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A New *Iason* Species from Crete (Coleoptera, Carabidae, Anillini) with Notes about Anillini of Greece and Anatolia

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Abstract: *Iason assingi* n. sp. from the island of Crete (Greece) is described. A synopsis of the Anillini fauna of the Balkan Peninsula and Anatolia is provided. Faunistic, phylogenetic, and zoogeographic implications are discussed. *Prioniomus* (21 species), *Winklerites* (21 species), *Dicropterus* (1), *Parvocaecus* (5), *Caecoparvus* (23) and *Iason* (10 species) make up the East Mediterranean Anillini fauna. The palaeogeographic situation of this area is discussed with attention to the current distribution of the different species and genera of Anillini. In particular, the presence and possible impact that the presence of a "Transaegean Furrow" may have had on the current distribution of these tiny ground beetles are discussed.

Keywords: Coleoptera; Carabidae; Anillini; Crete island; new species; taxonomy; zoogeography; LSID urn:lsid:zoobank.org:pub:DA3124F9-F0F8-46EE-83E2-72E705932D46

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1. Introduction

South Balkan and Anatolian Carabidae Anillini (sensu Zaballos et al.) [1] have recently been a subject of interest. The Greek species in particular have been the subject of a complete revision by Giachino and Vailati [2], then reported by Giachino and Vailati [3] in the volume on the Carabids of Greece (Arndt et al.) [4]. Previously there had been years of oblivion, as evidenced by the catalogues by Zaballos [5] and Lorenz [6], during which a few other papers had been published (Casale [7]; Casale et al. [8]) in addition to the classic contributions of Jeannel [9,10]. After the 2011 review, Giachino and Vailati [2,11] were the authors of a further contribution with descriptions of two other new species of *Prioniomus* Jeannel, 1937 from Greece and four new species of *Winklerites* from North Macedonia. Subsequently, Fancello and Magrini [12] described two more new species of *Prioniomus* from Chalkidiki.

For Anatolian Anillini, the last systematic summaries (before the contribution by Giachino and Vailati) [13] date back to Jeannel [9,10]. Excluding the general contributions of Jeanne [14] and Vigna Taglianti [15], the known species of Anatolia had been the subject of only alpha-taxonomic contributions by Coiffait [16], Jedlička [17] and Vigna Taglianti [18]. Even Casale and Vigna Taglianti [19], in their contribution on the Anatolian Caraboidea beetles, limit themselves to producing a list of the known species. Pavesi [20] established the synonymy between *Prioniomus* Jeannel, 1937 and *Turkanillus* Coiffait, 1956.

Finally, Giachino and Vailati [13], as if to seal the inseparability of the Anillini fauna of the eastern Mediterranean, described numerous other species of the Aegean islands (including Crete) and Anatolia.

Recently, our friend and colleague Volker Assing sent us the material collected during his entomological investigations in Crete, which allowed the discovery of a further new species of *Iason* Giachino & Vailati, 2011, which is the subject of this note.

2. Materials and Methods

Male and female genitalia were dissected, and after cold passage in KOH, dehydrated in alcohol and clarified in xylene, in order to then be encased in Canada balsam and mounted, on acetate tags, under the reference specimen. Similarly, one total body specimen has been encased in Canada balsam to allow viewing and detailed drawing of the external morphology. The encased total body specimen was subsequently dried in xylene and a series of alcohols with descending concentration.

Line drawings were made by DV using a Leitz Dialux microscope equipped with a camera lucida.

3. Results

3.1. *Iason assingi* n. sp. *(Figures 1 and 2)*

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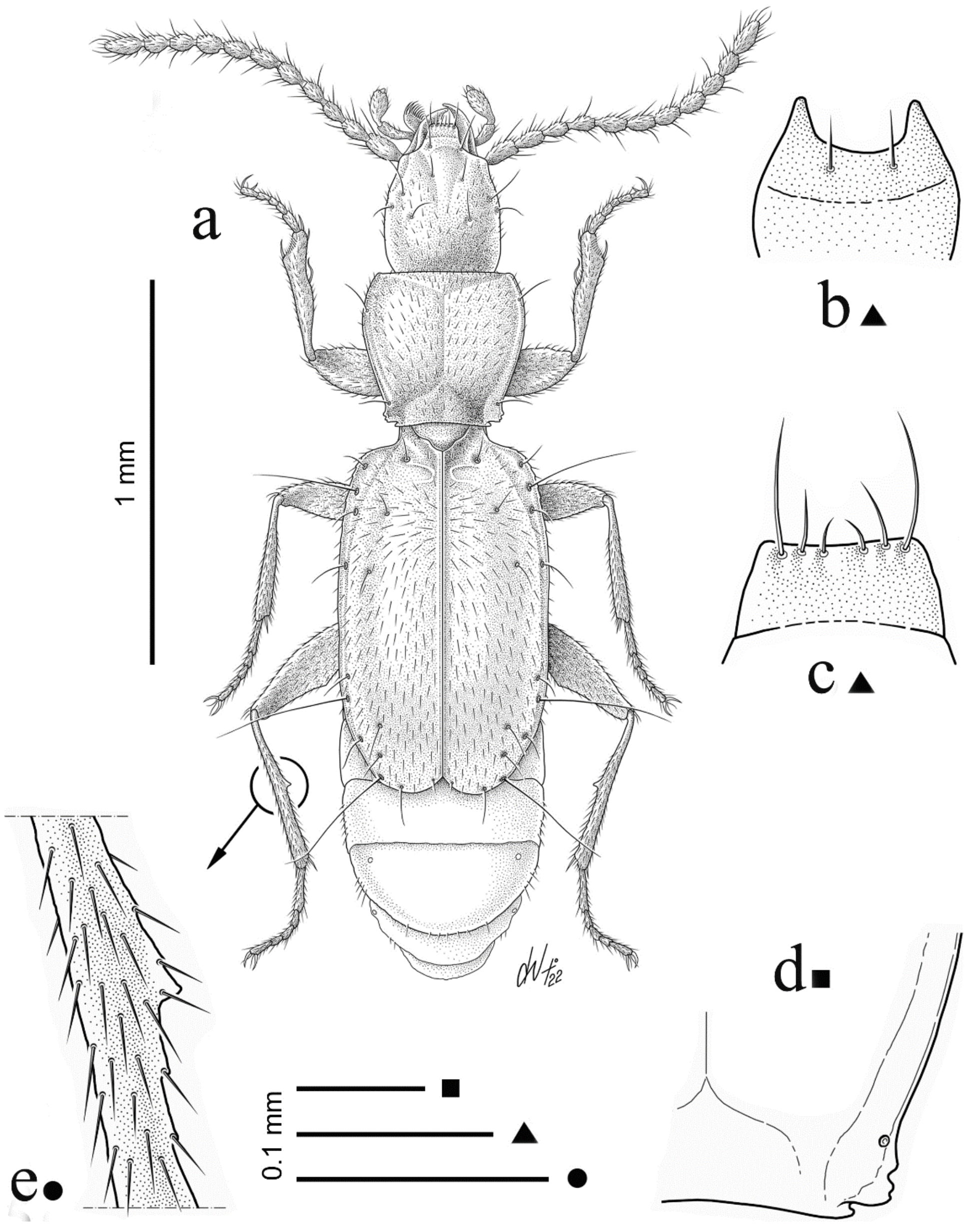

Figure 1. *Iason assingi* n. sp. HT ♂. a: habitus; b: labium; c: labrum; d: basal angle of the pronotum; e: metatibial tooth.

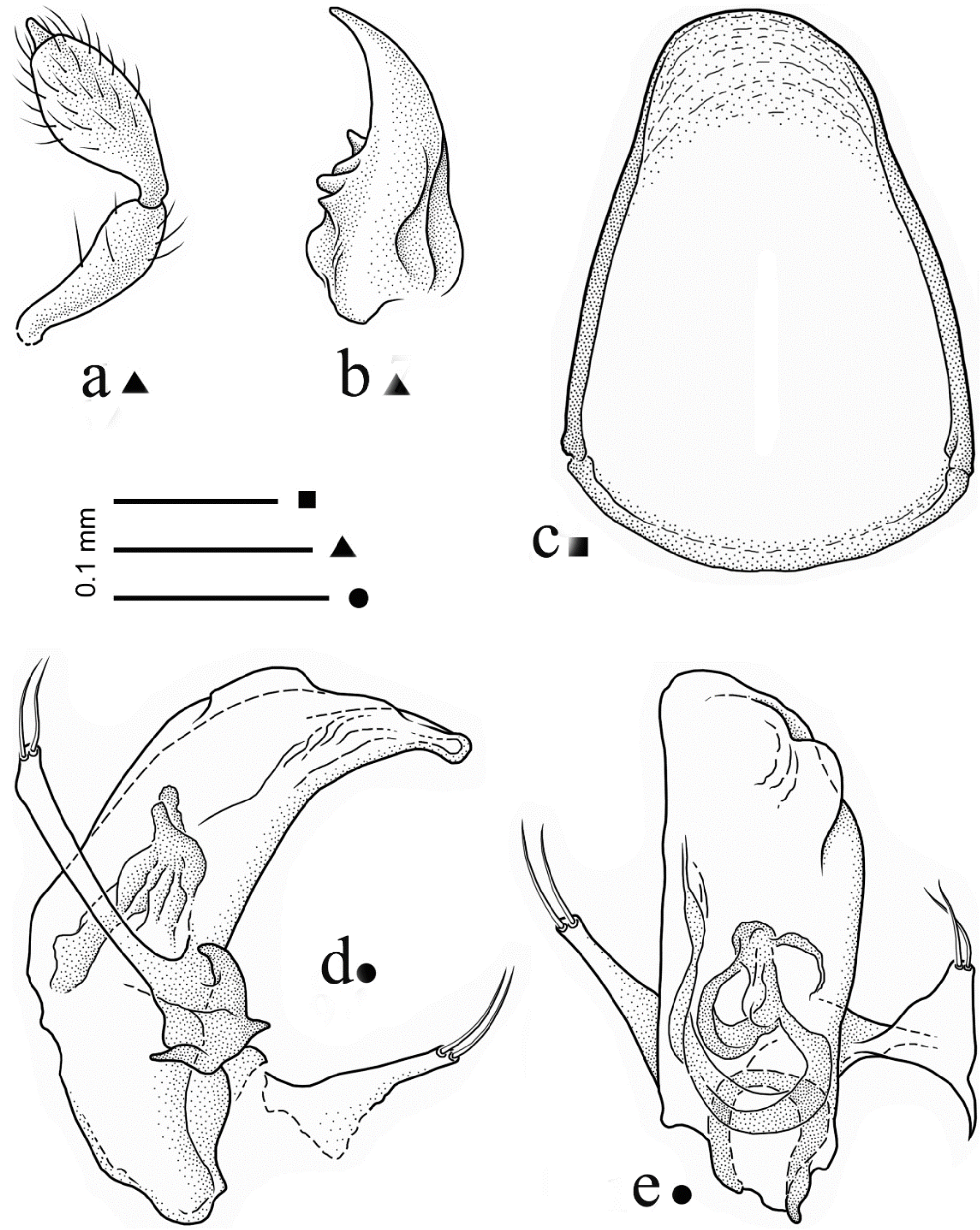

Figure 2. *Iason assingi* n. sp. HT ♂. a: right maxillary palp; b: right mandible; c: IX invaginated segment; d: aedeagus in lateral view; e: aedeagus in dorsal view.

3.1.1. Loc. Typ.

Greece, Crete, E Malia, N Latsida, 260 m, N 35°16′08″ E 25°34′38″.

3.1.2. Type Series

HT ♂, Greece, Crete, E Malia, N Latsida, 260 m, N 35°16′08″ E 25°34′38″ 27.XII.2019, soil washing, V. Assing (CGi). PTT: 5 ♀♀, same data as HT (BMNH, CCa, CGi, CVa).

3.1.3. Diagnosis

Iason assingi n. sp. differs from all other known species of the genus by its smaller size and by a small tooth on the inner part of male metatibiae (Figure 1e). In the general shape of the body and the advanced position of the second discal seta, it is morphologically similar to *I. minoicus* Giachino & Vailati, 2019 from the island of Crete, *I. paglianoi* Giachino & Vailati, 2011 of O. Mavrovouni (Thessalia), and, most likely, *I. lompei* Giachino & Vailati, 2019 of the island of Samos. It most notably differs from *I. minoicus*, however, by the presence of teeth more evident at the basal angles of the pronotum and by the significantly smaller body size (mm 1.79–2.06 in *I. assingi* n. sp., mm 2.08 in *minoicus*, mm 2.16 in *lompei*, and mm 2.33–2.35 in *paglianoi*). The shape of the aedeagus differs from that of *paglianoi* and *lompei* (the male of *minoicus* is unknown).

3.1.4. Description

L mm 1.79 HT ♂, mm 2.0–2.06 PTT ♀♀(TL mm 2.28 HT ♂, mm 2.34–2.48 PTT ♀♀). The body (Figure 1) is elongated and narrow, depigmented, light testaceous, with yellow appendages. Integuments are shiny and microsculptured, with isodiametric meshes, more evident on head and pronotum, and with sparse and short pubescence.

The head (Figure 1) is relatively slender, decidedly narrower than the pronotum, and anophthalmous. The antennae are thin and moniliform, with slightly elongated antennomers, clearly reaching past, when stretched backwards, the base of the pronotum. The clipeo-frontal groove is distinct and the forehead without protuberance; the front margin of the clypeus is subrectilinear. The chaetotaxy of the ocular area is formed by two supraorbital setae on each side, placed relatively close to each other and on lines clearly converging backwards, and by an ocular seta. The mandibles (Figure 2b) are of normal length, simple, and without dorsal crests; the right premolar tooth is developed and placed further back than the anterior margin of the labrum.

The pronotum is sub-quadrate (PW/PL ratio = 1.08), with maximum width at the base of the anterior fourth, narrowed at the base, with poorly arcuated sides, which are sub-rectilinear before the base; a distinct indentation is present before the basal angles (Figure 1d). The base is distinctly engraved laterally, before the basal angles (Figure 1). The anterior angles are obtuse, unrounded, with very little prominence; the basal ones are obtuse and indicated. The disc is barely convex, with very short and sparse pubescence; the median groove is shallow. The marginal groove is wide and flattened, slightly enlarged at the base; the front marginal setae are inserted inside the marginal groove, at the height of the base of the anterior sixth; the basal setae are inserted far ahead of the posterior angles, at the height of the beginning of the indentation.

The elytra is oval, elongated, and subparallel in the middle (ratio EL/EW = 1.63), with maximum width near the middle; it is not emarginated but widely rounded externally in the preapical zone. The disc is a little convex, subplanar, and devoid of eliytral striae. The integuments are shiny, with microsculpture scarcely distinct of isodiametric meshes and with pubescence of moderate length, sparse and erect. The shoulders are indicated and rounded; the post-humeral margin is denticulated, with very fine but distinct crenellation up to the 3rd pore of the umbilicated series; the elytral apices are separately rounded, not truncated. The marginal groove is anteriorly wide, progressively narrowing posteriorly, and distinct up to the 7th pore of the umbilicate series.

Chaetotaxy: the basal umbilicate pore is moderately large and foveate. The umbilicate series is type B; the 3rd pore is slightly closer to the 2nd than the latter is to the 1st, and the 3rd pore is not moved towards the disc. The 4th pore is decidedly more spaced and inserted at approximately the limit of the basal third of the elytra and approximately at the level of the 2nd discal seta. The 5th pore is placed at the beginning of the apical third of the elytra; the 5th and 6th are close together; the 7th is slightly and the 8th decidedly moved on the disc and approximately aligned with the posterior discal seta and the 9th umbilicate pore. The 7th, 8th, and 9th pores are nearly equidistant. Three discal pores are not well aligned with each other (the 2nd is more displaced towards the outside of the disk). The 1st and 3rd are placed at the level of the 3rd umbilicate pore and just ahead of the 7th, respectively, while the 2nd is located just at the level of the 4th pore of the umbilicate series.

The aedeagus (Figure 2d,e) is relatively small and stocky, with the median lobe not bottlenecked in the pre-bulbar part, and irregularly and poorly curved; the median lobe is twisted on the right side, with the apical blade stocky and broadly rounded. The endophallus is provided with a complex sclerified copulatory piece, made of an elongated octopus-shaped phanera. The parameres are unequal, provided with two apical setae each; the left paramere is narrow and longer than the right one; the latter is remarkably wider.

3.1.5. Etymology

We dedicate this new species to the memory of its collector, our German colleague and friend Volker Assing, renowned specialist of Staphylinidae, who recently passed away.

3.1.6. Distribution and Ecology

Iason. assingi n. sp. is currently known only from the type locality, east of Malia in the northern part of the polje of Latsida, in the eastern part of the island of Crete (Figure 3). The collection was carried out by the technique of soil washing, in the winter season, climatically more favourable to this method of research.

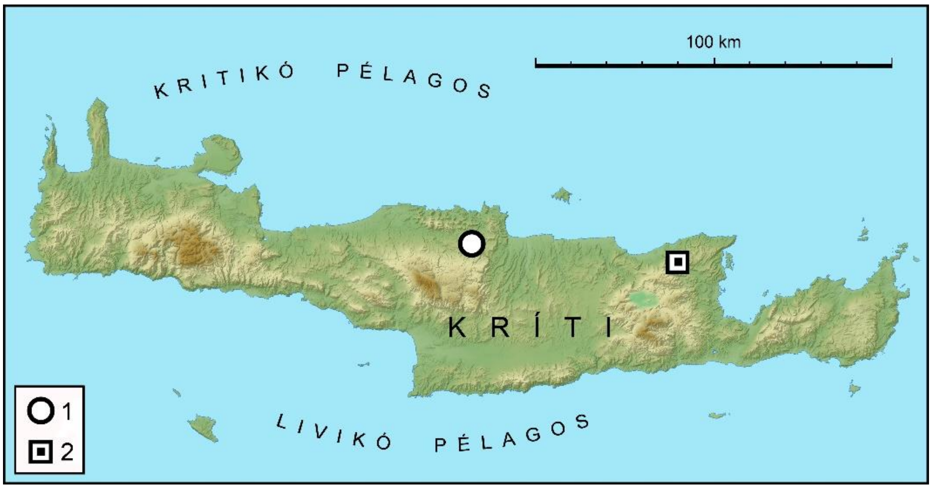

Figure 3. Distribution map of Anillini from Crete. 1: *Iason minoicus*; 2: *I. assingi* n. sp.

4. Discussion

Zoogeographic Remarks

The description of *Iason assingi* n. sp. is an opportunity to summarize the knowledge of the Anillini of the Balkan–Anatolian area, with respect to which considerable progress has been made in recent years.

The currently known taxa are:

genus *Prioniomus* Jeannel, 1937
abnormis (J.R. Sahlberg, 1900): GR (Kérkyra)
aegeicus Giachino & Vailati, 2019: TR (Dilek Dagi)
antonellae Giachino & Vailati, 2011: GR (Oros Erímanthos)
assingi Giachino & Vailati, 2019: GR (Kárpathos)
brachati Giachino & Vailati, 2019: GR (Sámos)
caoduroi Giachino & Vailati, 2012: GR (Ahaia)
cassiopaeus Pavesi, 2010: GR (Kérkyra)
etontii Giachino & Vailati, 2011: GR (Dráma)
gabriellae Giachino & Vailati, 2011: GR (Oros Kaliakoúda)
giachinoi Vailati, 2002: GR (Oros Gióna)
lombardorum Fancello & Magrini, 2015: GR (Chalkidiki)
lompei Giachino & Vailati, 2019: TR (Doluca)
maleficus Giachino & Vailati, 2012: GR (Ioánina, Katara pass)
menozzii (Schatzmayr, 1936): GR (Ródhos)
meybohmi Giachino & Vailati, 2019: GR (Sámos)
moczarskii Jeannel, 1937: GR (Kérkyra)
pedemontanorum Fancello & Magrini, 2015: GR (Chalkidiki)

peloponnesiacus Giachino & Vailati, 2011: GR (Oros Ménalon)
scaramozzinoi Giachino & Vailati, 2011: GR (Oros Karáva)
strinatii (Coiffait, 1956): TR (Istanbul)
vailatii Giachino, 2001: GR (Oros Elikón)
genus *Winklerites* Jeannel, 1937
andreae Giachino & Vailati, 2011: GR (Oros Áskio)
blazeji Giachino & Vailati, 2012a: MC (Galičica Planina)
casalei Giachino & Vailati, 2011: GR (Oros Vérmio)
durmitorensis Nonveiller & Pavićević, 1987: ME (Durmitor)
fodori Guéorguiev, 2007: MC (Šar Planina)
gueorguievi Giachino & Vailati, 2012: MC (Šar Planina)
hercegovinensis (Winkler, 1925): BH (Tuhalsca bjelina)
imathiae Giachino & Vailati, 2011: GR (Oros Piéria)
kuciensis Nonveiller & Pavićević, 1987: ME (Komovi planina)
lagrecai Casale, Giachino & M. Etonti, 1990: GR (Oros Menikion)
luisae Giachino & Vailati, 2011: GR (Oros Páiko)
macedonicus Hristovski, 2014: MC (Jakupica)
moraveci Giachino & Vailati, 2012: MC (Baba Planina)
paganettii (J. Müller, 1911): CR (Dalmacija)
serbicus S. Ćurčić, Antić, Rađa, S. Makarov, B. Ćurčić, N. Ćurčić, Lučić & Vrbica, 2013: SB (Pirot)
stevanovici Hlaváč & Magrini, 2016: SB (Pirot)
thracicus Giachino & Vailati, 2011: GR (Xanthi, Gerakas)
vailatii Giachino, 2001: GR (Péla, Édessa)
vonickai Giachino & Vailati, 2012: MC (Bistra Planina)
weiratheri (J. Müller, 1935): GR (Bos Dagh = Falakro Oros)
zaballosi Giachino & Vailati, 2011: GR (Oros Vitsi)
genus *Dicropterus* Ehlers, 1883
brevipennis brevipennis (J. Frivaldszky, 1879): RO (Baile-Herculane)
brevipennis serbicus (Ganglbauer, 1900): 159: SB
brevipennis tismanae (Winkler, 1936): RO (Muntii Vîlcanului)
genus *Caecoparvus* Jeannel, 1937
achaiae Giachino & Vailati, 2011: GR (Oros Panahaikó)
anatolicus (Jedlička, 1968): TR (Yaloba)
arcadicus (J. Müller, 1935): GR (Oros Ménalon)
assingi Giachino & Vailati, 2019: GR (Chios)
berrutii Giachino & Vailati, 2011: GR (Ori Vardoússia)
bialookii Giachino & Vailati, 2019: TR (Bucak)
brachati Giachino & Vailati, 2019: GR (Sámos)
daccordii Giachino & Vailati, 2011: GR (Oros Oxiá)
hercules Giachino & Vailati, 2011: GR (Oros Iti)
karavae Giachino & Vailati, 2011: GR (Oros Karáva)
leonidae Giachino & Vailati, 2011: GR (Oros Kallidromo)
lompei Giachino & Vailati, 2011: GR (Oros Oxiá)
lydiae Giachino & Vailati, 2019: TR (Nif Dagi)
marchesii Giachino & Vailati, 2011: GR (Oros Óthris)
meschniggi (Winkler, 1936): GR (Oros Chelmos)
meybohmi Giachino & Vailati, 2019: GR (Sámos)
muelleri (Ganglbauer, 1900): GR (Oros Taigetos)
parnassicus (Breit, 1923): GR (Oros Parnassós)
pavesii Giachino & Vailati, 2011: GR (Oros Killini)
sciakyi Giachino & Vailati, 2011: GR (Oros Erimanthos)
tauricus Giachino & Vailati, 2019: TR (Göksun)
tokatensis (Vigna Taglianti, 1976): TR (E Anatolia)

vavrai Giachino & Vailati, 2019: GR (Kalambaka)
genus *Iason* Giachino & Vailati, 2011
argonauta Giachino & Vailati, 2011: GR (Oros Pílio)
assingi n. sp.: GR (Kríti)
beroni Giachino & Vailati, 2011: GR (Oros Karaboutáki)
fulvii Giachino & Vailati, 2011: GR (Oros Panahaikó)
karametasi Giachino & Vailati, 2011: GR (Oros Karáva)
lompei Giachino & Vailati, 2019: GR (Sámos)
minoicus Giachino & Vailati, 2019: GR (Kríti)
olympicus (Casale, 1977): GR (Oros Olimbos)
paglianoi Giachino & Vailati, 2011: GR (Oros Mavrovoúni)
rossii Giachino & Vailati, 2011: GR (Oros Kaliakoúda)
genus *Parvocaecus* Coiffait, 1956
anatolicus (Coiffait, 1956): TR (S Anatolia)
assingi Giachino & Vailati, 2019: TR (Yamanlar Dagi)
hetzeli Giachino & Vailati, 2019: GR Lesbos (Grecia),
perpusillus (Rottenberg, 1874): GR (Thessaloníki)
turcicus (Coiffait, 1956): TR (Istanbul)

This checklist analysis, and especially the distribution maps in Figures 3–7, allow us to make some zoogeographic remarks about the Anillini of the Balkan–Aegean–Anatolian region. First, we should observe that, despite the fact that the total number of species known for the considered area has almost tripled in the last 12 years, there is still a significant lack of specialized research, although given the results achieved, it may seem paradoxical to speak of a research defect. We must not forget that almost all the new data derive from occasional captures that occurred during research aimed at sampling other groups of beetles or elements specialized to life in the superficial subterranean environment (or MSS), according to the methodology illustrated by Giachino and Vailati [21]. Despite this, we are now able to provide some historical zoogeographic indications for these small ground beetles based on an analysis of available paleogeographic data.

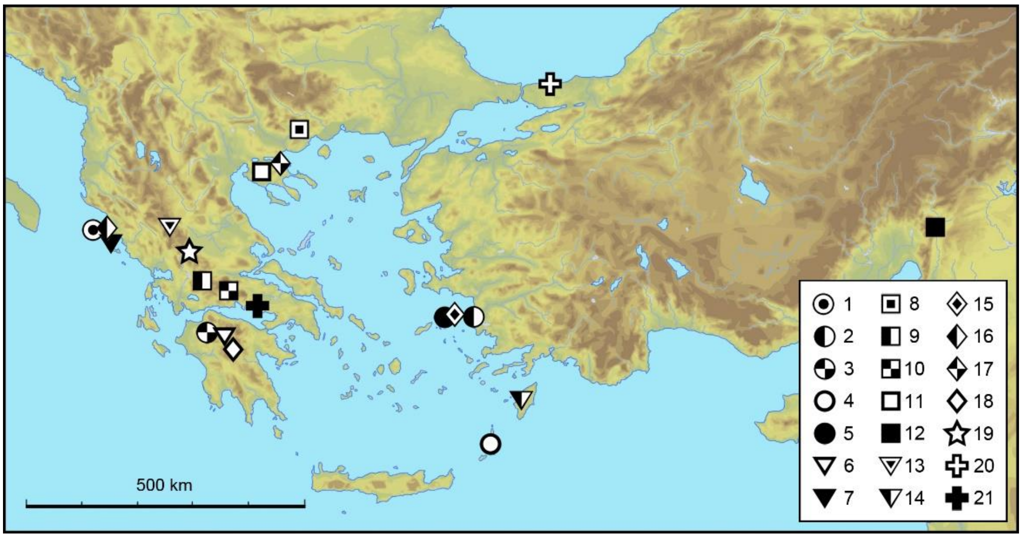

Figure 4. Distribution map of genus *Prioniomus*. 1: *P. abnormis*; 2: *P. aegeicus*; 3: *P. antonellae*; 4: *P. assingi*; 5: *P. brachati*; 6: P. *caoduroi*; 7: *P. cassiopaeus*; 8: *P. etontii*; 9: *P. gabriellae*; 10: *P. giachinoi*; 11: *P. lombardorum*; 12: *P. lompei*; 13: *P. maleficus*; 14: *P. menozzii*; 15: *P. meybohmi*; 16: *P. moczarskii*; 17: *P. pedemontanorum*; 18: *P. peloponnesiacus*; 19: *P. scaramozzinoi*; 20: *P. strinatii*: 21: *P. vailatii*.

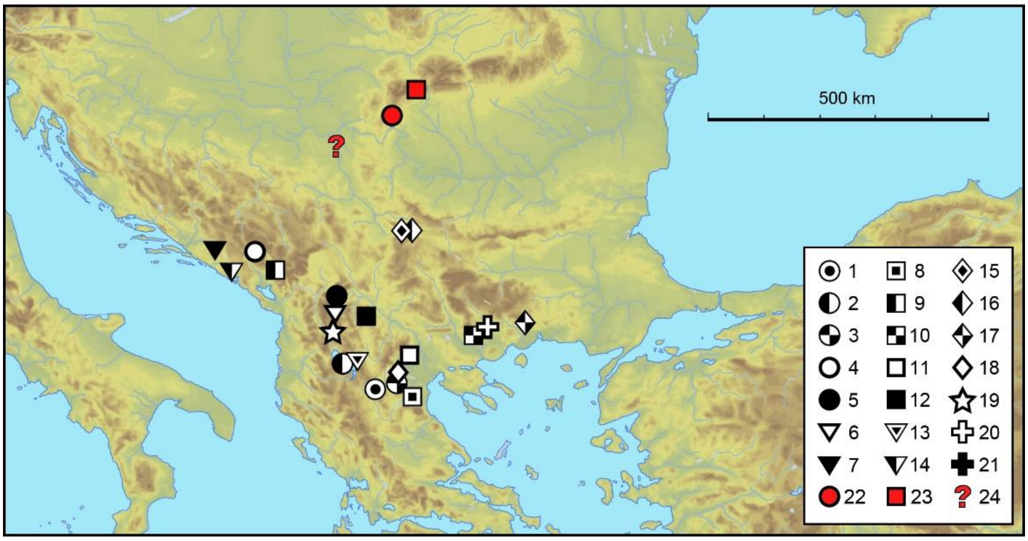

Figure 5. Distribution map of genera *Winklerites* and *Dicropterus*. 1: *W. andreae*; 2: *W. blazeji*; 3: *W. casalei*; 4: *W. durmitorensis*; 5: *W. fodori*; 6: *W. gueorguievi*; 7: *W. hercegovinensis*; 8: *W. imathiae*; 9: *W. kuciensis*; 10: *W. lagrecai*; 11: *W. luisae*; 12: *W. macedonicus*; 13: *W. moraveci*; 14: *W. paganettii*; 15: *W. serbicus*; 16: *W. stevanovici*; 17: *W. thracicus*; 18: *W. vailatii*; 19: *W. vonickai*; 20: *W. weiratheri*; 21: *W. zaballosi*; 22: *D. brevipennis brevipennis*; 23: *D. brevipennis tismanae*; 24: *D. brevipennis serbicus*.

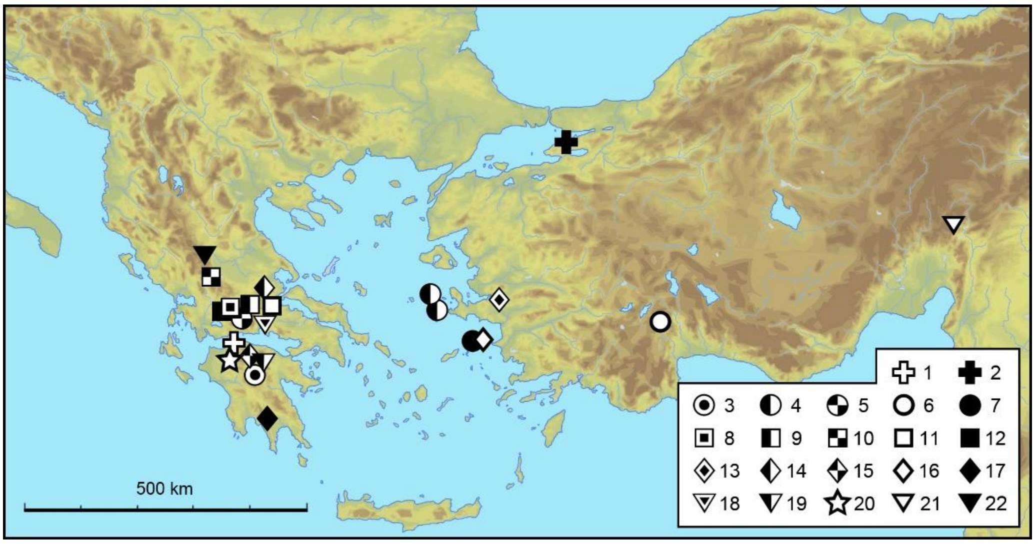

Figure 6. Distribution map of genus *Caecoparvus*. 1: *C. achaiae*; 2: *C. anatolicus;* 3: *C. arcadicus*; 4: *C. assingi*; 5: *C. berrutii*; 6: C. bialookii; 7: *C. brachati*; 8: *C. daccordii*; 9: *C. hercules*; 10: C. karavae; 11: *C. leonidae*; 12: C. lompei; 13: *C. lydiae*; 14: *C. marchesii*; 15: *C. meschniggi*; 16: *C. meybohmi*; 17: *C. muelleri*; 18: *C. parnassicus*; 19: *C. pavesii*; 20: *C. sciakyi*; 21: *C. tauricus*; 22: *C. vavrai*.

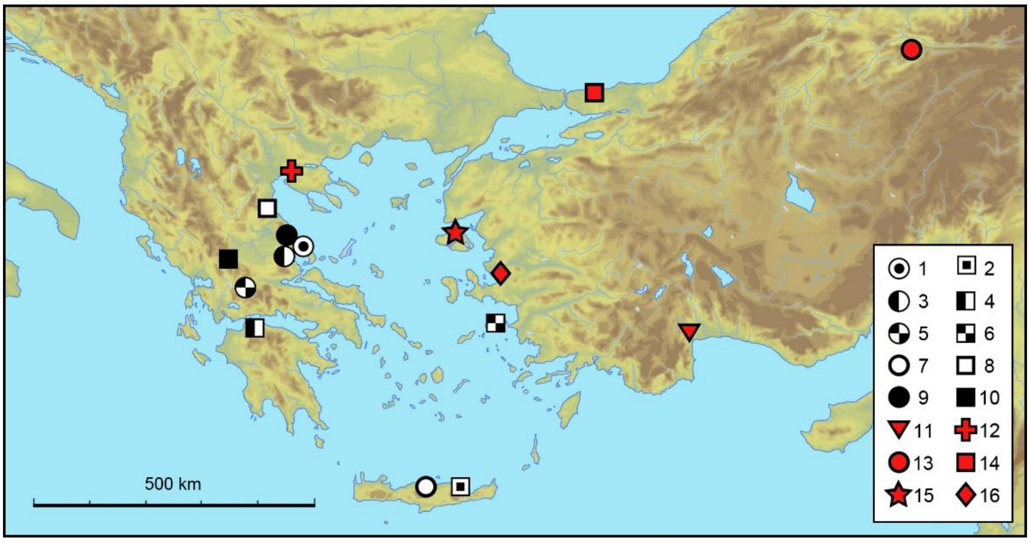

Figure 7. Distribution map of genera *Iason* and *Parvocaecus*. 1: *I. argonauta*; 2: *I. assingi*; 3: *I. beroni*; 4: *I. fulvii*; 5: *I. karametasi*; 6: *I. lompei*; 7: *I. minoicus*; 8: *I. olympicus*; 9: *I. paglianoi*; 10: *I. rossii*; 11: *P. anatolicus*; 12: *P. perpusillus*; 13: *P. tokatensis*; 14: *P. turcicus*; 15: *P. hetzeli*; 16: *P. assingi*.

Palaeogeographic data obtained for other groups of Anillini and in other parts of the world [22] indicate an ancient population of these tiny endogean carabids dating back at least 70 million years. We have no data that, for the area of our interest, bring us back so far in time, but we can go back at least 20 million years ago and find a paleogeographic situation very different from the current one. Between 20.5 and 19 My [23] we have, in the area of the current eastern Mediterranean, the presence of a large arc of emerged lands, the Outer Hellenic Arc, which reached Asia Minor from the Dinaric Alps, crossing Greece from north to south and probably passing through Crete, Karpathos, and Rhodes. This geological arc emerged from the Tethys Sea because of the collision of the African Plate with the Asian Plate, as already highlighted by Casale et al. [24] in a discussion concerning the *Duvalius* species populating the island of Crete.

Until the upper Miocene (Tortonian, ca. 11 My), the island of Crete was emerged and connected to the other islands: a continental area subject to uplift and intense erosion connected Greece to Turkey, as indicated by the pre-Messinian clastic deposits of Crete originating from the north, and the coeval erosive surfaces present in the southern Aegean. Between 13 and 10 My, the area was affected by relaxing tectonics, creating direct faults and differential sinkholes. In the Tortonian, the Cretan Basin is identified, and to the north, the Saros Basin. At the same time, numerous continental basins developed in Greece, and the connection between Greece and Turkey was interrupted. After the general marine regression due to the salinity crisis, a new ingression culminated in the upper Pliocene (ca. 4–5 My), and the sea covered the coastal areas of Greece and most of the islands, including the coastal and low-altitude areas of Crete, where the mountain massifs currently characterizing the island are isolated.

Another element to be considered, or rather reconsidered, is the presence or absence of the Transaegean Furrow proposed by Jeannel [25]. According to this author, a transaegean furrow existed throughout the Nummulitic period (= Palaeogene) until the Tortonian (ca. 11 My), dividing the Aegeid land area into the Southern and Northern Aegeid. Jeannel [10,25,26] and many later authors widely used this rift to explain in palaeogeographical terms the distribution of many edaphic, endogean, or subterranean elements in a historical key. However, Jeannel's concept [25] was born with original sin: the French author, as was customary at that time, did not report the citations of the original contributions from which he extrapolated his hypothesis, making any control impossible. The fundamental volume by Furon [27], from which Jeannel would later say he was inspired, would then appear many years later. As was in his character, Jeannel [25] traced very clear boundaries for his furrow, which today scarcely correspond to the paleogeographic maps of the area [23].

The experience accumulated over years of work on the endogean and subterranean fauna of Greece has convinced us that some interruption of continuity between a northern and a southern part of the Aegean must have occurred. Instead, we observed a not-always exact correspondence between the Jeannel furrow and the distribution of the analysed taxa, with the boundaries of the groove appearing to move depending on the taxon under consideration. As already mentioned at other times [2,28] a dynamic situation seems to have occurred, with one or more grooves that moved several times in different periods, acting differently on the distribution of different taxa.

Analysing the distribution maps of Figures 3–7, the following situations can be summarized:

The genus *Prionomus* is characterized by a Hellenic–Anatolian distribution. It is widespread in mainland Greece and the Peloponnese, reaching Thracia to the north, the Cyclades islands, and Anatolia to the east, and the eastern end of the Taurus chain in the southeast. It is unknown in Crete. It does not appear to be influenced by the presence of a transaegean furrow, or it may have been influenced in some period because now most of its taxa are found on the area of the former South Aegeide. For this genus and probably the others, colonization events in a later stage when the Transaegean Furrow started disappearing cannot be excluded.

The genus *Winklerites*, northernly known from Montenegro and Serbia, extends south, through North Macedonia, to the southern offshoots of the Rhodopes and the Oros Pieria. As a North Aegean genus, it appears to have been influenced by the presence of the Transaegean Furrow, but it reaches the chain of Pieria Mountain sites south of the Furrow, according to Jeannel [25].

The genus *Caecoparvus*, known from mainland Greece, the Peloponnese, the Sporades Islands, and Anatolia, has a distinctly South Aegean distribution but does not seem to reach Crete.

The genus *Iason* is currently restricted to Greece, but it can be found in the islands of Samos to the east and Crete to the south. The fact that it reaches Samos, an island near the Anatolian coast, is an indication of a broadly southern Aegean origin.

According to Jeannel [25], the genus *Parvocaecus* is almost entirely Anatolian and South Aegean in distribution, but it also occurs in West European Turkey and in a northern Aegean site near Thessaloniki. It is unknown in Crete.

5. Conclusions

This discussion allows us to confirm that the current population of Anillini in the Eastern Mediterranean area has its origins in at least the Early Miocene (20 My), when there was a large arc of newly emerged lands of the Outer Hellenic Arc in the current eastern Mediterranean, whose palaeogeographic history has heavily influenced the zoogeographic history of the Anillini. Another fact that emerges from the discussion is uncertainty about the existence of a Transaegean Furrow, its position, and the influence that its presence may have had on the distribution of the Anillini. In fact, even genera that seem not to have been influenced by the presence of a Transaegean Furrow, such as *Prioniomus*, cannot be excluded from colonization events at a later stage when the Transaegean Furrow started disappearing.

In conclusion, although still incomplete, we can assume that the knowledge of the overall distribution of Anillini in the Eastern Mediterranean region is now considerably more comprehensive. Researchers will have the opportunity to focus on areas needing further research thanks in particular to the analysis of the distribution of recognized species.

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Abbreviations

Materials examined are deposited in the following collections:

BMNH	The Natural History Museum, London (United Kingdom)
CCa	Achille Casale Collection, Torino (Italia)
CGi	Pier Mauro Giachino Collection, San Martino Canavese (TO) (Italia)
CVa	Dante Vailati Collection, Brescia (Italia)

For type material, the following acronyms were used:

HT	Holotype
PT(T)	Paratype (s)

The following acronyms were used for measurements:

L	Overall length from apex of mandibles to apex of elytra
TL	Total length from apex of mandibles to apex of last urotergite
PL	Pronotum length
PW	Pronotum width
EL	Length of elytra
EW	Width of elytra

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