CHAETOPHILOSCIA SICULA VERHOEFF, 1908 (ISOPODA, ONISCIDAEA: PHILOSCIIDAE) – A NEW SPECIES FOR THE ROMANIAN FAUNA

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Chatophiloscia sicula is recorded for the first time in Romania. It was found in the drills nearby Movile Cave (South Dobrogea) from a depth of 3 meters and descends to 18 meters.

Key words: Crustacea, Isopoda, Oniscidea, Philosciidae, *Chaetophiloscia*, Movile Cave, Romania.

1. INTRODUCTION

The isopod fauna of Dobrogea was studied by V. Gh. Radu and I. Tabacaru. V. Gh. Radu [6] mentioned from Dobrogea, for the first time in the Romanian fauna, a species belonging to the genus *Chaetophiloscia* Verhoeff, 1908 – namely *Chaetophiloscia hastata* Verhoeff, 1929. In 1990, I. Tabacaru [11] draw an exhaustive inventory of the Isopoda from Dobrogea – a reference paper for all who intend to study the isopod fauna of this region.

Studying a rich material coming from the drills made near Movile Cave by the Department of Biospeology led by Dr. V. Decu, we have discovered *Chaetophiloscia sicula*, a species unknown up to now for Romania, along with *Chaetophiloscia hastata*. The authors record for the first time the presence of *Chatophiloscia sicula* in the Romanian isopod fauna. Some of the diagnostic features of this species are figured comparatively with those of *Chaetophiloscia hastata*.

2. THE GENUS CHAETOPHILOSCIA VERHOEFF, 1908 AND ITS SPECIES

According to Schmalfuss [9] *Chaetophiloscia* Verhoeff, 1908 is a Mediterranean genus of terrestrial isopods. It ranges from the Northern Mediterranean (Spain and Southern France) and Algeria in the South, through Italy and the Balkan Peninsula (Greece and Bulgaria) and Romania to the Western Asia – from the Caucasus region through Turkey to Iraq, Syria and Israel [6, 7, 12, 10, 4, 1, 8, 9, 11].

Considering the cited bibliography, we can mention the following species within the genus Chaetophiloscia Verhoeff, 1908:

– *Ch. elongata* (Dolfuss, 1884): an expansive form colonizing the most of the Mediterranean region although missing from England, Southern Spain and Portugal [12]; widespread from Algeria through Cyprus (where lives *Ch. elongata cypriotes* Vandel, 1965) to Western Asia: Southern Turkey, Lebanon, Central Israel (where lives *Ch. elongata aharonii* Verhoeff, 1921) [9].

– *Ch. cellaria* (Dolfuss, 1884): Northern Mediterranean from Spain to Lebanon: Southern France, North and Central Italy, Sardinia, Elba, Corse, Sicily and Istria, also Rhodos and Greece [12, 10, 8]. In Western Asia, there are records from South Turkey (Taurus Mountains), Lebanon [9].

– *Ch. guernei* (Dolfuss, 1887): Known from the Azore and other neighbouring islands [10].

– *Ch. illyrica* (Verhoeff. 1901): Mentioned by Schmolzer [10] from Istria.

– *Ch. attica* (Verhoeff, 1901): Known from Attika and North-eastern Peloponnesus [9].

– *Ch. sicula* Verhoeff, 1908: Common throughout the French mediterranean region and Italy, also in Minorca, Elba, Corse, Sicily, Ischia and Crete [12]. Also found in Middle Greece and Eubeea [8].

– *Ch. glandulifera* Verhoeff, 1908: Schmolzer [10] mentions it from Middle Italy.

– *Ch. pallida* Verhoeff, 1928: Recorded by Schmolzer [10] from Riviera.

– *Ch. balssi* Verhoeff, 1928: known from greenhouses in Germany (Munchen) but, as Schmolzer [10] pointed out, only as a synanthropic species. Its origin is also unknown [4].

– *Ch. hastata* Verhoeff, 1929 : Common in Italy, North-east Greece, Turkey, Cyprus, Iraq and the Caucasus region [10, 8, 9]. Also known from Bulgary [14, 1, 2] and Romania [6].

– *Ch. splitensis* Verhoeff, 1930: Recorded from Dalmatia (Split) and from Rhodos [10].

– *Ch. massoncellensis* Verhoeff, 1931: Known from Piombino [10].

– *Ch. pseudocellaria* Arcangeli, 1935: Recorded from Rhodos by Schmolzer [10]. Included by Schmalfuss [9] in *Ch. cellaria.*

– *Ch. lagoi* Arcangeli, 1935: Known from the Greek islands of Naxos [10], Rhodos, from Cyprus and from Israel [8, 9].

– *Ch .leucadia* Strouhal, 1936: Western Greece and the Ionic Islands [8].

– *Ch. hadjissarantosi* Strouhal, 1938: Recorded by Schmolzer [10] from Kalamata (Greece); put into synonymy by Schmalfuss in 1990 with *Ch. cellaria.*

– *Ch. solerii* Arcangeli, 1938: Rhodos Island [10]. Included by Schmalfuss [9] in *Ch. cellaria.*

– *Ch. almana* Verhoeff & Strouhal, 1967: Southern Turkey [9].

– *Ch. kinzelbachi* Schmalfuss, 1986: Recorded only from the type locality in Western Syria and from Southern Turkey close to the Syrian border [9].

– *Ch. warburgi* Schmalfuss, 1991: Descriebed from Israel- South-eastern Haifa, Lower Galilee [9].

It could be remarked that Chaetophiloscia Verhoeff, 1908 is a Mediterranean genus of terrestrial isopods and the number of its species increase from West to East. Only two species, *Ch. hastata* and *Ch. sicula*, break out of the Mediterranean proper ranging in the Black Sea area. The first one to the Caucasus and the second one to south-eastern Romania (Dobrogea). But, while there are good records of *Ch.hastata* in Bulgaria [1] there is none for *Ch. sicula*.

3. *CHAETOPHILOSCIA HASTATA* AND *CHAETOPHILOSCIA SICULA* IN THE ROMANIAN FAUNA

In Romania, both *Ch. hastata* and *Ch.sicula* were found only in the Southern Dobrogea.

V. Gh. Radu, in 1960, recorded for the first time the presence of numerous individuals of *Ch. hastata* in two localities – Eforie Sud and Eforie Nord – from lakeshores, under wet rocks and tree trunks from gardens and greenhouses [6]. Excepting Eforie we have found *Ch. hastata* in the Hagieni Forest and nearby Mangalia. In the Hagieni Forest, we have collected *Ch. hastata* just once in a limestone abri near a spring among the oak trees.

Nearby Mangalia, *Ch. hastata* was found in the area of Movile Cave at the Sulphurous Spring in the Cara-Oban and in the Obanul Mare. In both sites it was found in the soil and. In the drills made in limestone near the Movile Cave, *Ch. hastata* descends to 9 meters in the Drill no. 1 (in the Sinkhole) and to 12 meters in the Drill no.2 (near the Movile Cave).

Untill now, we have found *Ch. sicula* only in the two drills. Unlike *Ch. hastata*, which can be found near the surface, *Ch. sicula* appears from a depth of 3 meters (from the soil level) and descends to 18 meters in both drills. It is by far more numberous than *Ch. hastata*: in the Sinkhole Drill (drill no. 1) *Ch. sicula* outnumbers *Ch. hastata* by 15: 1 and in the Cave Drill (drill no. 2) by 11: 1. So, *Ch. sicula* is the most common isopod species at all depths. It is noteworthy to add that we did not find yet *Ch. sicula* above the depth of 3 meters.

Comparing *Ch. sicula* with *Ch. hastata*, we observe the following:

Chaetophyloscia hastata	*Chaetophyloscia sicula*
I. Size	
Verhoeff, K. W., [14] ovigerous female L: 5.5 mm	Verhoeff, K. W., [14] female L: 5.5 mm male L:4.5 mm
Schmolzer, K., [10] L: 6 – 7 mm	Vandel, A., [12] ovigerous female L: 7 – 8 mm

Radu, V. Gh., [6]
L: 6 – 7 mm

Schmalfuss, H., [8]
female L: up to 10 mm
male L: up to 8 mm

Our material:
female L: 5 – 8 mm
male L: 6 – 7 mm

male L: 4 – 5 mm
Dallens, H., [3]
female L: 8 – 9 mm
male L: 4 - 5 mm

Schmalfuss, H., [8]
female L: maximum 6.5 mm
male L: maximum 4 mm

Our material:
female L: 4 – 6 mm
male L: 4 mm

II. Pereiopod I male

It shows a pronounced sexual dimorphism at the level of the carpus which is very wide, strongly compressed laterally. Ratio L / l = 1.5. In side view, the carpus is pear shaped.

Ventrally, it has 6 spines with 3 tips and one with 5 tips. Dorsally, near the articulation with the propodus, there is a small cluster of short simple spines.

On the internal face, we notice the cleansing apparatus – "Putzapparat" as Verhoeff [14] named it – made up by dense rods covering a limited area in the distal third of the carpus(Fig. 1A).

There is no sexual dimorphism at the level of the carpus. Unlike the other species, the carpus is not widened: ratio L / l = 2. In side view, the carpus is ovalshaped. Ventrally, there are two strong spines, one with 3, the other with 7 tips and 5 shorter spines with 3 tips. Dorsally, near the articulation with the propodus, there is a cluster of shorter, simple spines which are denser and occupy a larger area then in *Ch. hastata*.

The surface covered by the cleansing apparatus is obviously larger then in *Ch. hastata*: it covers most of the distal third and the median region of the carpus. (Fig. 2A).

III. Pereiopod VII male

The merus shows a superficial depression on the ventral and medial side.(Fig. 1B).

The depression of the merus is barely visible. (Fig. 2B).

IV. Pleopod I male

In the distal part, the endopodit has a deep depression on the external edge followed by a spur with a small internal depression. The spur is finger-like; at the base of the internal hollow there is a heel from which runs along the inner edge a short cilliated border. (Fig. 1 C,D).

The endopodit ends in a rounded tip with a rounded heel turned outwards and a prominent spine (Fig. 2 C,D).

V. Pleopod II male

The endopodit is biarticulated, with a short basal article and an elongated and whip-like final article.

The endopodit is biarticulated but, unlike *Ch. hastata*, the final articol is short.

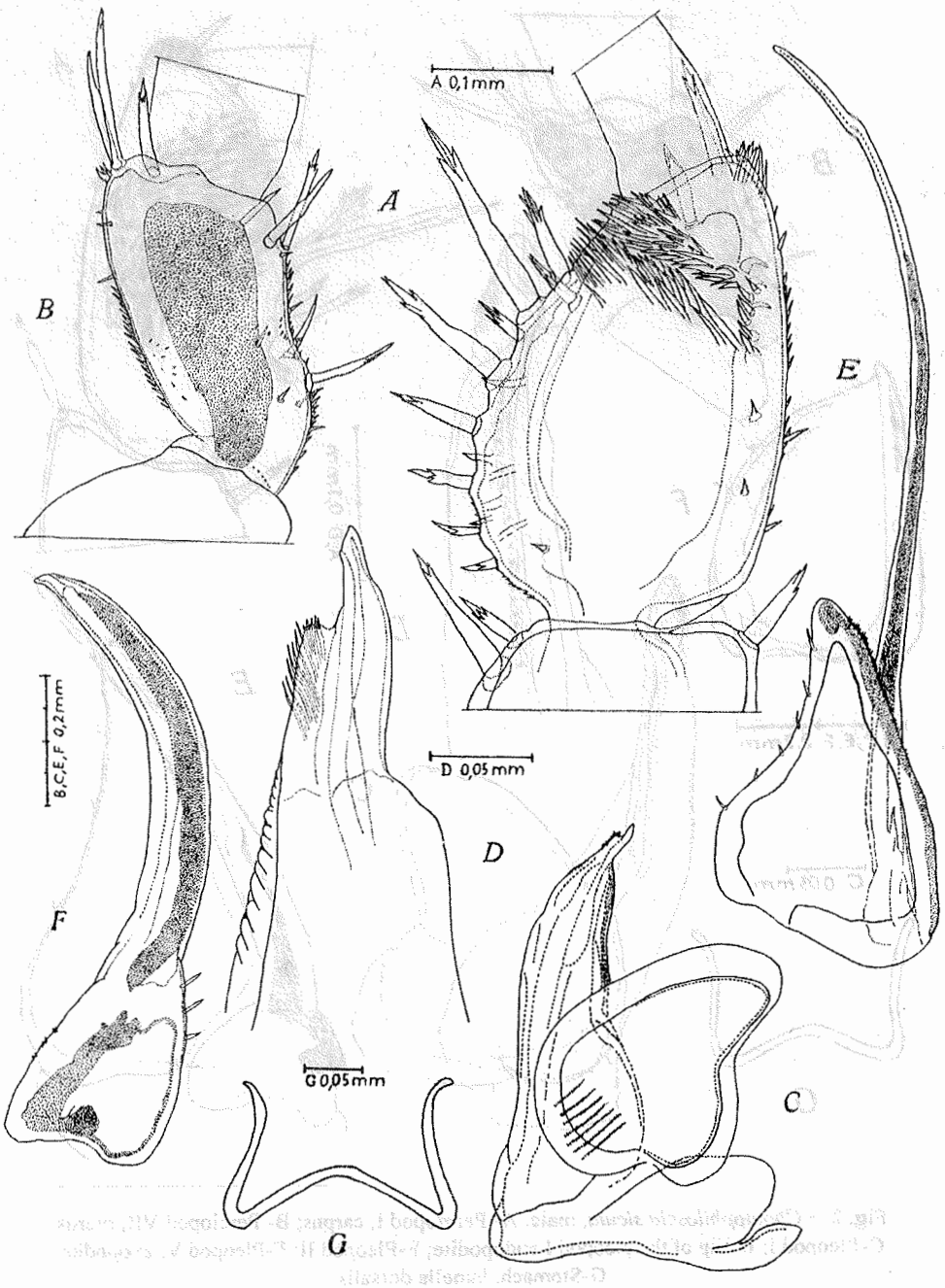

Fig. 1 – *Chaetophiloscia hastata*, male: A- Pereiopod I, carpus; B- Pereiopod VII, merus; C- Pleopod I; D-Tip of the pleopod I endopodite; E-Pleopod II; F-Pleopod V. exopodite; G-Stomach, lamella dorsalis.

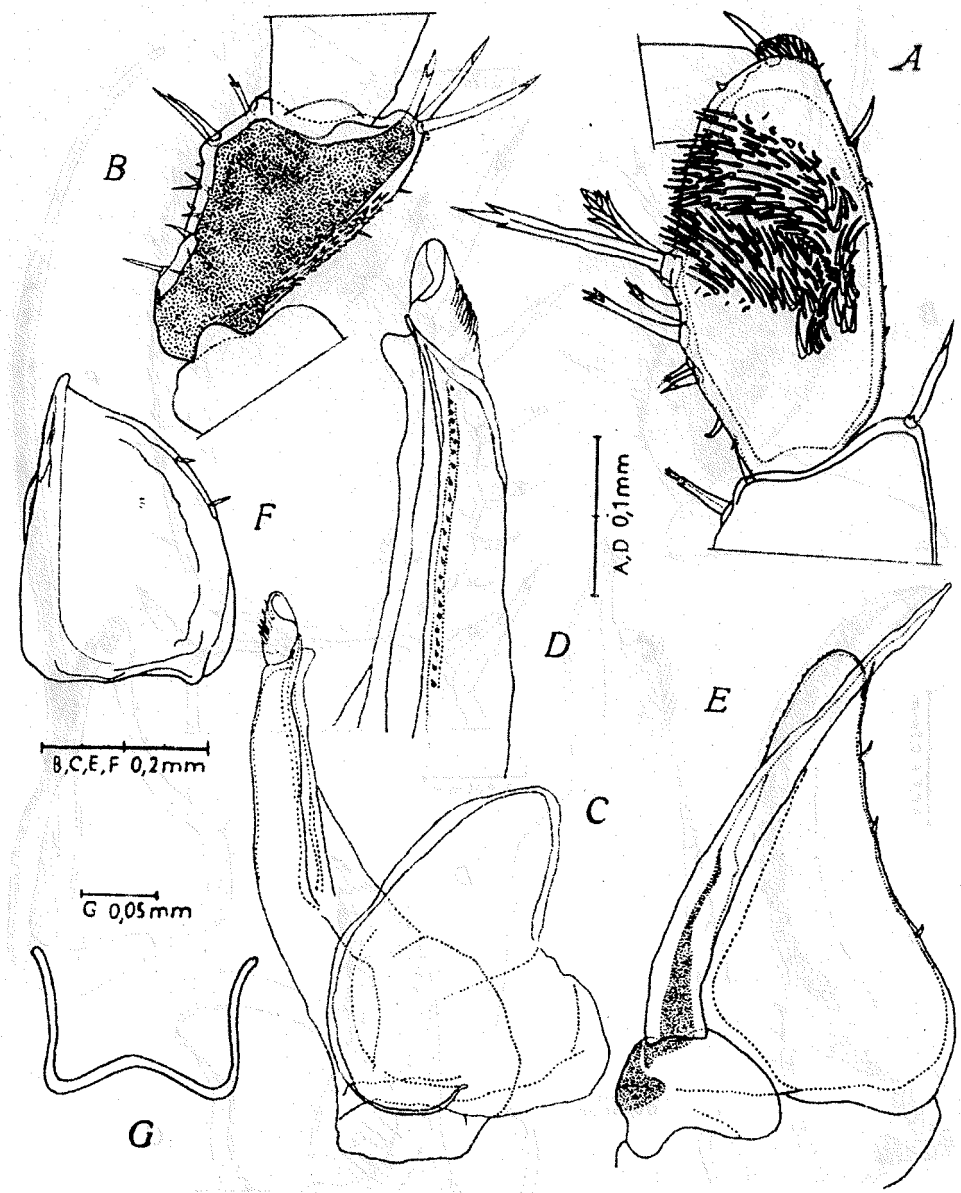

Fig. 2 — *Chaetophiloscia sicula*, male: A- Pereiopod I, carpus; B- Pereiopod VII, merus; C-Pleopod I; D-Tip of the pleopod I endopodite; E-Pleopod II; F-Pleopod V, exopodite; G-Stomach, lamella dorsalis.

The exopodit is triangular elongated; the external edge is and deeply excavated and has 6 short spines with 3 points (Fig. 1E).	The exopodit is triangular; the external edge has a shallow excavation and 4 simple spines (Fig.2E).

VI. Pleopod V male

The exopodit shows a long, thin and pointed prolongation on the posterior end. This prolongation is twiceas long as its stem. The external edge shows 3 spines each of which has 3 tips (Fig. 1F).	Unlike *Ch. hastata*, the exopodit shows posteriorly only a short tubercle. The external edge has only two simple spines (Fig. 2F).

VII. Stomach – lamella dorsalis

The overall shape is trapezoidal. The posterior edge has a deep excavation at an angle of approx. 75°. The external posterior corners are round. The base is slightly narrowed. (Fig. 1G). The stomach of *Ch. hastata* was described for the first timeby V. V. Radu [5].	The overall shape is square. The posterior edge has a shallow excavation at an angle of approx. 130°. The external posterior corners are more widely rounded than in *Ch. hastata*.. The base is slighty enlarged (Fig. 2G).

4. CONCLUSIONS

In the Romanian Isopod fauna, the family Philosciidae is represented by the genus *Chaetophiloscia* with two species: *Ch. hastata* and *Ch. sicula,* both known only from Dobrogea. *Ch. sicula* is recorded for the first time in Romanian fauna.

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