

SPIXIANA	16	2	145–156	München, 1. Juli 1993	ISSN 0341–8391
----------	----	---	---------	-----------------------	----------------

**On the Sicilian species of the genus *Faronus*
with redescrptions of *F. siculus* Fiori, 1913
and *F. vitalei* Raffray, 1913 ***

(Insecta, Coleoptera)

(Studies on the Pselaphidae of Sicily. VI.)

By **Giorgio Sabella**

Sabella, G. (1993): On the Sicilian species of the genus *Faronus* with redescrptions of *F. siculus* Fiori, 1913 and *F. vitalei* Raffray, 1913 (Insecta, Coleoptera). (Studies on the Pselaphidae of Sicily. VI.). - Spixiana **16/2**: 145-156

Of the genus *Faronus*, two species endemic of Sicily, *F. siculus* Fiori, 1913 and *F. vitalei* Raffray, 1913, are critically reviewed. *F. siculus* is redescrbed and the institution of the *hispanus*-group is proposed, characterized by the aedeagal morphology and the male secondary sexual characters on the abdominal sternites. To this group, in addition to *F. siculus*, belong also *F. hispanus* Saulcy, 1870, *F. insularis* Deville, 1908 and *F. insignis* Besuchet, 1958. *F. stolzi* Blattny, 1914 is considered a valid species. *F. vitalei* is redescrbed and compared with the similar species: *F. nicaensis* Saulcy, 1874, *F. brucki* Saulcy, 1874 and *F. simpliciceps* Reitter, 1893. The female telisternite is used as diagnostic character.

Dr. Giorgio Sabella, Dipartimento di Biologia Animale dell'Università, via Androne 81, I-95124 Catania, Italia

Introduction

At present three species of *Faronus* Aubè, 1844 are known in Sicily. These are *F. lafertei* Aubè, 1844 which is distributed over most of the Northern regions of the western Mediterranean, *F. siculus* Fiori, 1913 and *F. vitalei* Raffray, 1913 which are both endemic to the island. Even today knowledge on the two latter taxa is unsatisfactory. The original description of *F. siculus* is deficient; there are no illustrations of the aedeagus and a systematic grouping has not been proposed for this species. *F. vitalei* is known only from the holotype, a female collected by Vitale in the Parco della Favorita, Palermo, in December 1912 and from two further specimens (1♂ and 1♀) collected at Altavilla Milicia (Palermo) by Poggi (1991: 221). Therefore, neither the variability or distribution of this species in Sicily is known and the superficial knowledge has not allowed systematic classification of *F. vitalei*. In this study a classification is suggested on the basis of detailed comparisons with other brachypterous species of *Faronus* found in the Mediterranean basin. Over the last years I have collected a conspicuous number of examples of the genus *Faronus* and I believe it is now possible to fill in the gaps and furnish an organic panorama of the Sicilian species of this interesting genus of Pselaphid beetles.

* Study performed with a M.P.I. grant, programme "Fauna of the Western Mediterranean area".

Faronus lafertei Aubé, 1844

Museum material: 1♂ Santa Maria di Gesù (Palermo) 1889 Ragusa (collection Ragusa); 1♀ Ficuzza (Palermo) Leonhard (collection Museum Eberswalde); 1♀ Filicudi (Eolian Islands), leg. Focarile (collection Besuchet)

Own collections: **Peloritani**: 1♀ Contrada Zivarella (U.T.M. WB2183) (mouth Torrente Minissale, Fiumefreddo, Catania) 0 m, 4.10.1984; **Iblei**: 1♂ Cava del Carosello (U.T.M. WA0187) (Noto Antica, Siracusa) 300 m, 27.10.1985; 1♂ 31.5.1990; 3♂ Cava Petraro (U.T.M. WA6080) (Torrente Petraro, Donnafugata, Ragusa) 200 m, 8.4.1990; 2♂ Contrada Maltese (U.T.M. WB0605) (Solarino, Siracusa) 170 m, 5.5.1990; 1♀ Contrada Petrusa (U.T.M. VB7831) (Agrigento) 200 m, 24.5.1991; **pit-fall traps**: Serra Porcari (U.T.M. WA0492) (Fiume Manghisi, Noto, Siracusa) 370 m, 1♀, 17.3./1.4. 1989; 1♀ 6.9./12.10.1989; 2♂ 24.4./27.5.1990; 1♂ 27.5./30.6.1990; 1♂ Contrada Grotta Perciata (U.T.M. WA1497) (Siracusa) 150 m, 22.5.1991.

Remarks. The species is distributed in the NW Mediterranean region and has been reported in Northern Spain, Southern France, Corsica and Italy (Liguria, Tuscany, Latium, Apulia, Sardinia and Sicily). My examination of *lafertei* cited by Ladeiro (1951: 3) in Vale de Azares revealed that it is also present in Northern Portugal. According to Jeannel (1950: 50; 1956: 10) *F. lafertei* is substituted in Algeria and Tunisia by the similar *F. aubei* Lucas, 1854 (= *F. brachypterus* Pic, 1890) recently reported by Besuchet (1980: 611) in Calabria. Reports of *F. lafertei* in Cyprus (Baudi 1869: 407), Greece (Reitter 1881a: 460; Raffray 1893: 7; Ganglbauer 1895: 779) and Syria (Reitter 1881b: 332) probably refer to *F. sahlbergi* Besuchet, 1960 which after Besuchet (1960: 11) replaces *F. lafertei* in the Eastern Mediterranean areas. Reports of a specimen found in the Ligurian Cave "Ballo de Strie" (Francisco 1952: 65; 1955: 96, 165) is the result of a rather surprising determination error by Solari. In fact Poggi (1985: 65) showed that Solari had wrongly determined a female of *Plectrophloeus erichsoni occidentalis* as a male of *Faronus lafertei*. I have not furnished illustrations of the aedeagus of *F. lafertei*, as there are excellent ones in the literature (see Jeannel 1950: 59, fig. 18c; Besuchet 1969: 108, fig. 1) which correspond with the morphology of the specimens I studied.

Habitat. In Sicily I have collected examples of this species in various habitats: under small stones in very damp areas few hundred meters from the sea shore, searching among the rather dry mastic litter along deep, cool gorges, among vegetal detritus on the shores of a small stream and also under small stones in a dry *Eucalyptus* wood. Several specimens were collected using vinegar and formalin pit-fall traps. However, I believe that this species has a subxerophile tendency.

Faronus siculus Fiori, 1913

Figs 1, 3, 6

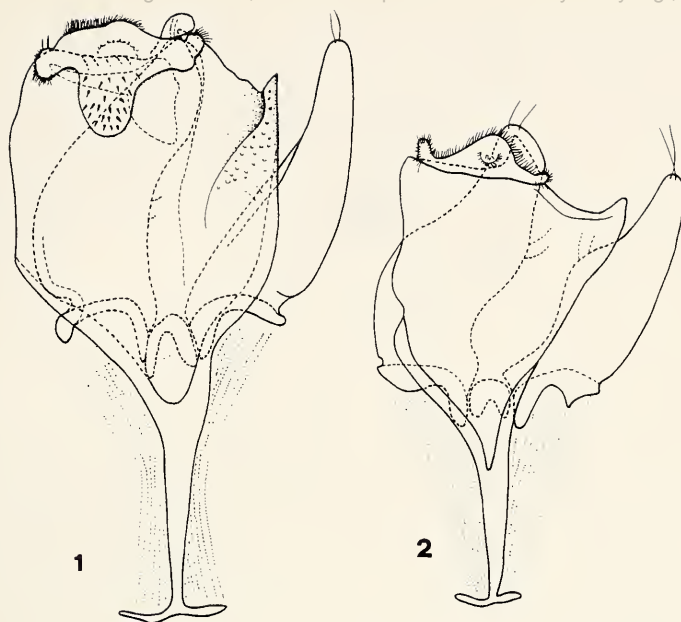
Museum material: 4♀ Monte Quacella (Isnello, Palermo), 21.5.1912, A. Fiori; 1♀ Monte San Salvatore (Isnello, Palermo), 20.5.1912, A. Fiori; 1♀ without locality indications (collection Fiori); 1♂ Monte San Salvatore (Isnello, Palermo), A. Fiori (collection Ragusa); 1♀ Monte San Salvatore (Palermo), 20.5.1912, A. Fiori; 1♂ 21.5.1912, A. Fiori (collection Besuchet);

Own collections: **Madonie**: 1♂, 1♀ Pizzo Luminaria (U.T.M. VB1795) (Castelbuono, Palermo) 1400 m, 22.11.1984; 1♂, 1♀ Pizzo Sant' Angelo (U.T.M. VC1404) (Isnello, Palermo) 925 m, 23.11.1984; 6♂, 6♀ Monte Mufara (U.T.M. 1391) (Isnello, Palermo) 1500 m, 1.6.1985; 4♂, 1♀ Monte dei Cervi (U.T.M. VB0992) (Isnello, Palermo) 1500 m, 23.10.1987.

Nebrodi: 1♂ Biviere di Cesarò (U.T.M. WC7500) (Alcara li Fusi, Messina) 1278 m, 6.6.1985; 1♂ Portella dell'Obolo (U.T.M. VB5695) (Caronia, Messina) 1500 m, 27.11.1986; 1♂ Pizzo di Fianza (U.T.M. VC5907) (Caronia, Messina) 600 m, 28.11.1986; 2♂, 6♀ Pizzo Bidi (U.T.M. VB5293) (Capizzi, Messina) 1580 m, 14.7.1987; 1♀ Pizzo Michele (U.T.M. VC5807) (Caronia, Messina) 800 m, 19.4. 1988; Contrada Moglia (U.T.M. VB5696) (Caronia, Messina) 1400 m, 17.5.1988; **pit-fall traps**: 1♀ Contrada Moglia (U.T.M. VB5696) (Caronia, Messina) 1400 m, 1♀ 10.8./11.9.1987; 1♂, 1♀ 11.9./16.10.1987; 2♀ 16.10./13.11.1987; 1♂ 18.4./17.5.1988; 3♀ 20.8./27.9.1988; 1♂, 1♀ 27.9./21.10.1988.

Iblei: Cava del Carosello (U.T.M. WA0187) (Noto, Siracusa) 300 m, 4♂, 2♀ 31.5.1990; 1♀ 10.11.1990; 2♀ Contrada Foresta (U.T.M. VB9510) (Torrente Cavagrande, Sortino, Siracusa) 450 m, 30.10.1985; Cava Gissara (U.T.M. WB1012) (Melilli, Siracusa) 300 m, 1♂ 20.6.1991; 2♂, 2♀ 18.9.1991; **pit-fall traps**: Serra Porcari (U.T.M. WA0492) (Fiume Manghisi, Noto, Siracusa) 370 m; 3♂, 3♀ 6.9./12.10.1989; 2♂, 2♀ 12.10./15.11.1989; 3♀ 15.11./21.12.1989; 1♀ 21.12.1989/27.1.1990; 1♀ 27.1./20.2.1990; 2♀ 23.3./24.4.1990; 3♀ 24.4./27.5.1990; 1♀ Cava Gissara (U.T.M. WB1012) (Melilli, Siracusa) 300 m.

Remarks. The species is endemic to Sicily and up to now had only been known to inhabit the Madonie mountains, whereas it is also present in the Iblei and Nebrodi mountains (Biviere di Cesarò; Castellini, 1990: 23). Examination of abundant material allowed me to study thoroughly the morphology and variability of this species and induced me to redescribe it since, as mentioned previously, the



Figs 1-2: Aedeagi of *Faronus*, dorsal view. 1. *F. siculus* of Monte Mufara (Isnello, Palermo). 2. *F. insularis* of Sorgono (Sardinia) (collection Castellini).

original description of the pronotum and especially the male secondary sexual characters is incomplete. Moreover, no illustration of the aedeagus of *F. siculus* has been furnished up to now. As can be seen later on, better definition of the external and aedeagal morphology has facilitated correct grouping of the species in question.

Redescription.

Length 1.6-2.4 mm, deep brown, apterous, with yellow palpi and legs. Very thick pubescence with flat golden bristles all over the body, including palpi and legs and with longer, suberect yellow bristles along the sides of the antenna and head.

The head is triangular and markedly broader (0.37-0.41 mm) than long (0.27-0.28 mm) and is narrower than the pronotum. Anteriorly it presents a median pit which is broader and deeper in males than in females, posteriorly limited by a strong trapeziform tubercle topped by a thick patch of long yellowish bristles. The temples are prolonged posteriorly in two pointed raised processes which form an angle of 70-80° with the longitudinal axis of the head. The apex of these processes also carries a thick patch of long, yellowish bristles and ends in an evident annular organ. The eyes are well developed (23-25 ommatidia) and protruding.

The first segment of the antenna is cylindrical and about twice as long as broad, the second segment is slightly narrower than the first and distinctly longer than broad, the third is the smallest of the funicle both as regards length and width and is subelliptic in shape. The 4th and 5th segments are oval, whereas the 6th, 7th and 8th are subelliptic, subequal in size and as broad as the 4th and 5th segments. The club is made up of three segments, the 9th and 10th are broader than long and distinctly broader than the other preceding segments. Diversely the 11th is as broad as the 10th and as broad as long, of about the same length as the 9th and 10th put together. The pronotum is squat, broader than long with a rather pronounced hump in the centre of the disk. It is broadest (0.45-0.47 mm) in the anterior half and posteriorly sinuate and narrowed to the base. A small, barely pronounced median groove goes from the pronotum anterior margin to almost half way along the disk.

In the centre of the pronotum there is a deep horseshoe-shaped groove (disc impression) with the convexity pointing towards the pronotum base and the two sides pointing forward. Each anterior tip generally ends in an evident pit; however, this pit may be missing in one, or in some cases, in both

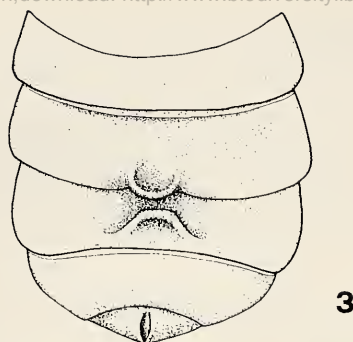


Fig. 3: *Faronus siculus*. Abdomen of a ♂ from Pizzo S. Angelo (Isnello, Palermo), ventral view.

sides. There is sometimes a small external pit on both sides. Two pits are almost always observed at the level of each pronotum posterior angle. One of these is very large and deep and cuts into the lateral margin, while the other is smaller and shallower and situated at the pronotum base. Finally there is a large, deep oval median groove inside the posterior portion of the disc impression. The elytra are generally shorter than the pronotum when measured at the suture, even though in some examples they can be of the same length as, or longer than, the pronotum. At the base they are as broad as the pronotum, towards the apex they widen gradually. The sutural groove is well incised up to the elytral apex, while the deeper and more impressed disk groove runs about half way along the elytra. There is a basal pit at the base of each line. As a rule there is no intermediate pit between each elytron's two basal pits, although it is present in some cases, such as in the only male example of the type series kept in the collection Ragusa. The elytral humeri present a marked impression, punctuation is appreciable. The abdomen is longer and broader than the elytra and the 2nd tergite is visibly much broader and longer than the others. In the female the abdomen has no particular characters, whereas in the males the morphology of 3rd and 4th abdominal sternites is peculiar (fig. 3). In fact, the posterior margin of the 3rd tergite rises into a blade-shaped process perpendicular to the abdomen axis. A suboval pit lies in front of this blade. The 4th tergite has another blade-like process in the median portion with a marked semicircular depression at its base. The convexity of the semicircular depression faces the anterior sternite margin.

Legs. The anterior and median tibiae are wide in the apical portion, while the posterior tibiae in the terminal third are slightly curved and greatly incised. Moreover, in males the femora are enlarged and the intermediate tibiae have a small spine on the terminal third. The aedeagus (fig. 1) has well developed paramera with two bristles on the apex and other two bristles on the intermediate portion. The median portion is clearly sclerified and has an apical membrane equipped with small spines and bristles. The telisternite (fig. 6) is extended and has a very sclerified, characteristically shaped medial portion.

I must add that the examples of *F. siculus* collected in the Iblei mountains are generally smaller (1.6-1.8 mm) and are lighter in colour than those found on the Madonie and Nebrodi mountains. However, no other appreciable differences regarding neither the external morphology, nor the morphology of the aedeagus, female telisternite and male secondary sexual characters are found. Notwithstanding this remarkable variability of size and colour in this species, at present I believe that these differences must be considered as features of intraspecific variability. I intend carrying out further studies on this problem using not solely morphological techniques.

Discussion. *F. siculus* resembles *F. hispanus* Saulcy, 1870, *F. insularis* Deville, 1908, and *F. insignis* Besuchet, 1958. Together they form a group of species which I call *hispanus*. This group is characterized by males with secondary sexual characters on the abdominal sternites and with an aedeagus bearing relatively short, sinuate parameres. Its median portion is constantly well sclerified and different in shape in the various species, bearing an apical membrane equipped with small spines and bristles.

Faronus hispanus Saulcy (syn. *Faronus bedeli* Jeannel, 1956) is known to inhabit Spain (Catalonia, Valenzia, Andalusia, Algarve) and Algeria. It can be distinguished from *F. siculus* by the aedeagal morphology (see Besuchet 1969: 108, fig. 2), its generally smaller size (length of *hispanus* 1.4-1.7 mm,

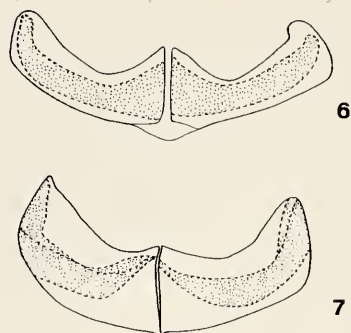


Fig. 4-5: Aedeagi of *Faronus*, dorsal view. 4. *F. stolzi* from S. Eufemia d'Aspromonte (Calabria) (collection Museum of Budapest). 5. *F. brucki* from Pisa (Tuscany) (collection Inst. Royale Sc. Nat. Bruxelles).

compared with 1.6-2.4 mm for *siculus*), its elytra which are clearly longer than the pronotum, and the male secondary sexual characters. In fact, the second tibiae of *hispanus* males are unarmed, while those of *siculus* are equipped with a small éperon. The abdominal sculpture of the male of *siculus* is totally different from that observed in *hispanus* where the 3rd abdominal sternite margin is frequently incised by a small triangular depression, a deep semicircular median pit is constantly observed on the 4th sternite, and the 5th sternite bears a strong transverse blade.

Faronus insignis Besuchet from the islands of Majorca and Minorca can be easily differentiated from *F. siculus* by the aedeagal morphology (see Besuchet 1969: 108, fig. 3), its smaller size (1.3-1.4 mm), its elytra which are much longer than the pronotum, and the male secondary sexual characters. The second tibiae are unarmed and the abdominal sculpture is limited to a pubescent blade on the 4th sternite.

F. insularis Deville is endemic to Sardinia-Corsica and has been found in the extreme south of Corsica and throughout Sardinia (cfr. Orousset 1988: 366). Its aedeagal morphology (fig. 4), its reduced size (1.2-1.4 mm), the poorly impressed elytral grooves, the slight punctuation on the head and pronotum and the secondary sexual characters of the males (unarmed median tibiae, suboval median pit on the 3rd sternite and transverse blade on the 4th sternite) clearly differentiate it from *siculus*.



Figs 6-7: *Faronus telisternites* dorsally. 6. *F. siculus* from Monte Mufara (Isnello, Palermo). 7. *F. stolzi* from S. Eufemia d'Aspromonte (Calabria) (collection Inst. Royale Sc. Nat. Bruxelles).

Luigioni (1929: 298) cited *F. stolzi* Blattny, 1914, described on specimens collected at Santa Eufemia di Aspromonte as synonym of *F. siculus*, but did not motivate this statement. I have not found any other mention of this presumed synonymy in the literature, even if it is noteworthy that Raffray (1924: 68) mentioned *F. siculus* from the Madonie mountains (Mt. San Salvatore, Mt. Quacella) and from Santa Eufemia di Aspromonte, typical locality of *F. stolzi*, before Luigioni. The latter species was not cited in Raffray's report. Examination of a numerous specimens of *F. stolzi* from the type locality has allowed me to disprove the synonymy and to demonstrate that *F. stolzi* is a real species totally different from *F. siculus* regarding the external morphology and the aedeagal and telisternite structure. Fig. 4 illustrates the aedeagus of *F. stolzi* for the first time, and the marked dissimilarity with that of *siculus* is evident (cfr. figs 1-4). The female telisternites of the two species present little, but significant differences (cfr. figs 6-7). In addition the external morphology clearly discriminates the two species. In *stolzi* the head is markedly longer (0.30-0.31 mm) compared with *siculus* (0.27-0.28 mm) and has a median groove which is much broader than long. The eyes of *stolzi* are less developed (14-16 ommatidia) and less protruding than in *siculus* (23-25 ommatidia). The temples of *stolzi* are as long as its eyes, whereas in *siculus* they are much shorter than the eyes. In *stolzi* the pronotum is narrower and more sinuate in the posterior portion than in *siculus* and the discal impression is poorly impressed and poorly evident in the former and well impressed and evident in the latter. The abdomen differs in the two species, having subequal abdominal tergites in *stolzi*, whereas in *siculus* the second tergite is longer than the others. Finally, males of *stolzi* have no abdominal sculpture, and the second tibiae are unarmed. At present *F. stolzi* is known only from its type locality (S. Eufemia d'Aspromonte, Calabria).

Habitat: *F. siculus* is sometimes collected in quite large numbers looking through beech or oak leaves s. l. mainly in autumn or spring. About all Sicilian Pselaphid beetles it is the most attracted by vinegar and formalin traps, and this method was used to collect numerous examples in beech wood (11) on the Nebrodi mountains and in dense maquis (21) in the Iblei mountains. I believe it is a forest litter species which can colonize thick maquis habitats if the substrate is damp.

Faronus vitalei Raffray, 1913

Figs 8-10, 13

Museum material: 1 ♀ Parco della Favorita (Tipo) (collection Museum Paris); 1 ♂ Isola (Palermo) leg. Ragusa (collection Ragusa); 1 ♀ Palazzo Adriano (Palermo) (collection Vitale).

Own collections: **Sicani:** 1 ♂ Piano delle Fontane (U.T.M. UB5567) (Palazzo Adriano, Palermo), 8.11.1985; 1 ♂ Parco della Favorita (U.T.M. UC5425) (Palermo) 120 m, 13.11.1990; Vallone del Porco (U.T.M. UC5425) (Monte Pellegrino, Palermo) 300 m, 2 ♂, 2 ♀ 13.11.1990; 2 ♂, 5 ♀ 23.11.1990; 1 ♂, 1 ♀ 23.11.1990 (now collection Besuchet).

Egadi Islands: 5 ♂, 9 ♀ Marettimo, near Case Matorana (U.T.M. TC4206) 120 m, 16.4.1991; 2 ♀ Canalazzo (U.T.M. TC4207) 80 m, 17.4.1991; 1 ♀ Case Romane (U.T.M. TC4206) 230 m.

Remarks: The species seems to be localized in the western areas of Sicily where it may replace *siculus* which is widespread throughout central eastern Sicily. It is also present on Marettimo (Egadi Islands).

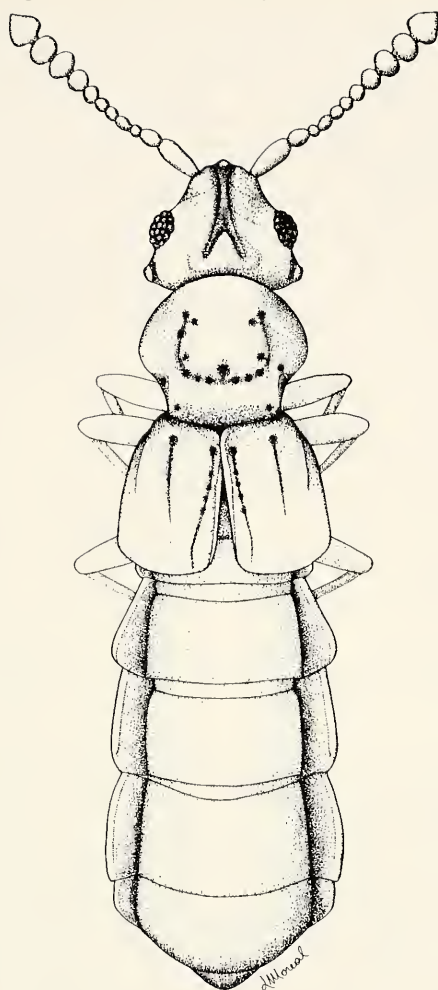
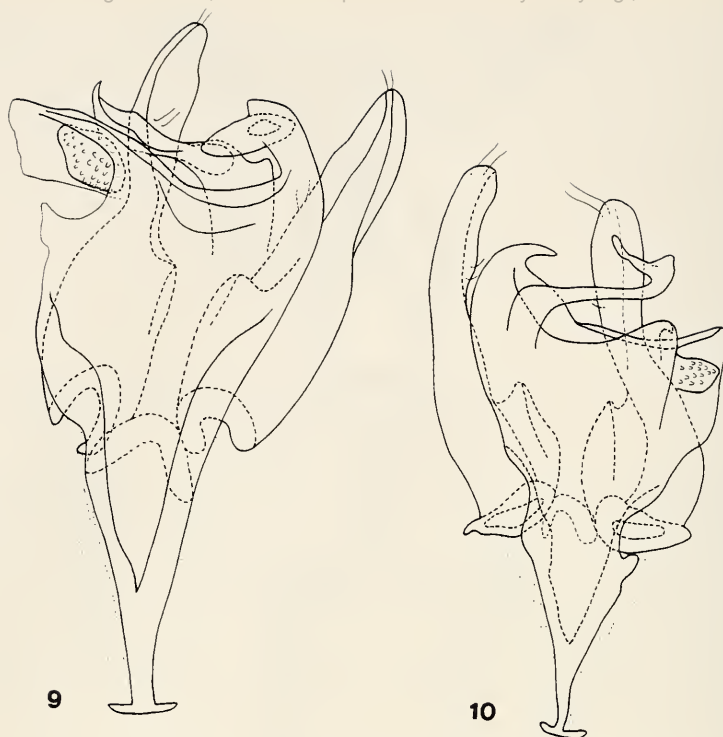


Fig. 8: *Faronus vitalei*. Holotype ♀ from Parco della Favorita (Palermo) (collection Mus. Nat. Hist. nat. Paris).

On revising the *Faronus* of the Paris Museum's general collection I discerned that the first example of the *nicaeensis* series had two locality cards, the first being "Nice-Grouvelle" and the second "Palermo-La Favorita-December-Vitale". However, the second certainly refers to *vitalei* seen by Raffray (1913: 236), as in the original description of the species he says, "Je ne connais pas malheureusement di cette nouvelle espèce qu'une seule ♀, che M. Francesco Vitale a découverte, en décembre, à la Favorita près de Palerme". The second locality card was then pinned on to the holotype of *vitalei* by Dr. Berti who corrected the exchange of the cards. It must be pointed out that the locality cards of the other examples of *nicaeensis* (11) following the first say "Palerme-Nice", whereas obviously they should read only "Nice". My observations on numerous examples of *F. vitalei* have induced me to redescribe it and underline its intraspecific variability.

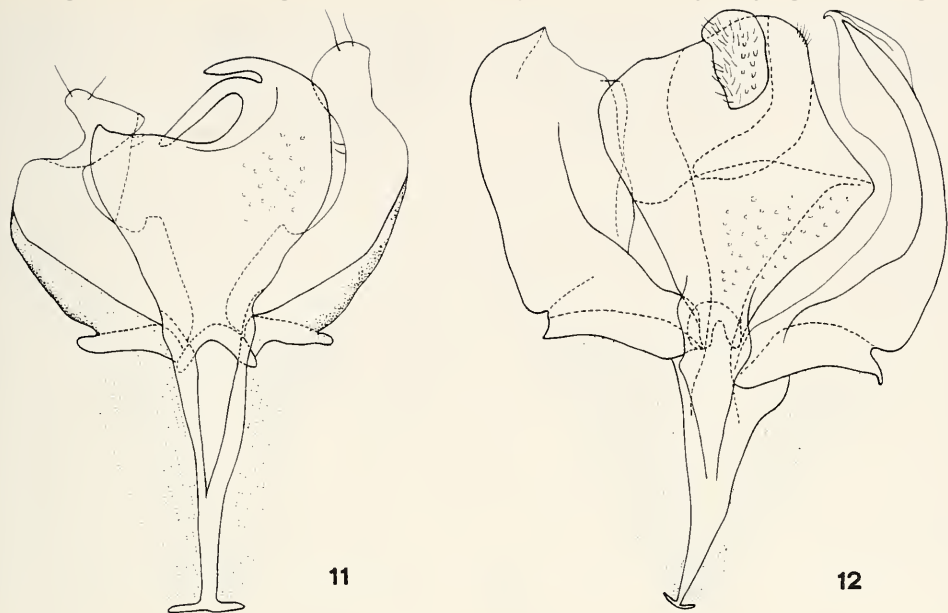
Redescription

Length 1.45-1.60 mm, light brown in colour with yellow antenna, palpi and legs; thin pubescence. Triangular head which is clearly broader (0.30-0.32 mm) than long (0.20-0.25 mm) and distinctly narrower than the pronotum in males and slightly narrower in females. The antennae are moniliform and rather strong with a long scapus which is one and a half times longer than broad and with a large



Figs 9-10: *Faronus vitalei*. Aedeagi, dorsal view. 9. Specimen from Parco della Favorita (Palermo). 10. Specimen from Piano delle Fontane (Palazzo Adriano, Palermo).

pedicel just longer than broad. The 3rd segment is suboval in shape and distinctly smaller than the others. The 4th to 8th segments are also suboval, the 4th is much wider than the 3rd and a little narrower than the 5th which is slightly broader than the 6th. Diversely, the 7th and 8th are subequal. The antenna club is made up of segments 9, 10 and 11, of which the 9th is much broader transversely than the 8th and narrower than the 10th. The 10th antenna segment is markedly transverse and broader than the 11th' base which is somewhat shorter than the 9th and 10th put together, gradually widening from the base to the anterior third and then tapering to the apex. The eyes are protruding, formed by 16-20 ommatidia. There is an anterior median groove on the head, which is deeper in males and posteriorly limited by a strong trapeziform tubercle. The temples extend posteriorly in two rather pointed and distinctly raised conical processes which end in an annular organ. The pronotum is broader (0.32-0.35 mm) than long (0.265-0.280 mm) and is widest at the anterior third. It is barely narrowed and not sinuate anteriorly, while the posterior portion is markedly sinuate and narrowed. There is an evident sulcus on the pronotum disk formed by a series of concatenated pits. This sulcus is horseshoe-shaped and the two lateral sides are less deeply impressed than the transversal one. A very deep, large subtriangular pit is present in the centre of the disk sulcus almost adjoining the transversal side. About 6-8 pits are found within the transversal side of the sulcus, whereas there are 3-5 in each lateral side. On the exterior of each lateral side there may be another pit. Finally two more pits are always found at the posterior angles of the pronotum. One is small and shallow and is placed at the base of the pronotum, while the other is larger and lies near the lateral margin. When measured at the suture, the elytra are just longer (0.275-0.285 mm) than the pronotum and very broad (0.40-0.42 mm). The elytra base is a little broader than the pronotum and progressively widens to the posterior third. The humeri are protruding but rounded. Each elytron has two well incised lines, the sutural one running to the elytron apex while the discal one reaching just over halfway. A pit is found at the end of each line. A third pit is sometimes present between the medial and lateral pits. The abdomen is clearly longer (0.65-0.75 mm) than the elytra and the 3rd tergite is longer than the others.

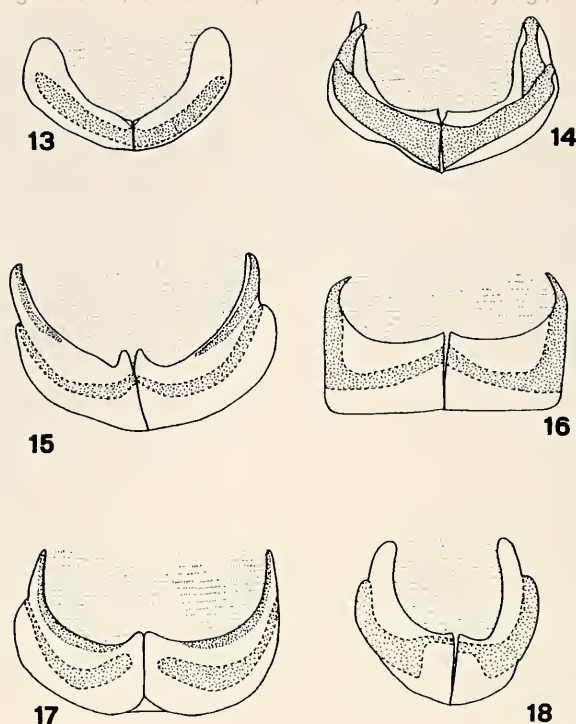


Figs 11-12: Aedeagi of *Faronus*, dorsal view. 11. *F. nicaeensis* from Nice (collection Madon, Inst. Royale Sc. Nat. Bruxelles). 12. *F. simpliciceps*, holotype of Djebel Batna (ex collection Pic, Mus. Nat. Hist. nat. Paris).

Legs. The femora are slightly enlarged, the terminal third of the median tibiae is expanded and the terminal third of the posterior tibiae is a little curved and incised. The aedeagus (figs 9-10) has subequal parameres which are very broad at the base and then tapered and sinuate from the median region to the apex. Each parameron carries two pairs of bristles, one pair on the apex and the other about half way. The median lamina is scarcely sclerified and has a membrane with small spines and a very brittle, long apophysis. It is noteworthy that the aedeagus of *F. vitalei* presents a strange inversion phenomenon. In fact, in some examples the median lamina is arranged as shown in fig. 9, while it is laid out in mirror fashion in others, as can be seen in fig. 10. This phenomenon also occurs within the same population and assumes the significance of simple, albeit curious, intraspecific variability. Besides, phenomena of “inverse” aedeagus have been reported in the literature, e.g. by Besuchet (1980) for the case of *Euplectus theryi* Guillebeau or by Carlton (1989: 57-58) for the aedeagal isomerism of *Actizona chuskae* Chandler. The telisternite (fig. 13) is extended with rounded apexes and a sclerified portion limited to the medial region.

Discussion. *F. vitalei* is similar to *F. nicaeensis* Saulcy 1874, *F. brucki* Saulcy 1874 and *F. simpliciceps* Reitter 1893. These species are small or intermediate in size (1.3-1.7 mm), they have short elytra which are as long as or just longer than the pronotum and a large abdomen with the 3rd abdominal tergite being broader and longer than the others. Their aedeagal parameres have a different specific morphology but present a more sclerified lateral and a membranous medial portion. The medial membrane is generally scarcely sclerified.

F. nicaeensis is an endemic species of the French and West Ligurian Maritime Alps. It can be easily distinguished from *vitalei* by its aedeagal (fig. 11) and telisternite (fig. 14) morphology. It is rather difficult to distinguish the two species using the external morphological characters and errors are often made. It is thought that, *nicaeensis* is a smaller species (1.25-1.40 mm) than *vitalei* (1.45-1.60 mm), but by comparing about 80 examples of *nicaeensis* and 35 *vitalei* I observed that the characters generally used to differentiate the two species are either not valid (e. g. it is not true that the two basal elytra pits are missing in *vitalei*) or extremely variable (e. g. the posterior head angles are not always sharp and pointed in *vitalei*, the pronotum shape varies; also morphology of the 9th and 10th antenna segments, which are generally more transverse in *vitalei*, does not constantly permit sure diagnosis).



Figs 13-18: *Faronus* female telisternites dorsally. 13. *F. vitalei* from Vallone del Porco (Palermo). 14. *F. nicaeensis* from Villefranche (collection Inst. Royale Sc. Nat. Bruxelles). 15. *F. brucki* from Pisa (collection Inst. Royale Sc. Nat. Bruxelles). 16. *F. simpliciceps* from Djebel Babor (collection Mus. Nat. Hist. nat. Paris). 17. *F. grouvellei*, holotype from Beaulieu (Nizza) (collection Mus. Nat. Hist. nat. Paris). 18. *F. pyraeneus* di Lac bleu (Pirenei) (collection Mus. Nat. Hist. nat. Paris).

F. brucki is known to inhabit a small area in NE Tuscany (Apuan Alps, Colline Lucchesi, Mt. Pisano) and was generically reported in Emilia by Bertolini (1899: 41) and Porta (1929: 216). Although the presence of *F. brucki* in Emilia is very likely, it deserves confirmation. By studying Madon's collection which Caillol (1954: 330) used to cite *F. brucki* for Villefranche, I was able to observe that it refers to *nicaeensis*. Furthermore, there are reports by Reitter (1881b: 332) for Beirut and by Sahlberg (1913: 72 sub *bruchii*) for western Giudea and Syria (Libanon). These past sightings are indubitably due to determination errors and may refer to *Faronus festivus* Besuchet, 1960, which is present in the above-mentioned regions and has an external morphology similar to *brucki*. Finally, *F. brucki* was cited by Croissandeau (1893: 159) from Bonifacio at the extreme south of Corsica. Jeannel (1950: 52) believes that this sighting refers to *nicaeensis* even if both the collecting locality and morphological characters mentioned by Croissandeau (especially the evident punctuation on the ♀ head) and the figure of the example suggest that it could be reasonably attributed to *insularis* rather than *nicaeensis*. *F. brucki* differs from *vitalei* not only in the aedeagal (fig. 5) and telisternite morphology (fig. 15). It is larger (1.65-1.75 mm), the head is broad and flattened with small or negligible posterior angles, the eyes are more developed and formed by 20-25 ommatidia, the pronotum is much broader (0.375-0.40 mm) than long (0.32 mm) and distinctly wider than the head, and finally the pronotum disc sulcus is scarcely impressed. According to Castellini (1971: 1) it is a rather rare, localized species which inhabits both hills and plains.

F. simpliciceps. I have examined the holotype ♂ with a locality card "Djebel Batna" which may refer to a mountain near Batna (Algeria, Aurès Massif), and 3 ♀ with a locality card "Djebel Babor", a mountain in the Algerian Petite Kabylie. The different aedeagal (cfr. figs 9-12) and telisternite (cfr. figs 13-16) morphology, the flattened shape of the body, the more or less evident punctuation on the head

and pronotum, the strong antennae (with very large scapus, more than twice as long as broad, very large oval pedicel and funicle formed by markedly transverse segments), slightly protruding posterior angles of the head and small, incomplete, hardly visible annual organ and non impressed or shallow pronotum horseshoe-shaped sculpture with very close lateral sides allow clear differentiation of *F. simpliciceps* from *vitalei*.

F. pyraeneus Saulcy, 1867 and *F. grouvellei* Raffray, 1893 may be related to the above-mentioned species, even though no male examples which could remove any doubt regarding the effective validity of the two species and simultaneously clarify their affinity have been collected yet. Only two females of *F. pyraeneus* collected at the lac Blue in the Bigonne Massif (High Pyreneans) are known. I was able to examine both, and their external morphology resembles very closely that of *brucki*. However they can be differentiated by their smaller size (1.51 and 1.59 mm), absolutely smooth, shiny integument, narrower pronotum (0.36 compared with 0.38-0.40 mm in *brucki*) and the very incised deep elytral striae. In addition, the lateral stria is very long and almost reaches the terminal third of the elytra. The telisternite (fig. 18) presents a peculiar, characteristic morphology compared with the other *Faronus* studied. Besuchet holds that it is a species related to *F. venustus* Besuchet, 1958 which has only been reported in Spain (Peña Gdosa, Castellón de la Plana province). The holotype and only known specimen of *F. grouvellei* is a female collected by Grouvelle at Beaulieu (near Nice) which I studied thoroughly. It resembles very closely *nicaeensis* but presents some diverse evident external morphology characters. It is larger (1.65 mm - compared with 1.25-1.45 mm in *nicaeensis*), the head has marked punctuation, the pronotum is greatly sinuate and narrowed posteriorly and finally the legs have slightly thickened femora and markedly thickened and curved intermediate tibiae. The telisternite (fig. 17) differs from the one observed in *nicaeensis* and greatly resembles that of *brucki* (figs 15-17).

Habitat. I have collected *F. vitalei* searching through rather dry litter taken from the foot of mastic and oak. I believe it is a species that can tolerate relatively dry substrate conditions, characteristic of the Mediterranean maquis.

Acknowledgements

I would like to thank all my colleagues who allowed me to examine material contained in their Museum and Institute collections. A special thanks to Dr. N. Berti from the Museum National d'Histoire Naturelle, Paris for her kindness and willingness in permitting me to study the numerous types in her Museum's large collection. I also thank Dr. G. Coulon from the Institut Royal des Sciences Naturelles, Bruxelles, Dr. G. Castellini from the Museo Civico, Grosseto, Dr. O. Merkl from the Zoological Department of the Hungarian Natural History Museum, Budapest. I am also grateful to Marcello Arnone and Ignazio Sparacio for patiently guiding me on expeditions in the Parco della Favorita and at Mount Pellegrino.

Riassunto

Sono riviste criticamente due specie del genere *Faronus*, endemiche di Sicilia, *F. siculus* Fiori, 1913 e *F. vitalei* Raffray, 1913. *F. siculus* Fiori, 1913 viene ridescritto e viene inoltre proposta l'istituzione del gruppo *hispanus*, caratterizzato dalla morfologia dell'edeago e dal fatto che i maschi portano sempre caratteri sessuali secondari sugli sterniti addominali. A tale gruppo appartengono, oltre a *siculus*, *F. hispanus* Saulcy, 1870, *F. insularis* Deville, 1908 e *F. insignis* Besuchet, 1958. *F. stolzi* Blattny, 1914 (Calabria), è riconosciuto come buona specie.

F. vitalei viene ridescritto e confrontato con le specie ritenute più affini: *F. nicaeensis* Saulcy, 1874, *F. brucki* Saulcy, 1874 e *F. simpliciceps* Reitter, 1893. Il telisternite femminile è inoltre utilizzato come carattere diagnostico.

Zusammenfassung

Die auf Sizilien endemischen Arten der Gattung *Faronus*, *F. siculus* Fiori, 1913 und *F. vitalei* Raffray, 1913, werden kritisch revidiert. Für *F. siculus* Fiori, 1913 wird eine Neubeschreibung gegeben und zugleich eine *hispanus*-Gruppe definiert, die durch eine einheitliche Gestalt des Aedeagus und das Vorhandensein von sekundären Geschlechtsmerkmalen auf den Abdominalsterniten der Männchen gekennzeichnet ist. Ihr gehören neben *F. siculus* die Arten *F. hispanus* Saulcy, 1870, *F. insularis* Deville, 1908 und *F. insignis* Besuchet, 1958, an. *F. stolzi* Blattny, 1914 (aus Kalabrien) wird als gute Art anerkannt.

Eine Neubeschreibung wird für *F. vitalei* gegeben, mit einer Gegenüberstellung der nächstverwandten Arten, *F. nicaeensis* Saulcy, 1874, *F. brucki* Saulcy, 1874 und *F. simpliciceps* Reitter, 1893. Der Telisternit der Weibchen wird als nützliches diagnostisches Merkmal verwendet.

References

- Aubé, C. 1844. Révision de la famille des Psélaphiens. - Ann. Soc. ent. France, Paris, IIème sér. 2: 73-160
- Baudi di Selve, F. 1869. Coleopterorum messis in insula Cypro et Asia minore ab Eugenio Truqui congregatae recensio: de Europaeis notis quibusdam additis. Pars altera. - Berliner ent. Zeit. 13: 369-418
- Bertolini, S. 1899. Catalogo dei Coleotteri d'Italia. -Tip. Sordo-Muti di L. Lazzeri, Siena, 144 pp.
- Besuchet, C. 1958. Coleoptera Pselaphidae et Scydmaenidae. - Revue suisse Zool. 65 (4): 891- 919
- 1960. Coléoptères Psélaphides de la collection J. Sahlberg. - Ann. ent. Fennici 26(1): 11 -31
- 1969. *Faronus* nouveaux ou méconnus de la péninsule ibérique (Col. Pselaphidae). - Mitt. schweiz. ent. Ges. 42 (1-2): 106-116
- 1980. Contribution à l'étude des Coléoptères Psélaphides d'Italie et du Tessin. - Rev. suisse Zool. 87 (2): 611-635.
- Blattny, W. & C. 1914. Neue Pselaphiden aus Italien. - Verh. k. k. zool.-bot. Ges., Wien 64: 118-124
- Caillol, H. 1954. Catalogue des Coléoptères de Provence. 5e partie. (Additions et Corrections). - Ed. Mus. Nat. Hist. nat., Paris: 725 pp.
- Carlton, C. E. 1989. Aedeagal isomerism in *Actizona chuskae* Chandler (Coleoptera: Pselaphidae) and a new locality record. - The Coleopterists Bull. 43 (1): 57-58.
- Castellini, G. 1971. Pselafidi delle Alpi Apuane (Coleoptera Pselaphidae). Boll. Ass. rom. Ent., Roma 26 (1-2): 1-11
- 1990. Notulae Pselaphidologicae: III (Coleoptera). - Atti Mus. civ. Stor. nat. Grosseto 13: 23-34
- Croissandeau, J. 1893. Einige Bemerkungen über *Faronus brucki*, *Grouvellei*, *pyrenaeus* und *hispanus*. - Misc. Ent. 19: 159
- Fiori, A. 1913. Pselafidi di Sicilia. - Riv. col. it., Camerino 11 (1): 1-6
- Franciscolo, M. E. 1952. Su alcune grotte nuove o poco note della Provincia di Savona (Lig. occ.). - Rass. speleol. it. 4 (2): 57-70
- 1955. Fauna cavernicola del Savonese. Res Ligusticae XCIV. - Ann. Mus. civ. St. nat. Genova 67: 1-223
- Ganglbauer, L. 1895. Die Käfer von Mitteleuropa. II. Familienreihe Staphylinoidea, I. Theil: Staphylinidae, Pselaphidae. - Wien: 881 pp.
- Jeannel, R. 1950. Faune de France, 53: Coléoptères Psélaphides. - Ed. Lechevalier, Paris: 421 pp.
- 1956. Les Psélaphides de l'Afrique du Nord. Essai de biogéographie berbère. - Mèm. Mus. nat. Hist. nat. Paris sér. A, Zool. 14: 233 pp.
- Ladeiro, M. J. 1951. Os Pselafideois portugueses do Museu Zoologico da Universidade de Coimbra. - Mem. Estud. Mus. Zool. Coimbra 206: 1-8
- Lucas, M. 1854. *Faronus aubei*. - Boll. Soc. ent. France, Paris: XXXIV-XXXV
- Luigioni, P. 1929. I Coleotteri d'Italia. Catalogo sinonimico-topografico-bibliografico. - Mem. Pont. Acc. Sc. "Nuovi Lincei", Roma, Ser. II, 13: 1160 pp.
- Orousset, J. 1988. Coléoptères hypogés de Corse, XXII. Le genre *Faronus*, *Trimium* et *Aphiliops* (Coleoptera, Pselaphidae). - Nouv. Revue Ent. (N. S.) 5 (4): 363-374
- Pic, M. 1890. Une variété de *Faronus*. - Echange, Lyon 6, (71): 181.
- Poggi, R. 1985. Catalogo degli Pselafidi cavernicoli italiani. - Mem. Mus. civ. St. nat. Verona, II ser., ser. biol. 4: 65-83.
- 1991. Osservazioni su *Faronus vitalei* RAFFRAY (Coleoptera Pselaphidae). - Boll. Soc. ent. ital. 122 (3): 221-224
- Porta, A. 1926. Fauna Coleopterorum Italica. Vol. II. - Piacenza: 405 pp.
- Raffray, A. 1893. Essai monographique sur la tribu des Faronini (Psélaphiens). - Rev. Ent., Caen 12: 1-53
- 1913. Description d'une nouvelle espèce de *Faronus* de Sicilie (Col. Pselaphidae). - Bull. Soc. ent. France, Paris: 236
- 1924. Etude sur la distribution géographique des Coléoptères de la famille des Psélaphides. - Mem. Pont. Acc. Sc. "Nuovi Lincei" 6-8: 238 pp.
- Reitter, E. 1881a. Bestimmungs-Tabellen der europäischen Coleopteren. V. Paussidae, Clavigeridae, Pselaphidae und Scydmaenidae. - Verh. k. k. zool.- bot. Ges., Wien 31: 443-592
- 1881b. Zur Pselaphiden- und Scydmaeniden- Fauna Syriens. - Verh. k. k. zool.-bot. Ges., Wien 31: 331-336
- 1893. Dritter Beitrag zur Coleopteren-Fauna von Europa und den angrenzenden Ländern. - Wien. ent. Zeit. 12 (5): 172-176
- Sahlberg, J. 1912-13. Coleoptera mediterranea orientalia. - Ofv. Fiuska Vetén. Societ. Foerh., Helsingfors 55 (19): 281 pp.
- Sainte Claire Deville, J. 1906-1914. Catalogue critique des Coléoptères de la Corse. - Caen: 573 pp.
- Saulcy, F. de 1867. in: Grenier, A., Matériaux pour servir à la faune des Coléoptères de France. - Paris 2: 131-194(173)
- 1870. in: Heyden, L. von, Entomologische Reise nach dem Südlichen Spanien, der Sierra Guadarrama und Sierra Morena, Portugal und den Cantabrischen Gebirgen. - Berl. ent. Zeit. 14: 1-176 (86-89)
- 1874. Species des Paussides, Clavigérides, Psélaphides et Scydmenides de l'Europe et des pays circonvoisins. - Bull. Soc. Hist. nat. Metz, 2 sér. 13: 132 pp.

ZOBODAT - www.zobodat.at

Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: [Spixiana, Zeitschrift für Zoologie](#)

Jahr/Year: 1993

Band/Volume: [016](#)

Autor(en)/Author(s): Sabella Giorgio

Artikel/Article: [On the Sicilian species of the genus Faronus with redescrptions of F. siculus Fiori, 1913 and F. vitalei Raffray, 1913 \(Insecta, Coleoptera\) \(Studies on the Pselaphidae of Sicily. VI.\) 145-156](#)