. 40 km NW Fethiye], 27.5.1991; 1 ♀, idem, NW Karaçulha [ca. 15 km NE Fethiye], 1300 m, 22.5.1991, Schödl leg. (NMW). 2 ♂♂, Artvin, Veliköy, 1600 m, 5.6.1989, Schödl leg.; 3 exs., idem, Jäch leg.; 3 exs., Artvin, Cam Pass, 2500 m, 6.6.1989, Jäch leg.; 1 ♂, 1 ♀, Kizilcahamam [ca. 70 km N Ankara], 7.7.1973, Wewalka leg. (NMW, CHF). 1 ♂, 1 ♀, Artvin, near Yalniçam-pass, 2050 m, 18.7.1992; 1 ♀, Artvin, Çam-pass, 2400 m, 14.7.1992, Mazzoldi leg. (CHF).

Diagnosis: Habitus oblong oval (Fig. 46); black or blackish brown, somewhat shining, with indistinct short setae. Pronotum with sides sinuate before the rectangular posterior angles. Larger punctures on elytra small and sparse. Elytra with longitudinal swellings, puncture lines perceptible, but not very distinct.

Antennae reddish brown, last articles slightly darkened. Prosternal apophysis with a weak carina, sides with setae. Metacoxal lines diverging forwards.

♂♂: Median lobe: Fig. 110; paramere: Fig. 107. Last visible abdominal segment without notch. Mesotibiae simple.

♀♀: Last visible abdominal segment without notch, but sometimes with a little shining elevation at the posterior margin.

Measurements: TL 4.1 - 4.5 mm (4.3 - 4.7 mm, after WEWALKA 1970: 132), MW 2.0 - 2.1 mm. Lectotype: TL 4.4 mm, MW 2.1 mm.

Distribution: Caucasia, Turkey (Fig. 132).

Remark: The species is rather variable with respect to the habitus, form of the pronotum, puncturation of the upper surface (for instance the lectotype has the puncturation of the elytra rather weak, while in specimens from Mugla it is rather prominent) and shape of the median lobe also. Its area of distribution is not quiet clear. The records of the two females from Mugla is surprising as all other Turkish records are from more central and northern regions. Thus the development of local races must be taken into consideration. In view of the paucity of material studied we are not able to designate intraspecific taxa at present.

26. *Deronectes wittmeri* WEWALKA

Deronectes wittmeri WEWALKA, 1970: 130. - WEWALKA 1989: 97.

Type locality: Turkey, Alanya.

Holotype (♂): "Asia minor, Alanya 7.5.69, leg. Wewalka", male sex symbol, "Typus, Deronectes wittmeri n.sp., det. Wewalka 70" [red, hw Wewalka] (CGW). **Paratypes:** 1 ♀, "Asia minor, Alanya 7.5.69 leg. Wewalka", female sex symbol, "Paratypus, Deronectes wittmeri n.sp., det. Wewalka" [red, hw Wewalka] (NMW). 1 ♂, "Alanya 7.5.1969, Asia minor, leg. Wewalka", male sex symbol and red paratypus label (MRTO). Further paratypes in BML, NHMB, CGW, coll. J. Balfour-Browne, coll. Schaeflein and coll. Guéorguiev (see WEWALKA 1970: 130).

Additional material: Turkey: 1 ♂, "TR Egredir [NE Isparta], M.5.92, leg. Witzgall" (CHB). 64 exs., Manavgat, 15 km E Kisilot, 8.4.1987; 1 ex., idem, 24 km E Kisilot; 1 ex., Manavgat, W Gündogmus, 4.4.1985; 3 exs., Alanya, N Toslak, 4.4.1985, Fery leg. (CHF).

Diagnosis: Habitus oblong oval (Fig. 47); upper surface black, shining, head dark brown. Disc of pronotum without coarse punctures; sides of pronotum slightly sinuate before base, posterior angles rectangular to slightly obtuse. Larger punctures on elytra small and sparse; puncture lines distinct; longitudinal swellings weak.

Antennae brown with articles darkened distally beginning with the fourth. Carina of prosternal apophysis present, but poorly developed. Metacoxal lines slightly diverging forwards. Last visible abdominal segment without notch, at most a little truncate.

♂♂: Median lobe: Fig. 111; paramere: Fig. 108. Mesotibia distinctly bent inwards (Fig. 49).

♀♀: Mesotibia not curved.

Measurements: TL 4.6 - 5.3 mm, MW 2.2 - 2.4 mm.

Distribution: South of Turkey, known only from a region between Alanya, Manavgat and Isparta (Fig. 132).

27. *Deronectes sahlbergi* ZIMMERMANN

Deronectes longipes SHARP: SAHLBERG 1913: 42.
Deronectes Sahlbergi ZIMMERMANN, 1932: 106. - GUIGNOT 1949: 13.
Deronectes sahlbergi ZIMMERMANN: ZAITZEV 1953: 190. - WEWALKA 1970: 134 (designation of lectotype). - WEWALKA 1989: 97.

Type locality: Greece, Lesbos.

Lectotype (♂): "Lesbos", "J. Sahlberg", "Samml. A. Zimmermann", "Lectotypus, Deronectes sahlbergi Zimm., det. Wewalka 70" [red, hw Wewalka]; aedeagus prepared on an extra pin with label "Penis D. longipes!" treated by Wewalka as belonging to the lectotype (ZSM). **Paralectotypes:** 2 ♀♀, same data as lectotype, but "para-Lectotypus [sic!], Deronectes sahlbergi Zimm., det. Wewalka 70" [red, hw Wewalka] (ZSM).

Additional material: Greece: 1 ex., "Lesbos", "J. Sahlb.", "Deronectes longipes" (ZSM); found in a box with undetermined material, not designated as paralectotype, because Zimmermann most probably had not seen this specimen. 1 ex., "Lesbos", "J. Sahlberg", "Spec. typ" [red], "Hydroporus longipes sp.n. Sahlb." [hw Zimmermann?], "Deronectes sahlbergi Zimm., det. G. Wewalka 90"; there is no proof that this might be a syntype of *D. sahlbergi*; most probably Zimmermann regarded this specimen as a "typical" *D. longipes* sensu SAHLBERG (1913: 42) (MNB). 1 ex., "Lesbos", "J. Sahlb.", "sahlbergi Zimm." (ZMSP). 8 exs., "Samos, vers Tigani, 10.6.1933, A. d'Orchymont"; 6 exs., "Samos, Platanos, Velanidia, 3.6.1933, A. d'Orchymont"; 10 exs., "Ikaria: Hagios Kyrikos, 23.5.1933, A. d'Orchymont"; 5 exs., "Ikaria, Vigla-H. Grigorias, 24-V-1933, A. d'Orchymont"; 1 ex., "Ikaria, Therma N., alt 500 m, 27.5.1933, A. d'Orchymont"; 1 ex., "Ikaria, Xylocirti, 25.5.1933, A. d'Orchymont"; 3 exs., "Chios: Katavasis, 29-IV-1933, A. d'Orchymont", "F. Guignot det. 1950, Deronectes Sahlbergi Zimm.", some of them without the last label (IRSN). 2 exs., Rhodos, Salakos, 8.5.1975; 1 ex., idem, Laerma, 6.5.1975; 1 ex., idem, Archipolis, V.1975; 1 ex., Chios, Keramos, V.1975; 1 exs., Lesbos, Argennos, V.1975; 1 ex., idem, Megalochori, V.1975, Malicky leg.; 5 exs., Lesbos, 4 km S Petra, S Lafionas, 150 m, 8.6.1996; 2 exs., idem, 6 km W Plomari, N Melinda, 9.6.1996; 2 exs., idem, Agiassos Megalochori, Mount Olympos, 6.6.1996; 2 exs., idem, 10 km N Agiassos, near Pigi Karini, 7.6.1996, Jäch leg. (NMW). 8 exs., "Chios: Katavasis, 29-IV-1933, A. d'Orchymont"; 1 ex., "Ikaria, Vigla-H. Grigorias, 24-V-1933, A. d'Orchymont", coll. Guignot (MNHN). 6 exs., Lesbos, 8 km E Plomári, 17.5.1995; 4 exs., idem, 6 km SE Eresós, 8.5.1995, Grimm leg.; 1 ex., idem, Erhard and Schmalfuss leg. (SMNS). 4 ♂♂, 1 ♀, Alexandroupolis, 15.6.1988, Hebauer leg. (CHH, CHF). 4 exs., Chios, N. Keramos, 19.5.1975, Malicky leg. (CHF). **Turkey:** 1 ex., "Asia min. occ., Vallée vers Adatepe, (Kersijaka N.), 6m St. 83, 13.5.31 (Orch)" [most probably ca. 50 km NE Canakkale], "A. Ball det. 1936, Deronectes sahlbergi Zimm." (IRSN). 18 exs., Izmir, Ayrancilar brook, 20 km SE Manisa, 18.5.1991; 6 exs., "TR-Antalya 23.V.1991, E Kumluça, leg. Jäch (28)" (together with *D. witzgalli* sp.n.); 28 exs., Izmir, E Armutlu, 19.5.1991; 20 exs., Izmir, Camlik river, 10 km E Urla, 20.5.1991; 1 ex., Mugla, Kale-Mugla, 950 m, 28.5.1991, Schödl leg. (NMW). 10 exs., Balikesir, Yenice, 17.6.1988, Hebauer leg. (CJS, CMT). 2 exs., Marmaris, 26.4.1969, Wewalka leg. (CFA). 147 exs., W Marmaris, 3.4.1985 and 5.4.1987; 1 ex., E Marmaris, 56.4.1987; 13 exs., Kemer, near Fethiye, 6.4.1987, Fery leg. (CHF and diverse other collections).

Remark: WEWALKA (1989: 97) gave additional records: Greece: Rhodes: Istrios and Embonas, Malicky leg.; Turkey: Kesan [European Turkey], Holzschuh leg., Karaköy S Bilecik, Bodemeyer leg.

Diagnosis: Habitus elongate, almost parallel (Fig. 48), smallest species of the groups treated in this first part of the revision. Upper surface black, not shining, with dense short setae which give a grey appearance. Pronotum with sides concavely sinuate before base, thus base distinctly narrower than elytra between shoulders; posterior angles rectangular to slightly obtuse. Elytra with very weak longitudinal swellings, coarse punctures very small or almost absent, puncture lines perceptible.

Antennae brown with articles slightly darkened distally beginning with the fifth. Prosternal apophysis without distinct carina, at most vaulted, somewhat roof-like posteriorly. Metacoxal lines parallel to slightly diverging forwards. Last visible abdominal segment without a notch, at most a little impressed before apex or apex indistinctly truncate.

♂♂: Median lobe (Fig. 112) in dorsal view with apex more or less pointed; in lateral view almost regularly curved. Paramere with a characteristic lobe before apex (Fig. 109).

♀♀: Without conspicuous differences to males.

Measurements: TL 3.5 - 4.2 mm, MW 1.6 - 1.9 mm.

Distribution: North-east of Greece and Aegean Islands: Lesbos, Icaria, Chios, Rhodes; European Turkey, west and South-west of Turkey (Fig. 132).

28. *Deronectes witzgalli* sp.n.

Deronectes sahlbergi ZIMMERMANN: WEWALKA 1989: 97.

Type locality: Turkey, about 30 km NW Antalya.

Holotype (♂): "4.4.85 Türkei, NW Antalya [road to Korkuteli], Bach, ca. 700 m, Fery leg.", "Holotype, Deronectes witzgalli sp.n., Fery det. 1996" [red] (CHF). **Paratypes:** 4 ♀♀, same data as holotype (CHF). 8 ♂♂, 17 ♀♀, "TR Antalya, 18. - 23.5.92, leg. Witzgall" (coll. Witzgall, CHB, CHF). 6 ♂♂, 3 ♀♀, "TR-Antalya, 24.V.1991, Altinyaka-Hurma 1100 m, leg. Schödl (33)" (NMW, CHF); all paratypes with the respective red label.

Additional material: Turkey: 5 ♂♂, 3 ♀♀, "TR-Antalya 23.V.1991, E Kumluça, leg. Jäch (28)" (together with *D. sahlbergi*) (NMW, CHF).

Diagnosis: A small species which has the same habitus as *D. sahlbergi* (Fig. 48), but is on average a little larger. Upper surface black, not shining, with distinct setae, which gives the species the same grey appearance as *D. sahlbergi*. Head with clypeal margin and frons dark brown, covered with uniform punctures, which become denser to frons, and two distinct clypeal grooves. Pronotum on disc without coarse punctures, often with a small longitudinal furrow in the centre and a puncture line behind the anterior margin; widest before the middle, convexly rounded behind the middle or straightly converging to the base. In contrast to *D. sahlbergi* not sinuate before base and posterior angles distinctly obtuse, thus base of pronotum scarcely narrower than elytra between shoulders (Fig. 51). Elytra in addition to the fine puncturation with some sparse coarse punctures, which are more distinct than in *D. sahlbergi*; puncture lines distinct. Longitudinal swellings weak.

Antennae brown with articles four to eleven darkened distally. Prosternal apophysis with an indistinct carina, somewhat roof-like posteriorly. Metacoxal lines slightly diverging forwards. Last visible abdominal segment without a distinct notch, before apex a little impressed, apex at most slightly truncate.

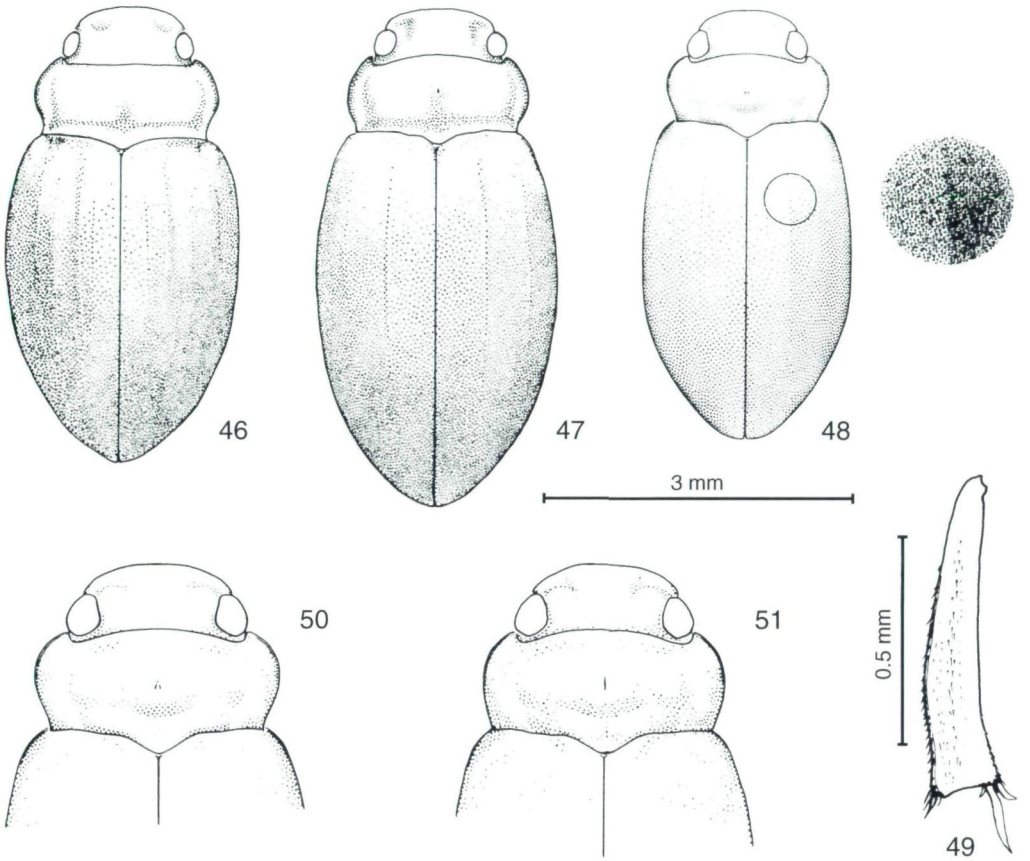
♂♂: Median lobe (Fig. 113) in dorsal view narrow, with apical third only slightly converging and apex rounded, not pointed; in lateral view almost straight, curved only before apex. Paramere as in *D. sahlbergi* (Fig. 109), provided with a lobe before apex.

♀♀: Without conspicuous differences to males.

Measurements: TL 3.9 - 4.2 mm, MW 1.9 - 2.0 mm.

Distribution: Turkey, known only from Antalya province (Fig. 132).

Remark: The eight specimens from Antalya, Kumluça, have been found together with six specimens of *D. sahlbergi*. The latter have the posterior angles of the pronotum concavely



Figs. 46 - 51: (46 - 48): Habitus of: (46) *Deronectes doriae*, (47) *Deronectes wittmeri*, (48) *Deronectes sahlbergi*; (49) Mesotibia of *Deronectes wittmeri* (♂); (50 - 51): Pronotum of (50) *Deronectes sahlbergi*, (51) *Deronectes witzgalli* sp.n.

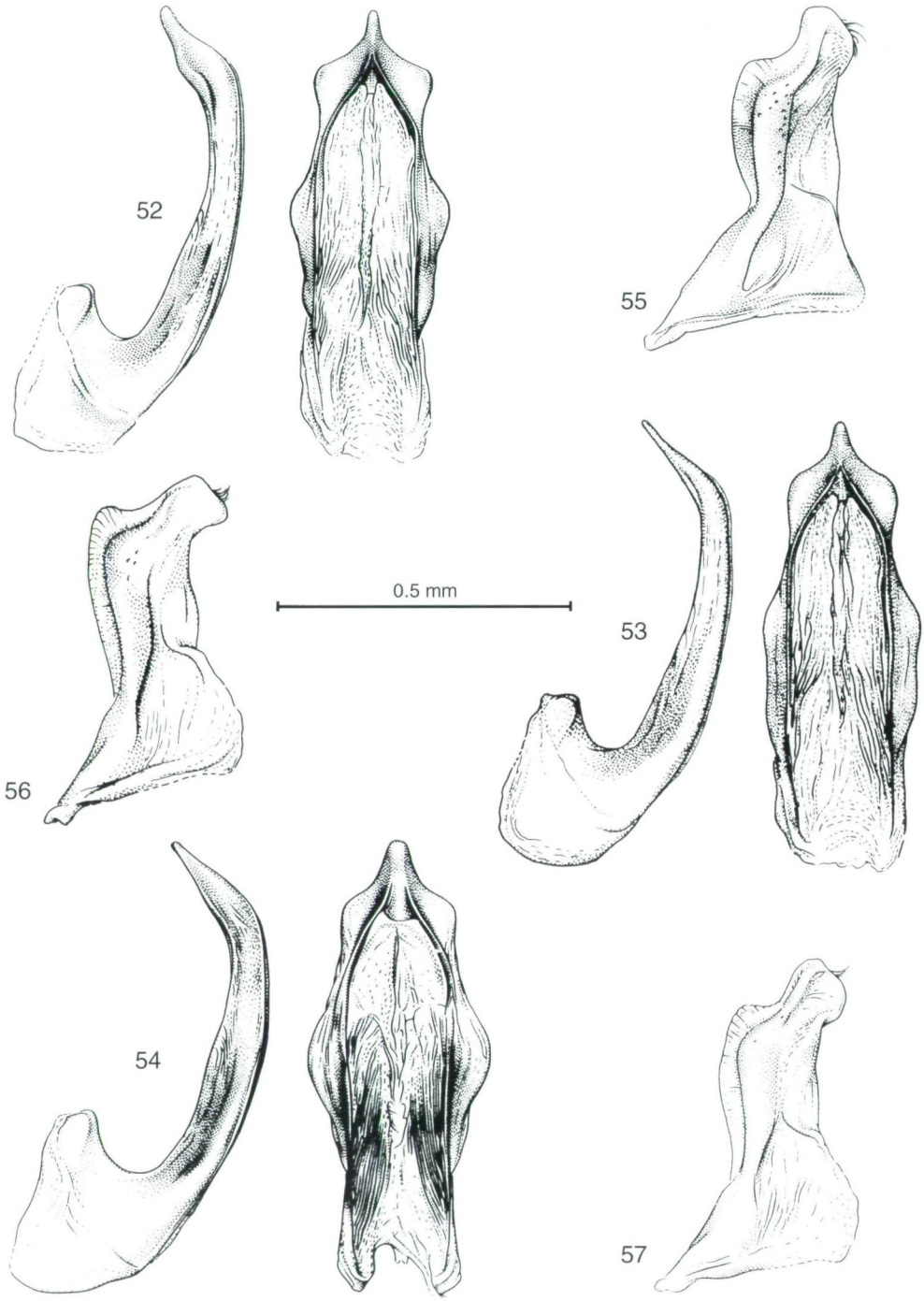
sinuate and the puncturation of the elytra very obsolete as usual in *D. sahlbergi*. The medium lobe of the males is clearly in the range of variability of *D. sahlbergi* and distinctly different from that of *D. witzgalli* sp.n. These facts induced us not to treat *D. witzgalli* sp.n. as a subspecies of *D. sahlbergi*.

Derivatio nominis: We name this species in memory of the well-known German coleopterologist Konrad Witzgall, who found this species in large numbers.

Note on *Stictotarsus bertrandi* (LEGROS)

Deronectes bertrandi LEGROS, 1956: 134. - BERTRAND & LEGROS 1971: 193. - RICO & al. 1990: 101.
Stictotarsus bertrandi (LEGROS): NILSSON & ANGUS 1992: 275.

This species has previously been treated as a *Deronectes*. It was transferred to *Stictotarsus* recently on the basis of the number and form of the chromosomes and the existence of "swimming hairs on the legs (except on protarsus), and numerous setae on the uro-



Figs. 52 - 57: (52 - 54): Median lobe in dorsal and lateral view of: (52) *Deronectes latus*, (53) *Deronectes angelinii* sp.n., (54) *Deronectes angusi*; (55 - 57): Paramere of: (55) *Deronectes latus*, (56) *Deronectes angelinii* sp.n., (57) *Deronectes angusi*.



Figs. 58 - 61: Median lobe in dorsal and lateral view of: (58) *Deronectes aubei aubei*, (59) *Deronectes aubei sanfilippoi* ssp.n., (60) *Deronectes semirufus*, (61) *Deronectes delarouzei*.

gomphus" in the larvae (NILSSON & ANGUS 1992: 280, 281). Because this change of status seems to be almost unknown the species shall be treated here in a short additional note.

Type locality: Spain, Santander, Potes, Rio Quiviesa.

Holotype (♀): "Potes, Prov. Santander, Espagne", "H. Bertrand, 19.VII.53", "♀, désigné 1", "Type" [red], "Deronectes Bertrandi n.sp. C. Legros det." [hw Legros?], coll. Régimbart [sic!] (MNHN).

Additional material: Portugal: 2 exs., Guarda, Serra da Estrêla, Loriga, 8.8.1990, Fresneda leg. (CJF). 22 exs., Vila Real, Escariz, 1000 m, 22.3.1989, 5.8.1989 and 4.7.1992; 11 exs., Guarda, Serra da Estrêla, near Manteigas, 4.8.89; 1 ex., Viana do Castelo, N Ponte de Lima, Barrio, 26.12.1991; 1 ex., idem, Ermelo, near Soajo, 5.7.1992, Fery leg. (CHF) (**first records from Portugal**). **Spain:** 40 exs., Salamanca, Sierra de la Peña de Francia, Monsagro, 5.8.1990; 30 exs., León, N Villafranca del Bierzo, Rio Burbia, 9.8.1990; 20 exs., León, NE Ponferrada, Noceda, 10.8.1990, Fresneda leg. (CJF). 2 exs., Lugo, Renche-Samos, 10.8.1986, Gonzalez leg.; 243 exs., Oviedo, near Llanes, Riocaliente, 11.8.1984, 5.7.1988, 20.3.1989 and 7.7.1995; 1 ex., Oviedo, near Areñas, 11.8.1984; 28 exs., Guadalajara, Somosierra, near Colmenar de la Sierra, 1200 m, 24.7.1987, 22.7.1989 and 15.7.1995; 5 exs., Avila, Sierra de Gredos, Nava del Barco, 1000 m, 8.7.1988; 19 exs., Zamora, Puente de Sanabria, near Calabor, 5.8.1989; 3 exs., Burgos, Arlanzon, Pineda de la Sierra, 22.7.1989; 13 exs., Lugo, A Veiga de Logares, S Ribadeo, 19.8.1989; 2 exs., Lugo, Navia de Suarna, Fonsagrada, 19.8.1989; 24 exs., La Coruña, Silvos, near Muros, 18.8.1989; 8 exs., La Coruña, Rois, Padron, 10.8.1989; 2 exs., Pontevedra, Lama, E Pontevedra, 12.8.1989; 4 exs., Pontevedra, Estacas, SE Pontevedra, 12.8.1989; 26 exs., León, N Villafranca del Bierzo, Paradaseca, Rio Burbia, 24.7.1991, Fery leg. (CHF).

This species has been described by LEGROS (1956) and BERTRAND & LEGROS (1971) in a sufficiently detailed manner. It is easily recognised by the distinct grooves on the elytra, the black-yellow pattern of the surface and the form of the male genitalia.

Distribution: Northern and central Spain, Portugal from Serra da Estrêla to northern districts.

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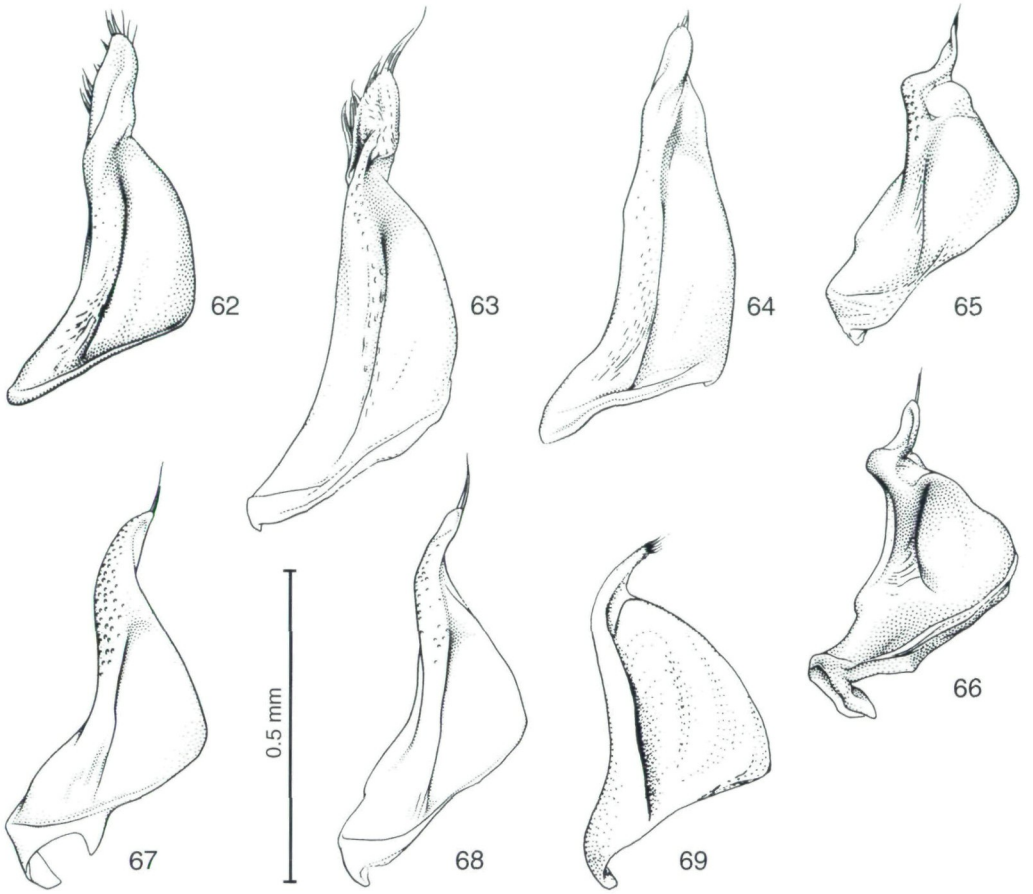
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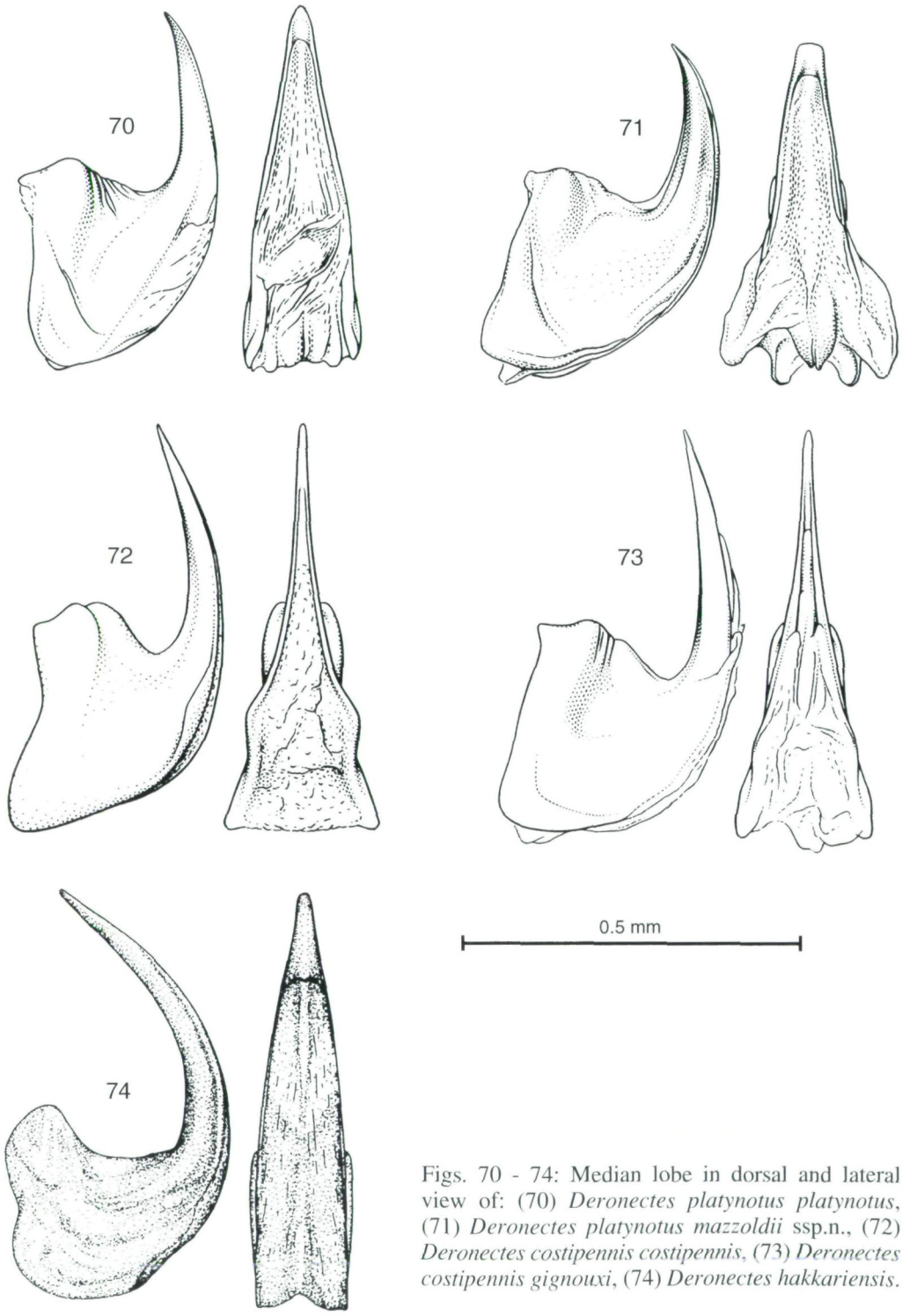
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Figs. 70 - 74: Median lobe in dorsal and lateral view of: (70) *Deronectes platynotus platynotus*, (71) *Deronectes platynotus mazzoldii* ssp.n., (72) *Deronectes costipennis costipennis*, (73) *Deronectes costipennis gignouxi*, (74) *Deronectes hakkariensis*.



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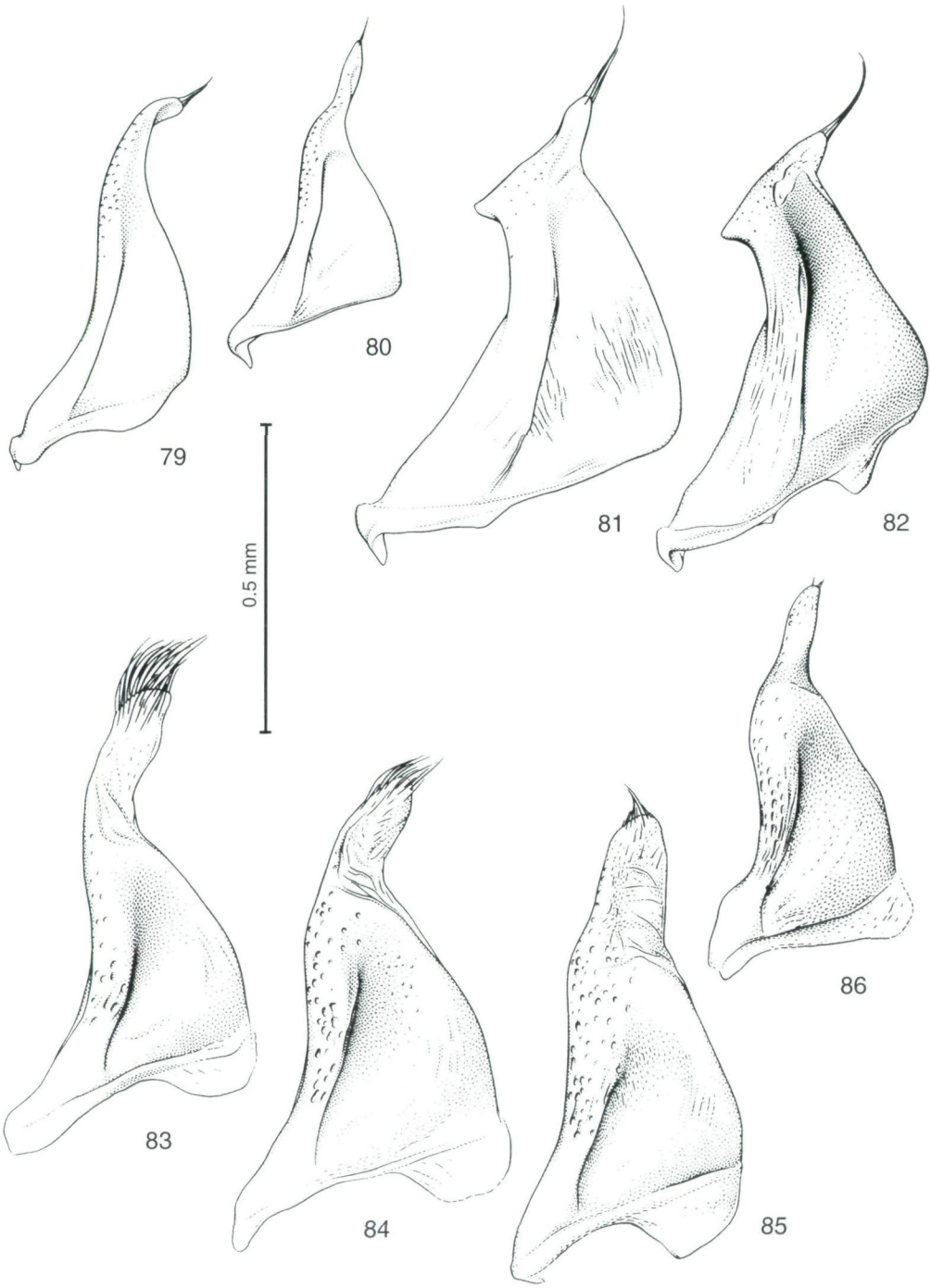
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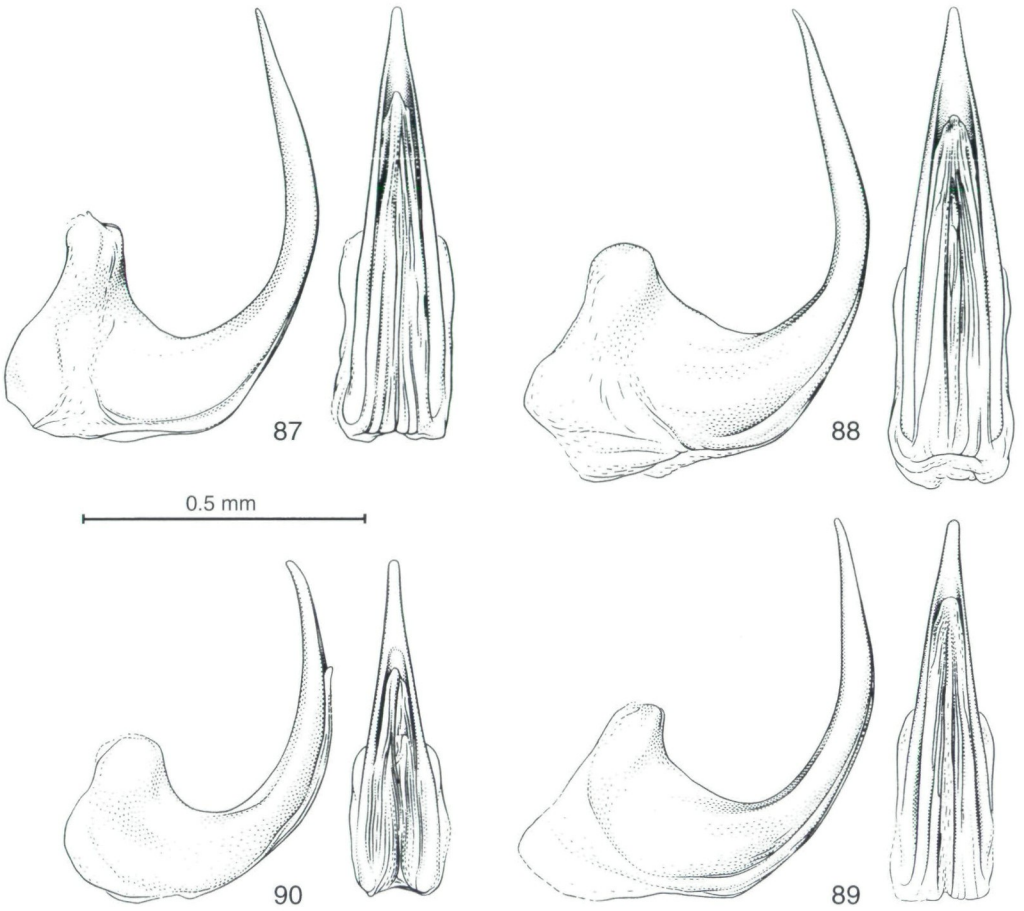
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Figs. 79 - 86: Paramere of: (79) *Deronectes bicostatus*, (80) *Deronectes depressicollis*, (81) *Deronectes ferrugineus*, (82) *Deronectes wewalkai*, (83) *Deronectes moestus moestus*, (84) *Deronectes moestus inconspectus*, (85) *Deronectes brannanii*, (86) *Deronectes perrinae* sp.n.



Figs. 87 - 90: Median lobe in dorsal and lateral view of: (87) *Deronectes moestus moestus*, (88) *Deronectes moestus inconspectus*, (89) *Deronectes brannanii*, (90) *Deronectes perrinae* sp.n.

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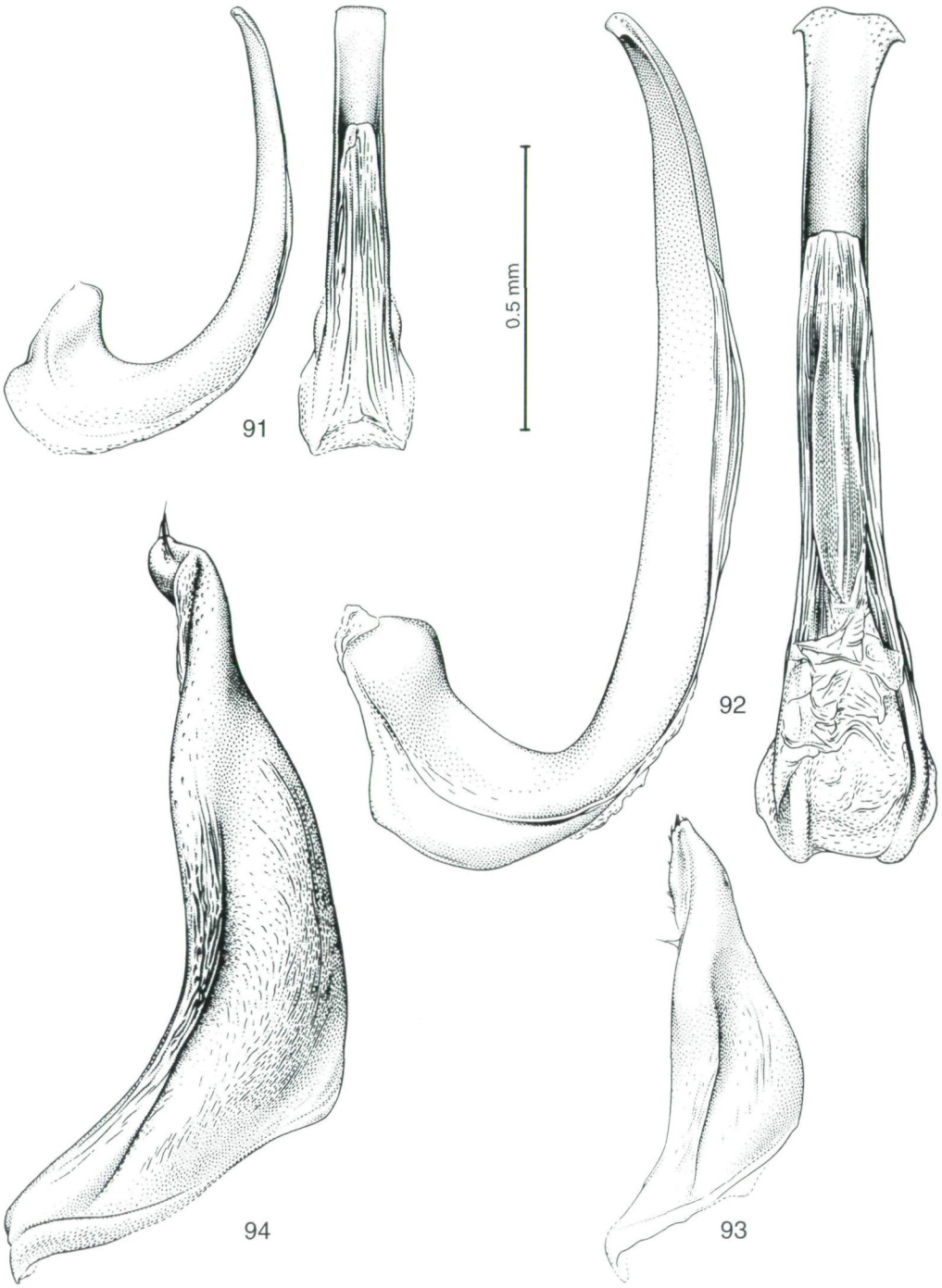
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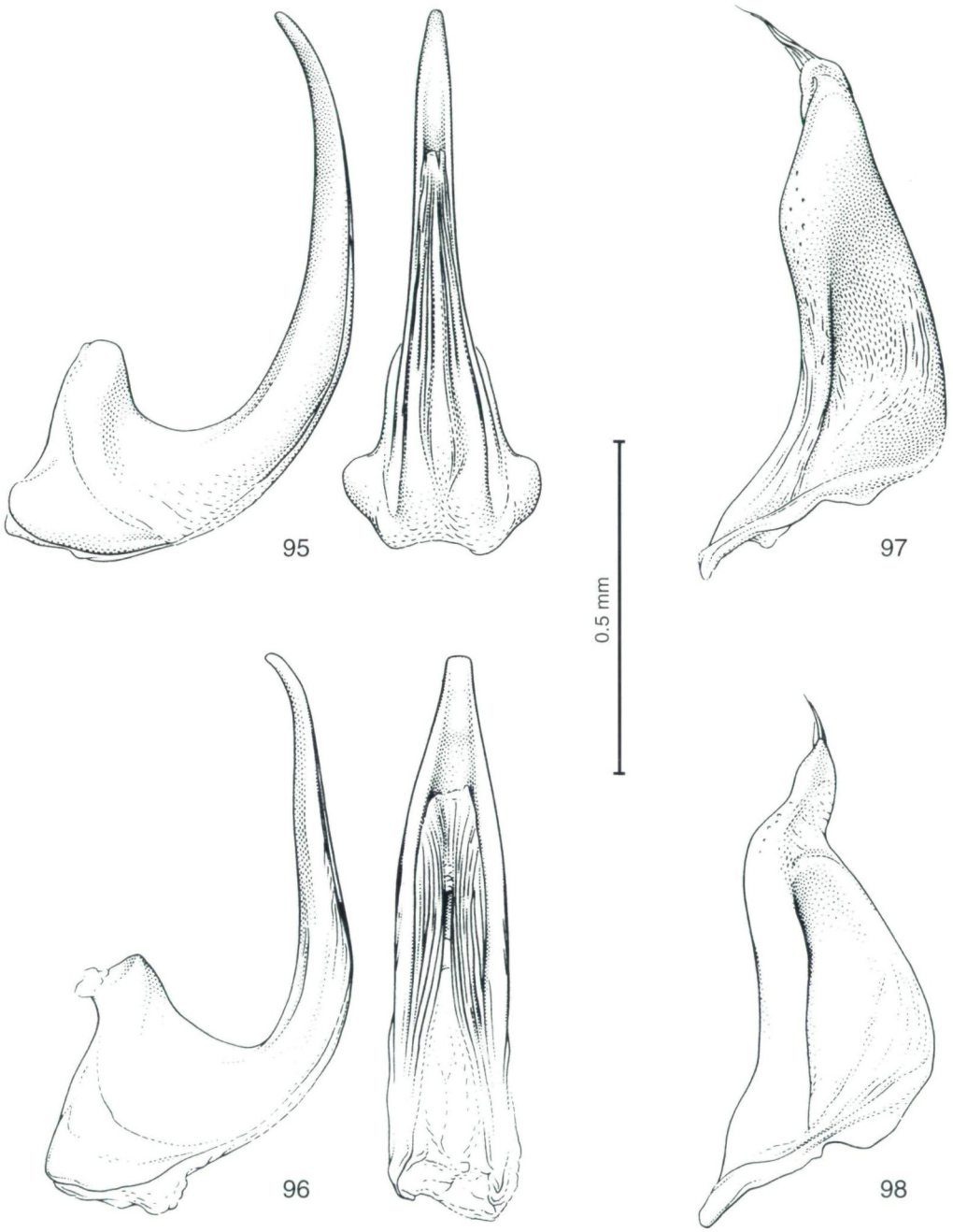
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Figs. 91 - 94: (91 - 92): Median lobe in dorsal and lateral view of: (91) *Deronectes fairmairei*, (92) *Deronectes peyerimhoffi*; (93 - 94): Paramere of: (93) *Deronectes fairmairei*, (94) *Deronectes peyerimhoffi*.



Figs. 95 - 98: (95 - 96): Median lobe in dorsal and lateral view of: (95) *Deronectes theryi*, (96) *Deronectes algibensis*; (97 - 98): (97) Paramere of *Deronectes theryi*, (98) *Deronectes algibensis*.



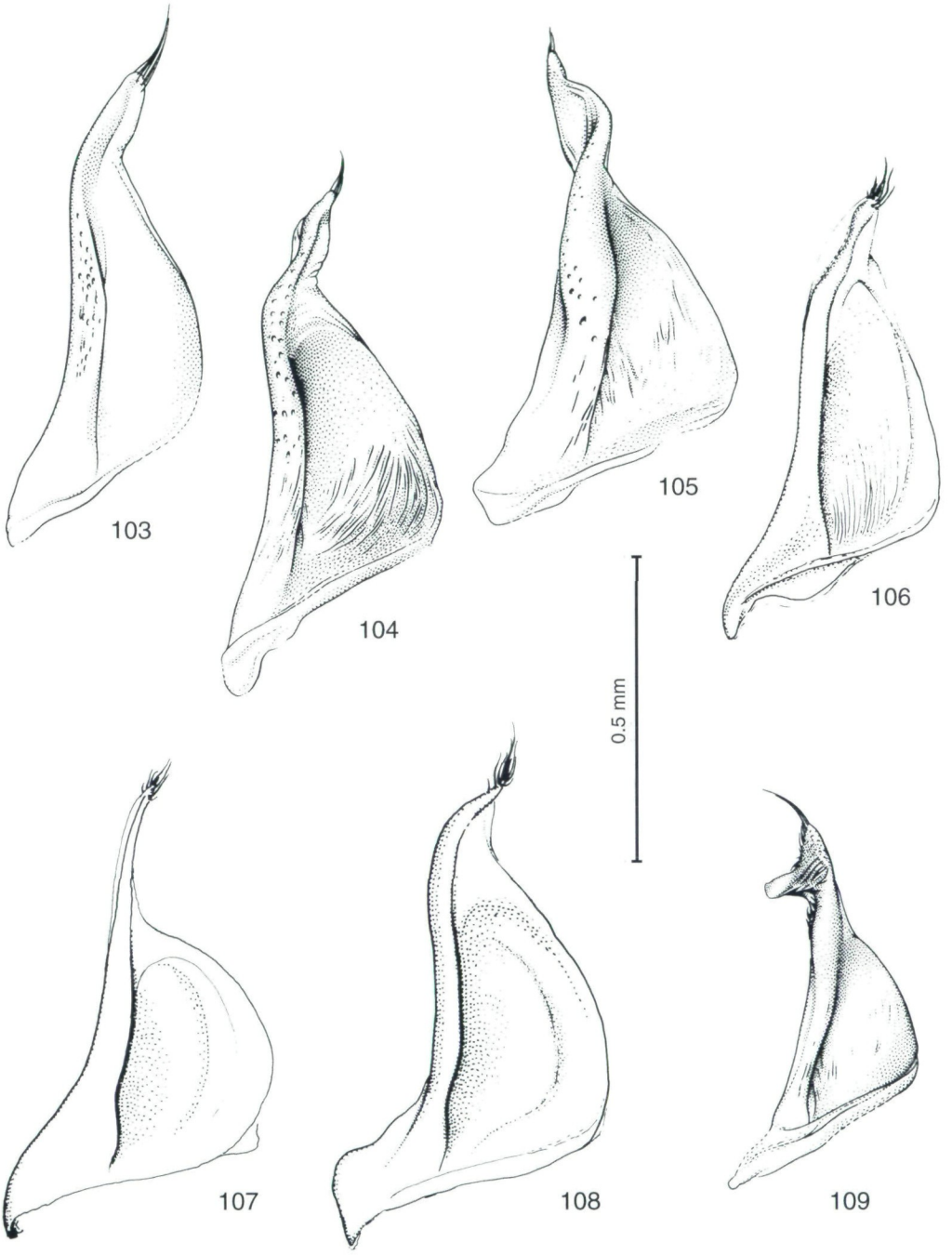
Figs. 99 - 102: Median lobe in dorsal and lateral view of: (99) *Deronectes opatrinus*, (100) *Deronectes hispanicus*, (101) *Deronectes lareynii*, (102) *Deronectes fosteri*.

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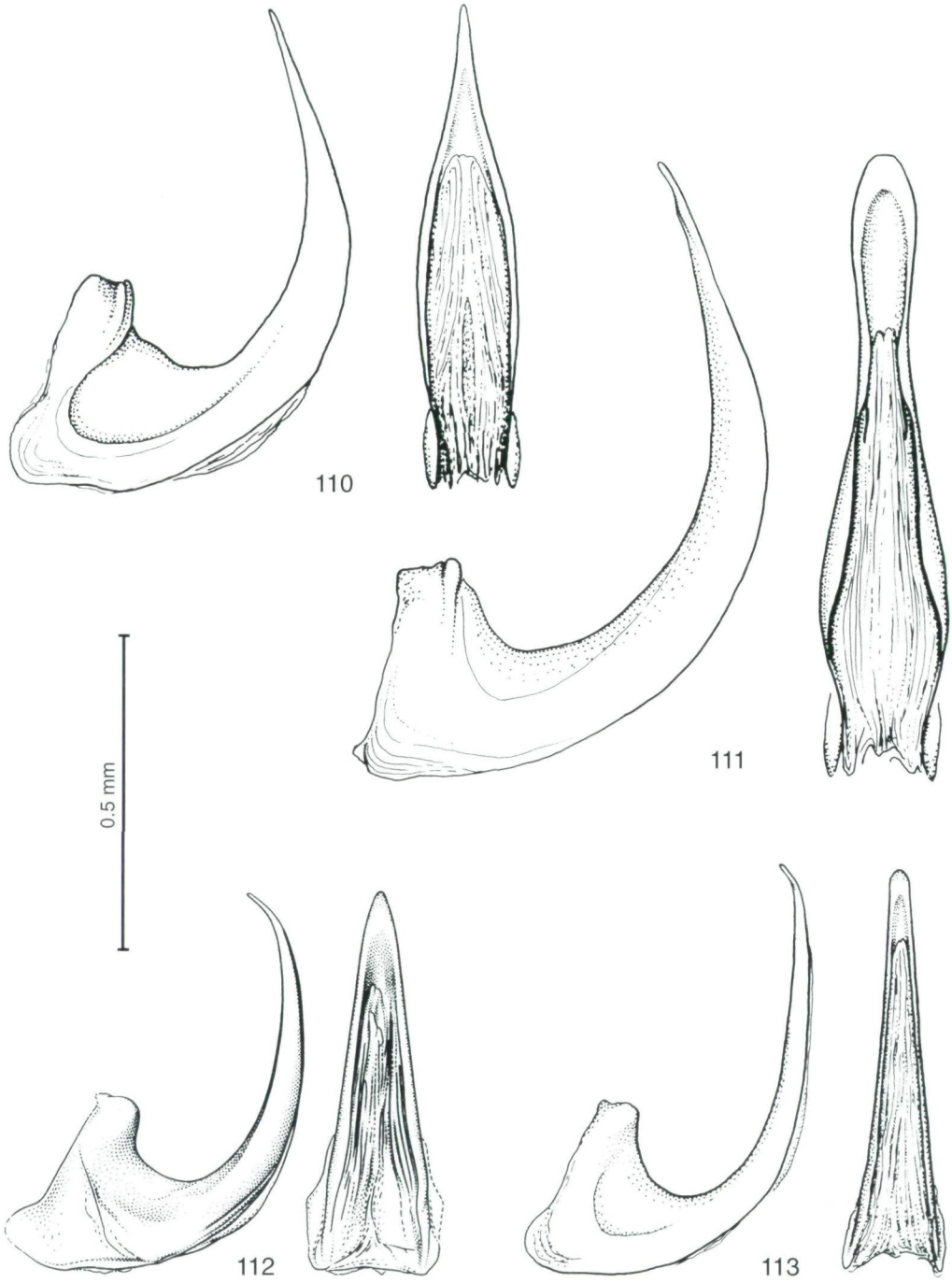
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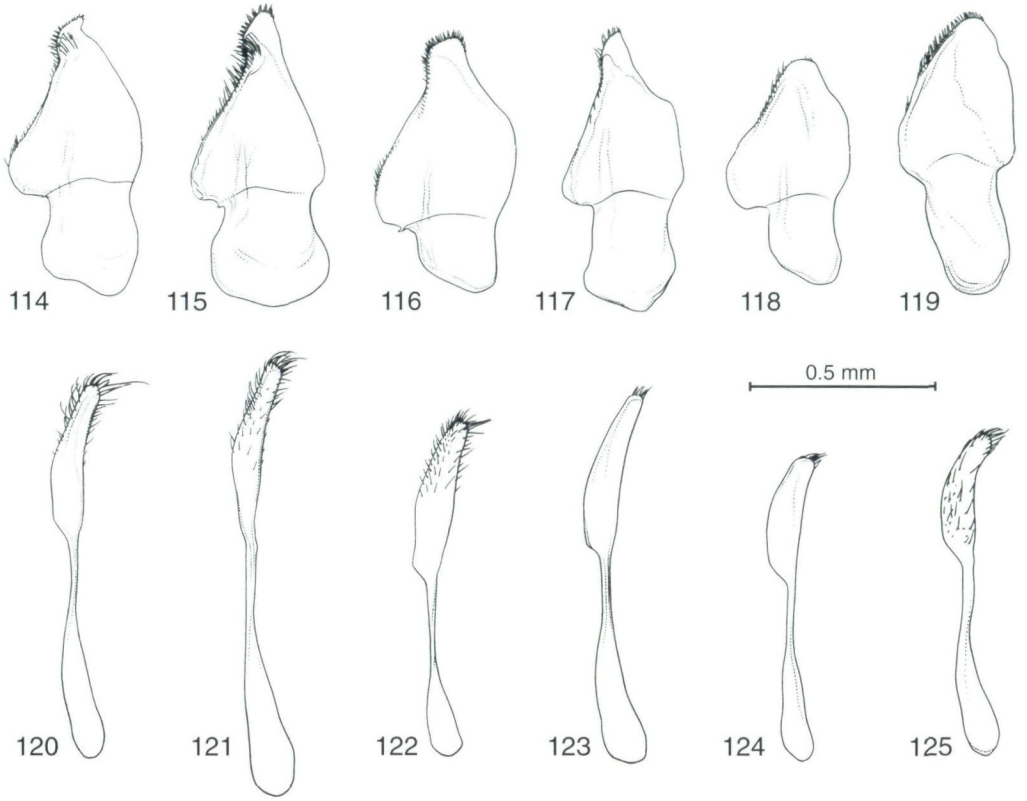
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Figs. 103 - 109: Paramere of: (103) *Deronectes opatrinus*, (104) *Deronectes hispanicus*, (105) *Deronectes lareynii*, (106) *Deronectes fosteri*, (107) *Deronectes doriae*, (108) *Deronectes wittmeri*, (109) *Deronectes sahlbergi*.



Figs. 110 - 113: Median lobe in dorsal and lateral view of: (110) *Deronectes doriae*, (111) *Deronectes wittmeri*, (112) *Deronectes sahlbergi*, (113) *Deronectes witzgalli* sp.n.



Figs. 114 - 125: (114 - 119): Gonocoxosternum of: (114) *Deronectes moestus moestus*, (115) *Deronectes moestus inconspectus*, (116) idem, variation, (117) *Deronectes brannanii*, (118) *Deronectes perrinae* sp.n., (119) *Deronectes fairmairei*; (120 - 125): Gonocoxa of: (120) *Deronectes moestus moestus*, (121) *Deronectes moestus inconspectus*, (122) idem, variation, (123) *Deronectes brannanii*, (124) *Deronectes perrinae* sp.n., (125) *Deronectes fairmairei*.

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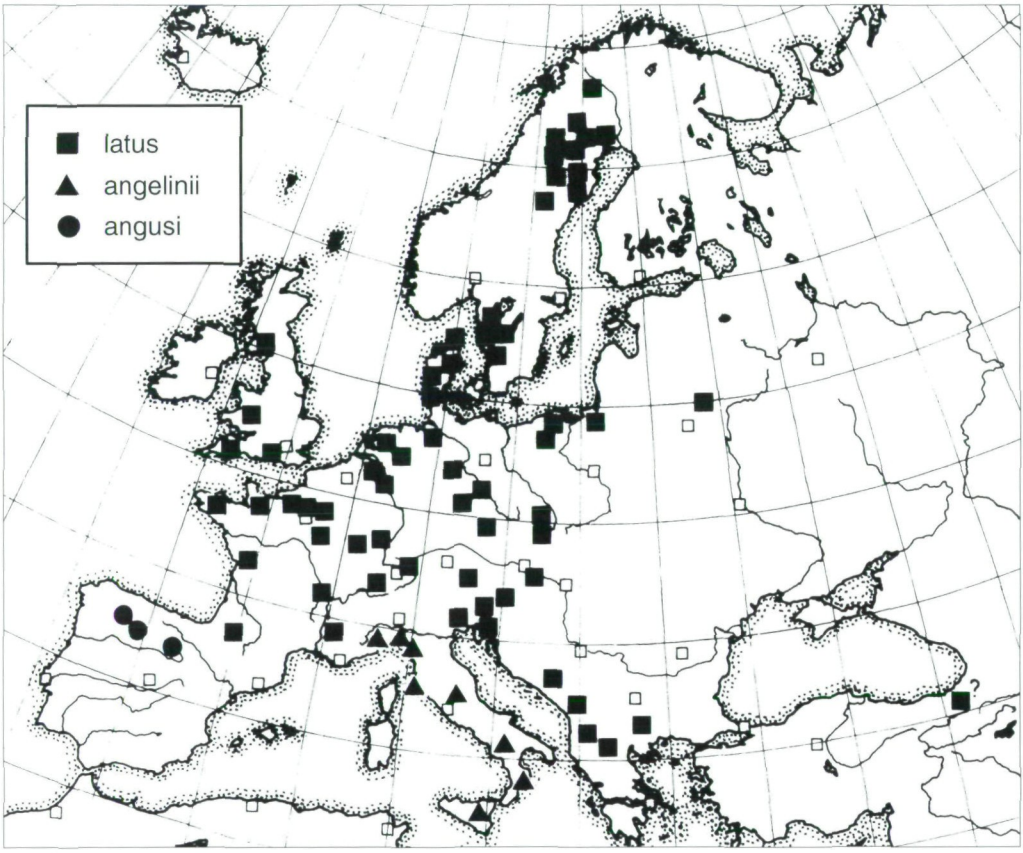


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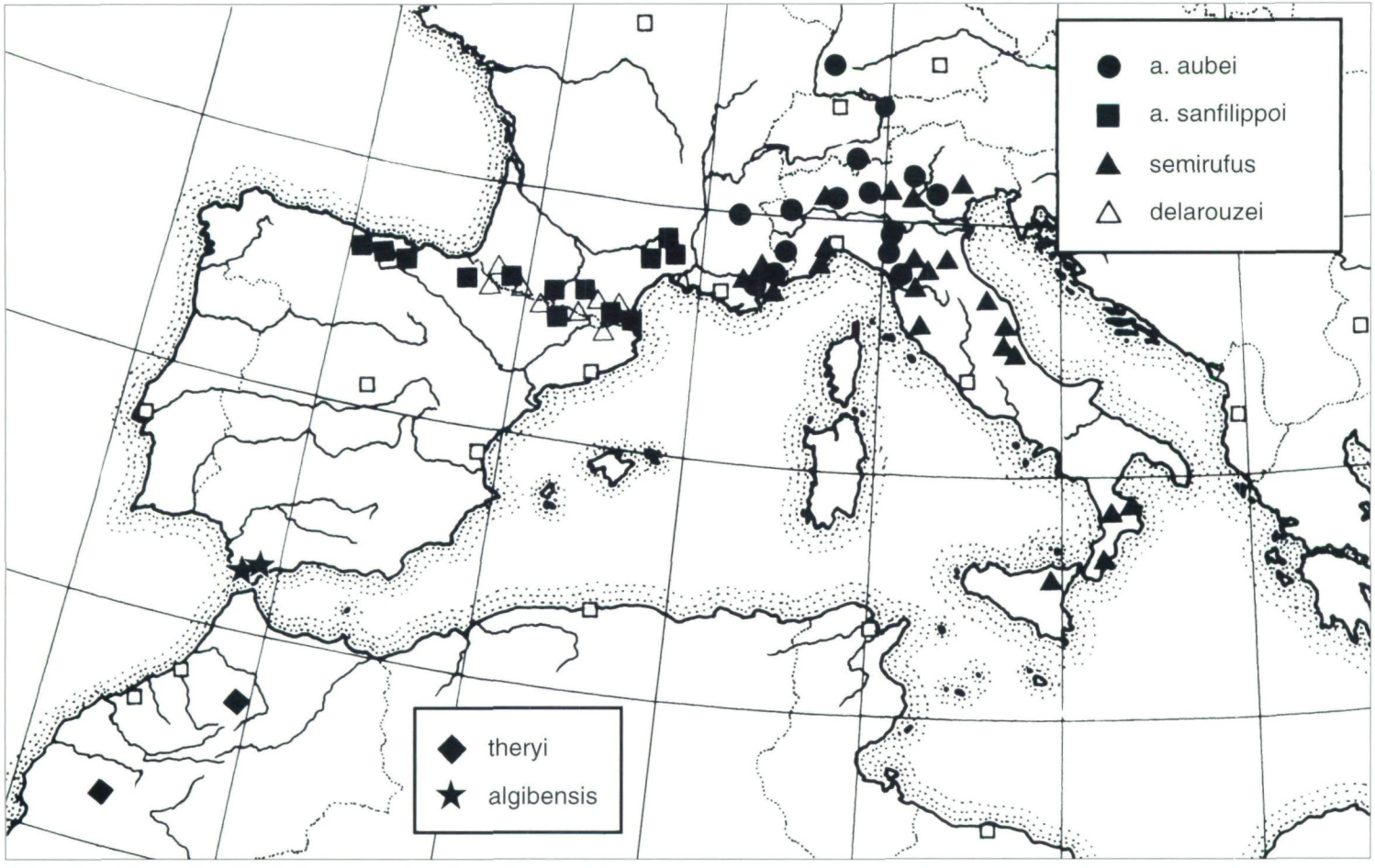


Fig. 127: Distribution of *Deronectes aubei sanfilippoi* ssp.n., *Deronectes semirufus*, *Deronectes delarouzei*, *Deronectes platynotus platynotus*, *Deronectes theryi* and *Deronectes algibensis*.

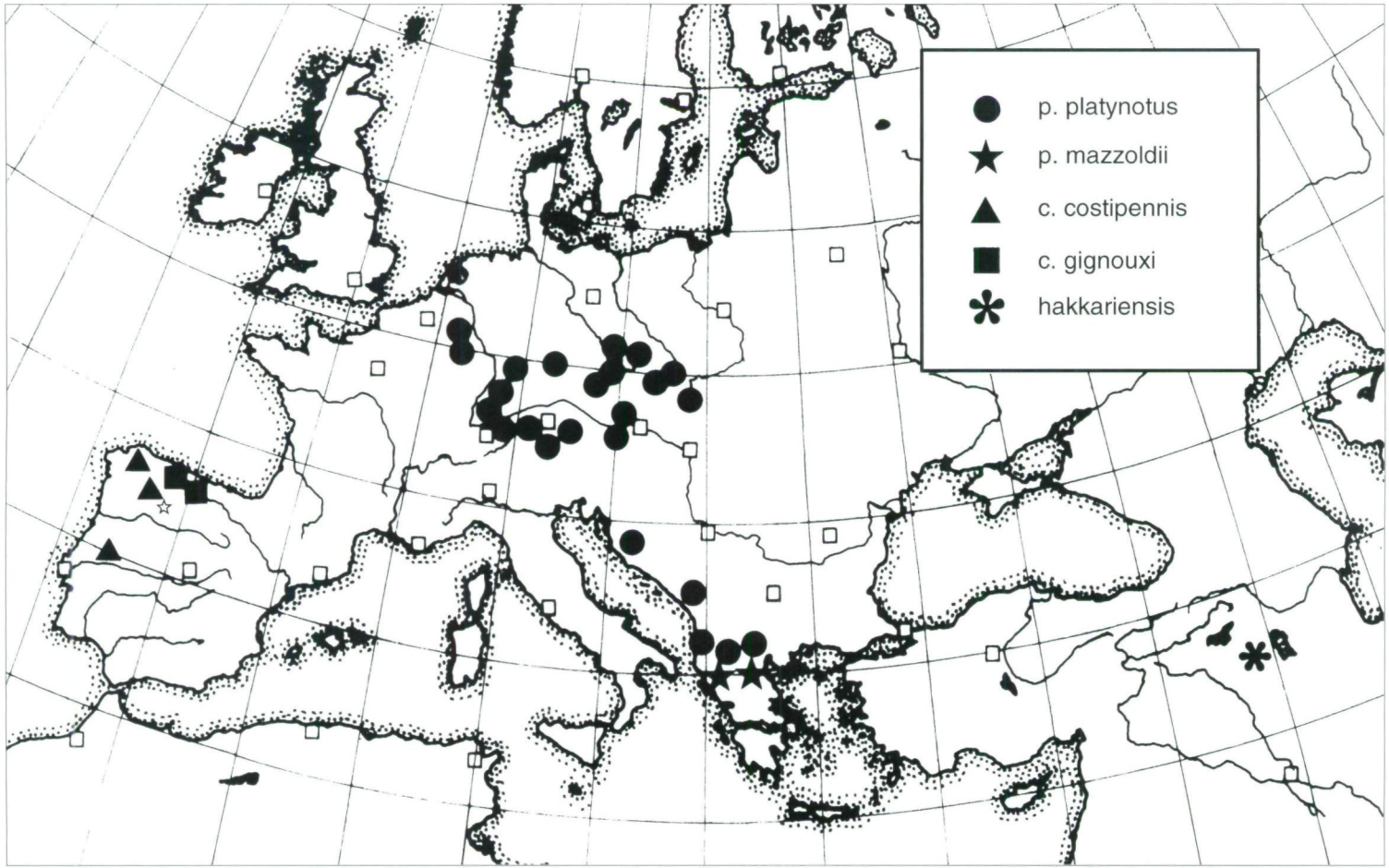


Fig. 128: Distribution of *Deronectes platynotus platynotus*, *Deronectes platynotus mazzoldii* ssp.n., *Deronectes costipennis costipennis*, *Deronectes costipennis gignouxi* and *Deronectes hakkariensis*. The small asterisk indicates intermediates between the two subspecies of *D. costipennis*.

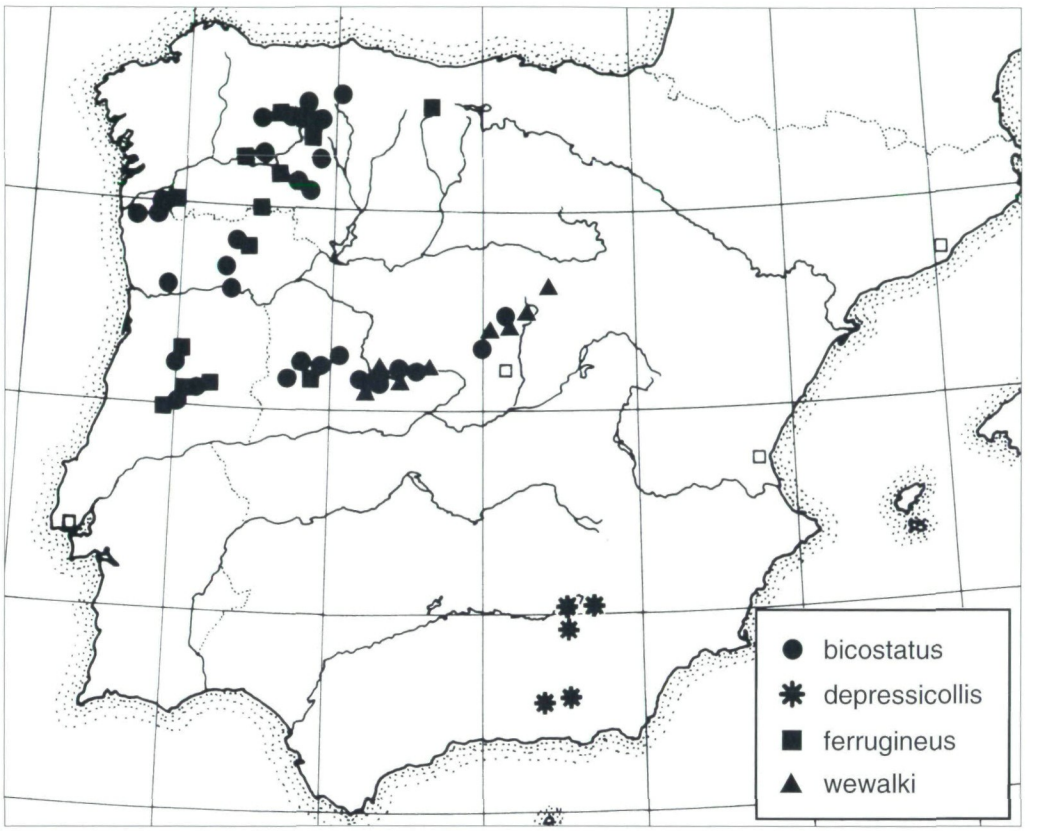


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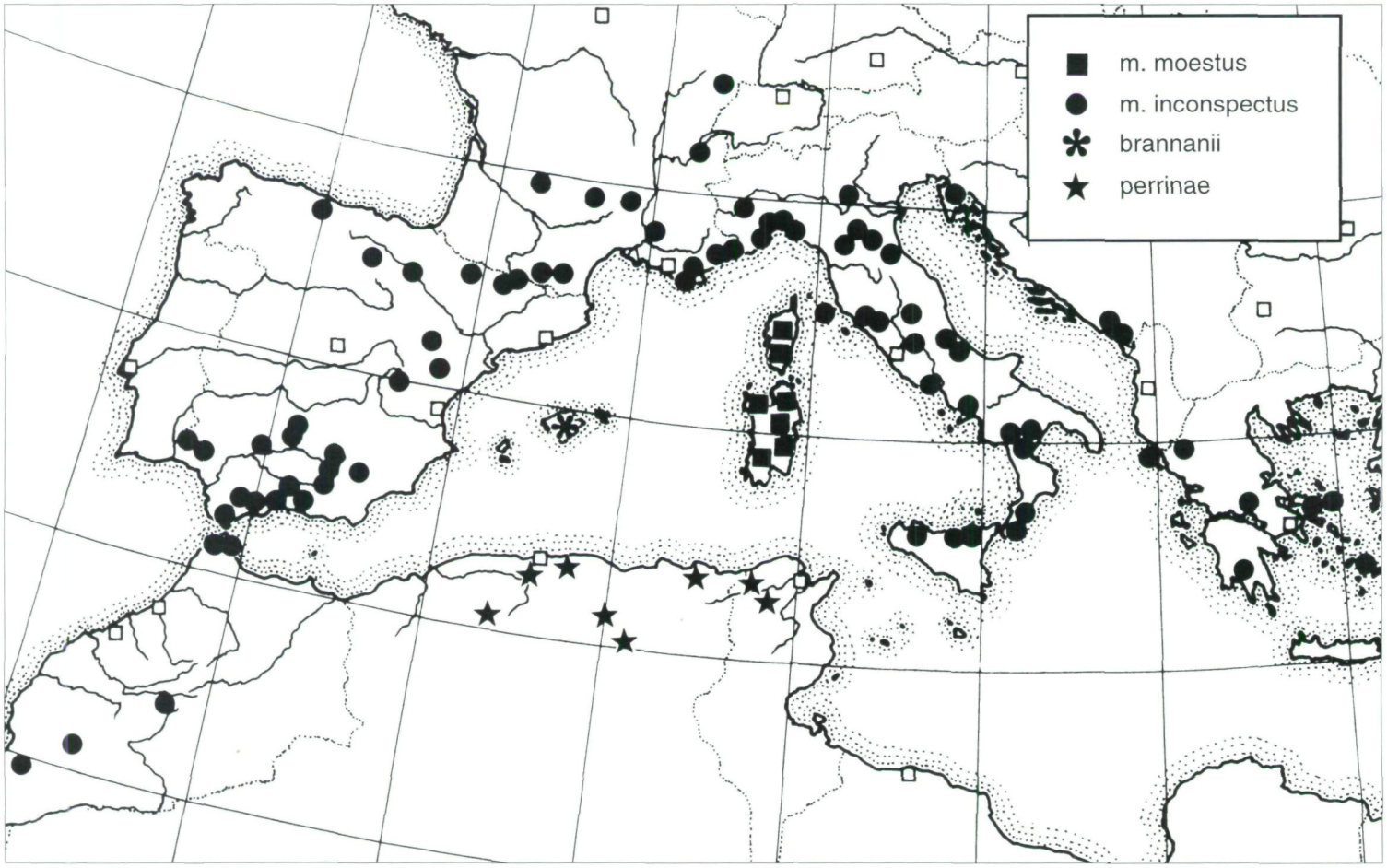


Fig. 130: Distribution of *Deronectes moestus moestus*, *Deronectes moestus inconspectus*, *Deronectes brannanii* and *Deronectes perrinae* sp.n.

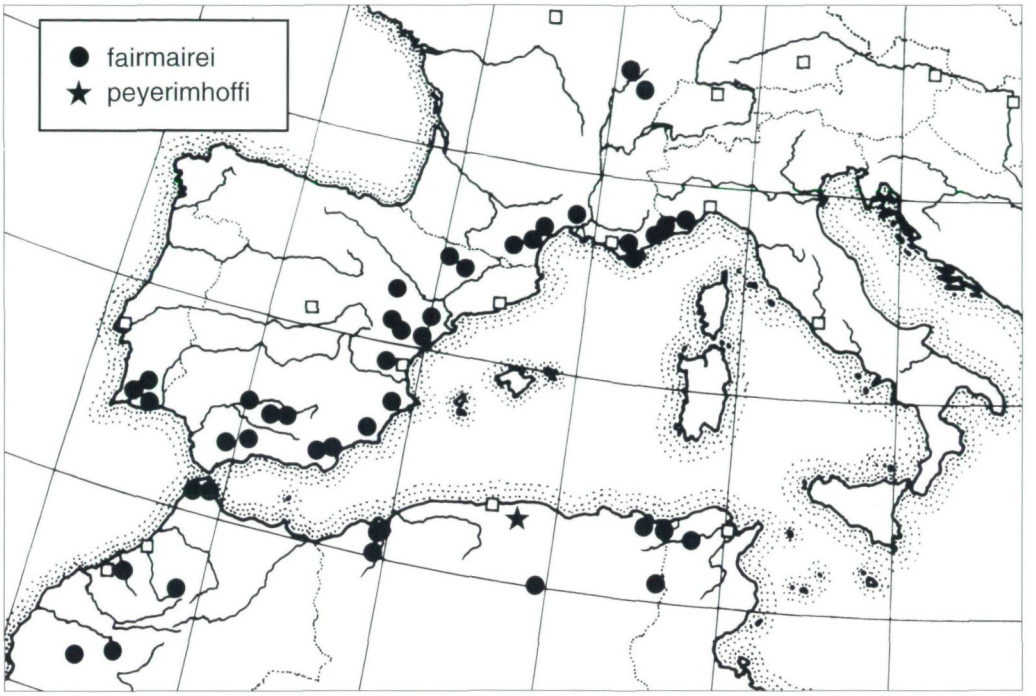


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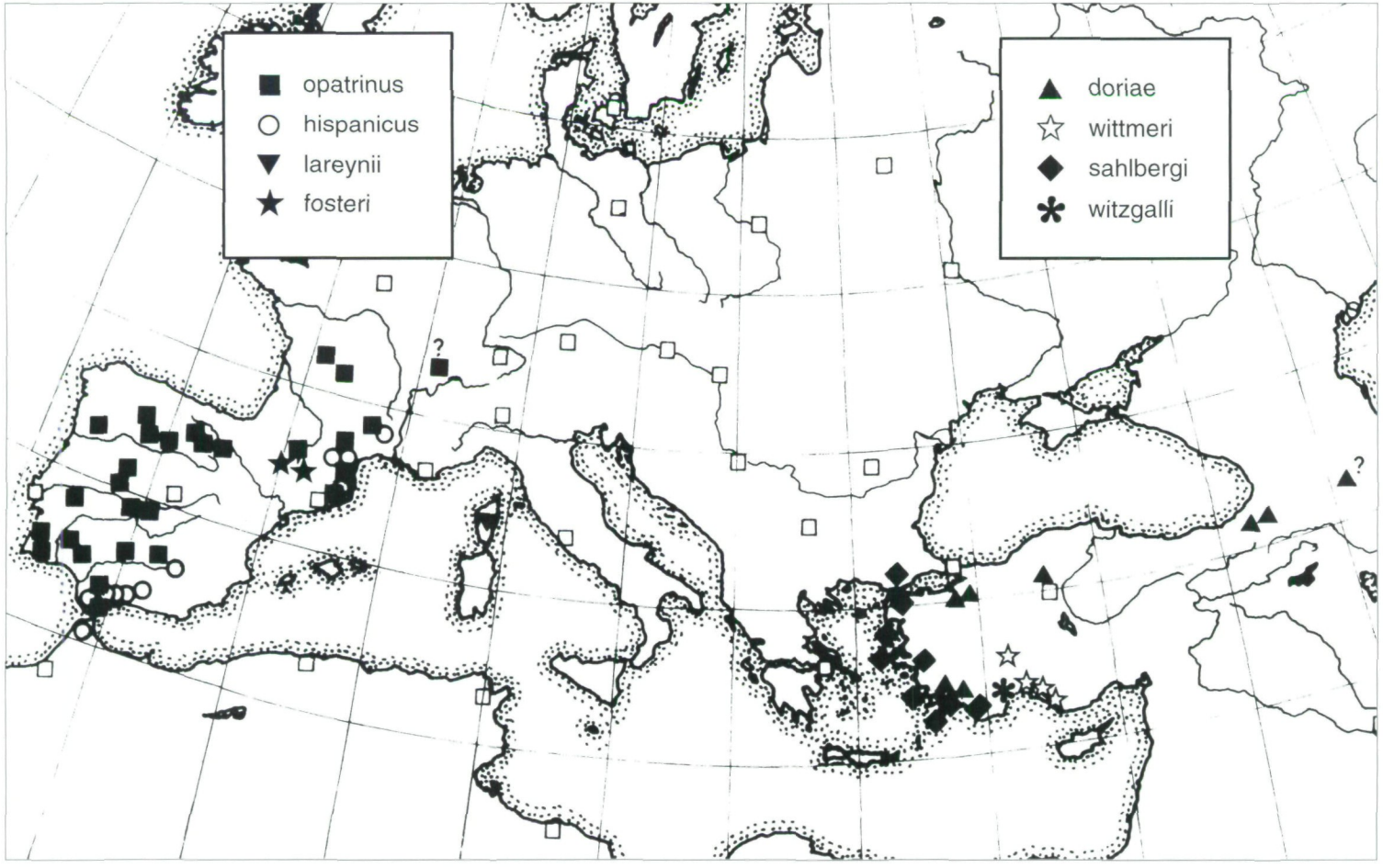


Fig. 132: Distribution of *Deronectes opatrinus*, *Deronectes hispanicus*, *Deronectes lareynii*, *Deronectes fosteri*, *Deronectes doriae*, *Deronectes wittmeri*, *Deronectes sahlbergi* and *Deronectes witzgalli* sp.n.

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