NEW RECORDS OF *HENIA (CHAETECHELYNE) DUBOSCQUI* (VERHOEFF, 1943) AND OF OTHER CENTIPEDES FROM CORSICA (CHILOPODA) TOGETHER WITH SOME NOTES ON THE FRENCH SPECIES OF *HENIA*

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ABSTRACT

Examination of centipedes collected in Corsica allowed us to identify a female and a male of *Henia (Chaetechelyne) duboscqui* (Verhoeff, 1943) from two new localities of this island (Vizzavona, Haute-Corse department; Bocognano, Corse-du-Sud department). Following its original description this endemic species had not been found subsequently up until now. Its main determining characters are detailed and are illustrated by magnified pictures and its validity is confirmed. The other French species of the genus *Henia* C. L. Koch, 1847 are briefly described and *H. (Pseudochaetechelyne) brevis* (Silvestri, 1896) is added from the Ardèche department, in Berrias-et-Casteljau. Other new data on centipedes of Corsica are included as well as the finding of the endemic *Lithobius (Lithobius) raffaldii* Iorio, 2009 in two new caves in Sorio and in Lano (Haute-Corse).

KEYWORDS: Lithobiomorpha, Scolopendromorpha, Geophilomorpha, France, Corsica, distribution, morphology.

RÉSUMÉ

Un examen de chilopodes récoltés en Corse nous a permis d'identifier *Henia (Chaetechelyne) duboscqui* (Verhoeff, 1943) dans deux nouvelles stations sur l'île (Vizzavona, Haute-Corse; Bocognano, Corse-du-Sud). Jusqu'à ce jour, cette espèce endémique n'avait jamais été retrouvée depuis sa description originale. Ses principaux caractères déterminants sont détaillés et illustrés, et sa validité est confirmée. Les autres espèces françaises du genre *Henia* C. L. Koch, 1847 sont brièvement présentées. *H. (Pseudochaetechelyne) brevis* (Silvestri, 1896) est citée pour la première fois en Ardèche, à Berrias-et-Casteljau. Plusieurs autres données nouvelles sur les chilopodes de Corse sont incluses, comme la trouvaille de l'endémique *Lithobius (Lithobius) raffaldii* Iorio, 2009 dans deux grottes situées à Sorio et à Lano (Haute-Corse).

INTRODUCTION

Henia (Chaetechelyne) duboscqui (Verhoeff, 1943) (Geophilomorpha, Dignathodontidae) is a poorly known species endemic to Corsica, not seen since the original description of Verhoeff (1943) based on one adult male only. In the nineteen-eighties Minelli (1982) had doubts about its distinction from *H. (C.) vesuviana* (Newport, 1845) and *H. (C.) duboscqui* has been considered as a possible junior synonym of the same subsequently (Geoffroy & Iorio, 2009; Vadell & Pons 2009; Zapparoli & Iorio, 2012). However Bonato & Minelli (2014) have provisionally maintained it as a valid species because of its lower number of leg-bearing segments, even if it needed further comparison with *H. (C.) montana* (Meinert, 1870). We have adopted Bonato & Minelli's position and also recognized *H. (C.) duboscqui* as valid in our catalogue of French centipedes (Iorio, 2014). The genus *Henia* C. L. Koch, 1847 (*sensu lato*) thus include five species in France (Iorio, 2014): *H. (C.) duboscqui*, *H. (C.) montana*, *H. (C.)*

vesuviana, *H. (Meinertia) bicarinata* (Meinert, 1870) and *H. (Pseudochaetechelyne) brevis* (Silvestri, 1896).

During recent years several entomologist colleagues, including the second author, have collected centipedes in Corsica for the first author. Amongst these the latter has identified both a female and a male of *H. (C.) duboscqui*. We give here details on this discovery as well as a brief account of French species of the genus *Henia* C. L. Koch, 1847. We also include other new data on Corsican centipedes after Zapparoli & Iorio (2012) and Iorio (2014).

MATERIAL AND METHODS

Our personal collection of *Henia* specimens as well as other Chilopoda is preserved in 70% ethanol in our office in the city of Rougé (Loire-Atlantique department, France). In other materials from Corsica, we have reviewed some of our numerous *H. (C.) vesuviana* specimens and taken into account our recent identifications of *H. (M.) bicarinata* and *H. (P.) brevis* in Southern France (data on the second unpublished until now). We have also carefully reviewed the literature, particularly that which describes species of the subgenus *Chaetechelyne* Meinert, 1870 (Meinert, 1870; Latzel, 1880; Verhoeff, 1928, 1943; Attems, 1929, 1947; Brolemann, 1930; Eason, 1964; Minelli, 1982; Koren, 1986; Spelda, 1999; Barber, 2009; Iorio & Labroche, 2015), with a special attention to *H. (C.) montana*.

Other new centipedes identified from Corsica are included in a separate section and are also preserved in 70% ethanol in our collection as above. In further material examined and held by the first author, the second author has also identified some specimens from Corsica and kept them at his house.

All the magnified pictures have been taken with a digital camera on a trinocular lens (7x to 50x) and stacking of several photographs with the « Combine ZP » software.

Abbreviations used: LBS = leg-bearing segment(s); ind. = individual(s).

RESULTS

Henia (Chaetechelyne) duboscqui

The examined specimens of *H. (C.) duboscqui*, a female and a male, respectively come from: Vizzavona (municipality of Vivario, Haute-Corse department in Corsica) at an altitude of 1100 m in the forest of Vizzavona; under mossy stones in a beech forest with some pines, 16.X.2015, leg. C. Quindroit, det. E. Iorio; Bocognano (Corse-du-Sud department), Monte Renoso, beech forest at 1200 m, 17.XI.1967, leg. P. Beron, det. E. Iorio. These are only the second and third locations where the species has been found; the first (type locality) being San Petrone, a mountain in the territory of the city of Nocario (Haute-Corse department) (= "S. Pedrone" after Verhoeff, 1943).

We summarise below the main distinguishing features of our female and male of *H. (C.) duboscqui* mainly in comparison with *H. (C.) montana*:

The colour of the body of the female *H. (C.) duboscqui* is mainly pale yellowish, with some darker zones but these darker areas do not create stripes as in *H. (C.) vesuviana*. The male is pale yellowish without darker zones (but it has been in 70° ethanol for 50 years). The body-length of the female reaches 26 mm without the antennae and legs and it has 53 LBS; the male reach 19,3 mm and has 51 LBS. It is notable that *H. (C.) montana* is quoted as having 55 to 59 LBS in males and 57 to 61 LBS in females by Meinert (1870) and Latzel (1880) and 55 to 61 LBS by Verhoeff (1928) under the name *Chaetechelyne vesuviana pharyngealis* Verhoeff, 1928, a junior synonym of *H. (C.) montana* according to Bonato & Minelli (2014). If we look at Verhoeff's (1943) account, *C. vesuviana pharyngealis* has 55

to 65 LBS, possibly because Verhoeff had examined new individuals and better knew the precise variability. Thus it seems reasonable to assume that *H. (C.) montana* could have 55 to 65 LBS. *H. (C.) duboscqui* is far from well known for this characteristic but in a case with less than 55 LBS, it could perhaps be of use.

The pore-area of the sternite of the first LBS of *H. (C.) duboscqui* is well rounded as described by Verhoeff (1943) (Fig. 1). Beginning with the second LBS, the pore-area of the sternite is longitudinally oval. Its length increases a little in the following several sternites to reach approximately twice its width at maximum (or even 2.25 times on some rare sternites as on the 15th of the female) (Fig. 2). With the exception of the first sternite, including those of the posterior half of the trunk, the pore-areas are always oval. Even the penultimate LBS has an oval pore-area on its sternite (the length of the pore-area reaching approximately 1.75 times its width). Thus the pore-areas of the sternites of the trunk are different from those in *H. (C.) montana*: in this latter, these pore-areas are also oval on the sternites of the anterior part of the trunk, but have a square shape with rounded angles on the sternites of the posterior half (Latzel, 1880; Attems, 1929; Verhoeff, 1943). According to Verhoeff (1928), the oval shape of the pore-areas of *H. (C.) montana* (= *C. vesuviana pharyngealis*) can end after the sternite of the 10th LBS; after this the pore-areas are round.

The last LBS has the usual small cavity containing several pores on each coxa (these pores being more or less hidden without manipulation), a typical characteristic of *Henia*. In addition *H. (C.) duboscqui* has one isolated posterior pore as described by Verhoeff (1943). This pore is large and easy to see with a magnification of 50 times or even less (Fig. 5). *H. (C.) montana* does not have this isolated pore according to Attems (1929) and Verhoeff (1943). As quoted by Verhoeff (1943), *H. (C.) duboscqui* has a pair of anal pores, but these pores are small and difficult to see even with a 100 times magnification (we have seen this feature with difficulty; it is better with a 400 times magnification).

The last pair of legs are thickened in the female *H. (C.) duboscqui* (Fig. 5), a useful criterion in addition to those already described: the last pair of legs of the female of *H. (C.) montana* being thin according to Latzel (1880). Apical claws of last legs are present but are very reduced, almost insignificant and only visible with a high magnification (at least 100 times). The male has the same features, but the last legs are a little thicker than in the female.

THE OTHER SPECIES OF *HENIA* (*SENSU LATO*) EXISTING IN FRANCE

Our recent examination of centipedes from various French localities gives some interesting recent data on this genus which updates our catalogue of French centipedes (Iorio, 2014). We include below a brief account.

Henia (Chaetechelyne) montana

Amongst French species, *H. (C.) montana* is the only one which has not been found for a long time and which involves one record formally recognized as valid by Iorio (2014): the quotation of two specimens in La Salle (Hautes-Alpes department) by Geoffroy (1981). Its main identifying characteristics are detailed above. A record by Léger & Duboscq (1903) from Vizzavona in Corsica is considered as doubtful by Iorio (2014). It seems possible that the "*H. (C.) montana*" of Léger & Duboscq corresponds in fact to *H. (C.) duboscqui*, not described in 1903; and our finding of *H. (C.) duboscqui* in Vizzavona adds credibility to this hypothesis.

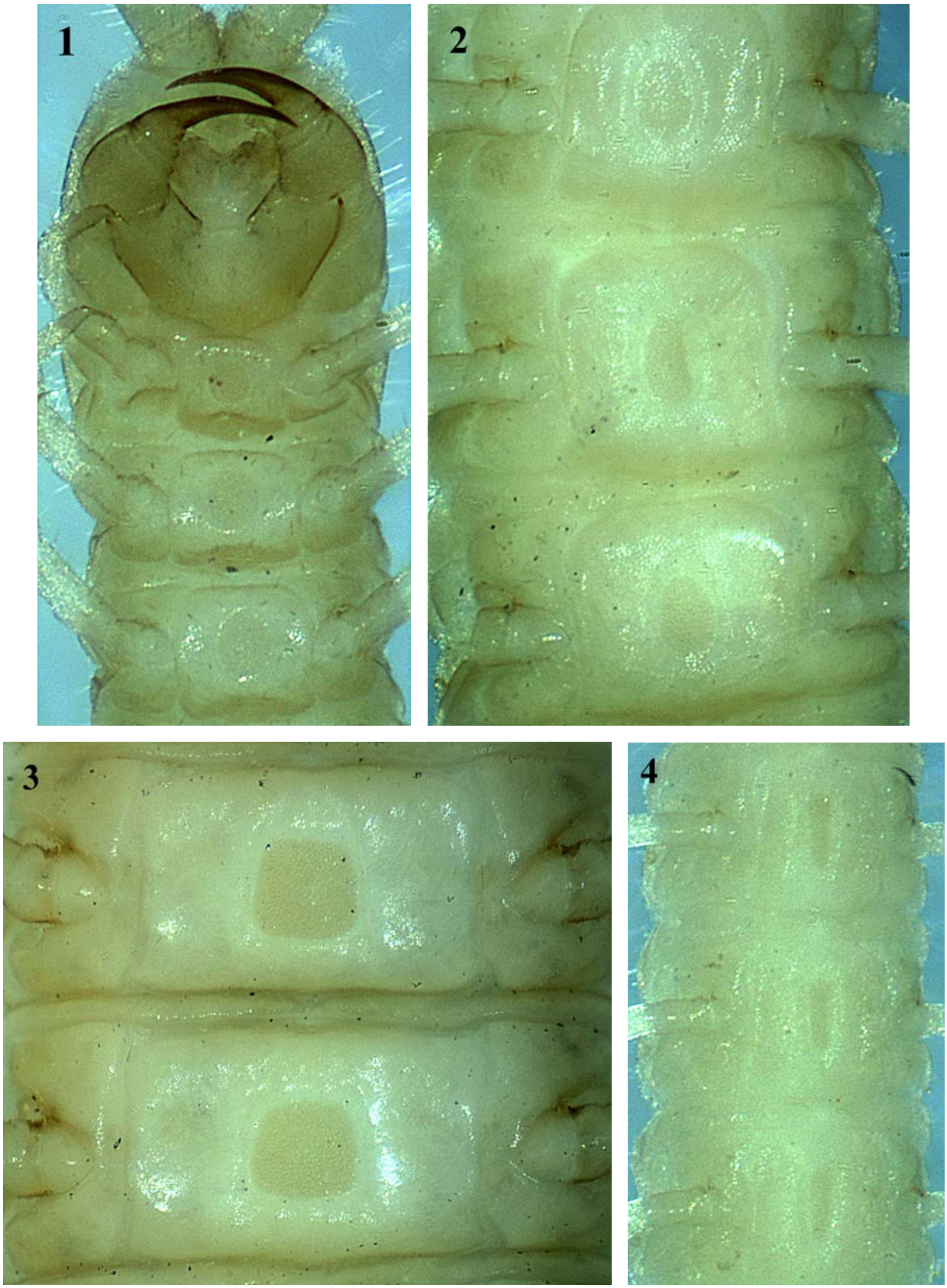


FIGURE 1: Ventral view of the head, forcipules and sternites of the three first LBS of *Henia duboscqui*. **FIGURE 2** : Sternites of the 14th to 16th LBS of *H. duboscqui*. **FIGURE 3**: Sternites of the 14th and 15th LBS of *H. vesuviana*. **FIGURE 4**: Sternites of the 11th to 14th LBS of *H. brevis*. Pictures by E. Iorio of a *H. duboscqui* from Vizzavona (Haute-Corse department), of a *H. vesuviana* from île d'Hoedic (Morbihan department) and of a *H. brevis* from Païolive (Ardèche department) (France).

Henia (Chaetechelyne) vesuviana

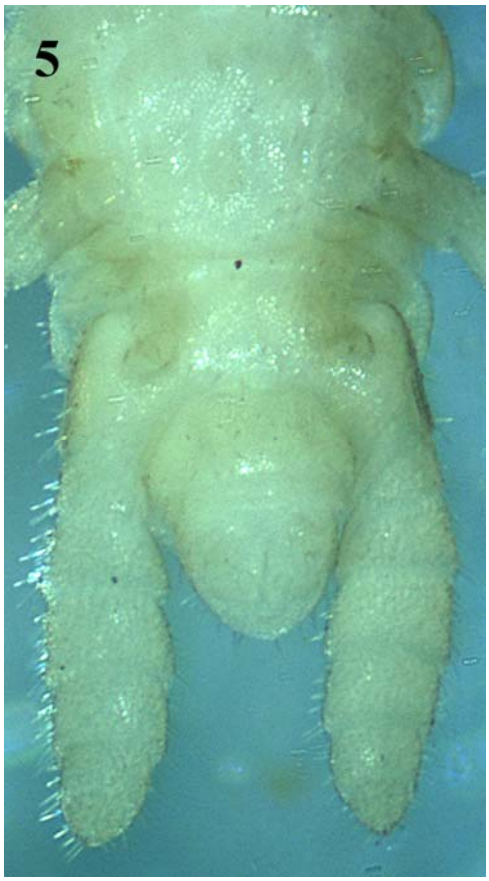
In United Kingdom, this species is restricted to the southern half of England and to the eastern coast of Ireland (Barber, pers. comm.), but it is well known and by far the most common and widely distributed of the genus in France (Iorio, 2014; Iorio (coord.), 2017). This is also the case in Corsica where Iorio (2014) synthesizes several historic and recent sets of data, and where we have again identified several specimens from Lavezzi (Corse-du-Sud), Ile Piana (island), 4.XI.2014, leg. P. Ponel, det. E. Iorio: 2 ♂; Ghisoni (Haute-Corse), Col de Sorba, elevation 1311 m, forest of *Pinus nigra corsicana*, with rocks, stones and a dense cover of pine litter, IX.2015, N42°8'40.3", E9°11'27.0", leg. C. Courtial, det. E. Iorio: 2 ♂, 2 ♀; Morosaglia (Haute-Corse), Monte San Petrone, forest of San Pietro d'Accia, elevation 1085 m, beech forest with stony soil and dense leaf litter, IX.2015, N42°25'12.7", E9°19'21.6", leg. C. Courtial, det. E. Iorio: 1 ♀; Partinello (Corse-du-Sud), X.2015, leg./det. C. Quindroit: 2 ind. Its morphology and identification are well detailed in recent monographs (Barber, 2009; Iorio & Labroche, 2015). With regards to *H. (C.) duboscqui*, *H. (C.) montana* and *H. (P.) brevis*, the most easily observable characters are the number of LBS (63 to 79) and the appearance of the pore-areas on the sternites of the trunk: these have an approximately square shape, as long as wide or even very slightly wider than long (Fig. 3). The angles can be more or less rounded. Also see Iorio & Labroche (2015: p. 73).

Henia (Meinertia) bicarinata

Until very recently, there was very little recent data on this taxon in France; in the synthesis of Iorio (2014), only data from Corsica is recent; this coming from Zapparoli & Iorio (2012) based on a specimen found during 1997 in Serriera (Corse-du-Sud department). There is also another reference to *H. (M.) bicarinata,* left out of our French catalogue, from Mauriès & Duy-Jacquemin (2001) who discovered one specimen in Porquerolles island (Var department) during 1994. However, Iorio & Noël (2017) have identified several individuals of *H. (M.) bicarinata* on the seashore of the Port-Cros National Park (Var department) and also from Sainte-Marguerite island (Alpes-Maritimes department) during autumn 2015. This species is considered as halophilic but not strictly halobiontic (Iorio, 2014; Iorio & Noël, 2017) since whilst frequently living on seashores it is also observed far from this littoral habitat. With its last pair of legs with 5 articles (not counting coxae) instead of 6 and the particular shape of its pore-areas, this species is easy to recognize compared with other French species of *Henia*. With the exception of *H. (C.) vesuviana*, it also has more legs than the other taxa: 67 to 85 LBS after Brolemann (1930).

Henia (Pseudochaetechelyne) brevis

It is less the case in United Kingdom where this species is known from fairly numerous synanthropic sites of southern England and Ireland (Barber, pers. comm.), but in France, it seems to be very rare. It was only known in three French departments according to Iorio (2014): Corse-du-Sud and Haute-Corse from which there is recent data and Alpes-Maritimes. From a further location, we identified a year ago a male of *H. (P.) brevis* collected by H.-P. Aberlenc and from the Païolive forest, Montchamp in Berrias-et-Casteljau (Ardèche department) in Southern France. This has 53 LBS and the very typical pore-areas of this taxon (Fig. 4): these latter are oblong, very elongated longitudinally, more than three times longer than wide (up to approximately four times longer than wide in our specimen). The shape of these pore-areas make this species very distinctive compared with other French *Henia* species. On the subject of the number of legs, Verhoeff (1898), Attems (1929, 1947) and Brolemann (1930) respectively quoted 45 to 47 LBS for this taxon under the name of *Chaetechelyne montana oblongocribellata* Verhoeff, 1898, a junior synonym of *H. (P.) brevis* (Iorio, 2014). Verhoeff (1943) had quoted 43 to 47 LBS.



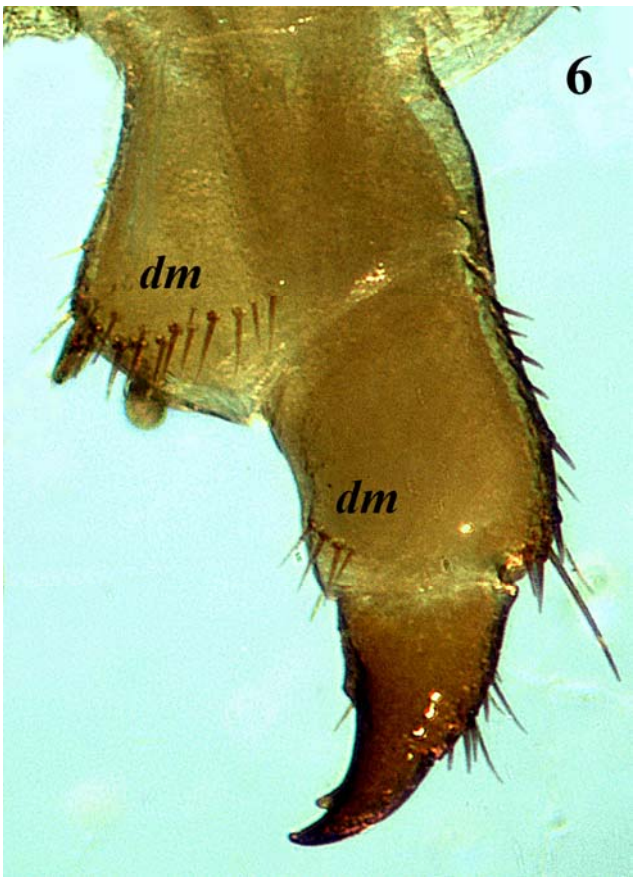


FIGURE 5: Last LBS and legs of *Henia duboscqui*, ventral view. **FIGURE 6**: Right female gonopod of *Lithobius raffaldii*, dorsal view; *dm* = dorsomedial setae. **FIGURE 7**: Head and forcipules of *L. raffaldii*, ventral view. Pictures by E. Iorio of a *H. duboscqui* from Vizzavona and of two *L. raffaldii* from Sorio.

In UK, Eason (1964) quoted 55 LBS for the male and Barber (2009) 53 to 57 without sex distinction. In Germany, Spelda (1999) records 45 LBS for males and 47 to 49 females for its specimens. In Sardinia, Zapparoli (2009) observed 49 to 59 LBS (the maximum in a female; he, however, says that "specimens with 55-59 leg pairs are tentatively assigned to this species"). From France, Zapparoli & Iorio (2012) found two males of 15 and 18 mm each with 51 LBS in Corsica. Minelli (1982) has had doubts about the UK specimens in relation to the previous known numbers of LBS in Italy and France (43 to 47), but with regards to the various specimens discovered in Western Europe including these countries, it seems very possible that the true amplitude of variation of the number of LBS is fairly wide and of 43 to 59 LBS for *H. (P.) brevis*; possibly we cannot exclude a "species-group" under this name. Barber (2009) said that, based on a personal communication from Koen Lock, Belgian specimens quoted by Lock (2009) under "*Henia montana*" are similar to the British ones in the aspect of having more legs than the "old" variability of 43-47, but are similar in other respects to Verhoeff's "*oblongocribellata*". Thus the description of Lock (2009) very probably refers to *H. (P.) brevis*, but unfortunately, he gave few details about his observations.

NEW CORSICAN DATA ON OTHER CENTIPEDES

Scutigeromorpha
Scutigeridae

Scutigera coleoptrata (Linnaeus, 1758): Cap Corse (Haute-Corse), Grotte des Archéologues (cave), 21.X.2015, leg. J. Raffaldi, det. E. Iorio: 1 ind.

Lithobiomorpha
Lithobiidae

Eupolybothrus nudicornis (Gervais, 1837): Zonza (Corse-du-Sud), vallée du Cavio, 22.V.2008, leg. S. Danflous, det. E. Iorio: 1 ♂, 1 ♀.

Lithobius (Lithobius) aidonensis Verhoeff, 1943: Lano (Haute-Corse), grotte de Cherpinède (cave), 2015, leg. J. Raffaldi, det. E. Iorio: 2 ♀ (of which 1 immature). Pietracorbara (Haute-Corse), sieving in faults, VII.2017, leg. J. Raffaldi, det. E. Iorio: 1 subadult ♀.

Comments: all these specimens fit well with the morphological details given by Iorio (2010). A large female has no dorsal spines on prefemora of the 1st to 6th pair of legs, but DmP spine begin on 7th femorae in this female. The other specimens have no dorsal spines on prefemora until the 9th legpair (included). With the other determining characters of this species, its plectrotaxy is still a useful criterion, even with the rare beginning of DmP on 7th legpair instead of 9th (Iorio, 2010).

Lithobius (Lithobius) blanchardi Léger & Duboscq, 1903: Ghisoni (Haute-Corse), Col de Sorba, elevation 1311 m, forest of *Pinus nigra corsicana*, with rocks, stones and a dense cover of pine litter, IX.2015, N42°8'40.3", E9°11'27.0", leg. C. Courtial, det. E. Iorio: 3 ♀.

Lithobius (Lithobius) castaneus Newport, 1844: Ghisoni (Haute-Corse), Col de Sorba, elevation 1311 m, forest of *Pinus nigra corsicana*, with rocks, stones and a dense cover of pine litter, IX.2015, N42°8'40.3", E9°11'27.0", leg. C. Courtial, det. E. Iorio: 1 ♀. Morosaglia (Haute-Corse), Monte San Petrone, forest of San Pietro d'Accia, elevation 1085 m, beech forest with stony soil and dense leaf litter, IX.2015, N42°25'12.7", E9°19'21.6", leg. C. Courtial, det. E. Iorio: 2 ♀. Vivario (Haute-Corse), Vizzavona, elevation 1100 m, forest of Vizzavona, 16.X.2015, leg./det. C. Quindroit: 5 ind. Lano (Haute-Corse), grotte de Cherpinède (cave), 2015, leg. J. Raffaldi, det. E. Iorio: 1 ♂. Baragogna (Haute-Corse, Morsiglia municipality), chestnut forest, trap, 2016-2017, leg. J. Raffaldi, det. E. Iorio: 3 ♂, 3 ♀.

Lithobius (Lithobius) lapidicola Meinert, 1872: Corte (Haute-Corse), Lac de Nino, elevation 1753 m, mountainous scrubland with *Genista salzmannii* and grass near the lake, IX.2015, N42°15'23.1", E8°56'15.3", leg. C. Courtial, det. E. Iorio: 1 ♀. Morosaglia (Haute-Corse), Monte San Petrone, forest of San Pietro d'Accia, elevation 1085 m, beech forest with stony soil and dense leaf litter, IX.2015, N42°25'12.7", E9°19'21.6", leg. C. Courtial, det. E. Iorio: 1 ♂, 3 ♀.

Lithobius (Lithobius) nodulipes Latzel, 1880: Baragogna (Haute-Corse, Morsiglia municipality), chestnut forest, trap, 2016-2017, leg. J. Raffaldi, det. E. Iorio: 1 ♀.

Comments: this is the fourth Corsican locality where this rare species is found. The found female is badly preserved (many legs lacking; watered down coloration because of the trap) but is tentatively assigned to this species, because the tergal criteria fit well with those described in Iorio (2010) and the 2 + 2 teeth on the forcipular coxosternite are in the same level and well spaced one from each other, with a moderately deep median notch (Fig. 10). These particularities are underlined by several authors (Matic, 1966; Koren, 1992; Iorio, 2010). Remember that the poorly known Corsican *L. (L.) brandensis* Verhoeff, 1943 has perhaps a close link with *L. (L.) nodulipes* (Zapparoli & Iorio, 2012; Iorio, 2014).

Lithobius (Lithobius) pilicornis Newport, 1844: Zonza (Corse-du-Sud), vallée du Cavio, 22.V.2008, leg. S. Danflous, det. E. Iorio: 2 ♀.

Lithobius (Lithobius) raffaldii Iorio, 2009: Lano (Haute-Corse), grotte de Cherpinède (cave), 2013, leg. J. Raffaldi, det. E. Iorio: 1 immature ♀. *Idem*, 2015: 1 subadult ♀. Sorio (Haute-Corse), Grotte de Gudrone (cave), 2013, leg. J. Raffaldi, det. E. Iorio: 2 ♂ (of which 1 immature), 2 ♀ (of which one immature).

Comments: these are the third and fourth caves in which this Corsican cavernicolous endemic has been found. Lano is located near an already known cave site, but the cave of Gudrone is located between the two other known locations (Iorio, 2014). The adult specimens of Sorio fully agree with the known morphology of this species (Iorio, 2009, 2010) and also give some further data: the body-length of the biggest, a male, reaches 34 mm and the length of its 15th legs reach 22.1 mm, hence still approximately two thirds of body-length. The 15th tibia and tarsus 1 each reach 5.6 and 6 mm respectively. The female is 24 mm but its 15th legs are lacking. Both adults have 7 + 7 and 7 + 6 forcipular teeth respectively (previously known numbers: 5 + 6, 6 + 5, 6 + 6) and, as previously described, (Iorio, 2010), elongated forcipules (Fig. 7). The interesting character of the tergite projections of *L. (L.) raffaldii* are also well developed here: as well as those of the 9th, 11th and 13th tergites, clear acute projections on 7th tergite are seen in all specimens including immatures (Fig. 9). Two specimens even have very small projections on the 6th tergite. Spine VpF occurs on the 15th legs of the male and confirms that the ventral plectrotaxy of 15th legs is: --, m, amp, am(p), am- (Iorio, 2010). The male has the distinctive cover of very numerous short setae on the sternites and coxae of four last LBS (Fig. 8). The female gonopods have here 13-14 dorsomedial setae on the 1st articles and 3 dorsomedial ones on the 2nd. This complements the known variation of the dorsomedial setae of Iorio (2010): 13 to 19 dorsomedial setae on the 1st article and 3 or 4 dorsomedial setae on the 2nd (Fig. 6).

Amongst the Lithobiomorpha, there is also a mysterious but unfortunately badly preserved specimen without the 15th leg-pair of *Eupolybothrus* Verhoeff, 1907 collected from Cap Corse (Haute-Corse), Grotte des Archéologues (cave), 21.X.2015, leg. J. Raffaldi. It has 68 articles on each antenna and 8 + 8 forcipular teeth, 15 ocelli, a small Tömösvary's organ, triangular projections on 6th, 7th, 9th, 11th and 13th tergites and a VaC spine on 15th legs.

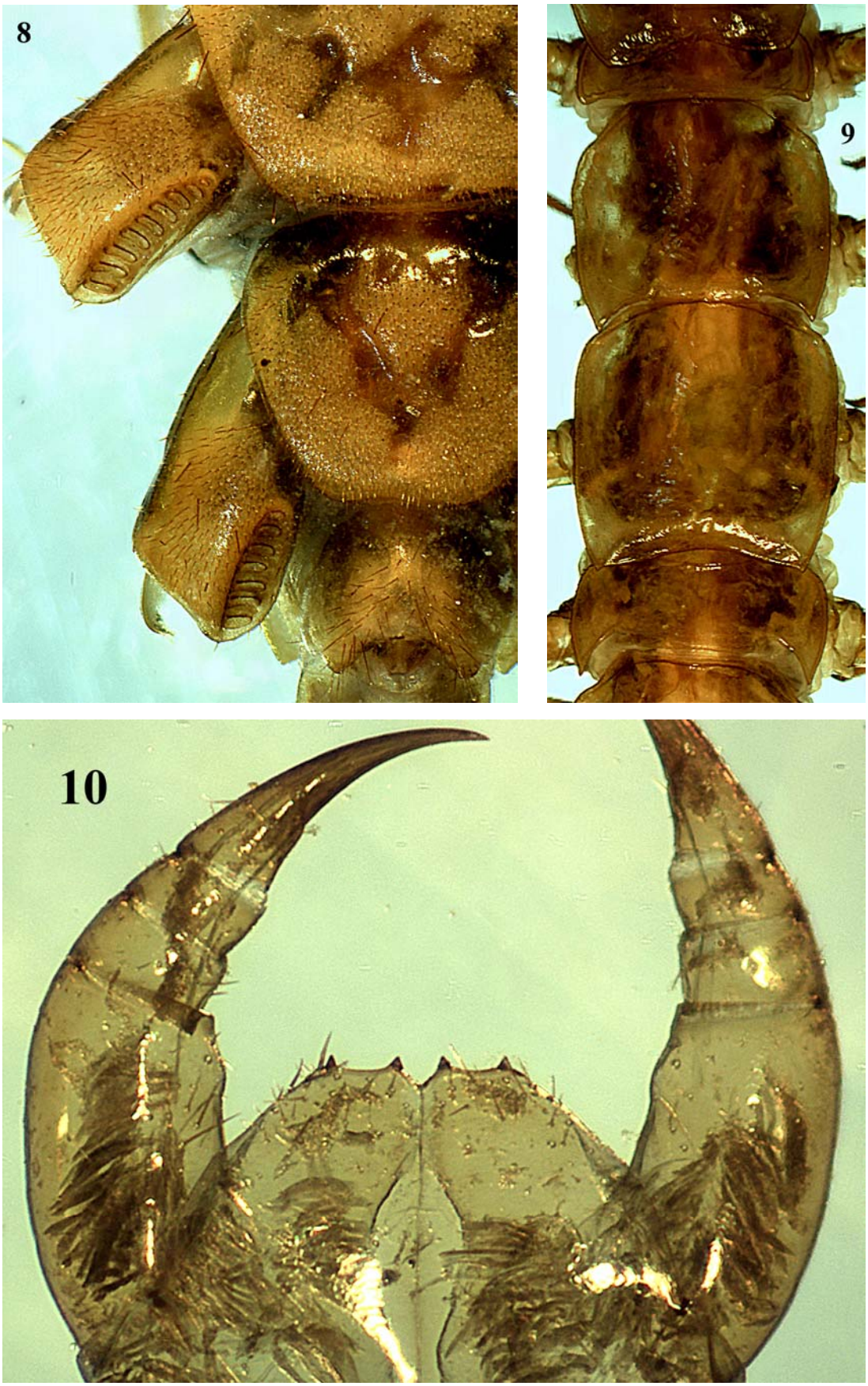


FIGURE 8: Partial ventral view of two last LBS and of genital segment of a male *L. raffaldii*. **FIGURE 9**: Tergites from 6th to 9th LBS of *L. raffaldii*. **FIGURE 10**: Forcipules of *L. nodulipes*, ventral view. Pictures taken by E. Iorio of a *L. raffaldii* from Sorio and of *L. nodulipes* from Baragogna.

Scolopendromorpha

Cryptopidae

Cryptops hortensis (Donovan, 1810): Morosaglia (Haute-Corse), Monte San Petrone, forest of San Pietro d'Accia, elevation 1085 m, beech forest with stony soil and dense leaf litter, IX.2015, N42°25'12.7", E9°19'21.6", leg. C. Courtial, det. E. Iorio: 2 ind.

Cryptops trisulcatus Brölemann, 1902: Zonza (Corse-du-Sud), vallée du Cavio, 22.V.2008, leg. S. Danflous, det. E. Iorio: 1 ind. Ghisoni (Haute-Corse), Col de Sorba, elevation 1311 m, forest of *Pinus nigra corsicana*, with rocks, stones and a dense cover of pine litter, IX.2015, N42°8'40.3", E9°11'27.0", leg. C. Courtial, det. E. Iorio: 1 ind. Partinello (Corse-du-Sud), X.2015, leg./det. C. Quindroit: 1 ind.

Scolopendridae

Scolopendra oraniensis Lucas, 1846: Zonza (Corse-du-Sud), vallée du Cavio, 22.V.2008, leg. S. Danflous, det. E. Iorio: 1 ind. Ghisoni (Haute-Corse), Col de Sorba, elevation 1311 m, forest of *Pinus nigra corsicana*, with rocks, stones and a dense cover of pine litter, IX.2015, N42°8'40.3", E9°11'27.0", leg. C. Courtial, det. E. Iorio: 2 ind. Lavezzi (Corse-du-Sud), Ile de Cavallo (island), 6.XI.2014, leg. P. Ponel, det. E. Iorio: 1 ex. Partinello (Corse-du-Sud), X.2015, leg./det. C. Quindroit: 1 ind.

Geophilomorpha

Himantariidae

Stigmatogaster gracilis (Meinert, 1870): Moltifao (Haute-Corse), elevation 258 m, grazed and disturbed scrubland, IX.2015, N42°28'49.4", E9°9'2.2", leg. C. Courtial, det. E. Iorio: 1 ♀. Ghisoni (Haute-Corse), Col de Sorba, elevation 1311 m, forest of *Pinus nigra corsicana*, with rocks, stones and a dense cover of pine litter, IX.2015, N42°8'40.3", E9°11'27.0", leg. C. Courtial, det. E. Iorio: 2 ♂. Ocana (Corse-du-Sud), 13.XI.1967, leg. P. Beron, det. E. Iorio: 2 ♂.

Schendylidae

Schendyla vizzavonae Léger & Duboscq, 1903: Morosaglia (Haute-Corse), Monte San Petrone, forest of San Pietro d'Accia, elevation 1085 m, beech forest with stony soil and dense leaf litter, IX.2015, N42°25'12.7", E9°19'21.6", leg. C. Courtial, det. E. Iorio: 1 ♂, 1 ♀. Pie d'Orezza (Haute-Corse), beech forest, minimum elevation 800 m, leg. J. Raffaldi, det. E. Iorio: 1 ♂, 3 ♀. Vivario (Haute-Corse), Vizzavona, elevation 1100 m, 17.XI.1967, leg. P. Beron, det. E. Iorio: 1 ♀. Bastelica (Corse-du-Sud), Monte Renoso, oak forest, elevation 1200 m, 14.XI.1967, leg. P. Beron, det. E. Iorio: 1 ♂. Vivario (Haute-Corse), Vizzavona, elevation 1100 m, forest of Vizzavona, 16.X.2015, leg./det. C. Quindroit: 10 ind.

Geophilidae

Geophilus carpophagus Leach, 1815: Ghisoni (Haute-Corse), Col de Sorba, elevation 1311 m, forest of *Pinus nigra corsicana*, with rocks, stones and a dense cover of pine litter, IX.2015, N42°8'40.3", E9°11'27.0", leg. C. Courtial, det. E. Iorio: 1 ♀ with 59 LBS.

Pachymerium ferrugineum (C. L. Koch, 1835): Lavezzi (Corse-du-Sud), Ile Piana (island), 4.XI.2014, leg. P. Ponel, det. E. Iorio: 1 ♀. Lavezzi (Corse-du-Sud), Ile de Cavallo (island), 6.XI.2014, leg. P. Ponel, det. E. Iorio: 1 ♀.

Stenotaenia linearis (C. L. Koch, 1835): Nonza (Haute-Corse), 26.XI.1967, leg. P. Beron, det. E. Iorio:

1 ♀. Palasca (Haute-Corse), Plage d'Ostriconi (beach), 26.XI.1967, leg. P. Beron, det. E. Iorio: 1 ♂, 1 ♀.

Comments: male has 63 LBS, both females have 65 LBS.

SHORT DISCUSSION AND CONCLUSION

It was very interesting to find *Henia (Chaetechelyne) duboscqui* in two new places in Corsica. Firstly, this species had never been seen again since Verhoeff's original description and the adult female was unknown until now. Despite the validity provisionally admitted by Bonato & Minelli (2014), these authors also written that "its possible identity with *H. montana* remains to be evaluated". The characters described above show clearly that *H. (C.) duboscqui* is a different species from *H. (C.) montana*: as underlined by Verhoeff (1943), the pore-areas of the sternites of the trunk (particularly of the posterior half), the presence or absence of the isolated pore on last coxae as well as the presence or absence of anal pores are good distinguishing criteria between the two taxa. Also, in other characters, the degree of swelling of the female last legs seems to be a good character as well: thick in *H. (C.) duboscqui* female, thinner in *H. (C.) montana* female. The number of LBS is possibly different at least for the extreme amplitudes but it needs examination of many individuals to determine this with certainty.

Secondly, *H. (C.) duboscqui*, is endemic to Corsica in France and possibly only present in mountainous sectors of this island because the three known locations are from more than 1000 m in altitude (1100 and 1200 m in our case, 1600 m in Verhoeff's): hence this species seems to only exist in a very reduced area. These elements suggest high conservation importance for *H. (C.) duboscqui*.

In addition, the troglobitic *Lithobius (Lithobius) raffaldii*, found in two new caves, has already been considered as "sensitive species" by Iorio (2014) and the new discoveries refine its distribution, which is still limited to the Northern third of Corsica. One of these new caves is the "grotte de Cherpinède", in which the most localized endemic of Corsica occurs: *L. (L.) cherpinedensis* Iorio, 2010. Thus this cave is of great interest for its centipedes.

It would be interesting to find more specimens of *H. (C.) duboscqui* in other Corsican locations as well as to continue research on centipedes in this island with the aim of better determining the distribution of the different species, their ecological requirements and in the case of *H. (C.) duboscqui*, to improve our knowledge as to the number of LBS. We also cannot exclude the possibility that new taxa for science could be discovered in the future, particularly in caves. The finding of the rare *H. (P.) brevis* in Ardèche department must also encourage us to look for it elsewhere in continental France.

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BIBLIOGRAPHY

Attems, C.G. (1929) *Myriapoda 1: Geophilomorpha*. Das Tierreich, vol. 52 (Schulze F. E. & Kükenthal W. Ed.), W. de Gruyter & C., Berlin & Leipzig: 388 p.

Attems, C.G. (1947) Neue Geophilomorpha des Wiener Museums. *Annalen des Naturhistorischen Museums in Wien*, **55**: 50-149.

Barber, A.D. (2009) *Centipedes*. Synopses of the British Fauna (New Series) No. 58, Field Studies Council: 228 p.

Bonato, L. & Minelli, A. (2014) Chilopoda Geophilomorpha of Europe: a revised list of species, with taxonomic and nomenclatorial notes. *Zootaxa*, **3770(1)**: 1-136.

Brolemann, H.W. (1930) *Eléments d'une faune des myriapodes de France. Chilopodes. Faune de France, 25*. Imprimerie Toulousaine, Toulouse; P. Lechevalier, Paris, 405 p.

Eason, E.H. (1964) *Centipedes of the British Isles.* Frederic Warne & Co Ltd, London: 294 p.

Geoffroy, J.-J. (1981) Les Myriapodes du Parc National des Ecrins. I. – Stations de récolte (1976-1979) et présentation générale des peuplements de Chilopodes et de Diplopodes. *Travaux Scientifiques du Parc National des Ecrins,* **1**: 97-123.

Geoffroy, J.-J. & Iorio, E. (2009) The French centipede fauna (Chilopoda): updated checklist and distribution in mainland France, Corsica and Monaco. *Soil Organisms*, **81(3)**: 671-694.

Iorio, E. (2009) Une nouvelle espèce troglobie du genre *Lithobius* (s. str.) Leach, 1814 (Chilopoda, Lithobiomorpha, Lithobiidae). *Bulletin de la Société linnéenne de Bordeaux*, tome 144 (N.S.), **37(1)**: 113-121.

Iorio, E. (2010) Les Lithobies et genres voisins de France (Chilopoda, Lithobiomorpha). Révision de plusieurs espèces méconnues et nombreux apports inédits à la connaissance du genre *Lithobius* Leach, 1814. Avec une clé des familles, des genres et de toutes les espèces de l'ordre. *Supplément à R.A.R.E.*, **19**: 1-104.

Iorio, E. (2014) Catalogue biogéographique et taxonomique des chilopodes (Chilopoda) de France métropolitaine. *Mémoires de la Société Linnéenne de Bordeaux*, **15**: 1-372.

Iorio, E. (coord.) (2017) Projet d'atlas des chilopodes (Chilopoda) des Pays de la Loire : bilan de la 3ème année. GRETIA : 24 p.

Iorio, E. & Labroche, A. (2015) Les chilopodes (Chilopoda) de la moitié nord de la France : toutes les bases pour débuter l'étude de ce groupe et identifier facilement les espèces. *Invertébrés armoricains, les Cahiers du GRETIA*, **13**: 1-108.

Iorio, E. & Noël, F. (2017) Découverte de deux géophilomorphes halobies rares dans le Parc national de Port-Cros (Var) (Chilopoda, Geophilomorpha). *Bulletin de la Société Linnéenne de Bordeaux*, t. 152 (N. S.), **45(2)**: 183-194.

Koren, A. (1986) Die Chilopoden-Fauna von Kärnten und Osttirol. 1. Geophilomorpha, Scolopendromorpha. *Carinthia II*, **43**. Klagenfurt : 87 p.

Koren, A. (1992) Die Chilopoden-Fauna von Kärnten und Osttirol. 2. Lithobiomorpha. *Carinthia II*, **51**. Klagenfurt : 138 p.

Latzel, R. (1880) *Die Myriopoden der Österreichisch-Ungarischen Monarchie. 1. Die Chilopoden.* Hölder, Wien, 228 pp.

Léger, L. & Duboscq, O. (1903) Recherches sur les Myriapodes de Corse et leurs parasites. *Archives de Zoologie Expérimentale et Générale*, **1 (4)**: 307-325.

Lock, K. (2009) Updated checklist of the Belgian centipedes (Chilopoda). *Entomologie faunistique – Faunistic Entomology*, **62(1)**: 35-39.

Matic, (1966) *Fauna Republicii Socialiste România – Clasa Chilopoda, subcl. Anamorpha.* Academiei Republicii Socialiste România, **6(1)**: 1-272.

Mauriès, J.-P. & Nguyen Duy-Jacquemin M. (2001). Contribution à l'étude de la biodiversité des îles d'Hyères (Porquerolles et Port-Cros, Var) : diplopodes et chilopodes. *Bulletin de la Société zoologique de France*, **126(1-2)**, p. 75-88.

Meinert, F. (1870) Myriapoda Musaei Hauniensis. Bidrag til Myriapodernes Morphologi og Systematik. I. Geophili. *Naturhistorisk Tidskrift*, **3(7)**: 1-128.

Minelli, A. (1982) Contributo alla revisione dei chilopodi geofilomorfi finora riferiti ai generi *Henia* e *Chaetechelyne* (Chilopoda, Geophilomorpha). *Memorie della Società Entomologica Italiana, Genova*, **60**: 253-268.

Spelda, J. (1999) Verbreitungsmuster und Taxonomie der Chilopoda und Diplopoda Südwest-deutschlands. Diskriminanzanalytische Verfahren zur Trennung von Arten und Unterarten am Beispiel des Gattung *Rhymogona* Cook, 1896 (Diplopoda, Chordeumatida, Craspedosomatidae). Ph. D. Thesis, University of Ulm. Part I : 217 p. Part II: 324 p.

Vadell, M. & Pons, G.X. (2009) Aportaciones al conocimiento de los quilópodos (Chilopoda; Geophilomorpha) de la Serra de na Burguesa (Mallorca, Islas Baleares). *Bolletí de la Societat d'Història Natural de les Balears,* **52**: 169-182.

Verhoeff, K.W. (1898) Beiträge zur Kenntnis paläarktischer Myriopoden. VI. Über paläarktische Geophiliden. *Archiv für Naturgeschichte*, **64**: 335-362.

Verhoeff, K.W. (1928) Geophilomorphen-Beiträge und eine *Lithobius*-Form. *Mitteilungen aus dem Zoologischen Museum in Berlin*, **14**: 229-286.

Verhoeff, K.W. (1943) Uber Chilopoden der Insel Korsika. *Zoologischer Anzeiger*, **143(1)**: 1-20.

Zapparoli, M. (2009) An annotated catalogue of the epigeic and cave centipedes (Chilopoda) of Sardinia, *in* Cerretti P., Mason F., Minelli A., Nardi G., Whitmore D. (eds), Research on the terrestrial arthropods of Sardinia (Italy). *Zootaxa,* **2318**: 56-168

Zapparoli, M. & Iorio, E. (2012) The centipedes (Chilopoda) of Corsica: catalogue of species with faunistic, zoogeographical and ecological remarks. *International Journal of Myriapodology*, **7**: 15-68.