Martin Lillig & Tomáš Pavlícek

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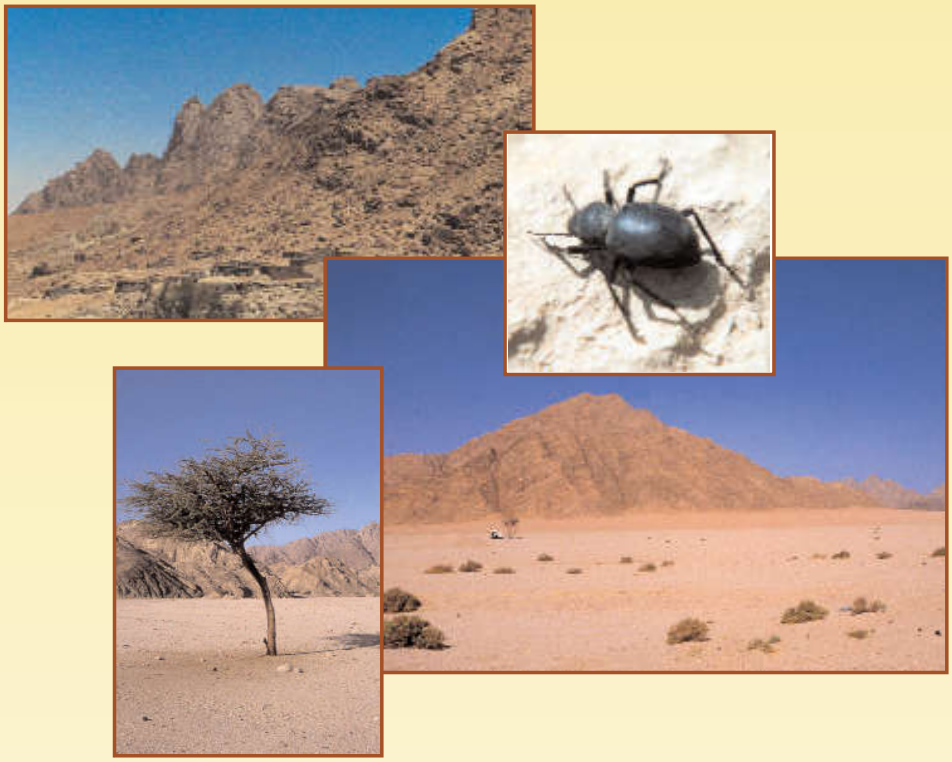

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The darkling beetles of the Sinai Peninsula

Coleoptera: Tenebrionidae
(excl. Lagriinae et Alleculinae)

by

Martin Lillig & Tomáš Pavlíček

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Foreword

Darkling beetles are among the most conspicuous animals of deserts and semi-deserts. This is true at least from an insect maniac's perspective who surveys the soil surface not only to avoid snake bites or stings of scorpions but also to discover and enjoy the diversity of desert arthropods. The ecological importance of tenebrionids is evident from their sheer abundance, which is sometimes visible at daytime but even more so at night. Therefore, when exploring arid regions, the attention of even the most orthodox carabidologist may be diverted to darkling beetles – at least temporarily. This happened to me during my first expeditions to the Sahara desert.

In order to cope with high surface temperatures, tenebrionids have evolved a wide range of leg structures, comprising sand shoes as well as stilts. In the morning, the sand is often covered with numerous tracks of different structure – transient traces of the night activity of different species. It is an impressive experience to realize the extraordinary diversity in shape and structure of tenebrionids, which in turn is an expression of their diverse modes of life and adaptations to various habitats, including the most inhospitable ones.

The readership of this book is unlikely to include persons who know darkling beetles at best as mealworms fed to their bird or reptile pets, or as pests of stored food such as the *Tribolium* flour beetle. Most will be specialists, and this more professional readership will greatly appreciate the taxonomic data and information on synonyms carefully and reliably compiled in this book. In the first place, the book provides an excellent overview of the faunistics of a zoogeographically very important area and is, therefore, a valuable source of information for biogeographers. In addition, it is an important reference for all persons interested in the region and the conservation of its particular biodiversity.

Both authors visited the area several times to collect beetles, discovered species whose presence on the Sinai peninsula was not previously known, and rediscovered rare species. Their success was founded on a decent knowledge of behavioural and life-history traits of tenebrionids. By deriving specific distribution patterns within the Sinai peninsula, the authors contribute significantly to our knowledge of the overall ranges. A considerable amount of material had already been collected earlier, however, most originated from localities along the main routes, supplemented with a few casual collections elsewhere.

Zoogeographically, the Sinai peninsula represents a crossroad and contact zone for faunas of different origin and, at the same time, a centre of speciation. Despite its generally arid character, the region harbours a wide range of habitats, ranging from sea level to more than 2,500 m altitude. The presence of endemic taxa in the mountains in the southern part of the peninsula mirrors climatic and vegetational fluctuations during the recent earth history. About ten percent of all Sinai darkling beetles are endemic to the area.

As long as accurate taxonomic and faunistic data are missing, discussions about biodiversity conservation remain pure academic exercises. At worst, well-intended conservation efforts may be compromised by ill-founded data. Profound taxonomic knowledge is therefore a prerequisite for all faunistic studies. These are in turn the basis for spatial analyses of biodiversity. Extending further on this chain of argument, we have to realize that scientific collections are custodiants of the foundations of our knowledge of biodiversity. The physical basis of this knowledge comprise specimens and records of their origin, habitat and collection details. Without specialists capable of critically evaluating these data, this information would

not be accessible to the scientific community, and surely not to the public interested in conservation.

Fortunately, idealists are keeping track. Led by their enthusiasm for a particular taxon, they mature to specialists providing invaluable contributions not only to the advances of science but also to the protection of biodiversity. We have to thank Martin Lillig and Tomáš Pavlíček for taking this task with enthusiasm and care. In numerous publications, they have already given proof of their scientific expertise. This book will be a significant addition to their personal record – and an important and lasting contribution to science. I am quite confident that many users with different scientific and geographical backgrounds will profit from this publication. I trust it will find the wide audience it deserves.

Basel, May 6th, 2003

Peter Nagel
Professor for Environmental Sciences / Biogeography
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Introduction

Although the Sinai Peninsula has played an important role in human history and its influence went often far beyond the East Mediterranean region, our knowledge of the peninsula's insect biodiversity is with large »white« spots. As a contribution to the knowledge of regional biodiversity, taxonomy and zoogeography of our favourite beetles, we decided to revise and update the available information about the darkling beetles (Tenebrionidae without Lagriinae and Alleculinae) of the Sinai Peninsula. Information provided for all species includes references to the original description, synonyms, list of localities where the species were collected in the Sinai Peninsula, their general distribution, and, if needed, comments on their taxonomy and ecology. Distribution maps are added for the more abundant species.

The darkling beetles studied here are part of the authors' own collections (M., M., S. Lillig & T. Pavlíček XI.-XII.1992, T. Pavlíček IV.1993, IV.1995, southern part of the Sinai Peninsula), as well as of collections of N. Rech (III.1996, III.1997, Nuweiba), W. Schawaller (XII.1997-I.1998, south-eastern Sinai) and W. G. Ullrich (IV. 1992, X.1992, IV.1993, southern Sinai). Other specimens, in particular the Erodiini and Adesmiini, are part of the following collections: The Natural History Museum in London, Collection of G. Frey in Basel, Museo Civico di Storia Naturale di Milano, Museum für Naturkunde der Humboldt-Universität in Berlin, Staatliches Museum für Naturkunde in Stuttgart, Muséum national d'Histoire naturelle in Paris, Naturhistorisches Museum in Wien, Transvaal Museum in Pretoria, Természettudományi Muzeum in Budapest and Zoologiska Museet Universitet in Helsinki. Some references are made to the entomological collection of the Tel Aviv University.

Description of the Sinai Peninsula

Borders and landscape

The Sinai Peninsula is a geologically, climatically and geographically highly variable triangular plateau connecting Asia with northern Africa. Separation of the peninsula from Africa through the Gulf of Suez Rift took place during the Miocene and from Arabia through the Araba-Dead Sea Transform fault during the Late Miocene/Pliocene (KUSS & BACHMANN 1996). The shallow Gulf of Suez Rift Valley was partly filled up with sea water (Gulf of Suez and Bitter lakes) and throughout of the rest of the rift (Isthmus of Suez) artificial canals were built (the first one was dug during the pharaonic period of Egypt and the last one, the Suez Canal, about 163 km long, was inaugurated in 1869). The Sinai Peninsula can be regarded as the most important past and present geographic (and cultural) bridge between both continents since crossing has always been easy. In contrast to the Gulf of Suez Rift, the Gulf of Aqaba is wider, 19 to 27 km, and more difficult to cross. The length of the Gulf of Aqaba as well as the length of the Asian border of the Peninsula with Israel between Rafah and the Gulf of Aqaba, is about 200 km each. The northern part of the Peninsula borders the Mediterranean Sea.

Many different landscapes and habitats are found on the Peninsula. The most conspicuous ones include:

(a) A mountain region around Gebel St. Catherine (2641 m a.s.l.) that is formed mainly by granite and diorite rocks. High peaks (many of them reaching over 2000 m a.s.l.) and deep large wadis (= gorges with fossil streams, which might be active intermittently) with steep slopes are typical for this region. Many wells and springs support small gardens in the area.

(b) A sandstone belt northwards of the mountain region made by large outcrops of hard Nubian sandstone. The sand derived from this sandstone fills wadis and covers the plains.

(c) Plateaus, mainly the El-Tih plateau and the Al-Ugma plateau, built up by nearly horizontal layers of chalks and marls broken with numerous outcroppings of limestone. These plateaus are drained mostly to the Mediterranean Sea by wide and shallow wadis.

(d) Coastal plains along the Gulf of Aqaba and the Gulf of Suez Rift Valley. The plain along the Gulf of Aqaba is narrower in comparison with the Suez coastal plain. The plain along the Gulf of Aqaba is covered by sediments which originated from the magmatic and metamorphic rocks and, in part, also from fossil coral reefs. Alluvial fans near the mountain are dominated by *Acacia raddiana* trees indicating the availability of underground water.

(e) Mediterranean coastal plains including the Lake of Bardawil (a salty lagoon which is fed only by rainfall and the Mediterranean Sea: ZAHRAN & WILLIS 1992). The vegetation on the shore-line and around the lake is composed of a highly salt-tolerant species.

(f) Northern Sinai extending to the Negev Desert in Israel, with rather flat, uniform landscape characterized by quaternary deposits and sand dunes. Few anticlines bring landscape variability to this part such as hulk of Gebel Maghara (776 m a.s.l.), Gebel Halal (892 m a.s.l.), Gebel Libni (463 m a.s.l.) and Gebel Yiallag (1094 m a.s.l.). The most important drainage system is Wadi El-Arish, covering about 20,000 km^2 and extending over approx. 250 km (ZAHRAN & WILIS 1992).

Climate and paleoenvironment

Today's climate of the Sinai is arid and hyper-arid (AYYAD & GHABBOUR 1986), characterized by large inter-annual and inter-local differences in the amount of precipitation. Annual precipitation is up to 200 mm (ZAHRAN & WILLIS 1992), and fog and dew significantly contribute to the water balance in some regions. In addition, some mountain regions receive more than 300 mm of annual precipitation as snow (see ZOHARY 1935). Most of the rain (or snow in the mountains) falls between November and April when evaporation is not very high due to a relatively low temperature. The water is stored underground in rock crevices or in the sand, and reaches the surface as springs and streams, or through artificial wells. The minimum winter temperature ranges from 19°C at Sharm el Sheikh to 0°C at St. Catherine and the maximum summer temperature ranges from near 20°C at St. Catherine to more than 50°C at El Kuntila (ZAHRAN & WILLIS 1992).

The Sinai Peninsula has witnessed many climate changes in the past. The picture of these fluctuations is not clear yet but, for example, a small lake existed in Gebel Maghara between ca. 12,500 and 11,500 BC (GOLDBERG 1977), and places where thorny shrubs, trees and very little grass are found today were steppes with savannah-like vegetation and dense settlements in the period between ca. 5000 and 3000 BC (EDDY et al. 1999). If a cause and effect relationship between climatic changes and desertification, migration and invasion of species exists, then the present composition of fauna and flora should be influenced by the past climate changes.

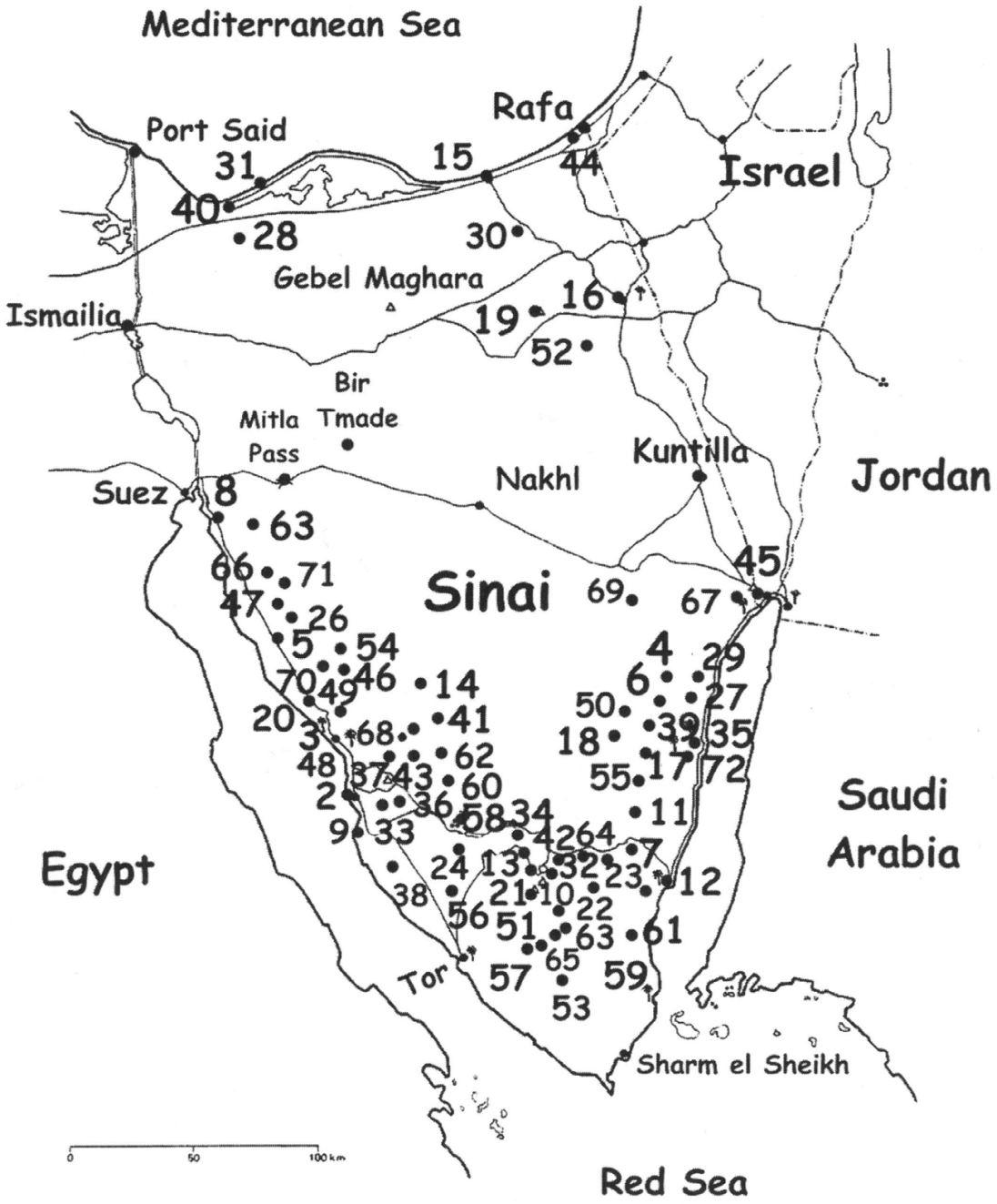


Figure 1. The most important collection sites of Tenebrionid beetles on the Sinai Peninsula (map base: GERSTER 1970, modified). The numbers refer to the following localities (for different spelling or transcriptions of the same name please see the text): 1. Abas Bosha, 2. Abu Rudeis, 3. Abu Zeneima, 4. Ain Furtaga, 5. Ain Hawara, 6. Ain Hudra, 7. Aoul Haibeh, 8. Ayun Musa, 9. Bir Abu Rudeis, 10. Bir Isla, 11. Bir Zreier, 12. Dahab, 13. Deir el Arbain, 14. Ein Chadijeh, 15. El Arish, 16. El Quseima, 17. Gebel Barqa, 18. Gebel El Gunna, 19. Gebel Hallal, 20. Gebel Hammam Firaun, 21. Gebel Katherin, 22. Gebel Musa, 23. Gebel Sefrou, 24. Gebel Serbal, 25. Gebel Watiyeh, 26. Hadjar er-Reqab, 27. Hayeh, 28. Katia, 29. Ma'agana, 30. Magdaba, 31. Mohammedia, 32. Monastery of Santa Catherine, 33. Naqb Boudra, 34. Naqb el-Haoua, 35. Nuweiba, 36. Oasis of el-Hessoueh, 37. Om Boqma, 38. Plain of Ga'a, 39. Reidan Esqua'ah, 40. Romani, 41. Scheik Hamid, 42. Scheik Nabi Salah, 43. Serabit el Khadem, 44. Sobchat A-Scheck, 45. Taba, 46. Wadi Abu-Ga'da, 47. Wadi Amara, 48. Wadi Baba, 49. Wadi Budr, 50. Wadi El Ain, 51. Wadi El Tarfa, 52. Wadi Gaifi, 53. Wadi Gergir, 54. Wadi Gharandel, 55. Wadi Habeik, 56. Wadi Hebran, 57. Wadi Isla, 58. Wadi Kid, 59. Wadi Mokatteb, 60. Wadi Niddya el Beida, 61. Wadi Qnai El Rayan, 62. Wadi Rachaba, 63. Wadi Rayane, 64. Wadi Sa'al, 65. Wadi Sidreh, 66. Wadi Sudr, 67. Wadi Taba, 68. Wadi Tayebeh, 69. Wadi Um Mitla, 70. Wadi Uset, 71. Wadi Wardan, 72. Wadi Zirig.

Indeed, plants such as *Primula boveana* DECHE, *Juniperus phoenicea* L. and *Ziziphus spina-christi* (L.) WILLD. seem to be relics from periods with different climate conditions in the Sinai. According to WENDELBO (1961), *P. boveana* originated from an ancestral species widely distributed in Africa and Asia about 6 million years ago during the wet and cool period and today this species survives only near springs at an altitude about 2000 m a.s.l. *J. phoenicea* is abundant in the European part of the Mediterranean region but absent in Lebanon, Israel and Syria, and is dominating in today's Sinai in Gebel Helal, Gebel El-Maghara and Gebel Yalag, i.e. only in regions with an annual rainfall above 100 mm (ZAHRAN & WILLIS 1992). Contrary to the previous two species, *Z. spina-christi* is a typical tree of east African savannah (DANIN 1983) and represents in the Sinai a relic of the previous savannah-like vegetation. Today, this tree is limited to the wadi bottoms where more moisture is available, and where it is also grown by the local Bedouins who collect its edible fruits.

Collection of darkling beetles on the Sinai Peninsula

The collection sites of darkling beetles are unevenly distributed over the Sinai Peninsula (Fig. 1), and are concentrated along the roads crossing the peninsula. Collectors most frequently have used the road from Suez to Abu Zeneima or Abu Rudeis and from there – passing Serabit el Khadem and Wadi Feiran – to the central mountain massif around the Monastery of St. Catherine or the road which leads along the Gulf of Aqaba from Taba (on the border with Israel) to Dahab, and from there to St. Catherine. Less frequently, collections have been done along the "Hadj" Road from Suez to Taba via Nakhl, along the "camel" road from Tor to St. Catherine or along the Sinai part of Via Maris (Philistine road) along the Mediterranean coast (Fig. 1).

Local geographic names

The localization of the collection sites mentioned in the literature or on labels proved often to be difficult due to the usage of different transliterations of geographic names from Arabic (and Hebrew, in a few cases) into English, French or German. We left the names in their original writings, as published or written on labels, and list here, in alphabetic order, the most frequent synonyms and variants of geographic names. Question marks indicate cases where we are not absolutely sure whether the name is a synonym or a variant. In a few cases the names are not really synonyms or variants but describe the same place.

Abas Bosha (= Qasr Abbas Pasha), Abu Rudeis (= Abu Rhodes, ?Abu Rueitat), Abu Zeneima (= Abou Zenneh, = Abu Zenima), Ain Furtaga (= Eim Furghaga), Ain Hawara (= Hawara), Ain Hudra (= A. el-Houdra, = A. al-Houdra, = A. Khudra), Aoul Haibeh (= Aoual Heneibeh, = ? Auel Habesh), Ayun Mussa (= Aium Mussa , = Ain Musa, = Oase Ain Musa), Bir Abu Rudais (= Bir Abu Rudeis), Bir Tmade (= Bir el Thamada), Dhahab (= Dahab), El Quseima (= Kuseima), Gebel El Tih (= Djebel El Tih, = Jebel El Tih, = Djebel el Hih, = ?Djebel Hamr in Peyerimhoff, 1907), Gebel Hallal (= G. El Helal), Gebel Hammam Firaun (= Hamman Fir'aoun, = Djebel Hamam, = Gebel Hammam Faraun, = Pharaoh's Baths), Gebel Katherin (= Mt. Catherine), Gebel M'rara (= G. Maghara in the Northern Sinai), Gebel Maghara (= Meghara east of Abu Rudeis, not the one in the northern Sinai), Gebel Mussa (= Mt. Moses, ?Mt. Sinai, ?Berg Sinai), Gebel Sefrou (= Djebel Sefrou), Gebel Serbal (= Djebel Ser-

bal), Gebel Watiyeh (= Djebel Ouatiyet, = D. Watiyeh), Hadjar er-Reqab (= Hajar er-Rekkab), Monastery of Santa Katharina (= Katharinenkloster, St. Katharina), Kuntilla (= El Kontella, = El Kuntilla), Ma'agana (= Ma'agama), Mazar (= El Mazar), Mitla Pass (= Mitla, = Mitle), Mohammedia (= Mohamdiya, = ? Gerrha), Mount (= Gebel, = Jebel, = Djebel), Nakhl (= Nachle, = Qala'at en-Nakhel), Naqb el-Haoua (= N. el Haoula, = N. el-Hasua, = Nakb Hawa), Nuweiba (= Nouheibeh), Oase el-Hessoueh (= O. el Hosseyeh), Om Bogma (= Umm Bugma, = Bugnia), Pharan (= Oase Feiran, = Refidemn, = Refidim), Qantara (= El Qantara), Rafa (= Rafiah), Reidan Esqua'ah (= Ridhan Schkaa), Scheik Hamid (= Cheik Hamid), Scheik Nabi Salah (= Scheich Nebi Saleh), Serabit El Khadem (= Serabit El Hadam), Sobchat A-Sheck (= Sabkhet el Sheikh, = Sebchat A-Sheck), Wadi Ain El Gederat (= W. el Gedeirat), Wadi Amara (= W. el-Amara, = W. Amarah), Wadi Baba (= W. Ba'baa), Wadi Budr (= W. Budra), Wadi El Scheikh (= W. Cheikh, = W. es Scheich), Wadi El Tarfa (W. Tarfa), Wadi eth-Thal (= W. Thal, = W. Attal (Athal)), Wadi Genneh (= W. Gneh), Wadi Gergir (= W. Girgir), Wadi Gharandel (= W. Gorondel), Wadi Khamila (= W. Khamileh, = W. Chamile), Wadi Kid (= Kid), Wadi Mokatteb (= Mokatteb), Wadi Qnai el Rayan (= W. Kunel-el-E-Rayah, = W. Qnai el-Royan), Wadi Rachaba (= W. Rahabeh, = W. Rahaba), Wadi Rayane (= W. Riene, = W. Rieina), Wadi Sa'al (= W. Sa'l), Wadi Schellal (= Shellal), Wadi Sidri (= W. Sidr), Wadi Solaf (= W. Selaf), Wadi Taba (= W. Tabah), Wadi Tayebeh (= W. Taiyibeh), Wadi Tlach (= W. Tlah), Wadi Um Mitla (= W. Mitla), Wadi Wardan (= W. Werdan, = W. Ouerdan), Plain of Ga'a (= Ga'a Wüstenebene, = El Ga'a, = Ga'a, = Wüste Ga'a, = Ebene Ga'a).

Species richness and endemism of Tenebrionidae beetles on the Sinai Peninsula

Based on the data presented here, we regard 121 species of darkling beetles as an integral part of the fauna in the Sinai Peninsula beyond doubt. Additional 12 species might, in our opinion, live there, but their presence needs to be confirmed. We discuss here also 40 taxa (species and subspecies) that are mentioned in the literature, but should, according to us, not be regarded as part of the Sinai fauna as long as their presence in the region is not undoubtedly verified. Four taxa are documented from the Sinai for the first time (*Adesmia metallica brozai, Astorthocnemis becvarorum*, *Oxycara ardoini*, and *Zophosis bicarinata* cf. *ghilianii*).

Distribution patterns of darkling beetles in the Peninsula

Based on our material, we distinguished the following groups of species (and subspecies in some cases) among the darkling beetles of the Sinai Peninsula (Fig. 2):

a) Cosmopolitan taxa (*Alphitobius diaperinus*, *Tribolium castaneum*, *T. confusum*): So far, only three cosmopolitan species are known from the Sinai. They are displaced by humans and usually treated as pests. Their region of origin is usually difficult to locate. *Alphitobius diaperinus* is a tropical fungivorous species. In the temperate zone, the species is regularly found in pigsties and hen-houses as well as in kitchens and bakeries (POSPISCHIL 1996). *Tribolium confusum* originates from Africa, and *T. castaneum* is an Indian species (HINTON 1948). Both are known as pests of stored products (HINTON 1948).

b) Afro-Asian taxa (*Zophosis punctatus*, *Mesostena puncticollis*, *Tentyrina palmeri palmeri*, *Adelostoma sulcatum sulcatum*, *Akis elevata*, *Trachyderma philistina*, *Ammobius rufus*, *Cheirodes asperulus*, *C. brevicollis*, *Clitobius oblongiusculus oblongiusculus*, *Gonocephalum patruele*, *G. setulosum*, *G. rusticus*, *Opatroides punctulatus*, *Phaleria prolixa*, *Leichenum pulchellum pumilum*). These species are widespread over large parts of northern Africa. Some of them are distributed in an area extending from Europe and the Atlantic Islands to Iraq, India and Central Asia. Nevertheless, they are limited to arid or semiarid environmental conditions. Most of them are winged.

c) Afro-Arabian taxa (*Zophosis pharaonis pharaonis*, *Cyphostethe heydeni*, *Trichosphaena perraudierei*, *Adesmia cothurnata cothurnata*, *Mitotagenia aegyptiaca*, *Vieta tuberculata*, *Pimelia hirtella*, *Thriptera crinita*, *Trachyderma hispida*, *Gonocephalum perplexum*, *Proscheimus arabicus*, *Scleron orientale orientale*, *Phtora subclavata*, *Blaps wiedemanni*). These species are distributed, except for the Sinai, from North Africa to the Arabian Peninsula. They are spread (i) from the Atlantic to Arabia (*Cyphostethe heydeni, Trichosphaenus perraudieri*, *Trachyderma hispida*, *Gonocephalum perplexum*, and *Scleron orientale*), (ii) from Libya up to Yemen (*Blaps wiedemanni*) and (iii) from Egypt to Arabia. Their eastern border is situated on the Arabian Peninsula or in Bahrain. Northwards, none of these species go beyond the Negev. For most of the species, the Sinai Peninsula constitutes their northern border in the Levante province but, for some taxa (*Adesmia cothurnata*, *Trachyderma hispida*, *Scleron orientale*) the northern border is the Dead Sea area or the Negev (*Blaps wiedemanni*, *Gonocephalum perplexum*).

d) Asian taxa (*Amnodeis confluens*, *Zophosis complanata*, *Z. farinosa*, *Micipsa philistina*, *Prochoma audouini*, *Adesmia montana montana*, *Adelostomoides grandis*, *Pimelia bottae*, *Thriptera kraatzi*, *Gonocephalum soricinum soricinum*, *Scleropatrum hirtulum*). The western border of all 11 taxa is on the Sinai Peninsula. They do not penetrate into North Africa. Three of these species are restricted to the Sinai and the Arabian Peninsula (*Adesmia montana montana*, *Pimelia bottae*, *Gonocephalum soricinum soricinum*). The most widespread is *Thriptera kraatzi,* whose distribution area extends from the Sinai to India. The remaining species are found from the Sinai to Iraq or Iran (species distributed from lower Egypt or Sinai to Israel, Lebanon or Syria are listed as Levantine species).

e) North African taxa (*Erodius zophosoides zophosoides*, *Zophosis nigroaenea*, *Z. personata*, *Z. plana*, *Mesostena angustata*, *Oxycara pygmaeum*, *Scelosodis castaneus castaneus*, *Tentyria punctatostriata*, *Sepidium dathan*, *Pimelia barthelemyi*, *Prionotheca coronata coronata*, *Pterolasia squalida*, *Trachyderma genei*, *Scaurus aegyptiacus aegyptiacus*, *Cheirodes pilosus*, *Phtora apicilaevis*, *Blaps bifurcata bifurcata*, *B. nitens laportei*, *B. polychresta*). Many North African species are distributed towards the east and are reaching the Sinai or the Negev. *Mesostena angustata* is known also from Southern Jordan, but not from the Arabian Peninsula. Eight of these species are reaching the Cyrenaica in the west.

f) Levantine taxa (*Erodius dejeanii*, *E. gibbus gibbus*, *Dailognatha crenata*, *Hionthis tentyrioides*, *Micipsa grandis*, *Tentyria discicollis*, *Tentyrina orbiculata subsulcata*, *Adelostoma cordatum*, *Akis reflexa*, *Pimelia mittrei*, *Mesomorphus setosus*, *Drosochrus costatus aegyptiacus*). These species are distributed from Israel or Lebanon to Egypt, and in the case of *Micipsa grandis* and *Adelostoma cordatum*, up to Libya. *Tentyrina orbiculata subsulcata* occurs from Egypt to Lebanon and is present also in Cyprus.

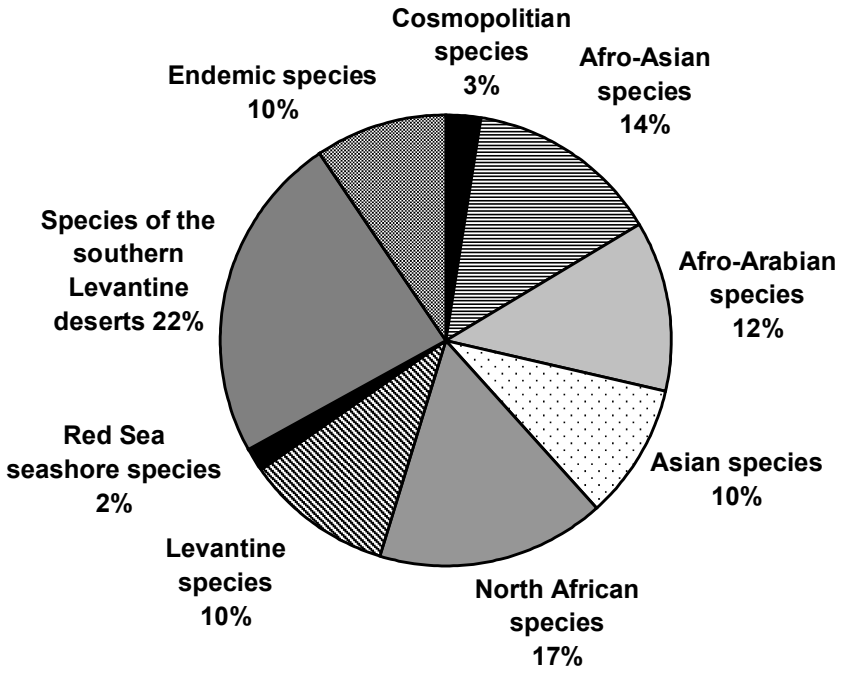


Figure 2. Representation of different groups of darkling beetles on the Sinai Peninsula delineated according to their general distribution.

g) Taxa of the Red Sea seashore (*Diphyrrhynchus aenescens*, *Trachyscelis tenuestriatus*). These two species occur only along the Red Sea coast.

h) Taxa of the southern Levantine deserts (*Erodius hebraicus*, *E. kneuckeri kneuckeri*, *E. opacus*, *E. puncticollis sinaiticus*, *Hegeterocara arabica*, *Micipsa schaumi*, *M. alveatus peyerimhoffi*, *Oteroscelis haagii orientalis*, *Oxycara ardoini*, *O. peyerimhoffi*, *Thraustocolus leptoderus*, *Adesmia dilatata dilatata*, *A. metallica brozai*, *A. metallica laevior*, *Microtelus careniceps binodiceps*, *Stenosis affinis*, *Astorthocnemis becvarorum*, *Pimelia angulata angulata*, *P. arabica edomita*, *P. canescens canescens*, *P. theveneti*, *Thriptera varvasi pilipes*, *Dendarus syriacus*, *Eurycaulus peyerimnhoffi*, *Blaps laticollis*, *B. pharao*, *Pseudoseriscius maculosus murinus*). These species are distributed on a much smaller area than the Levantine species: from Lower Egypt to southern Jordan. Many species are living only in the Sinai and the Negev and some of them also in southern Jordan. We feel that these species cannot be called "Levantine" since they are present only in the southern Levantine desert regions, whereas "true" Levantine species are present in the desert as well as in mesic regions.

h) Endemic taxa (*Mesostena peyerimhoffi*, *M. picea sinaitica*, *Oxycara productum*, *Schweinfurthia alfierii*, *S. sinaitica*, *Adesmia cancellata latreillei*, *Dichillus alfierii*, *Pimelia angulata sinaitica*, *Trachyderma andresi*, *Dendarus calcaroides*). Apart from *Adesmia cancellata latreillei* living all over the Peninsula, the endemic species are confined to the southern part of the Sinai, mostly to the mountainous regions.

In our opinion, our data indicate that the Sinai Peninsula served for darkling beetles as a continental bridge between northern Africa and the Levant and Arabia. In fact, we were surprised to find a substantial number of Afro-Arabian species on the Sinai. At present, we do not know whether this pattern reflects the situation that existed before the separation of the Sinai Penisula from Arabia (Late Miocene/Pliocene: KUSS & BACHMANN 1996) or whether the exchange between the Sinai and Arabia took place due to an active (flight) or passive (e.g. wind drift) migration over the Gulf of Aqaba or due to an active migration along the coast of the Gulf of Aqaba. Nevertheless, the Sinai Peninsula is also a "crossroad" where many North African species have their eastern border of distribution and many Asian, Levantine, and northern Red Sea species their western one. Interestingly, the number of species coming from Asia to the Sinai (ten Asian species plus three Levantine species) is not much lower than the portion of taxa reaching the Peninsula from Africa (17 species). This indicates that Africa and Asia contributes to the darkling beetle fauna of Sinai in almost equal parts. It should be also noted that no tenebrionid species of Ethiopian and or tropical origin are present in the Sinai, contrary for example to Trichoptera (BOTOSANEANU 1999) and butterflies (LARSEN 1990). Last but not least, the Peninsula seems to be a place of autochtonous speciation, as indicated by the presence of endemics. Furthermore, species present only in the deserts of the southern Levant and along the coast of the Gulf of Aqaba originated perhaps from there. The fact that about one third of the species present on the Sinai Peninsula have small distribution areas calls for the preservation of their habitats. These species are distributed only in the Sinai Peninsula or also a little bit in the west or in the east (taxa of the southern Levantine deserts). The restriction of most endemic species of the Sinai to the mountainous area in the southern part of the Peninsula should also be taken into consideration in the matter of their protection. As judged from the small portion of cosmopolitan species (3%), the Levantine fauna is not yet much influenced by recently introduced species.

Contribution to taxonomy

We propose that *Pimelia bicarinata* KLUG, 1830, *Adesmia subserrata* CHEVROLAT, 1877, *A. cothurnata glabrior* SCHATZMAYR & KOCH, 1934 and *A. cothurnata omanensis* KASZAB, 1981 should be recognized as junior synonyms of *A. cothurnata cothurnata* (FORSKÅL, 1775); *Adelostoma sulcatum grandiforme* KOCH, 1935 should be recognized as a junior synonym of *A. sulcatum sulcatum* DUPONCHEL, 1827; *Doderoella cyrenaica* SCHUSTER, 1926 and *D. interpunctata andreinii* GRIDELLI, 1929 should be recognized as junior synonyms of *Pimelia interpunctata* KLUG, 1830.

From the extensive material we examined, we made a comment on the opinion of KOCH (1940b), who classified *Adesmia faremontii* LUCAS, 1844 as a subspecies of *A. metallica* (KLUG, 1830) and *Adesmia drakii* CROTCH, 1872 as a subspecies of *A. dilatata* (KLUG, 1830). Our examination of many specimens corroborated the views of earlier authors (BLAIR 1935, GRIDELLI 1930), who recognized *Adesmia faremontii* LUCAS, 1844 as a synonym of *A. metallica metallica* (KLUG, 1830), and *Adesmia drakii* CROTCH, 1872 as a synonym of *A. dilatata dilatata* (KLUG, 1830).

Last but not least, we designated the lectotype and paralectotypes of *Oxycara pygmaeum* (REICHE & SAULCY, 1857), *Adesmia abbreviata* (KLUG, 1830), and *Adesmia latreillei* SOLIER, 1835.

Acknowledgements

To up-date taxonomy and distribution of a large family of beetles such as darkling beetles in a territory of about 61,000 km^2 like the Sinai Peninsula is indeed a difficult task. In our effort to discuss and evaluate not only new data but also published ones on the darkling beetles of this part of the world, we may have, not purposely, omitted some publications. The preparation of this book would not have been possible without the precious help of many of our colleagues and friends. We wish to thank Dr. M. Baehr (Munich), Dr. J. Beard (London), Ing. Stanislav Bečvář (České Budějovice), Prof. Dr. H. J. Bremer (Melle), Dr. S. Endrödy-Younga † (Pretoria), Dr. A. Freidberg (Tel Aviv), Dr. M. D. Gallagher (Muscat), Dr. C. Girard (Paris), Dr. D. Kempster (London), Dr. C. Leonardi (Milano), Dr. O. Merkl (Budapest), Ms N. Rech (El Maadi), Dr. W. Schawaller (Stuttgart), Dr. H. Schönmann (Vienna), Dr. H. Silfverberg (Helsinki), Dr. M. Uhlig (Berlin), Ms C. and Mr G. Wagner (Hamburg) for lending us specimens from their own collections and/or collections of which they are curators. We are grateful to Dr. M.-L. Penrith (Pretoria) for the identification of the species of the genus *Zophosis* and to Dr. J. Ferrer (Haninge) for the identification of the species of the genus *Gonocephalum* in the M. Lillig collection. We are also very much indebted to Ms A. Zahm (Stuttgart) for providing us with valuable literature, to Ms P. Cardet (Haifa) for providing us with two photographs used on the cover, and to Mr T. Kerly (Haifa) for linguistic comments.

Abbreviations used in the text

BGSS	Biogeographische Sammlung der Universität des Saarlandes, Saarbrücken
BM	The Natural History Museum, London
CGW	Collection of Cilli & Gerhard Wagner, Hamburg
GF	Collection of Georg Frey, Basel
HJB	Collection of Hans J. Bremer, Melle, now ZSM
ML	Collection of Martin Lillig, Saarbrücken
SB	Collection of Stanislav Bečvář, České Budějovice
TP	Collection of Tomáš Pavlíček, Haifa
L.P.	leg. M., M., S. Lillig & T. Pavlíček
MCSNM	Museo Civico di Storia naturale, Milano
MNHNP	Muséum national d'Histoire naturelle, Paris
MNHUB	Museum für Naturkunde der Humboldt-Universität, Berlin
MZH	Zoologiska Museet Universitet, Helsinki
NHMW	Naturhistorisches Museum, Wien
NMP	Národní Muzeum, Praha
ONHM	Oman Natural History Museum, Muscat
P.	leg. T. Pavlíček

A list of species of darkling beetles present in the Sinai

In the text the distribution indication „Egypt“ refers to the African part of this country. The number of specimens examined is given in brackets. The system of families, subfamilies and tribes is according to DOYEN (1993), DOYEN & TSCHINKEL (1982) and DOYEN et al. (1989). Genera and species are arranged in alphabetical order.

Subfamily Pimeliinae

Tribe Erodiini

1. ***Amnodeis* MILLER, 1858**

1.1 ***Amnodeis confluens* MILLER, 1858**
Amnodeis confluens MILLER, 1858: 123.

Referenced localities. The Sinai (KASZAB 1981).
General distribution. Iraq, Jordan, the Sinai (KASZAB 1981), the Negev (BYTINSKI-SALZ 1955a).
Comments. Some of the Israeli specimens (TAU) are labelled: *Amnodeis gebieni* aut *confluens* ?? det. GRIDELLI 1949. Some of the mentioned specimens correspond to the type series of *gebieni* REITTER, 1914 (GF), whereas others have the characteristics attributed by REITTER (1914a) to *A. confluens* MILLER, 1858. Many transitional types are available between them. *A. gebieni* seems thus to be synonymous with *A. confluens*. A formal synonymisation is not appropriate here since we did not study the MILLER types.

2. ***Erodius* FABRICIUS, 1775**

2.1 ***Erodius dejeanii* SOLIER, 1834**
Erodius dejeanii SOLIER, 1834: 543.

Referenced localities. Wadi Isla, Wadi Karm Alam (ALFIERI 1976), El Arish (ANDRES 1931b, KOCH 1935a sub *E. dejeanii duponcheli* Allard), Pharaoh's Baths (= Hammam Fir'aoun) (WALKER 1871, determination uncertain).
General distribution. Israel (KOCH 1935b), the Sinai (ALFIERI 1976).
Comments. According to GEBIEN (1937) the species occurs also in Mesopotamia. Several varieties of *E. dejeanii* have been described (cf. GEBIEN 1937).

2.2 ***Erodius gibbus gibbus* FABRICIUS, 1775**
Erodius gibbus FABRICIUS, 1775: 258.

Referenced localities. El Arish (ANDRES 1931b), Wadi Gharandel (WALKER 1871, determination uncertain for WALKER, PEYERIMHOFF 1907 t. WALKER).
General distribution. *E. gibbus gibbus*: Soloum in Egypt (ALFIERI 1976) up to northern Israel (KOCH 1935b). – *E. g. cyrenaicus* SCHUSTER, 1926: Libya (Cyrenaica).
Comments. *E. gibbus* is distributed mostly in coastal regions, but can penetrate sandy zones in the hinterland. *E. cyrenaicus* from Agedabia (Libya) was described as good species but lately has been classified as a subspecies of *E. gibbus* by KOCH (1937).

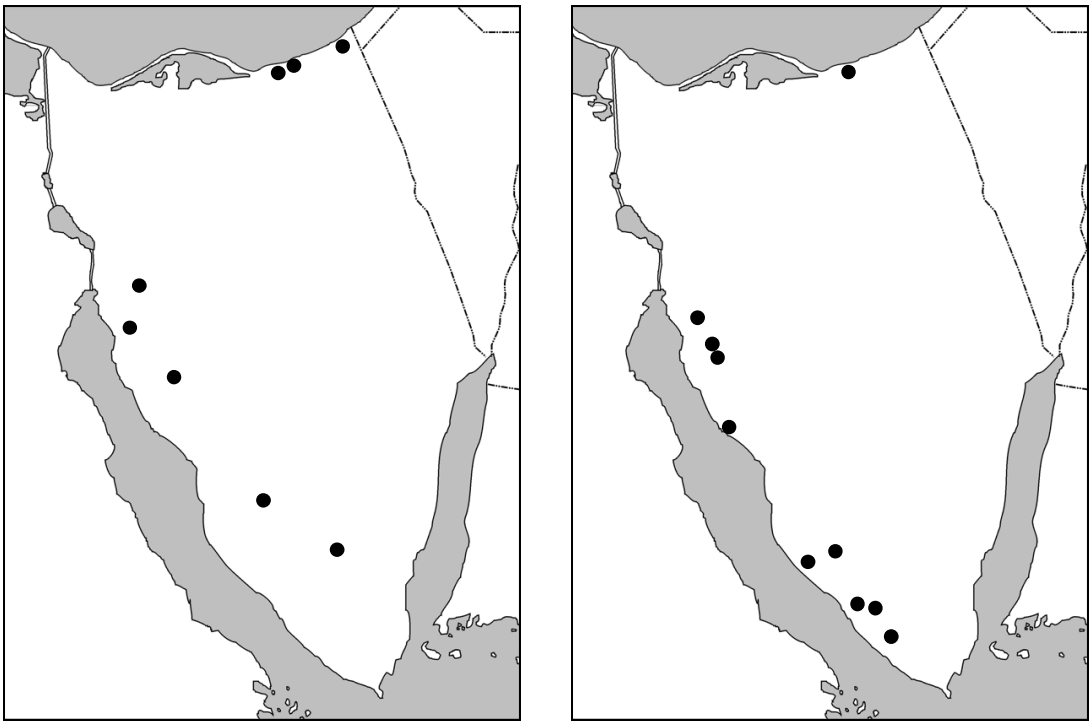


Fig. 3–4. Collection sites of *Erodius kneuckeri kneuckeri* (left) and *E. puncticollis sinaiticus* (right) on the Sinai Peninsula (the geographic coordinates, referring to *E. puncticollis sinaiticus*, of Abu Diab, El Mishedi, Wadi Mezara, W. Ta-albi, W. Chaschibi, W. Ab-Orta, Djebel Nimr, Um Shusha and Karm Alam are not known).

2.3 *Erodius hebraicus* LILLIG, 1997

Erodius (*Dirosis*) *hebraicus* LILLIG, 1997: 55.

Referenced localities. Mitle, 13.IV.1973, D. Furth (1 Paratypus) (LILLIG 1997).
General distribution. Northern Sinai, Israel (the Negev) (LILLIG 1997).

2.4 *Erodius kneuckeri kneuckeri* ANDRES, 1920

Erodius kneuckeri ANDRES, 1920: 61.
Erodius bilineatus BOEHM, 1909: 121 nec OLIVIER, 1791: 426.

New localities. Sebchat A-Sheck (NE El Arish), 10.V.1980 (8) (ML, TMB); El Arish, 12 km N of, 27.XII.1956, O. Yarkoni (1); El-Arish, P. Amitai, 11.I.<19>57 (1); Rodmano, 20.VI.1970, leg. Bytinski-Salz (2); 35 km NW Refidemn(?) 21.III.<19>76, leg. D. Gersting (3); Mitla Pass, 13.IV.1973, leg. Bytinski-Salz (5); Mitle, 13.IV.1973, leg. D. Furth (8); Mitla, 13.IV.1973, leg. M. Kaplan (1) (TAU) (Fig. 3).
Referenced localities. Gebel Katherin (ALFIERI 1976), between Ain Musa and Wadi Werdan, between Hawara, Wadi Gharandel and Wadi Uset (ANDRES 1920), the Sinai (ANDRES 1931b) (Fig. 3).
General distribution. *E. k. kneuckeri*: Lower Egypt (Ismailiya) (KOCH 1935a), the Sinai (ALFIERI 1976), the Negev (TAU, TMB). – *E. k. semisculptus* KOCH, 1935: Lower Egypt (ALFIERI 1976).

2.5 *Erodius opacus* KRAATZ, 1865

Erodius opacus KRAATZ, 1865: 25.

Referenced localities. Lanafet Rissan, Magdaba (ALFIERI 1976), the Sinai (CROTCH 1872).
General distribution. Egypt (Oasis of Kharga), the Sinai (ALFIERI 1976), Israel (AYAL & MERKL 1994).

2.6 ***Erodius puncticollis sinaiticus* CROTCH, 1872**
Erodius sinaiticus CROTCH, 1872: 267.
Erodius maillei SOLIER, 1834: 546.
Erodius puncticollis var. *contractus* KRAATZ, 1865: 65.

Referenced localities. Between Abu Diab and El Mishedi, between Wadi Mezara and Um Shusha (ALFIERI 1920 sub *E. puncticollis contractus*, ALFIERI 1976 sub *E. puncticollis* SOLIER), Wadi Isla, Karm Alam (ALFIERI 1976 sub *E. puncticollis* var. *maillei*), south of Wadi Musa up to Wadi Werdan (ANDRES 1920 sub *E. puncticollis*), in north-west (ANDRES 1920 sub *E. puncticollis* var. *contractus*), Wadi Werdan, Wadi Werdan - Ain Hawara, Wadi Hebran, desert plain Ga'a up to Tor, Djebel Hamam, Wadi Gergir, Wadi Ta-albi, between Wadi Chaschibi, Djebel Nimr and Wadi Ab-Orta (ANDRES 1920 sub *E. puncticollis* var. *maillei*), the Sinai (ANDRES 1931b sub *E. maillei a*nd *E. contractus*, CROTCH 1872 sub *E. puncticollis*, GRIDELLI 1933a sub *E. puncticollis* var. *maillei*, *E. sinaiticus*, PIERRE 1961b sub *E. sinaiticus*, REITTER 1914a sub *E. puncticollis* var. *maillei*), El Arish (BOYD 1917), northern part of the Sinai Peninsula (KNEUCKER 1903), between Tor and Wadi Isla (KOCH 1935a), Abu Rueitat (KOCH 1940a) (Fig. 4).
General distribution. The Sinai (KOCH 1940a), the Negev (ML).
Comments. *Erodius servillei* SOLIER, 1834 reported by ANDRES (1931b) and PEYERIMHOFF (1907) should perhaps be added here.

2.7 ***Erodius zophosoides zophosoides* Allard, 1864**
Erodius zophosoides ALLARD, 1864: 387.

New localities. Wadi Gharandel, IV.1993, leg. Dr. G. W. Ullrich (1) (HJB).
Referenced localities. Meghara (ALFIERI 1976).
General distribution. *E. zophosoides zophosoides*: Algeria, Tunisia, Libya, Egypt (ANDRES 1931b), the Sinai. – *E. z. schatzmayri* KOCH, 1937: Libya (Tripolitania) (KOCH 1937). – *E. z. nunicus* KOCHER, 1955: southern Morocco (KOCHER 1958). – *E. z. marrakensis* KOCHER, 1950: Morocco (Marrakesh) (KOCHER 1958). – *E. z. subbicostatus* KOCH, 1937: Libya (Agedabia) (KOCH 1937).

Tribe Zophosini

3. ***Zophosis* LATREILLE, 1802**

3.1 ***Zophosis* (*Septentriophosis*) *bicarinata* cf. *ghilianii* DEYROLLE, 1867**
Zophosis ghilianii DEYROLLE, 1867: 196.

New localities. Nuweiba (dune), 28.XI.1992, L.P. (4); 1 km W Dahab, 29.XI.1992, L.P. (4); 55 km NE Santa Catherine, 850 m, 2.XII.1992, L.P. (1); 15 km N Sharm el Sheikh, 30.XI.1992, L.P. (3); 7 km N Sharm el Sheikh, 29.XI.1992, L.P. (7); Dahab, 20.4.1995, P. (2) (ML, TP); Sharm el Sheik around Shark's Bay, 1.-4.I.1998, leg. W. Schawaller (4 dead) (SMNS).
General distribution. *Z. bicarinata* SOLIER s. l., composed of ten subspecies, is distributed from the Canary Islands to the Arabian Peninsula. Unfortunately, the type locality of *Z. b. ghilianii* is unknown. According to PENRITH (1986) the specimens corresponding to the type originated from Port Sudan.

3.2 ***Zophosis* (*Septentriophosis*) *complanata* SOLIER, 1834**
Zophosis complanata SOLIER, 1834: 626.

New localities. East of Suez City, V.<19>71, leg. D. Simon (1) (TAU).
Referenced localities. Wadi Mezara, Um Shousha (ALFIERI 1920), south of Ain Musa up to Wadi Werdan (ANDRES 1920), between Suez and Abu Selima (BODENHEIMER & THEODOR 1929), Pharaoh's Baths (= Hammam Fir'aoun), Wadi Gorondel, Ga'a plain (PENRITH 1984).
General distribution. Egypt, the Sinai, Jordan, Gaza, Saudi Arabia, Iraq, Iran (PENRITH 1984), Israel (BYTINSKI-SALZ 1955a).

3.3 ***Zophosis* (*Septentriophosis*) *farinosa* BLAIR, 1914**
Zophosis farinosa BLAIR, 1914: 483, nom. n.
Zophosis testudinaria SOLIER, 1834: 622 nec *Erodius testudinarius* FABRICIUS, 1787: 215.

Referenced localities. South of Ain Musa (ANDRES 1920), the Sinai (ANDRES 1931b sub *Z. testudinaria* FABRICIUS, KASZAB 1981), Abou Zenneh (between Suez and Feiran) (PEYERIMHOFF 1907 sub *Z. testudinaria* FABRICIUS).
General distribution. NE Saudi Arabia, Jordan, Iraq, Iran (PENRITH 1984), the Sinai (KASZAB 1981).

3.4 ***Zophosis* (*Septentriophosis*) *lethierryi* DEYROLLE, 1867**
Zophosis lethierryi DEYROLLE, 1867: 211.

Referenced localities. El Arish, Bugnia (= Umm Bugma) (PENRITH 1982a).
General distribution. Northern Algeria, Tunisia, Tripolitania, the Sinai (PENRITH 1982a).

3.5 ***Zophosis* (*Hologenosis*) *nigroaenea* DEYROLLE, 1867**
Zophosis nigroaenea DEYROLLE, 1867: 181.
Zophosis aelanitica PEYERIMHOFF, 1907: 26.

New localities. 1 km W Dahab, 29.XI.1992, L.P. (1) (ML).
Referenced localities. Prope Aelanam Judaeorum (INNES BEY 1909 t. PEYERIMHOFF, PEYERIMHOFF 1907 sub *Z. aelanitica*), Gulf of Aqaba (KOCH 1935a sub *Z. aelanitica*).
General distribution. Mauritania up to the Gulf of Aqaba (PENRITH 1982b).
Comments. The species have been described as *Z. aelanitica* by PEYERIMHOFF (1907) after a single specimen from the Sinai part of the Gulf of Aqaba ("in arena mobile prope Aelanam Judaeorum").

3.6 ***Zophosis* (*Septentriophosis*) *personata* ERICHSON, 1841**
Zophosis personata ERICHSON, 1841: 176.
Zophosis depressipennis LUCAS, 1858: CCXXII.

Referenced localities. Mohammedia, Mazar (BOYD 1917 sub *Z. depressipennis*), Umm Bugma (PENRITH 1982a).
General distribution. Northern Sahara, the Sinai (PENRITH 1982a).

3.7 ***Zophosis* (*Septentriophosis*) *pharaonis pharaonis* REITTER, 1916**
Zophosis pharaonis REITTER, 1916c: 90, nom. n.
Zophosis rotundata DEYROLLE, 1867: 215 nec MÉNÉTRIÉS, 1849: 218.

New localities. Romano, 20.VI.1970, leg. Bytinski-Salz (1); Biz Gif, 24.IV.1968, leg. H. Schweiger (1) (TAU).
Referenced localities. South of Ain Musa, Wadi Werdan, between Wadi Werdan and Hawara, Wadi Gharandel (ANDRES 1920), the Sinai (ANDRES 1921, 1931b, BLAIR 1934 sub *Z. rotundata* MÉNÉTRIÉS, GRIDELLI 1933a, SCHATZMAYR 1938), Wadi Meghara (PENRITH 1982a), Pharaoh's Baths (= Hammam Fir'aoun) (WALKER 1871, determination uncertain).
General distribution. *Z. pharaonis pharaonis*: Lower Egypt, the Sinai, NW Saudi-Arabia (PENRITH 1982a), Israel (AYAL & MERKL 1994). – *Z. ph. simplex* KASZAB, 1981: 319: Southern Arabia (PENRITH 1984).

3.8 ***Zophosis* (*Septentriophosis*) *plana* (FABRICIUS, 1775)**
Erodius planus FABRICIUS, 1775: 259.
Zophosis carinata SOLIER, 1834: 630.

New localities. Santa Katarina, 18.V.1970, leg. Bytinski-Salz (1) (TAU) (Fig. 5).
Referenced localities. Wadi Hebran, Ga'a up to Tor, Wadi Chaschibi (ANDRES 1920 sub *Z. carinata*), the Sinai (ANDRES 1931b sub *Z. carinata*, BOEHM 1909, GRIDELLI 1952 sub *Z. carinata*, KOCH 1934 sub *Z. carinata*, PEYERIMHOFF 1934, 1936), El Arish (BOYD 1917), Wadi Feiran (ARDOIN 1972a, HEYDEN 1899 sub *Z. carinata*), Nachlé (HEYDEN 1899 sub *Z. carinata*), Qala'at en-Nakhel (PEYERIMHOFF 1907 t. HEYDEN sub *Z. carinata*), Tor (KOCH 1935a sub *Z. carinata*), En Nkeyaz, Nachle (PENRITH 1982a) (Fig. 5).
General distribution. Central, northern and eastern Sahara, the Sinai (PENRITH 1982a).

3.9 ***Zophosis* (*Oculosis*) *punctata punctata* BRULLÉ, 1832**
Zophosis punctata BRULLÉ, 1832: 191.
Zophosis maillei SOLIER, 1834: 613.

Referenced localities. The Sinai (ANDRES 1931b, CROTCH 1872 sub *Z. maillei*), Tor (PENRITH 1983).
General distribution. *Z. punctata punctata*: North Africa from Morocco to Libya, in Europe from Spain to Greece, in Asia from Turkey to Pakistan (PENRITH 1983) and Saudi Arabia (KASZAB 1981). – *Z. p. pygmaea* Solier, 1834: Lower Egypt, the Negev, Kuwait (PENRITH 1983). – *Z. p. alborana* BAUDI, 1883: Alborana island facing the Spanish southern coast (PENRITH 1983).
Comments. Transition forms between *Z. p. punctata* and *Z. p. pygmaea* have been observed in Israel, the Sinai and Iraq (PENRITH 1983).

Tribe Tentyriini

4. ***Cyphostethe* MARSEUL, 1867**

4.1 ***Cyphostethe heydeni* (HAAG-RUTENBERG, 1877)**
Himatismus heydeni HAAG-RUTENBERG, 1877: 282.
Himatismus saharensis CHOBAUT, 1897: 205.

Referenced localities. Wadi Meghara (ALFIERI 1976), between Suez and Abu Selima (BODENHEIMER & THEODOR 1929 sub *Curimosphena heydeni*).
General distribution. From Sahara, across and beyond its southern border, up to Sudan (KOCH 1950), Saudi Arabia, Yemen (KASZAB 1981).

5. *Dailognatha* ESCHSCHOLTZ, 1831

5.1 *Dailognatha crenata* REICHE & SAULCY, 1857

Dailognatha crenata REICHE & SAULCY, 1857: 198.

Referenced localities. Wadi Meghara (ALFIERI 1976), El Arish (KOCH 1935a).
General distribution. Turkey ("Asia Minor"), Cyprus, Syria, Transcaucasia, Israel (CHIKATUNOV et al. 1997), Jordan (KATBEH-BADER 1996), the Sinai (ALFIERI 1976).

6. *Hegeterocara* REITTER, 1900

6.1 *Hegeterocara arabica* REITTER, 1900

Hegeterocara arabica REITTER, 1900: 190.
Fourtaus brevicornis PIC, 1920: 48.

New localities. Nuweiba, IV.1992, Ullrich (1) (CGW).
Referenced localities. The Sinai (PIC 1920 sub *Fourtaus brevicornis* n. sp.), Cheikh Hamid (ALFIERI 1976), Wadi Helal (ALFIERI 1976 sub *Fourtaus brevicornis*), El Arish, Gebel el Helal (KOCH 1935a), Sharm el Sheik (Typus, REITTER 1900), El Kontella (KOCH 1941b).
General distribution. The Sinai, southern Jordan (KASZAB 1981), the Negev (TAU).

7. *Himatismus* ERICHSON, 1843

7.1 *Himatismus* (*Curimosphena*) *villosus* HAAG-RUTENBERG, 1870

Himatismus villosus HAAG-RUTENBERG, 1870: 90.

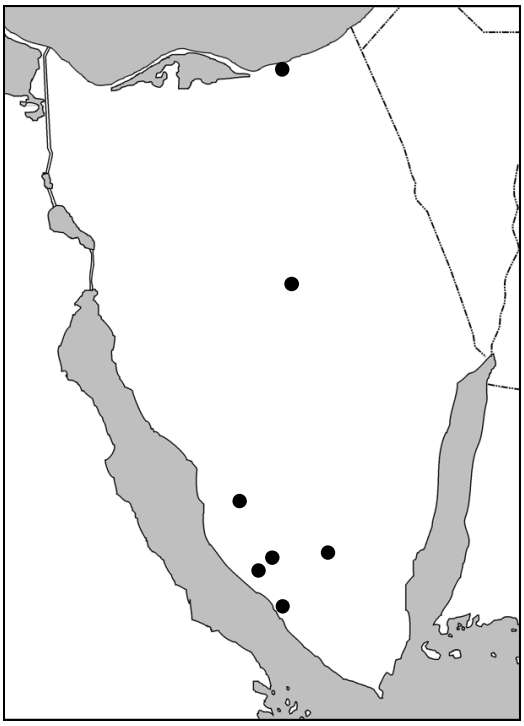
New localities. Dahab, 20.IV.1995, P. (1) (ML).
Referenced localities. Cheik Hamid, El Kreig (ALFIERI 1920), El Arish, Magdaba (ALFIERI 1920 sub *H. variegatus* FABRICIUS), Wadi Isla, Cheikh Hamid, El Kreig (ALFIERI 1976 sub *Curimosphena villosus* HAAG-RUTENBERG), the Sinai (ANDRES 1931b, HART 1891, PEYERIMHOFF 1907 t. HART).
General distribution. North Africa, Senegal up to Sudan, Ethiopia, eastern Mediterranean, Arabia (KASZAB 1981).
Comments. The data on *Himatismus variegatus* FABRICIUS, 1781 for the Sinai are based on determination mistakes. According to ALFIERI (1976), it appears that specimens identified as *H. variegatus* represent *H. villosus*.

8. *Hionthis* MILLER, 1861

8.1 *Hionthis tentyrioides* MILLER, 1861

Hionthis tentyrioides MILLER, 1861: 176.

Referenced localities. Karm Alarm (ALFIERI 1976), Wadi Feiran (ARDOIN 1972a).
General distribution. Syria (SCHAWALLER 1982), Libya (Cyrenaica), Lower Egypt (GRIDELLI 1930), Palestine (BODENHEIMER 1937).



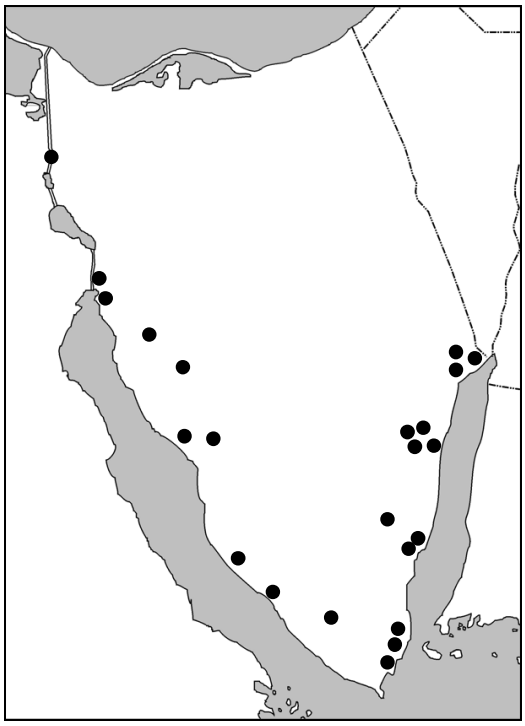


Fig. 5 (left). Collection sites of *Zophosis plana* on the Sinai Peninsula (the geographic coordinates of Wadi Chaschibi and En Nkeyaz are not known). – Fig. 6 (right). Collection sites of *Mesostena angustata* on the Sinai Peninsula (the geographic coordinates of Wadi Chaschibi are not known).

9. *Mesostena* ESCHSCHOLTZ, 1831

9.1 *Mesostena* (*Mesostena*) *angustata* (FABRICIUS, 1775)

Pimelia angustata FABRICIUS, 1775: 253.
Mesostena oblonga SOLIER, 1835a: 401.
Mesostena laevicollis SOLIER, 1835a: 402.
Mesostena punctipennis SOLIER, 1835a: 403.

New localities. 7 km S Taba, 3.XII.1992, L.P. (1); 19 km S Taba, 3.XII.1992, L.P. (4); Nuweiba (dune), 28.XI.1992, L.P. (1); Dahab, 9.IV.1993, P. (2); 1 km W Dahab, 29.XI.1992, L.P. (4); 55 km NE Santa Katarina, 850 m, 2.XII.1992, L.P. (13); 35 km N Sharm el Sheikh, 30.XI.1992, L.P. (24); 15 km N Sharm el Sheikh, 30.XI.1992, L.P. (28); 7 km N Sharm el Sheikh, 29.XI.1992, L.P. (2); Sharm el Sheikh, 29.-30.XI.1992, L.P. (4); Dahab, 9.IV.1993, P. (1); Dahab, 20.IV.1995, P. (3), 22.IV.1995, P. (3) (ML); area around the oasis of Ain Khudra, 25.-29.XII.1997, 600-800 m, leg. W. Schawaller (6); Sharm el Sheik, around Shark's Bay, 1.-4.I.1998, leg. W. Schawaller (4) (SMNS) (Fig. 6).

Referenced localities. All the Peninsula (ALFIERI 1976), Ga'a desert, Wadi Gergir, Wadi Budr (ANDRES 1920 sub *Mesostena laevicollis*), Ain Musa, Wadi Werdan, Wadi Gharandel, Ga'a desert, Tor, Wadi Gergir, Wadi Budr, Wadi Chaschibi (ANDRES 1920), between Suez and Abu Selima (BODENHEIMER & THEODOR 1929), El Kubri, El Qantara (BOYD 1917), the Sinai (ANDRES 1931b, CROTCH 1872 sub *M. oblonga*, GRIDELLI 1933b, 1937, 1938, 1939c, 1950, HART 1891 sub *Mesotena punctipennis*, HOLDHAUS 1919 sub *M. laevicollis*, KOCH 1934, 1940c, PEYERIMHOFF 1948a), Tor (KOCH 1935a), Wadi eth-Thal, Wadi Gharandel

(PEYERIMHOFF 1907), Wadi el-Ain, Reidan Esqua'ah, Nouheibeh, Wadi Tabah, north of the Gulf of Aqaba (PEYERIMHOFF 1907 sub *M. laevicollis*) (Fig. 6).
General distribution. Sahara, Sudan, Nigeria, Eritrea, the Sinai, eremic Palestine (KOCH 1940c), Syria, southern Jordan (SCHAWALLER 1982).
Comments. KOCH (1940c) recognizes several subspecies in the broad distribution zone, among which PEYERIMHOFF (1948a) counts *M. longicollis* LUCAS, 1858 as a nominal subspecies.

9.2 *Mesostena* (*Mesostenopa*) *peyerimhoffi* GRIDELLI, 1938

Mesostenopa gracilis PEYERIMHOFF, 1907: 31 nec *M. gracilis* GREDLER, 1878: 514.
Mesostena (*Mesostenopa*) *peyerimhoffi* GRIDELLI, 1938: 109, nom. n.

New localities. SE Sinai, Wadi Umm Ahmed, 8.-13.XII.1991, Fichtner & Leidenroth (1) (SMNS).
Referenced localities. The Sinai (ALFIERI 1976, ANDRES 1931b sub *Mesostenopa gracilis*), Wadi Hebran (ANDRES 1920 sub *Mesostenopa gracilis*), Ain al-Houdra (GRIDELLI 1938, KOCH 1935a sub *Mesostenopa gracilis*), Ain el-Houdra ("Hazeroth") (INNES BEY 1909 t. PEYERIMHOFF, PEYERIMHOFF 1907 sub *Mesostenopa gracilis*), eastern Sinai: Ain el Houdra (SCHATZMAYR & KOCH 1934 sub *Mesostenopa gracilis*).
General distribution. Eastern Sinai (SCHATZMAYR & KOCH 1934).

9.3 *Mesostena* (*Mesostenopa*) *picea sinaitica* (SCHATZMAYR & KOCH, 1934)

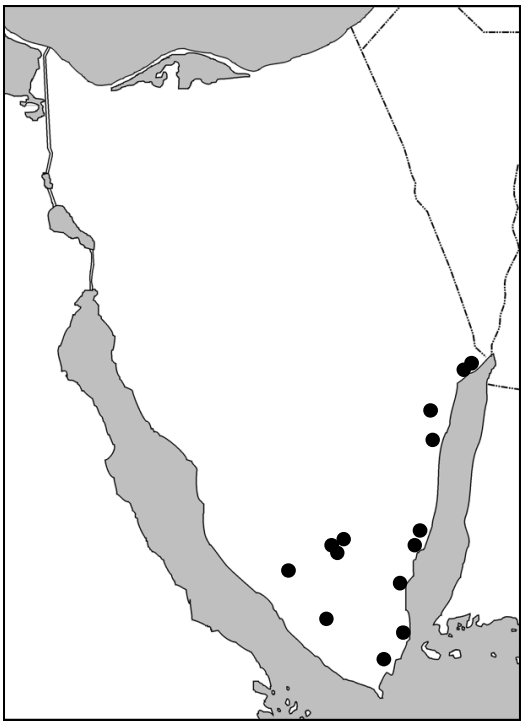
Mesostenopa habessinica sinaitica SCHATZMAYR & KOCH, 1934: 17.

New localities. 10 km S Taba, 27.XI.1992, L.P. (2); 13 km S Taba, 3.XII.1992, L.P. (1); 3 km E Ain el Furtaga, 28.XI.1992, L.P. (1); 20 km S Nuweiba, 27.XI.1992, L.P. (1); 12 km NW Dahab, 30.XI.1992, L.P. (1); Dahab, 9.IV.1993, P. (2); 18 km S Dahab, 29.XI.1992, L.P. (2); 7 km NE Santa Katarina, 2.XII.1992, L.P. (1); 35 km N Sharm el Sheikh, 30.XI.1992, L.P. (1); Santa Katarina, 16.IV.1995, P. (1); Santa Katarina, Plain of Raha, 17.IV.1995, P. (1); Sharm el Sheik, 1.-4.I.1998, leg. W. Schawaller (1) (ML); Santa Katarina, 29.IV.1987, Monastery of St. Catherine, remaining ponds, leg. M. Balke (1) (SMNS) (Fig. 7).
Referenced localities. Wadi Karam (ALFIERI 1976), Wadi Isla, Wadi Hebran (KOCH 1935a), Wadi Isla, between Tor and Santa Katarina (SCHATZMAYR & KOCH 1934 sub *Mesostenopa habessinica sinaitica*), the Sinai (KOCH 1934 sub *Mesostenopa habessinica sinaitica*) (Fig. 7).
General distribution. The Sinai (KOCH 1940c).
Comments. According to KOCH (1940c), this species is divided into seven subspecies distributed over a vast part of Sahara and of the Arabian Peninsula. *M. picea sinaitica* was known up to now from the south-west of the Sinai (KOCH 1940c). KOCH (1935a) mentioned it also from Gebel Elba, but corrected this information later (KOCH 1940c). The information given by ALFIERI (1976) according to which this subspecies occurs also in Lower Egypt seem questionable.

9.4 *Mesostena* (*Mesostena*) *puncticollis* SOLIER, 1835

Mesostena puncticollis SOLIER, 1835a: 405.

New localities. Dahab, 20.IV.1995, P. (6); Dahab, 22.IV.1995, P. (5) (TP, ML).
Referenced localities. Wadi Isla (ALFIERI 1976), south from Ain Musa (ANDRES 1920), the Sinai (ANDRES 1931b, GRIDELLI 1931 t. ANDRES).



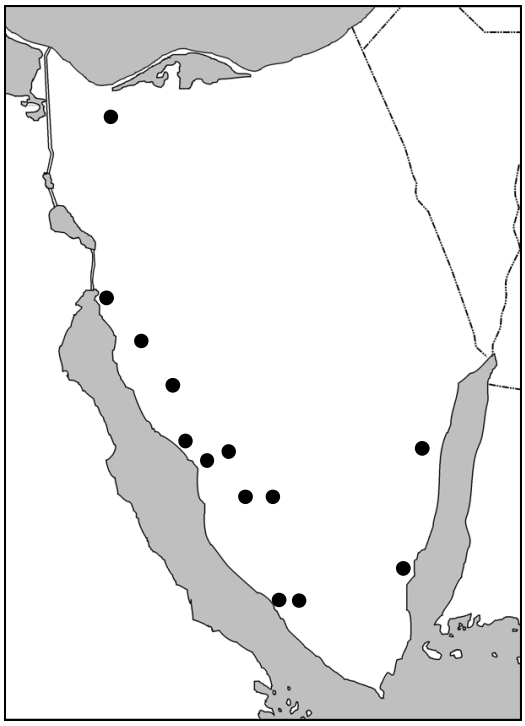


Fig 7 (left). Collection sites of *Mesostena picea sinaitica* on the Sinai Peninsula (the geographic coordinates of Wadi Karam are not known). – Fig 8 (right). Collection sites of *Scelosodis c. castaneus* on the Sinai Peninsula.

General distribution. Turkmenistan, Iran, Iraq, Syria, Jordan, whole Arabian Peninsula (KOCH 1940c, KASZAB, 1981), Sudan (ARDOIN 1972a), Somalia (KOCH 1940c), Israel (KRASNOV & AYAL 1995), Djibouti (ML).

10. *Micipsa* LUCAS, 1855

10.1 *Micipsa grandis* KRAATZ, 1865

Micipsa grandis KRAATZ, 1865: 108.

New localities. Around the oasis of Ain Khudra, 25.-29.XII.1997, 600-800 m, leg. W. Schawaller (1); Sharm el Sheik around Shark's Bay, 1.-4.I.1998, leg. W. Schawaller (1) (SMNS).

Referenced localities. Wadi Isla (ALFIERI 1976), Wadi Gergir (ANDRES 1920), the Sinai (GEBIEN 1906, GRIDELLI 1930), Tor (KOCH 1935a), Wadi Chamileh (HEYDEN 1899), Wadi Khamileh (PEYERIMHOFF 1907 t. HEYDEN).

General distribution. Lebanon (Beirut) (KRAATZ 1865), the Sinai, Egypt (ANDRES 1920), Libya (Cyrenaica) (GRIDELLI 1930), Sudan (GEBIEN 1906).

10.2 *Micipsa philistina* REICHE & SAULCY, 1857

Micipsa philistina REICHE & SAULCY, 1857: 212.

New localities. Santa Katarina, 1500 m, 1.-2.XII.1992, L.P. (4); 1 km E Santa Katarina Monastery, 1800 m, 1.XII.1992, L.P. (5); 7 km NE Santa Katarina, 1400 m, 2.XII.1992,

L.P. (1) (ML); Santa Katarina, 16.4.1995, P. (2); Santa Katarina, Plain of Raha, 17.4.1995, P. (3) (ML, TP).
Referenced localities. Kid (ANDRES 1931b, KOCH 1935a), the Sinai (CROTCH 1872).
General distribution. The Sinai (KOCH 1935a), Jordan, Iraq, "Syria" (KASZAB 1981), Israel (KRASNOV & AYAL 1995).

10.3 ***Micipsa schaumii* KRAATZ, 1865**
Micipsa schaumii KRAATZ, 1865: 111.

Referenced localities. The Sinai (CROTCH 1872), Hadjar er-Reqab (PEYERIMHOFF 1907).
General distribution. Lower Egypt (ALFIERI 1976), the Sinai (PEYERIMHOFF 1907).

11. *Oterophloeus* DESBROCHERS DES LOGES, 1881

11.1 ***Oterophloeus alveatus peyerimhoffi* KOCH, 1935**
Oterophloeus alveatus peyerimhoffi KOCH, 1935a: 24.

New localities. 7 km NE Santa Katarina, 2.XII.1992, L.P. (1) (ML).
Referenced localities. Wadi Isla (ALFIERI 1976).
General distribution. *O. alveatus alveatus* Peyerimhoff, 1931: 95: Hoggar (PEYERIMHOFF 1931), south Morocco, former Spanish Sahara, Mauritania (ESPAÑOL 1952, GRIDELLI 1952, KOCHER 1958, 1964, REYMOND 1952). – *O. a. peyerimhoffi*: Lower Egypt (KOCH 1935a), the Sinai (ALFIERI 1976).

11.2 ***Oterophloeus haagii orientalis* KOCH, 1935**
Oterophloeus haagi orientalis KOCH, 1935a: 25.

Referenced localities. Wadi Isla (ALFIERI 1976), south from Ain Musa up to Wadi Werdan (ANDRES 1920 sub *Tentyrina haagi*), El Arish (KOCH 1935a), Hadjar er-Reqab (PEYERIMHOFF 1907 sub *Tentyriina haagi*).
General distribution. From Cairo up to the Sinai (ALFIERI 1976).

12. *Oxycara* SOLIER, 1835

12.1 ***Oxycara* (*Oxycara*) *ardoini* KASZAB, 1979**
Oxycara (*Oxycara*) *ardoini* KASZAB, 1979: 285.

New localities. Area around Ain Khudra oasis, 25.-29.XII.1997, 600-800 m, leg. W. Schawaller (7); 30 km W Nuweiba, Gebel Barqa, 4.-6.II.1997 600 m, leg. Iglesias & Leidenr (3) (SMNS).
Referenced localities. Not yet reported from the Sinai.
General distribution. Southern Jordan (KASZAB 1979), the Sinai, the Negev (SMNS).

12.2 ***Oxycara* (*Symphoxycara*) *peyerimhoffi* LILLIG, 2001**
Oxycara peyerimhoffi LILLIG, 2001: 369.

New localities. 19 km S Taba, 3.XII.1992, L.P. (1); 20 km S Taba, 27.XI.1992, L.P. (1); 5 km N Nuweiba, 28.XI.1992, L.P. (4); 3 km N Nuweiba, 3.XII.1992, L.P. (1); Dahab,

9.IV.1993, P. (1); 1 km W Dahab, 29.XI.1992, L.P. (1); 15 km N Sharm el Sheikh, 30.XI.1992, L.P. (3); Regam in W. Kid, 25.X.<19>68, leg. Broza (3); Eim Furghaga, 1.VII.1970, leg. Broza (2) (TAU) (LILLIG 2001).

Referenced localities. The collection sites given for *O. breviusculum* FAIRMAIRE and *O. subcostatum* (GUÉRIN-MÉNEVILLE) should refer to this species: Wadi Isla, Wadi Um Mitla (ALFIERI 1976 sub *O. subcostatum*), Wadi Gergir, Wadi Budr, Ta albi, Abu Cscheib, Chaschibi, Wadi Ab-Orta (ANDRES 1920 sub *O. subcostata*), southern part of the Sinai Peninsula (ANDRES 1931b sub *O. subcostatum*), Gala el Aqaba (GRIDELLI 1953-54a sub *O. breviusculum*), Tor (KOCH 1935a sub *O. breviusculum*), Wadi el-Ain, Wadi Taba (PEYERIMHOFF 1907 sub *Oxycara subcostata* GUÉR. (versim.)).

General distribution. The Sinai, the Negev, southern Jordan (LILLIG 2001).

Comments. This species is related to *Oxycara breviusculum* FAIRMAIRE, 1892 (LILLIG 2001).

12.3 *Oxycara* (*Oxycara*) *productum* PEYERIMHOFF, 1907

Oxycara producta PEYERIMHOFF, 1907: 33.

New localities. 7 km S Taba, 3.XII.1992, L.P. (1); 38 km S Taba, 3.XII.1992, L.P. (1); 22 km N Nuweiba, 3.XII.1992, L.P. (1) (ML).

Referenced localities. Wadi Mitla, Wadi Isla (ALFIERI 1976), the Sinai (ANDRES 1931b t. PEYERIMHOFF), Ain el-Houdra (INNES BEY 1909 t. PEYERIMHOFF, PEYERIMHOFF 1907).

General distribution. The Sinai (ALFIERI 1976).

12.4 *Oxycara* (*Oxycara*) *pygmaeum* (REICHE & SAULCY, 1857)

Melancrus pygmaeus REICHE & SAULCY 1857: 194.

Referenced localities. Wadi Isla (ALFIERI 1976), between Suez and Abu Selima (BODENHEIMER & THEODOR 1929), between Wadi Werdan and Wadi Feiran (ANDRES 1920), the Sinai (GRIDELLI 1930, 1933a t. ANDRES).

General distribution. Libya (GRIDELLI 1933a) up to the Sinai (ALFIERI 1976).

Comments. This species had been described from the Dead Sea and from "Syrie". However it does not seem that it occurs there, too. Since the authors did not determine a holotype, we are designating here the holotype: **Lectotype**: Sex not studied: "M. morte" "Type" "Type" [red] "Muséum Paris, Coll. Reiche" "Muséum Paris, 1932, Coll. Bedel, Soc. Ent. de France" "*pygmaeum* Reiche" (MNHNP). **Paralectotypes**: "Syrie" "Type" "Type" [red] "Muséum Paris, Coll. Reiche" "Muséum Paris, 1932, Coll. Bedel, Soc. Ent. de France" (5) (all in MNHNP).

13. Prochoma SOLIER, 1835

13.1 *Prochoma* (*Prochoma*) *audouini* SOLIER, 1835

Prochoma audouini SOLIER, 1835a: 395.

New localities. 2 km N Nuweiba (coastal oasis), in spider's web, 28.XI.1992, L.P. (1) (ML). CARL (1994) already published these data.

General distribution. Iraq, Iran, Syria, Jordan, the Sinai (CARL 1994), Jerusalem (KOCH 1940b).

Comments. Nuweiba is the most western located collection site of the genus.

14. *Scelosodis* SOLIER, 1835

14.1 *Scelosodis castaneus castaneus* (ESCHSCHOLTZ, 1831)

Cratopus castaneus ESCHSCHOLTZ, 1831: 8.

New localities. Dahab, 9.IV.1993, P. (1); Dahab, 20.IV.1995, P. (8) (ML, TP); area around oasis Ain Khudra, 25.-29.XII.1997, 600-800 m, leg. W. Schawaller (11) (9 SMNS, 2 ML) (Fig. 8).

Referenced localities. Wadi Isla (ALFIERI 1976), Ain Musa, Wadi Werdan, Wadi Gharandel, Wadi Schellal, Wadi Mokatteb, Wadi Feiran (ANDRES 1920), the Sinai (ANDRES 1931b, GIRARD & PIERRE 1965, GRIDELLI 1950, KOCH 1934, PEYERIMHOFF 1933, 1936), Katia (BOYD 1917), Wadi Isla, Tor (KOCH 1935a), Ras abou Zenimeh, Wadi Gneh, Ain el-Houdra (PEYERIMHOFF 1907) (Fig. 8).

General distribution. *S. castaneus castaneus*: Upper and Lower Egypt, Libya (Cyrenaica), the Sinai (GIRARD & PIERRE 1965).

S. castaneus soudanicus GIRARD et PIERRE, 1965: 135: Sahel from Khartoum up to Air (ARDOIN 1972a, ESPAÑOL 1973, GIRARD & PIERRE 1965).

15. *Schweinfurthia* ANDRES, 1922

15.1 *Schweinfurthia alfierii* SCHATZMAYR & KOCH, 1934

Schweinfurthia alfierii SCHATZMAYR & KOCH, 1934: 20.

Referenced localities. Wadi Meghara (ALFIERI 1976), Tor (SCHATZMAYR & KOCH 1934).

General distribution. The Sinai (ALFIERI 1976).

15.2 *Schweinfurthia sinaitica* ANDRES, 1922

Schweinfurthia sinaitica ANDRES, 1922: 26.

Referenced localities. Ain Musa (ANDRES 1920 sub n. gen., n. sp., ANDRES 1922, 1931b), Sinai (ALFIERI 1976, SCHATZMAYR & KOCH 1934).

General distribution. Only the holotypus is known until now. No other specimens have been collected yet.

16. *Tentyria* LATREILLE, 1802

16.1 *Tentyria discicollis* REICHE & SAULCY, 1857

Tentyria discicollis REICHE & SAULCY, 1857: 207.

Referenced localities. The Sinai (CROTCH 1872).

General distribution. Syria, Jordan (KASZAB 1981, KATBEH-BADER 1996, SCHAWALLER 1982), Israel (AYAL & MERKL 1994).

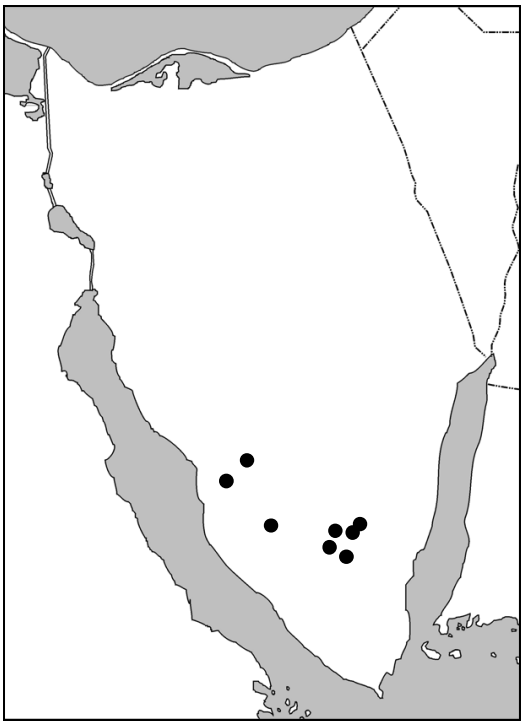
Comments. This species is not rare in the northern Negev. Consult SCHAWALLER (1982) to differenciate between *T. discicollis and T. laticollis* KRAATZ, 1865.

16.2 *Tentyria punctatostriata* SOLIER, 1835

Tentyria punctatostriata SOLIER, 1835a: 337.

Referenced localities. Mohammedia (BOYD 1917).

General distribution. Eastern Cyrenaica (GRIDELLI 1930), Lower Egypt (KOCH 1935a), northern Sinai (BOYD 1917).



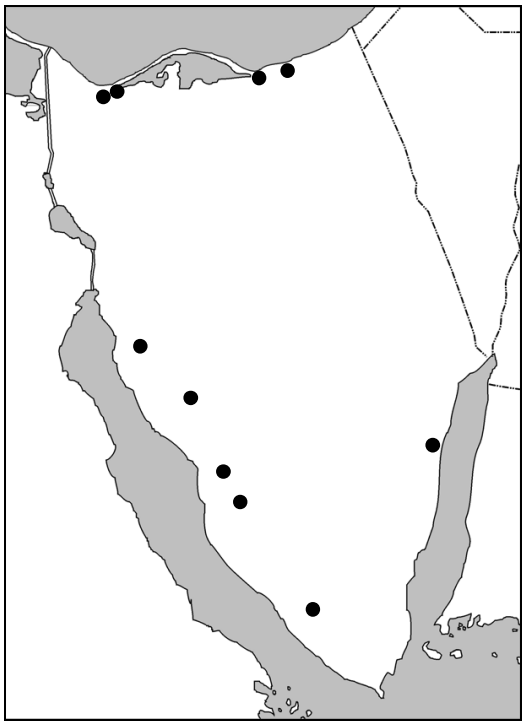


Fig 9 (left). Collection sites of *Tentyria sinaitica* on the Sinai Peninsula (the geographic coordinates of Abu Hamaida and Mear are not known). – Fig 10 (right). Collection sites of *Tentyrina orbiculata subsulcata* on the Sinai Peninsula (the geographic coordinates of Wadi Mezara and Um Shusha are not known).

16.3 *Tentyria sinaitica* PEYERIMHOFF, 1907

Tentyria sinaitica PEYERIMNHOFF, 1907: 32.

New localities. 27 km NE Santa Katarina, 1300 m, 2.XII.1992, L.P. (1); Mt. Moses (Gebel Musa), 7.-8.IV.1993, P. (1); Santa Katarina, 16.IV.1995, P. (5); Santa Katarina, Wadi Tlach, 16.IV.1995, P. (8); Santa Katarina, Plain of Raha, 17.IV.1995, P. (1) (ML, TP) (Fig. 9).
Referenced localities. Cheik Hamid, Wadi Meghara (ALFIERI 1976), Djebel Serbal (ANDRES 1931b t. PEYERIMHOFF), Abu Hamaida, Mear (ANDRES 1931b), Djebel Serbâl in the Sinai mountains (INNES BEY 1909 t. PEYERIMHOFF, PEYERIMHOFF 1907), the Sinai (KOCH 1935a) (Fig. 9).
General distribution. Southern Sinai.

17. *Tentyrina* REITTER, 1900

17.1 *Tentyrina orbiculata subsulcata* (REICHE & SAULCY, 1857)

Tentyria subsulcata REICHE & SAULCY, 1857: 203.
Tentyria aegyptiaca SOLIER, 1835a: 334.

New localities. Nuweiba, III.1997, leg. N. Rech (1); Wadi Gharandel, IV.1993, leg. Ullrich (1) (ML) (Fig. 10).
Referenced localities. Wadi Mezara, Um Shousha (ALFIERI 1920 sub *Tentyria aegyptiaca*), Wadi Meghara, Wadi Isla (ALFIERI 1976), the Sinai (ANDRES 1931b sub *T. orbiculata* (FABRICIUS), GRIMM 1991), El Arish, Romani (ANDRES 1931b), between Suez and Abu

Selima (BODENHEIMER & THEODOR 1929), Mohammedia, Romani, Mazar (BOYD 1917 sub *T. aegyptiaca*), El Arish, Romani (GRIDELLI 1929b), Wadi Feiran (KOCH 1935a sub *Tentyrina boehmi subsulcata*), Wadi Amara (PEYERIMHOFF 1907 t. HEYDEN sub *T. orbiculata* (FABRICIUS) (Fig. 10).

General distribution. *T. orbiculata orbiculata* (FABRICIUS, 1775: 253): Lower Egypt (KOCH 1940c). – *T. o. subsulcata*: Egypt, the Sinai, Israel, Lebanon, Cyprus (GRIMM 1991).

17.2 ***Tentyrina palmeri palmeri* (CROTCH, 1872)**

Tentyria palmeri CROTCH, 1872: 267.

Tentyria glabra auct. nec (FABRICIUS, 1775: 253).

New localities. 19 km S Taba, 3.XII.1992, L.P. (1); 10 km N Nuweiba, 28.XI.1992, L.P. (1); 40 km NNW Dahab, 2.XII.1992, L.P. (10); 10 km NW Dahab, 2 XII.1992, L.P. (2); 55 km NE Santa Katarina, 2.XII.1992, L.P. (2); Nuweiba, 27.III.1996, leg. N. Rech (2); Nuweiba, III.1997, leg. N. Rech (2) (ML); Sharm el Sheik around Shark's Bay, 1.-4.I.1998, leg. W. Schawaller (2); zone between Dahab and Nuweiba, 16.-21.11.1995, 500-800 m, leg. S. & C. Leidenroth (2); 30 km NW Nuweiba, Gebel Barqa, 4.-6.II.1997, 600 m, leg. Iglesias & Leidenroth (5); Gebel el Gunna, Abu Shauarib, 8.II.1997, 700 m, leg. C. & S. Leidenroth (3) (SMNS) (Fig. 11).

Referenced localities. Wadi Karam (ALFIERI 1976 sub *Tentyria palmeri*), the Sinai (ANDRES 1931b, BLAIR 1931, CROTCH 1872, GEBIEN & BORCHMANN 1927, KASZAB 1981, PIERRE 1961b, PEYERIMHOFF 1948a, SCHUSTER 1938, SCHUSTER & GEBIEN 1938), Wadi Feiran (HEYDEN 1899 sub *Tentyria glabra*, PEYERIMHOFF 1907 t. HEYDEN), Wadi el-Ain, Nuweiba, northern Gulf of Aqaba (PEYERIMHOFF 1907) (Fig. 11).

General distribution. *T. palmeri palmeri*: eastern Sahara from Libya to Egypt, the Sinai, Saudi Arabia, Iraq, Iran (KASZAB 1981, KOCH 1940c), Syria and Jordan (SCHAWALLER 1982). – *T. p. thomasi* (BLAIR, 1931: 22): southern and south-eastern part of the Arabian Peninsula. – *T. p. giraffa* ALLARD, 1883: ? south-western Jordan (KASZAB 1981).

18. *Thraustocolus* KRAATZ, 1865

18.1 ***Thraustocolus* (*Thraustocolus*) *leptoderus* (KRAATZ, 1865)**

Calobamon leptoderus KRAATZ, 1865: 106.

New localities. Sharm el Sheik around Shark's Bay, 1.-4.I.1998, leg. W. Schawaller (1) (SMNS).

Referenced localities. Wadi Gueh (ANDRES 1931b, PEYERIMHOFF 1907), the Sinai (KASZAB 1979, SCHUSTER 1934).

General distribution. Egypt, the Sinai (ALFIERI 1976), Dead Sea (KASZAB 1979).

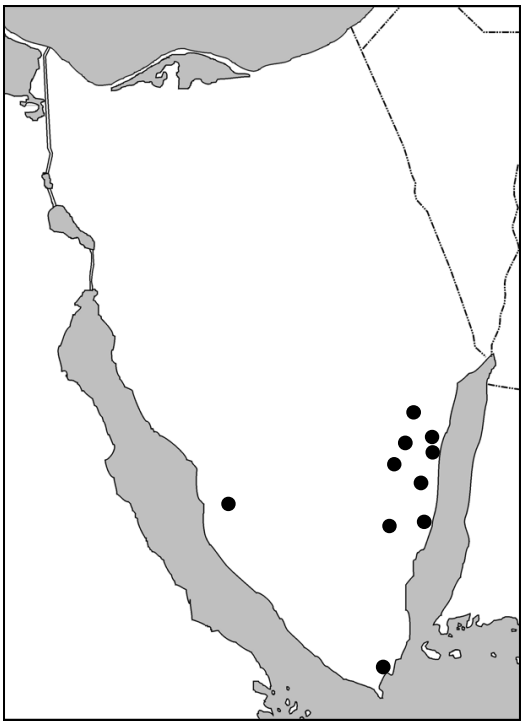
19. *Trichosphaena* REITTER, 1916

19.1 ***Trichosphaena perraudierei* (MARSEUL, 1867)**

Himatismus perraudierei MARSEUL, 1867: XXXIX.

Referenced localities. Wadi Karam (ALFIERI 1976), El Arish, Wadi Um Helal (KOCH 1935a).

General distribution. Sahara up to Sudan, Saudi Arabia (KASZAB 1981), the Negev (BYTINSKI-SALZ 1955a).



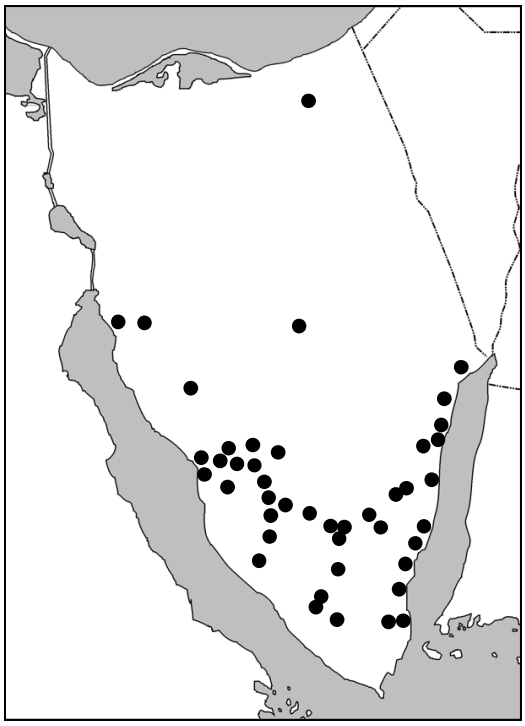


Fig 11 (left). Collection sites of *Tentyrina p. palmeri* on the Sinai Peninsula (the geographic coordinates of Wadi Karam are not known). – Fig 12 (right). Collection sites of *Adesmia cancellata latreillei* on the Sinai Peninsula (the geographic coordinates of Wadi Karam, W. Abutli, Mezara, Ein Zaituna, Surgit, El Hajdan Aridi, El Haschue and Hmed are not known).

Tribe Adesmiini

20. *Adesmia* FISCHER VON WALDHEIM, 1822

20.1 *Adesmia* (*Macradesmia*) *cancellata latreillei* SOLIER, 1835

Pimelia abbreviata Klug, 1830: No. 27, **n. syn.**
Adesmia latreillei SOLIER, 1835b: 540.
Adesmia sinaitica CROTCH, 1872: 267.

New localities. 20 km S Taba, 27.XI.1992, L.P. (1); 10 km N Nuweiba, 28.XI.1992, L.P. (1); 3 km N Nuweiba, 3.XII.1992, L.P. (1); 20 km S Nuweiba, 27.XI.1992, L.P. (1); Sainte Catherine Monastery, 1800 m, 1.XII.1992, L.P. (2); 27 km NE Sainte Catherine, 1300 m, 2.XII.1992, L.P. (5); 12 km NW Dahab, 30.XI.1992, L.P. (25); 18 km SW Dahab, 29.XI.1992, L.P. (2); 35 km SSW Dahab, 29.XI.1992, L.P. (3); 35 km N Sharm el Sheikh, 30.XI.1992, L.P. (7); Sinai 1929, leg. Jonarson (1) (MZH); Sinai occid., J. Couyat, III.1909 (2) (MNHNP); area around Ain Khudra oasis, 25.-29.XII.1997, 600-800 m, leg. W. Schawaller (1) (SMNS), cca. 750m, 17 km SW of Nuweiba, Zirig Wadi, 5.IV.1996, leg. Gy. M. László, (2) (TMB) (Fig. 12).

Referenced localities. Wadi Karam, El Arish, Magdaba (ALFIERI 1976), Meghara and Wadi Mezara (ALFIERI 1920, 1976 sub *A. cancellata*, south of Ain Musa, between Wadi Feiran and Wadi Selaf, between Wadi Hebran, Ga'a desert and Tor, Wadi Gergir, Wadi Budr, south of Wadi Chaschibi, between Wadi Tarfa and central Sinai Massif (ANDRES 1920), e-verywhere on the Sinai Peninsula (ANDRES 1931b), Wadi Kid, Wadi Kunei-el-E-Rayah near Dahab, Abas Bosha near of the Monastery of Sainte Catherine, Bir Zreier, Wadi Habeik ne-

ar Bir Zreier, Wadi Niddya el Beida near Firan Sinai, Wadi Ba'baa near Umm Bugma, Ma'agama, Ein Chadijeh, 10 km S Nakhl, Wadi Rayane, Sarabit el Hadam, Ein Zaituna, Surgit, El Hadan Aridi (ARDOIN 1978), Wadi Abutli, Wadi Rachaba, Wadi Cheikh, Wadi Hebran (ARDOIN 1978 t. KOCH), Djebel Hamr, Djebel Sefrou, Djebel el Hih, Wadi Gneh, Djebel Serbal, Deir el-Arbain, Wadi Tayebeh (ARDOIN 1978 t. PEYERIMHOFF), Wadi Isla (BODENHEIMER & THEODOR 1929 sub *A. sinaitica*), Sinai (BOEHM 1908 sub *A. cancellata*, CROTCH 1872 sub *A. clathrata*, *A. sinaitica*, GRIDELLI 1953-54a, REITTER 1916a sub *A. cancellata*), Djebel Hamr, Djebel Sefrou, Djebel el Tih (HEYDEN 1899 sub *A. cancellata*), Wadi Abutli, Wadi Rachaba, Wadi Feiran, Wadi Isla, Wadi Cheikh, Wadi Hebran (KOCH 1935a sub *A. sinaitica*, KOCH 1949-50), Wadi Gneh, Djebel Serbal, Deir el-Arbain, Wadi Tayebeh (PEYERIMHOFF 1907 sub *A. cancellata*), Djebel Hamr, Djebel Sefrou, Djebel el Tih (PEYERIMHOFF 1907 t. HEYDEN sub *A. cancellata*), Wadi Ba'baa (PEYERIMHOFF 1907 t. HEYDEN sub *A. clathrata*), Djebel Hamr, Djebel Lefrou, Djebel el-Tik, Quady Gneh, Djebel Serrar, Deir-el-Arbain, Quady Tangebeh (KOCH 1949-50 t. PEYERIMHOFF), El Arbain, El Haschue, Hmed, Wadi Gorondel, high plateau of Ga'a (KOCH 1949-50) (Fig. 12).

General distribution. *A. cancellata latreillei*: the Sinai. – *A. c. cancellata* (KLUG, 1830, No 37): Israel, Syria (ARDOIN 1978), Arabian Peninsula (KASZAB 1981).

Comments. The type comparison between *Adesmia latreillei* SOLIER and *Pimelia abbreviata* KLUG showed the identity of both taxa. CARL (1990) noticed the similarity between *A. abbreviata* and *A. cancellata* and declared them as synonymous. He underlined the weak sculpture of the elytra. This characteristic distinguishes the samples from the Sinai that ARDOIN (1978) classified as subspecies of *A. cancellata*. Since *A. abbreviata* was described a few pages before as *A. cancellata*, *A. abbreviata* must be - out of priority reasons - the nominal species and *A. cancellata* a subspecies of it. However the systematics of REITTER's first group of the subfamily *Adesmia* s. str., with the exception of *A. longipes* (FABRICIUS), remains unclear in spite of the work of KOCH (1949-50). The examination of large collections showed the large variability of all the related taxa. The distinction according to the criteria named by REITTER (1916a) and KOCH (1949-50) is not always possible. Until the group has been cleared and in order to avoid repeated name changes, we are temporarily following ARDOIN (1978).

***Pimelia abbreviata* KLUG, 1830**: **Lectotype** (designated here): Male. 14693 / Hist.-Coll. (Coleoptera) Nr. 14693, *Adesmia abbreviata* KLUG, Syria, Ehrbrg., Zool. Mus. Berlin / *abbreviata* KLUG* (*Pimelia*), Syria. Ehrbg. / *Adesmia cancellata* KL., det. M. Carl, 1990. – **Paralectotype**: Syria. Ehrbg. / Hist.-Coll. Nr. 14693 / Hist.-Coll. (Coleoptera) Nr. 14693, *Adesmia abbreviata* KLUG, Syria, Ehrbrg., Zool. Mus. Berlin / Zool. Mus. Berlin / *Adesmia cancellata* KL., det. M. Carl, 1990, 1 male (MNHUB).

Adesmia latreillei SOLIER, 1835: **Lectotype** (designated here): Male. 1605, 95 / *Adesmia latreillei* DEJ. **Paralectotype**: 18,34, 1 Ex. (MNHNP).

All specimens of *A. cancellata cancellata* (KLUG, 1830) recorded from the Sinai are to be related to *A. cancellata latreillei*. The specimens from southern Israel that we examined are transition forms of *A. c. cancellata* and *A. c. latreillei*. This observation confirms ARDOIN'S (1978) opinion.

20.2 *Adesmia* (*Oteroscelis*) *cothurnata cothurnata* (FORSKÅL, 1775)

Tenebrio cothurnatus FORSKÅL, 1775: 80.
Pimelia bicarinata KLUG, 1830: No. 31 **n. syn.**
Adesmia subserrata CHEVROLAT, 1877: 113 **n. syn.**
Adesmia cothurnata glabrior SCHATZMAYR & KOCH, 1934: 23 **n. syn.**

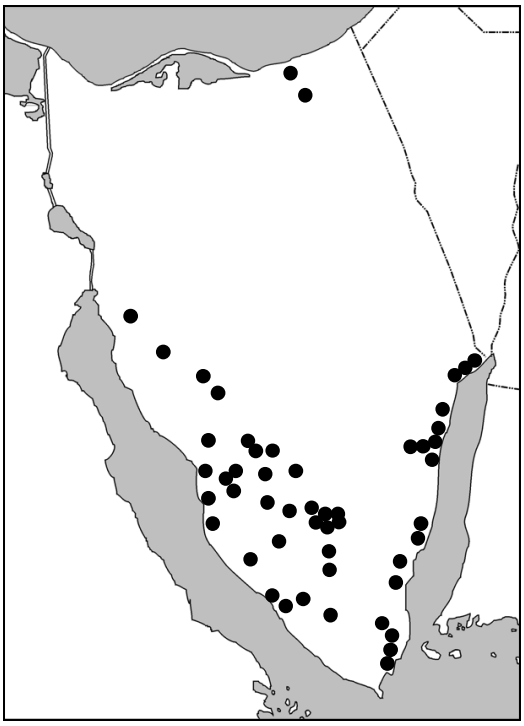
Adesmia cothurnata omanensis KASZAB, 1981: 353 **n. syn.**

New localities. 7 km S Taba, 3.XII.1992, L.P. (1); 13 km S Taba, 3.XII.1992, L.P. (1); 16 km S Taba, 27.XI.1992, L.P. (5); 19 km S Taba, 3.XII.1992, L.P. (9); 38 km S Taba, 3.XII.1992, L.P. (1); 22 km N Nuweiba 3.XII.1992, L.P. (3); 10 km N Nuweiba, 28.XI.1992, L.P. (2); 3 km N Nuweiba, 3.XII.1992, L.P. (11); 20 km NNW Dahab, 2.XII.1992, L.P. (1); 12 km NW Dahab, 30.XI.1992, L.P. (1); 7 km NE Santa Katarina, 1400 m, 2.XII.1992, L.P. (15); Santa Katarina, 1500 m,1.-2.XII.1992, L.P. (4); 1-6 km E Santa Katarina, 8.IV.1993, P. (3); 27 km NE Santa Katarina, 1300 m, 2.XII.1992, L.P. (10); 45 km SSW Dahab, 29.XI.1992, L.P. (1); 35 km N Sharm el Sheikh, 30.XI.1992, L.P. (8); 15 km N Sharm el Sheikh, 30.XI.1992, L.P. (6); 7 km N Sharm el Sheik, 29.XI.1992, L.P. (1); Santa Katarina, Plain of Raha, 17.4.1995, P. (6); El Arish, 19.XII.1947, leg. Henry Field (3); SW Sinai, 10.I.1948, leg. Henry Field (4) (BM); Sharm el Sheikh, 26.XII.1980, leg. R. Miravalle (8) (SB); ET - Wadi Feiran, 28.45N 33.20E, 04.1993, leg. Ullrich (3); ET - Nuweiba, 28.58N 34.38E, 04.1993, leg. Ullrich (6) (CGW); Wadi Isla, 27.2.<19>35, leg. W. Wittmer (1 PT *glabrior*); Wadi Racha, 3.3.<19>35, leg. W. Wittmer (4 PT *glabrior*); Wadi Hebran, 6.3.19>35, leg. W. Wittmer (1 PT *glabrior*); Tor, Deserto verso Isla, 27.2.<19>33, leg. A. Schatzmayr (2 PT *glabrior*) (MCSNM); Sharm el Sheik around Shark's Bay, 1.-4.I.1998, leg. W. Schawaller (3) (SMNS); 17 km SW of Nuweiba, Wadi Zirig, ca. 750 m, 5.IV.1996., leg. Gy. M. Lázló (1) (TMB); Sinai, Oasis Ain Hudra, 19.4.2000, 28º55'N 34º33'E, Leg. Schmid-Egger (3) (Fig. 13).

Referenced localities. Wadi Isla (sub *A. bicarinata bicarinata*), Karm Alam, Wadi Meghara, Cheikh Hamid (sub *A. bicarinata glabrior*) (ALFIERI 1976), south from Ain Musa up to Wadi Gharandel, between Wadi Schellal and Wadi Mokatteb, between Wadi Feiran and Wadi Selaf, Wadi Hebran, Desert of Ga'a, Tor, Wadi Gergir, Wadi Chaschibi, south of Wadi Chaschibi, Wadi Tarfa (ANDRES 1920), the Sinai (ANDRES 1931b sub *A. bicarinata*, CROTCH 1872 sub *A. bicarinata*, GRIDELLI 1937 sub *A. bicarinata*, GRIDELLI 1953-54a sub *A. cothurnata glabrior*, HAFEZ & MAKKI 1959 sub *A. bicarinata*, KASZAB 1979 sub *A. c. glabrior*, KOCH 1940b sub *A. cothurnata glabrior* SCHATZMAYR & KOCH, REITTER 1916a sub *A. bicarinata*), Ma'agana, Wadi Kid, Charm el Sheik, Monastery of St. Catherine, Wadi Abu-Ga'da, 40 km S Abu Rhodes, Bir Abu Rudais (ARDOIN 1978 sub *Adesmia cothurnata glabrior*), Tor, Wadi Isla (ARDOIN 1978 t. SCHATZMAYR & KOCH), Wadi Isla, Wadi Hebran, Wadi Cheikh, Wadi Racha, Wadi Rachaba, Wadi Feiran (ARDOIN 1978 t. KOCH), Wadi Chebeikeh, Wadi Ba'baa, Wadi Khamileh, Wadi Fairan, Wadi El Arish (ARDOIN 1978 t. PEYERIMHOFF), Wadi Shebeke, Wadi Ba'baa, Wadi Chamile, Wadi Bel Maï, Wadi Feiran, Wadi El Arish, Wadi Scheria (HEYDEN 1899 sub *A. bicarinata*), between Wadi Tarfa and Sinai Massif, northern part of the Sinai Peninsula (KNEUCKER 1903), Wadi Isla, Wadi Hebran, Wadi Cheikh, Wadi Racha, Wadi Rachaba, Wadi Feiran (KOCH 1935a sub *A. bicarinata glabrior* SCHATZMAYR & KOCH, 1934), Wadi Chebeikeh, Wadi Ba'baa, Wadi Khamileh, Wadi Fairan, Wadi El Arish (PEYERIMHOFF 1907 sub *A. bicarinata*), between Wadi Tarfa and Sinai Massif, Naqb Boudra, Naqb el-Haoua, Hadjar er-Reqab, Wadi Gneh, Wadi Feiran, Wadi Gharandel, Wadi Tayebeh, Ain el-Houdra (PEYERIMHOFF 1907), between Tor and Wadi Isla (SCHATZMAYR & KOCH 1934 sub *A. bicarinata glabrior* sp. n.) (Fig. 13).

General distribution. Egypt (locus typicus: Alexandria), the Sinai, southern Israel, southern Jordan, Saudi Arabia, Bahrain, Yemen.

Comments. The criteria, above all the sculpture of elytra, hind tibiae and outer part of mandibles, given by ANDRES (1920), KOCH (1935a) and REITTER (1916a) to differentiate between the supposed Upper Egyptian *Adesmia cothurnata* and the Lower Egyptian *A.*



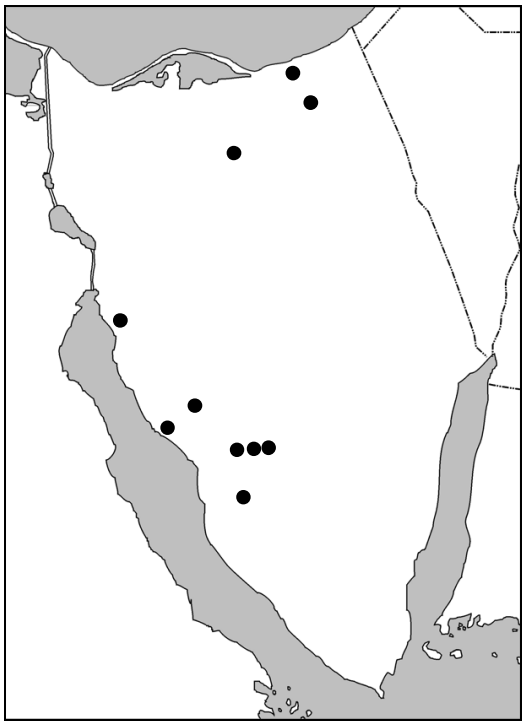


Fig. 13 (left). Collection sites of *Adesmia c. cothurnata* on the Sinai Peninsula (the geographic coordinates of Wadi Chebeikeh, W. Racha, W. Shebeke, W. Bel Maï and W. Scheria are not known). – Fig. 14 (right). Collection sites of *Adesmia d. dilatata* on the Sinai Peninsula (the geographic coordinates of Wadi Helal, W. Bel Maï, W. Chebeikeh and El Kreig are not known).

bicarinata, are unusable. The sculpture of elytra varies all over the distribution area. In the Sinai, Lower and Middle Egypt, it is possible to find specimens whose inner side of the hind tibiae displays ridges ("*bicarinata"*) as well as some specimens with hind tibiae without ridges ("*cothurnata"*). All studied specimens which originated from areas located in the south of Edfu do not show ridges on their tibiae. The mandible's outer face is usually, however not always, without ridges ("*bicarinata"*) in the northern part of the distribution area and the elytra show increasingly marked ridges towards the south. These facts indicate that the above mentioned criteria are only clinal attributes which are not appropiate for the differentiation of subspecies. *Adesmia cothurnata* has been frequently mentioned for Upper Egypt and excluded from Lower Egypt (cf. KOCH 1940b). FORSKÅL (1775) described the species as "Kahirae in desertis frequens, in urbe repertus rarior". KLUG (1830) mentioned Alexandria as a collection site for the species - which is probably incorrect. Secure evidences exist only from the right bank of the Nile. Although the type specimens of *A. cothurnata* had been destroyed around 1800 (CARL 1990), the short description of the problems does not justify any doubt regarding the identity of the species with the series type of *A. bicarinata* (MNHUB). That is to say *A. bicarinata* should be regarded as a synonym of *A. cothurnata*.

GEBIEN (1937) expressed doubts as to *A. subserrata* of being a synonym of *A. lacunosa* (KLUG 1830). A female of the type series (MNHNP) at our disposal shows the synonymy to *A. cothurnata*.

At our disposal are also the holotype (BM) and nine paratypes (one PT from BM, eight from MCSNM) of *A. glabrior*. According to SCHATZMAYR & KOCH (1934), *A. glabrior* is distinct from *A. bicarinata* (= *cothurnata*) due to following characteristics:

- a smoother, far less sculptured upper side,

- the rows of tubercles composed of rather pointed grains, that are usually to be found in the intercoastal spaces, have mostly completely disappeared,
- the false epipleura of the elytra mostly show no grains or only some very isolated grains.

KOCH (1935a) distinguishes one form from another in the following way:

- elytra almost smooth, without clear tubercle sculpture for *glabrior*;
- strongly marked tubercles between the external dorsal costa and the lateral costa are missing in *glabrior*.

All these characteristics examined by us on more than 200 specimens originating mainly from Egypt and Israel are extremely variable.

KASZAB (1981) described *A. cothurnata omanensis*, according to four specimens at his disposal, of which we saw two (TMB). In our opinion, these and numerous other specimens from Oman and the United Arab Emirates (HJB, ML, ONHM) belong to the variation spectrum of *A. cothurnata* s. str.

20.3 *Adesmia* (*Oteroscelopsis*) *dilatata dilatata* (KLUG, 1830)

Pimelia dilatata KLUG, 1830: No. 32.
Adesmia macropus SOLIER, 1835b: 542.
Adesmia convergens WALKER, 1871: 14.
Adesmia drakii CROTCH, 1872: 267 **syn. restit.**

New localities. G. M'rara, 16.I.<19>70, Zinner / Sinai / C 15008 / Muséum Paris ex coll. R. Oberthur (1) (NMHNP); El Arish, 19.XII.1947, leg. Henry Field (19); SW Sinai, 10.1.1947, leg. H. Field (1) (BM) (Fig. 14).
Referenced localities. Wadi Helal, Cheikh Hamid, El Kreig (ALFIERI 1920, 1976), south of Ain Musa (ANDRES 1920), El Arish (ANDRES 1931b sub *A. drakei* CROTCH), Gebel M'rara (ARDOIN 1978 sub *A. d. drakei*), Hammam Fir'aoun, Wadi El Arish, Wadi Gharandel (ARDOIN 1978 t. PEYERIMHOFF), El Arish, Aium Mussa (ARDOIN 1978 t. KOCH), Sinai (CROTCH 1872 sub *A. drakei*, GRIDELLI 1930, 1937, PEYERIMHOFF 1935 t. *A. dilatata* var. *drakei,* SCHUSTER 1934 sub *A. d. drakei*), Wadi el Arish, Wadi Bel Maï (HEYDEN 1899 sub *A. macropus*), El Arish (KOCH 1935a sub *A. dilatata drakei* CROTCH, KOCH 1940b), Aioum Mussa (KOCH 1940b t. ANDRES 1920), Hammam Fir'aoun, Wadi Gharandel (KOCH 1940b t. PEYERIMHOFF 1907), Wadi Chebeikeh, Wadi Ba'baa, Wadi Khamileh, Wadi Fairan (PEYERIMHOFF 1907); Wadi El Arish (PEYERIMHOFF 1907 t. HEYDEN), Pharaoh's Baths (= Hammam Fir'aoun) (PEYERIMHOFF 1907 t. WALKER sub *A. convergens* sp. n.) (Fig. 14).
General distribution. Egypt (ALFIERI 1976), the Sinai, Israel, Jordan (ARDOIN 1978).
Comments. *Adesmia drakii* CROTCH was recognized by BLAIR (1935) as synonymous with *A. dilatata*. KOCH (1940b) regards the samples from the Sinai as a subspecies differing from the nominal form and that is characterized by a reduced superficial sculpture. However, the examination of large series (BM, HJB, ML, MCSNM, MZH, TAU, ZSM) showed that this characteristic varies in all regions in which *A. dilatata* is distributed. Therefore, *A. drakii* should be regarded as synonymous with *A. dilatata*.

20.4 *Adesmia* (*Oteroscelis*) *metallica brozai* ARDOIN, 1978

Adesmia metallica brozai ARDOIN, 1978: 300.

New localities. Between El Arish and Mohamdiya, X-XII.1916, leg. Major E. E. Austen (1) (BM); Sebchat A-Sheck (NE El Arish) (1) (ML).
Referenced localities. Not yet signalled.
General distribution. NW Negev (ARDOIN 1978), NE Sinai.

20.5 ***Adesmia* (*Oteroscelis*) *metallica laevior* ARDOIN, 1978**

Adesmia (*Oteroscelis*) *metallica laevior* ARDOIN, 1978: 298.

Referenced localities. Mitla Pass, Bir Tmade, Kuseima, Wadi Umm Matirdi (ARDOIN 1978).

General distribution. Northern Sinai, the Negev (ARDOIN 1978).

20.6 ***Adesmia* (*Adesmia*) *montana montana* (KLUG, 1830)**

Pimelia montana KLUG, 1830: No. 25.

Adesmia perpolita REITTER, 1916a: 24.

New localities. 7 km NE Santa Katarina, 1400 m, 2.XII.1992, L.P. (12); 16 km NE Santa Katarina, 1400 m, 2.XII.1992, L.P. (2); 22 km NE St. Katarina, 1300 m, in the garden, 2.XII.1992, L.P. (1); 27 km NE Santa Katarina, 1300 m, 2.XII.1992, L.P. (7); Wadi Rachaba, 1.III.1935, W. Wittmer (1); Fush el Arab, Kaiser, X.1926 (1) (MCSNM), Sinai, EHRBRG. (LT, 5 PLT) (MNHUB) (Fig. 15).

Referenced localities. Wadi Isla (ALFIERI 1976), the Sinai (ANDRES 1931b sub *A. m. acervata* (KLUG), CROTCH 1872, GRIDELLI 1937, KASZAB 1981, KOCH 1949, 1965, PEYERIMHOFF 1931, REITTER 1916a sub *A. perpolita*), Monte Sinai (KLUG 1830), Mont Sinaï (ALLARD 1885), Jebel el Tih, Scheich Nebi Saleh (ARDOIN 1978), Wadi Rachaba (ARDOIN 1978 t. KOCH), Wadi Ba'baa, Naqb el-Haoua, Qala'at el-Aqaba (ARDOIN 1978 t. PEYERIMHOFF), Wadi es Scheich (BODENHEIMER & THEODOR 1929), Wadi Ba'baa, Wadi Scheria (HEYDEN 1899), Wadi Rachaba (KOCH 1935a), Wadi Ba'baa, Naqb el-Hasua [!], Qala'at el-Aqaba (KOCH 1949 t. PEYERIMHOFF), Monti Sinai (PEYERIMHOFF 1907 t. KLUG), Wadi Ba'baa (PEYERIMHOFF 1907 t. HEYDEN), Naqb el-Haoua, Qala'at el-Aqaba (PEYERIMHOFF 1907) (Fig. 15).

General distribution. Southern Sinai, Jordan, Saudi Arabia (KASZAB 1981), southern Israel (ARDOIN 1978).

Comments. Damage caused by this species on tomato seedlings has been observed in Jordan (KATBEH-BADER 1996).

Tribe Eurychorini

21. ***Adelostoma* DUPONCHEL, 1827**

21.1 ***Adelostoma cordatum* SOLIER, 1837**

Adelostoma cordatum SOLIER, 1837: 169.

Referenced localities. The Sinai (CROTCH 1872).

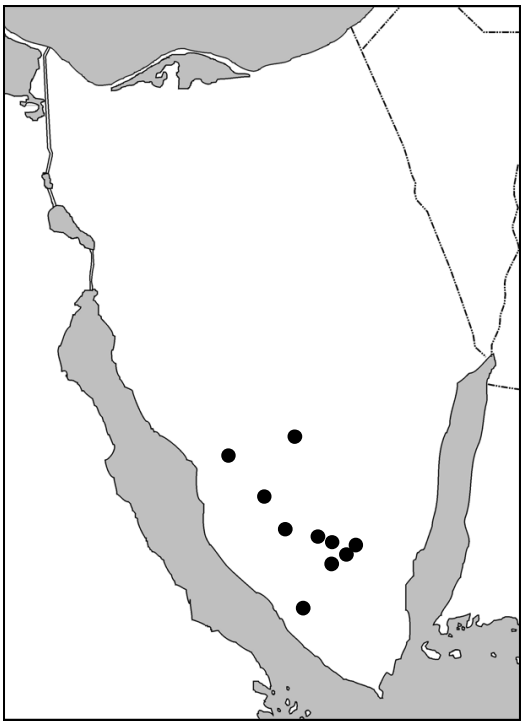
General distribution. Libya (GRIDELLI 1930), Egypt (ALFIERI 1976), the Sinai (CROTCH 1872), Israel (KOCH 1935a).

Comments. The taxonomic status of *A. cordatum* is not clear. It is probably a variety of *A. sulcatum* (see GEBIEN 1937, KOCH 1935a, SCHAWALLER 1982).

21.2 ***Adelostoma* (*Adelostoma*) *sulcatum sulcatum* DUPONCHEL, 1827**

Adelostoma sulcata DUPONCHEL, 1827: 342.

Adelostoma sulcatum grandiformis KOCH, 1935a: 39 **syn. n.**



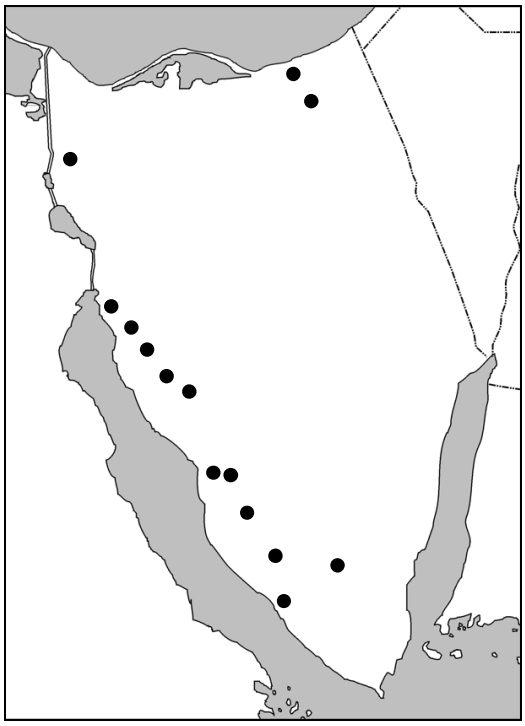


Fig. 15 (left). Collection sites of *Adesmia m. montana* on the Sinai Peninsula (the geographic coordinates of Fush el Arab and Wadi Scheria are not known). – Fig. 16 (right). Collection sites of *Pimelia a. angulata* on the Sinai Peninsula (the geographic coordinates of Wadi Helal and W. Bei Maï are not known).

New localities. Santa Katarina, 1.-2.XII.1992, L.P. (11); Santa Katarina, 16.IV.1995, P. (8); Santa Katarina, Wadi Tlach, 17.IV.1995 (8) (ML, TP).
Referenced localities. Wadi Isla (ALFIERI 1976), Wadi Chamileh (HEYDEN 1899, PEYERIMHOFF 1907 t. HEYDEN).
General distribution. *A. sulcatum* s. str.: Morocco (KOCHER 1958) up to Mesopotamia, southern Europe (GRIDELLI 1930), according to KASZAB 1981: on the European continent only in southern Spain). – *A. s. crassicorne* PEYERIMHOFF, 1931: 97: western, central and southern Sahara (ESPAÑOL 1973, KOCHER 1958, PEYERIMHOFF 1931).
Comments. The specimens from the Sinai and Israel, avalaible to us, measure between 5.5 and 8.5 mm. KOCH (1935a) described his *A. sulcatum grandiformis* as a race of *A. sulcatum* DUPONCHEL. Size is, according to him, the only differenciation criterion. It should be between 5.0 and 6.5 mm for the Egyptian specimens of *A. sulcatum* s. str. and between 7 and 9 mm for *A. sulcatum grandiforme* from Israel. The non-available types of *A. sulcatum* DUPONCHEL (CARL 1991a) measure between 7 and 9 mm (DUPONCHEL 1827). No differenciation criteria on specimens from large parts of the distribution area could be found. *A. sulcatum grandiforme* KOCH is therefore regarded as synonymous with *A. sulcatum* DUPONCHEL. SCHAWALLER (1982) describes the variability of the pronotum of several varieties.

22. *Adelostomoides* CARL, 1991

22.1 *Adelostomoides grandis* (HAAG-RUTENBERG, 1879)

Adelostoma grande HAAG-RUTENBERG, 1879: 294.

Referenced localities. Wadi Feiran, Djebel Musa (ANDRES 1931b sub *Adelostoma grande* t. PEYERIMHOFF, PEYERIMHOFF 1907 sub *Adelostoma grande*), the Sinai (KOCH 1935a sub *Adelostoma grande*).
General distribution. Iraq (CARL 1991a), Palestine, the Sinai (KOCH 1935a).

23. *Machlopsis* POMEL, 1871

23.1 *Machlopsis* (*Machlopsis*) *crenatocostata* (REDTENBACHER, 1868)

Steira crenato-costata REDTENBACHER, 1868: 120.

Referenced localities. Magdaba (ALFIERI 1920, 1978).
General distribution. Along the Mediterranean coast, from Tunisia to Syria (GRIDELLI 1930), with the exception of southern Cyrenaica.
Comments. The species has been described as "vom Vorgebirge der guten Hoffnung" (REDTENBACHER 1868). HAAG-RUTENBERG (1875a) could prove that this information was erroneous.

Tribe Stenosini

24. *Dichillus* JACQUELIN DU VAL, 1861

24.1 *Dichillus alfierii* KOCH, 1935

Dichillus alfierii KOCH, 1935a: 46.

New localities. Mt. Moses, 16.IV.1995, P. (1).
Referenced localities. Wadi Cheikh (KOCH 1935a).
General distribution. The Sinai (KOCH 1935a).

25. *Microtelus* SOLIER, 1838

25.1 *Microtelus careniceps binodiceps* REITTER, 1907

Microtelus binodiceps REITTER, 1907: 115.
Microtelus careniceps sinaiticus KOCH, 1935a: 48.

Referenced localities. Wadi Helal, Wadi Isla (ALFIERI 1976 sub *M. careniceps careniceps* = *M. binodiceps*), between Wadi Werdan and Wadi Feiran, Oase Feiran (ANDRES 1920 sub *M. careniceps*), Wadi El Tarfa (KOCH 1935a sub *M. careniceps sinaiticus* ssp. n.), the Sinai (HOLDHAUS 1919 sub *M. careniceps*, KASZAB 1982 sub *M. careniceps sinaiticus*).
General distribution. *M. careniceps careniceps* REICHE & SAULCY, 1857: 227: Lebanon, Israel, South-West Jordan (CARL 1992a).
M. careniceps binodiceps: Lower Egypt, the Sinai (CARL 1992a).
Comments. CARL (1992a, b) mentions hybridizations between *Microtelus careniceps* s. l. and *M. lethierryi* REICHE, 1860.

26. *Mitotagenia* REITTER, 1916

26.1 *Mitotagenia aegyptiaca* KOCH, 1941

Mitotagenia aegyptiaca KOCH, 1941a: 40.
Mitotagenia arabs auct. nec (BAUDI, 1881: 279).

Referenced localities. Wadi Isla (ALFIERI 1976), the Sinai (ANDRES 1931a, KASZAB 1979, 1982), Auel Habesh (ANDRES 1931b sub *M. arabs*, KOCH 1941a t. ANDRES), Wadi Feiran, Aoul Haibeh, Wadi Sa'al (PEYERIMHOFF 1907 sub *Eutagenia arabs*).
General distribution. Egypt (Nile valley), the Sinai, Saudi Arabia (KASZAB 1982), the Negev (CHIKATUNOV et al., in preparation).
Comments. This species was wrongly reported as *M. arabs* (BAUDI) which is to be found only in Yemen and Ethiopia (KOCH 1941a).

27. ***Stenosis* HERBST, 1799**

27.1 ***Stenosis affinis* (SOLIER, 1838)**
Tagenia affinis SOLIER, 1838a: 26.

Referenced localities. Wadi Isla (ALFIERI 1976).
General distribution. Lower Egypt, the Sinai (ALFIERI 1976).

Tribe Sepidiini

28. ***Sepidium* FABRICIUS, 1775**

28.1 ***Sepidium dathan* CROTCH, 1872**
Sepidium dathan CROTCH, 1872: 268.
Sepidium abiram CROTCH, 1872: 268.

New localities. 7 km NE Santa Katarina, 1400 m, 2.XII.1992, L.P. (2) (ML).
Referenced localities. Wadi Ain El Gederat, Gebel El Arish (ALFIERI 1976), the Sinai (CROTCH 1872 sub *S. dathan* n. sp., *S. abiram* n. sp., REITTER 1914b t. CROTCH).
General distribution. Libya (Cyrenaica), Egypt, Lebanon (GRIDELLI 1930), Israel (ML), Syria (ANDRES 1931b).

28.2 ***Sepidium tricuspidatum tricuspidatum* FABRICIUS, 1775**
Sepidium tricuspidatum FABRICIUS, 1775: 250.
Sepidium korah CROTCH, 1872: 268.

Referenced localities. Wadi Isla (ALFIERI 1976), the Sinai (CROTCH 1872 sub *S. tricuspidatum* and sub *S. korah*), Wadi El Arish (PEYERIMHOFF 1907 t. HEYDEN), Wadi Gneh (PEYERIMHOFF 1907), Wadi Gaifi (ANDRES 1931b, KOCH 1935a t. ANDRES sub *S. korah*).
General distribution. Libya (Cyrenaica) up to Syria (KWIETON 1980), the Negev (BYTINSKI-SALZ 1955a), Gaza (REITTER 1914b), other subspecies in North Africa and Malta (KWIETON 1980).

29. ***Vieta* LAPORTE DE CASTELNAU, 1840**

29.1 ***Vieta tuberculata* (SOLIER, 1844)**
Dymonus tuberculatus SOLIER, 1844: 223.

Referenced localities. The Sinai (KASZAB 1982).
General distribution. Egypt, the Sinai, Saudi Arabia, Yemen (KASZAB 1982).

Tribe Akidini

30. *Akis* HERBST, 1799

30.1 *Akis elevata* SOLIER, 1836

Akis elevata SOLIER, 1836c: 671.

New localities. Wadi Nasb, 20 km ESE Monastery of Sainte-Catherine, 1.X.1981, leg. R. Summkeller (1); 40 km NNW Dahab, 500 m, 2.XII.1992, L.P. (1); 27 km NE Sainte-Catherine, 1400 m, 2.XII.1992, L.P. (2) (ML).
Referenced localities. Wadi Isla (ALFIERI 1976), the Sinai (CROTCH 1872, GRIDELLI 1933a, b, GRIDELLI 1953-54a), Ain Musa (HART 1891, PEYERIMHOFF 1907 t. HART), Wadi Isla (ALFIERI 1976).
General distribution. *A. elevata*: Algeria (Hoggar), Libya (Cyrenaika), Egypt, eastern Sudan, Chad (Tibesti, Borku, Ennedi), Palestine, Jordan, Saudi Arabia, Iraq (PIERRE 1961b). – *A. elevata* var. *sculptior* KOCH, 1935: 51: Egypt, Jordan, Saudi Arabia (KASZAB 1981), Israel (Negev) (ML).
Comments. All examined specimens from the Sinai correspond to the *A. elevata* var. *sculptior* KOCH, 1935. The specimen from 40 km NNW Dahab was found in a sandy wadi, the one reported from the proximity of Monastery of Sainte-Catherine was found in a gravel desert. According to SCHAWALLER (1987) the presence of this species in the Hoggar is questionable.

30.2 *Akis reflexa* (FABRICIUS, 1775)

Pimelia reflexa FABRICIUS, 1775: 252.

Referenced localities. Magdaba (ALFIERI 1920), Magdaba, Rafa (ALFIERI 1976), Náchle (HEYDEN 1899), El Arish (KOCH 1935a), Qala'at en Nakhel (PEYERIMHOFF 1907 t. HEYDEN), the Sinai (SCHAWALLER 1987).
General distribution. Lower Egypt, the Sinai (SCHAWALLER 1987), Israel (Negev) (ML).
Comments. To be found in the coastal area mostly under stones and in the inland part mostly in houses (KOCH 1935a).

Tribe Platyopini

31. *Astorthocnemis* LILLIG & PAVLÍČEK, 2002

31.1 *Astorthocnemis becvarorum* LILLIG & PAVLÍČEK, 2002

Astorthocnemis becvarorum LILLIG & PAVLÍČEK, 2002: 99.

Referenced localities. Dahab (LILLIG & PAVLÍČEK 2003).
General distribution. Jordan (vicinity of Aqaba), the Sinai (Dahab) (LILLIG & PAVLÍČEK 2002).
Comments. Only one specimen from the Sinai was found under a stone in the scree-covered desert (LILLIG & PAVLÍČEK 2002) in contrast to the fact that the long tarsi covered with bristles lead one to suppose a sabulicole way of life (PIERRE 1958). The near related genus *Storthocnemis* is to be found mostly in sandy habitats and only seldom found in regs and hamadas (PIERRE 1961a).

Tribe Pimeliini

32. *Pimelia* FABRICIUS, 1775

32.1 *Pimelia* (*Pimelia*) *angulata angulata* FABRICIUS, 1775

Pimelia angulata FABRICIUS, 1775: 252.
Pimelia alternata KLUG, 1830: No 16.
Pimelia aculeata KLUG, 1830: No 17.

New localities. Wadi Gharandel, IV.1993, leg. G. W. Ullrich (30) (HJB) (Fig. 16).
Referenced localities. Wadi Helal, Meghara (ALFIERI 1920, 1976), Ain Musa, Wadi Werdan, Wadi Gharandel, Wadi Feiran, Wadi Hebran, Tor (ANDRES 1920), Wadi Hebran (ANDRES 1920 sub *P. angulata* var. *aculeata*), Ain Musa, Wadi Werdan (ANDRES 1920 sub *P. angulata* var. *alternata*), El Arish (ANDRES 1929a), Wadi Gharandel, Wadi El Arish (ANDRES 1931b t. HEYDEN sub *P. nilotica* var. *aegyptiaca* ANDRES), El Arish, Tor (ANDRES 1931b), between Suez and Abu Selima (BODENHEIMER & THEODOR 1929), Romani (BOYD 1917), the Sinai (CROTCH 1872, GRIDELLI 1930 t. ANDRES), Wadi Gharandel, Wadi Werdan, Wadi Ba'baa, Wadi Bei Maï (HEYDEN 1899), between Wadi Werdan and Suez (KNEUCKER 1903), El Arish (KOCH 1935a, KOCH 1940b t. ANDRES 1929a), Wadi Ouerdan, Wadi Ba'baa (PEYERIMHOFF 1907 t. HEYDEN), Wadi Gharandel, Hadjar er-Reqab, desert of Schur (PEYERIMHOFF 1907), Ain Musa, Mount Sinai (WALKER 1871 sub *P. aculeata*), the Sinai (INNES BEY 1911 [1912]) (Fig. 16).
General distribution. Lower Egypt, northern Sinai (KOCH 1940b).
Comments. The examination of the specimens from Wadi Gharandel did not show any difference from *P. angulata angulata* from Lower Egypt. KOCH (1940b) and KWIETON (1977b) mention the infra-specific delimitation.

32.2 *Pimelia* (*Pimelia*) *angulata sinaitica* SCHATZMAYR & KOCH, 1934

Pimelia angulata sinaitica SCHATZMAYR & KOCH, 1934: 26.

Referenced localities. In wadis (ALFIERI 1976), Tor (KOCH 1935a, 1940b, SCHATZMAYR & KOCH 1934).
General distribution. South-eastern Sinai (KOCH 1940b).
Comments. ALFIERI (1976) can hardly differentiate the subspecies from *P. angulata angulata* Fabricius, 1775. According to KWIETON (1977b), *P. angulata sinaitica* is a local form rather than a subspecies.

32.3 *Pimelia* (*Pimelia*) *arabica edomita* KOCH, 1940

Pimelia (*Homalopus*) *arabica edomita* KOCH, 1940a: 102.

New localities. Nuweiba, 27.III.1996, leg. N. Rech (1); Nuweiba, 28.XI.1992, L.P. (6); 40 km NNW Dahab, 2.XII.1992, L.P. (2); 20 km NNW Dahab, 2.XII.1992, L.P. (1); 55 km NE Santa Katarina, 2.XII.1992, L.P. (1) (ML); area around oasis Ain Khudra, 25.-29.XII.1997, 600-800 m, leg. W. Schawaller (2) (SMNS); Abu Zenima, 2.X.1992, leg. Ullrich (6) (CGW, ML) (Fig. 17).
Referenced localities. The Sinai (ALFIERI 1976 t. KOCH), in the north-west of the Sinai Peninsula (ANDRES 1920), Ain Musa (ANDRES 1920 sub *P. a.* var. n.), Ain el Houdra, Wadi Feiran etc. (ANDRES 1931b sub *P. arabica* KLUG), Ain el-Houdra, Wadi Feiran (GRIDELLI 1953-54a sub *P. arabica* t. PEYERIMHOFF, PEYERIMHOFF 1907 sub *P. arabica*), northern part of the Sinai Peninsula (KNEUCKER 1903), Wadi Feiran (KOCH 1935a sub *P. arabica* KLUG),

Wadi Feiran, Ain Houdrah (KOCH 1940a sub *P. arabica*, GRIDELLI 1953-54a t. KOCH, PEYERIMHOFF), Wadi Feiran, Ain Hondrah (KASZAB 1982 t. KOCH), northern part of the Peninsula (PEYERIMHOFF 1907 t. KNEUCKER sub *P. arabica*) (Fig. 17).

General distribution. *P. a. edomita*: the Sinai, southern Jordan (KASZAB 1982), the Negev (ML). – *P. a. arabica* KLUG, 1830 No 18: Saudi Arabia, North Yemen, Iraq (KASZAB 1982). – *P. a. omanica* KASZAB, 1982: 148: Oman, United Arab Emirates (KASZAB 1982). – *P. a. emiri* KASZAB, 1982: 149: United Arab Emirates, Bahrein, North Yemen (KASZAB 1982).

Comments. KASZAB (1982) is not sure whether to regard *P. arabica omanica* and *P. arabica emiri* as good species or subspecies. The examination of 36 specimens from Oman (ML, ONHM) leads one to suppose that these are only varieties. In addition, KWIETON (1982) names also *P. thomasi* BLAIR, 1931 as infra-specific form of the *P. arabica* complex. KASZAB (1982) lists them as an individual polytypical species. Specimens from the Sinai, which KOCH (1940a) calls *P. arabica arabica* can be distinguished from *P. arabica edomita* of Wadi Araba (ZSM) by the characteristics given by KOCH (1940a): sutural interstice more densely and more prominently covered with granules, inner dorsal vein reaching the base of elytron, vein higher at the falling edge of the elytra, the suture forming a vein on each side. The genuine *P. arabica arabica* KLUG, 1830 from the Arabian Peninsula is even more sculptured.

32.4 ***Pimelia (Pimelia) barthelemyi* SOLIER, 1836**

Pimelia barthelemyi SOLIER, 1836b: 350.

Referenced localities. Magdaba (ALFIERI 1920), Wadi Ain El Gederat (ALFIERI 1976), Ain Musa, desert plain of Ga'a, between Gergir and Wadi Budr (ANDRES 1920), the Sinai (ANDRES 1931b, GRIDELLI 1937), El Qantara, Romani, Mohammedia (BOYD 1917), Magdaba (GRIDELLI 1930 t. ALFIERI, ANDRES), Tor (KOCH 1935a), desert of Schur, Hadjar er-Reqab (PEYERIMHOFF 1907) (Fig. 18).

General distribution. Libya (Cyrenaica), Egypt, the Sinai, ? Syria (GRIDELLI 1937).

32.5 ***Pimelia* (*Pimelia*) *bottae* SÉNAC, 1887**

Pimelia bottae SÉNAC, 1887: 48.

Referenced localities. El Arish, Wadi Karam (ALFIERI 1976), Wadi El Arish (ANDRES 1931b, PEYERIMHOFF 1907 t. HEYDEN sub *P. bottai* SÉNAC), El Arish (GRIDELLI 1953-54a t. PEYERIMHOFF 1907, KOCH 1935a), Wadi El Arish, Wadi Bel Maï (HEYDEN 1899).

General distribution. Saudi Arabia, North Yemen (KASZAB 1982), the Sinai (Kaszab 1979, KOCH 1935a, PEYERIMHOFF 1907).

32.6 ***Pimelia* (*Pimelia*) *canescens canescens* KLUG, 1830**

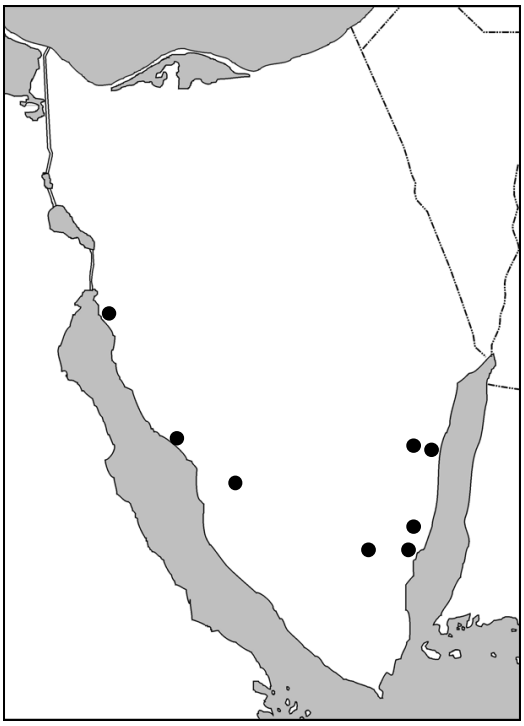
Pimelia canescens KLUG, 1830: No 3.

Referenced localities. Magdaba (ALFIERI 1920, 1976), the Sinai (ANDRES 1931b), Magdaba (GRIDELLI 1930 t. ALFIERI).

General distribution. *P. c. canescens*: Mediterranean coast of Egypt, the Sinai (ALFIERI 1976), Israel (AYAL & MERKL 1994). – *P. c. arabicola* SCHATZMAYR & KOCH, 1934: Lower Egypt (Helouan) (ALFIERI 1976).

32.7 ***Pimelia* (*Pimelia*) *hirtella* SÉNAC, 1887**

Pimelia hirtella SÉNAC, 1887: 47.



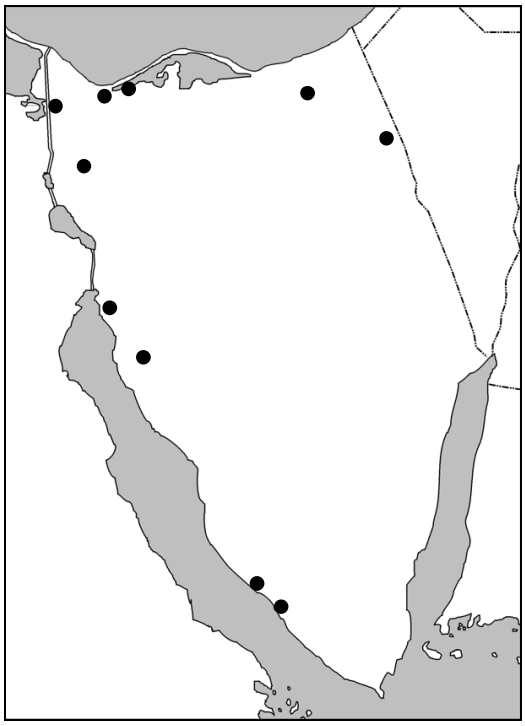


Fig 17 (left). Collection sites of *Pimelia arabica edomita* on the Sinai Peninsula. – Fig. 18 (right). Collection sites of *Pimelia barthelemyi* on the Sinai Peninsula.

Referenced localities. Wadi Lagama (ALFIERI 1976), the Sinai (ANDRES 1931b).
General distribution. The Sinai (ANDRES 1931b, ALFIERI 1976), Egypt, Saudi Arabia (KASZAB 1982).

32.8 ***Pimelia* (*Pimelia*) *mittrei* SOLIER, 1836**
Pimelia mittrei SOLIER, 1836a: 134.

Referenced localities. Wadi Lagama, Wadi Helal (ALFIERI 1976), El Arish (ANDRES 1931b, KOCH 1935a).
General distribution. Israel (KOCH 1935b), the Sinai (KOCH 1935a).
Comments. SOLIER (1836a) describes *P. mittrei* as "De Grèce ... et d'Egypte" but it is for sure not present in Greece (cf. KÜHNELT 1965).

32.9 ***Pimelia* (*Pimelia*) *theveneti* SÉNAC, 1880**
Pimelia theveneti SÉNAC, 1880: 267.

Referenced localities. El Kontella, Bir Isla (ALFIERI 1976).
General distribution. Egypt, the Sinai (Alfieri 1976).

33. ***Prionotheca* SOLIER, 1836**

33.1 ***Prionotheca coronata coronata* (OLIVIER, 1795)**
Pimelia coronata OLIVIER, 1795, 59: 4.

Referenced localities. Meghara (ALFIERI 1920, 1976), between Ain Musa and Wadi Wer-

dan, desert plain of Ga'a (ANDRES 1920), the Sinai (ANDRES 1931b, GRIDELLI 1930 t. ALFIERI and ANDRES, GRIDELLI 1933b, 1937, 1950, 1952, 1953-54b, ESPAÑOL 1943, 1967, KASZAB 1979, KOCH 1934, SCHATZMAYR 1938, PEYERIMHOFF 1931), between Suez and Abu Selima (BODENHEIMER & THEODOR 1929), El Kubri (BOYD 1917), Wadi Gharandel (HART 1885, 1891), Wadi El Arish, Wadi Gharandel, Wadi Sidr (HEYDEN 1899), Ain Musa, Wadi Gharandel, Wadi Sidreh, Wadi El Arish (PEYERIMHOFF 1907 t. WALKER, HART, HEYDEN), Ain Musa, Berg Sinai (WALKER 1871) (Fig. 19).
General distribution. *P. c. coronata*: North Africa, the Sinai (KOCH 1934). – *P. c. freyi* BYTINSKI-SALZ, 1955b: 314: the Negev. – *P. c. ovalis* ANCEY, 1881: 397: Arabian Peninsula, Iran, Iraq (KASZAB 1982).
Comments. The transition between *P. coronata coronata* and *P. coronata freyi* in the Sinai could be observed near Nod el Naza (BYTINSKI-SALZ 1955b).

34. *Pterolasia* SOLIER, 1836

34.1 *Pterolasia squalida* SOLIER, 1836

Pterolasia squalida SOLIER, 1836a: 68.
Thriptera lanata PEYERIMHOFF, 1907: 35.

Referenced localities. Wadi Werdan, between Tor and Djebel Hamam (ANDRES 1920 sub *Th. lanata*), the Sinai (ANDRES 1921, ARDOIN 1963, 1971b, ESPAÑOL 1967), El Arish (ANDRES 1927, 1931b, GRIDELLI 1930, 1952), Hadjar er Regab, Haserith (GRIDELLI 1952 t. PEYERIMHOFF 1907, INNES BEY 1909 t. PEYERIMHOFF, PEYERIMHOFF 1907 sub *Thriptera lanata* sp. n.), the Sinai (GRIDELLI 1953-54a).
General distribution. Disjunct in western Senegal and former Spanish Sahara, in eastern Libya (Cyrenaica), Egypt, the Sinai (ESPAÑOL 1967), the Negev (BYTINSKI-SALZ 1955a).
Comments. Buried under bushes of *Zilla myagroides* in the wadis near Heluan (ANDRES 1920, 1927), under *Hyoscyamus muticus* on the beach of El Arish (ANDRES 1927).

35. *Thriptera* SOLIER, 1836

35.1 *Thriptera crinita* (KLUG, 1830)

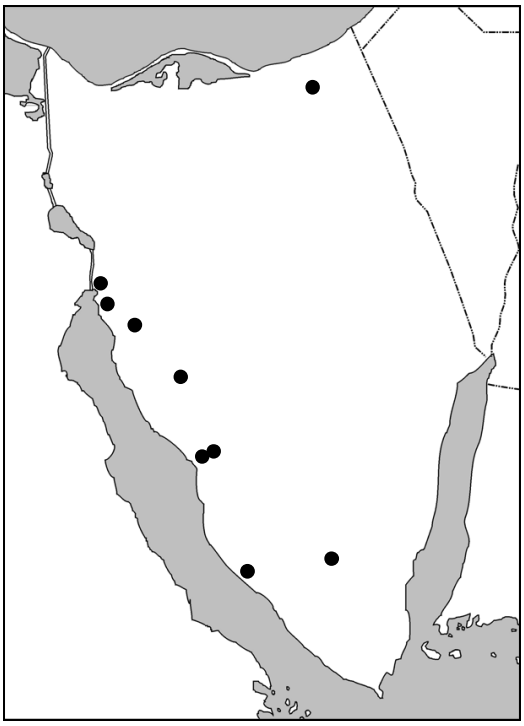
Pimelia crinita KLUG, 1830: No 22.

Referenced localities. Wadi Isla (ALFIERI 1976), the Sinai (ANDRES 1929b, 1931b, GRIDELLI 1939c t. ANDRES, GRIDELLI 1950, 1953-54b, KOCH 1934, PIERRE 1961b), Wadi Isla, Wadi Hebran (KOCH 1935a).
General distribution. Egypt, Sudan, Eritrea, Jordan, Saudi Arabia, Yemen (KASZAB 1982), the Sinai (ALFIERI 1976).

35.2 *Thriptera kraatzi* HAAG-RUTENBERG, 1876

Thriptera kraatzi HAAG-RUTENBERG, 1876: 75.
Thriptera sorocula REITTER, 1894: 303.

New localities. 8 km S Taba, 26.XI.1992, L.P. (1); 14 km S Taba, 27.XI.1992, L.P. (2); 19 km S Taba (1), 3.XII.1992, L.P.; 3 km N Nuweiba, 3.XII.1992, L.P. (3); 20 km NW Dahab, 2.XII.1992, L.P. (1); 12 km NW Dahab, 30.XI.1992, L.P. (1); 1 km W Dahab, 29.XI.1992, L.P. (2); Dahab, 22.4.1995, P. (1) (ML, TP); Nuweiba, 28°58'N 34°38'E, 27.VI.1994, leg. Ullrich (17) (CGW).



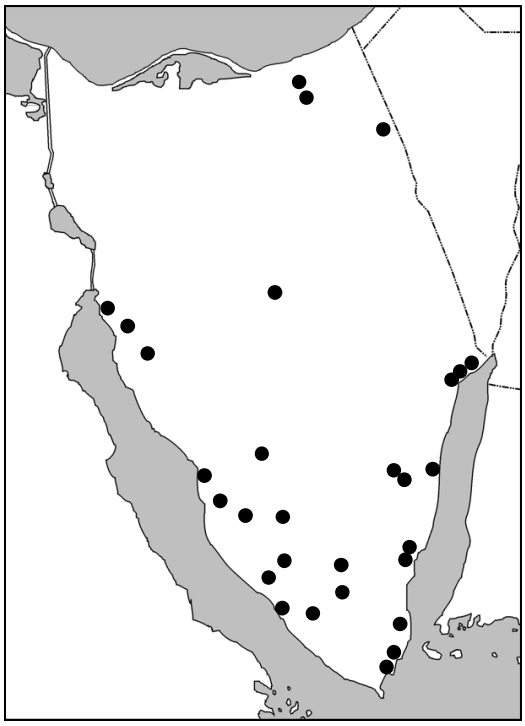


Fig. 19 (left). Collection site of *Prionotheca c. coronata* on the Sinai Peninsula. – Fig. 20 (right). Collection sites of *Trachyderma hispida* on the Sinai Peninsula (the geographic coordinates of Wadi Chaschibi and En Nkeyaz are not known).

Referenced localities. Gulf of Aqaba (ALFIERI 1976, ANDRES 1931b t. PEYERIMHOFF), north of the Gulf of Aqaba (PEYERIMHOFF 1907 sub *Th. sorocula*), the Sinai (FERRER 1995b).
General distribution. From the Sinai (FERRER 1995b) up to India (Rajastan) (KWIETON 1978).
Comments. Unlike other authors (among others KWIETON 1978), ANDRES (1929b) and KOCH (1941b) regard the synonymy between *Thriptera kraatzi* and *Th. sorocula* as unjustified.

35.3 ***Thriptera varvasi pilipes* KRAATZ, 1865**
Thriptera pilipes KRAATZ, 1865: 299.
Thriptera heydeni REITTER, 1892: 214.
Thriptera guyoti ANDRES, 1920: 70.

Referenced localities. Qantara, Wadi Helal (ALFIERI 1976), the Sinai (ANDRES 1920 sub *Th. guyoti* sp. n., ANDRES 1929b, 1931b), Mezar, El Arish (BOYD 1917 sub *T. varvasi* SOLIER), Hadjar er-Reqab (PEYERIMHOFF 1907 sub *Th. heydeni*).
General distribution. *T. v. varvasi* SOLIER, 1836: 52: Moroccan-Algerian border up to western Cyrenaica (PEYERIMHOFF 1948a). – *T. v. pilipes*: Lower Egypt up to the Sinai (ALFIERI 1976, ANDRES 1931).

36. *Trachyderma* LATREILLE, 1829

36.1 ***Trachyderma* (*Trachyderma*) *andresi* (GRIDELLI, 1928)**
Ocnera andresi GRIDELLI, 1928: 16.

Referenced localities. Magdaba, Wadi Isla (ALFIERI 1976 sub *Ocnera andresi*), Deir el Arbein (ANDRES 1928, 1931b, GRIDELLI 1928, 1930), the Sinai (GRIDELLI 1953-54b).
General distribution. The Sinai (GRIDELLI 1953-54b).
Comments. This species seems to be taxonomically still unclear (cf. GRIDELLI 1953-54b, KOCH 1935a).

36.2 *Trachyderma* (*Trachyderma*) *genei* SOLIER, 1836

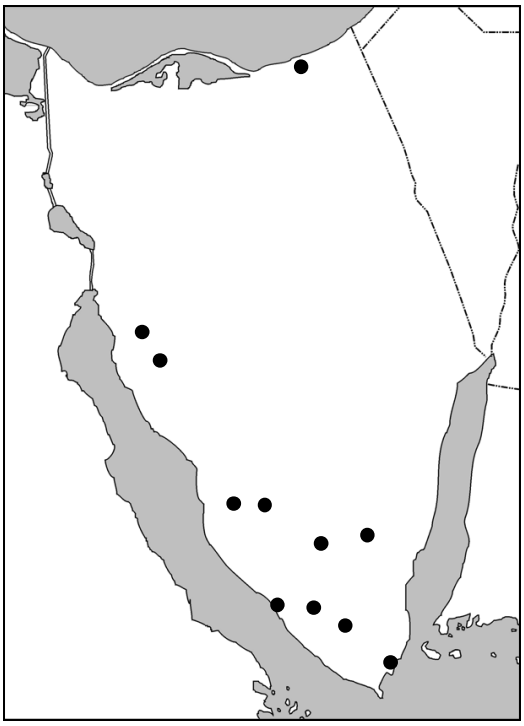
Trachyderma genei SOLIER, 1836a: 58.

Referenced localities. Wadi Lagama, Wadi Isla (ALFIERI 1976 sub *Ocnera genei*), the Sinai (CONSTANTINOU & CLOUDSLEY-THOMPSON 1983).
General distribution. Libya (Cyrenaica), Egypt (GRIDELLI 1953-54b), the Sinai (ALFIERI 1976).

36.3 *Trachyderma* (*Atrachyderma*) *hispida* (FORSKÅL, 1775) s. l.

Tenebrio hispidus FORSKÅL, 1775: 79.

New localities. 8 km S Taba, 26.XI.1992, L.P. (1); 14 km S Taba, 27.XI.1992, L.P. (1); 19 km S Taba, 3.XII.1992, L.P. (3); Nuweiba, 28.XI.1992, L.P. (5); 10 km NW Dahab, 2.XII.1992, L.P. (1); Dahab, 28.XI.1992, L.P. (2); 35 km N Sharm el Sheikh, 30.XI.1992, L.P. (1); 15 km N Sharm el Sheikh, 30.XI.1992, L.P. (7); Sharm el Sheikh, 29.-30.XI.1992, L.P. (3) (ML) (Fig. 20).
Referenced localities. Cheik Hamid, El Kreig, Magdaba, Wadi Ain El Gederat (ALFIERI 1920, 1976 sub *Ocnera hispida*), Wadi Isla (ALFIERI 1976 sub *Ocnera hispida*), between Ain Musa and Wadi Werdan, Oasis of Feiran, Wadi Hebran, desert plain of Ga'a, Tor, between Tor and Djebel Hamam, between Wadi Gergir and Wadi Budr, Wadi Chaschibi, south of Wadi Chaschibi, northern part of the Peninsula (ANDRES 1920 sub *Ocnera hispida*), between Suez and Abu Selima (BODENHEIMER & THEODOR 1929 sub *Ocnera hispida*), the Sinai (CROTCH 1872 sub *Ocnera hispida*, *O. gomorrhana*, KOCH 1934 sub *Ocnera hispida latreillei* SOLIER), Wadi el Ain (HART 1891 sub *Ocnera hispida*), Nachle, Wadi Sidr, Wadi El Arish, Wadi Scheria (HEYDEN 1899 sub *Ocnera hispida*), northern part of the Sinai Peninsula (KNEUCKER 1903 sub *Ocnera hispida*), Tor, Wadi Feiran (KOCH 1935a sub *Ocnera hispida latreillei* SOLIER), Ain Musa (PEYERIMHOFF 1907 t. WALKER), Wadi Sidreh, Wadi El Arish, Qala'at en Nakhel (PEYERIMHOFF 1907 t. HEYDEN), Hadjar er-Reqab, Wadi Gneh, Wadi el-Ain, in the north of the Peninsula (PEYERIMHOFF 1907 sub *Ocnera hispida*), Ain Musa, Berg Sinai (WALKER 1871 sub *Ocnera hispida*) (Fig. 20).
General distribution. North Africa from Morocco to Egypt, Sicily, Sudan, Near East, Arabian Peninsula (KASZAB 1982).
Comments. According to KOCH (1935b), *Trachyderma hispida gomorrhana* REICHE & SAULCY, 1857: 215 differs from *T. hispida latreillei* SOLIER, 1836a: 36 through a small prominent hump at the falling edge of the prosternal apophysis and through broader and shorter elytra. The examination of 150 specimens of *T. hispida* s. l. from the whole distribution zone showed that both criteria are variable. The somewhat prominent hump is to be found in some specimens from Ein Gedi (Israel) (locus classicus of *T. gomorrhana* is Gomorrha near the Dead Sea) and from Inzinkat, Niger (ML). No characteristics are to be established that enable an unquestionable distinction between *T. hispida gomorrhana* and *T. hispida latreillei*. Both forms seem to be identical. Formal synonymisation is not possible here since the taxonomic problems are not yet satisfactorily solved (cf. PEYERIMHOFF 1948a). SKOPIN (1962) establishes the genus *Atrachyderma* for the *Trachyderma* with epipleura that are split-shaped in the anterior part. While MEDVEDEV & NEPESOVA (1985)



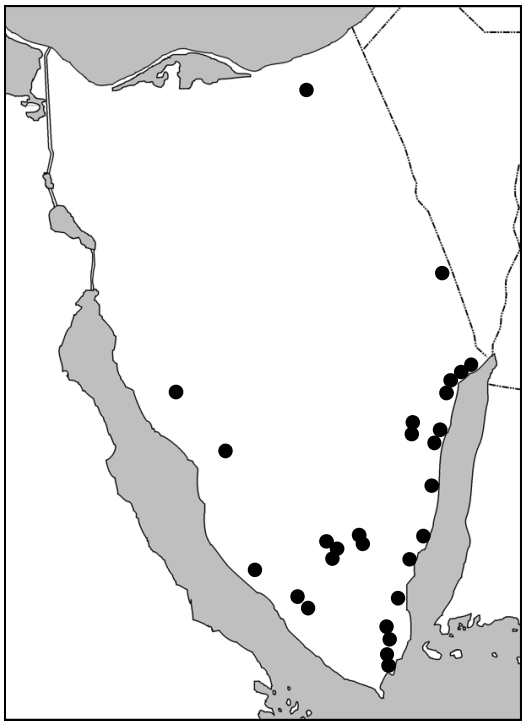


Fig. 21 (left). Collection sites of *Trachyderma philistina* on the Sinai Peninsula (the geographic coordinates of Wadi Karam, W. Helal, W. Chaschibi and Karm Allam are not known). – Fig. 22 (right). Collection sites of *Opatroides punctulatus* on the Sinai Peninsula (the geographic coordinates of Wadi Ta-albi and Wadi Chaschibi are not known).

claim that *T. hispida* belongs to *Atrachyderma*, KWIETON (1981) lists it as a subgenus of *Trachyderma*. KASZAB (1982) mentions *Atrachyderma* neither as a genus or as a subgenus.

36.4 ***Trachyderma* (*Trachyderma*) *philistina* REICHE & SAULCY, 1857**

Trachyderma philistina REICHE & SAULCY, 1857: 214.
Ocnera parvicollis BAUDI, 1875a: 686.
Ocnera habelmanni KRAATZ, 1865: 292.

New localities. 27 km NE Santa Katarina, 1400 m, 2.XII.1992, L.P. (1); Santa Katarina, 16.IV.1995, P. (1) (ML); Sharm el Sheik around Shark's Bay, 1.-4.I.1998, leg. W. Schawaller (4) (SMNS) (Fig. 21).

Referenced localities. Wadi Karam (ALFIERI 1920 sub *Ocnera hispida*), Karm Allam, El Arish (ALFIERI 1976 sub *O. parvicollis*), Wadi Helal, Wadi Karam, Wadi Isla (ALFIERI 1976 sub *Ocnera philistina*), Mont Sinai (ALLARD 1883 sub *Ocnera philistina*), between Ain Musa and Wadi Werdan, Oase Feiran, between Tor and Djebel Hamam, Tor (ANDRES 1920 sub *Ocnera philistina*), between Tor and Djebel Hamam, Wadi Gergir, Wadi Chaschibi (ANDRES 1920 sub *Ocnera habelmanni*), the Sinai (ANDRES 1921 sub *Ocnera habelmanni*), ANDRES 1928, 1931b sub *Ocnera parvicollis,* CONSTANTINOU & CLOUDSLEY-THOMPSON 1983, SCHUSTER 1938), Wadi Feiran (HEYDEN 1899 sub *Ocnera habelmanni*, KOCH 1935a sub *Ocnera philistina* var., PEYERIMHOFF 1907 sub *O. habelmanni* t. HEYDEN, GRIDELLI 1928 t. PEYERIMHOFF 1907), Hadjar er-Reqab, Wadi Feiran (PEYERIMHOFF 1907 sub *Ocnera philistina*) (Fig. 21).

General distribution. Rhodes, Turkey ("Asia Minor"), Cyprus, Israel, Syria, Egypt, Jordan, Iran, Iraq, Arabia, India (GRIMM 1991).
Comments. The synonymy of *T. philistina* REICHE & SAULCY with *T. parvicollis* BAUDI (about the problem of the *parvicollis* group, see GRIDELLI 1928, 1953-54b, KASZAB 1979, 1981, KWIETON 1981) seems to be correct. The specimens from Israel (Ze'elim and Yotvata) at our disposal have on the middle segments of the hind tarsi the golden yellow bristles which are according to REITTER (1892) characteristic for *T. parvicollis* BAUDI. Specimens with and without golden-yellow bristles were found in Dimona (Negev) (ML). The male genitalia do not show differences. They correspond to the illustrations by GRIMM (1991) and not to the ones by KWIETON (1981).

Subfamily Tenebrioninae

Tribe Alphitobiini

37. *Alphitobius* STEPHENS, 1829

37.1 *Alphitobius diaperinus* (PANZER, 1797)
Tenebrio diaperinus PANZER, 1797: 16.

New localities. Nuweiba, IV.1992, Ullrich (1) (CGW).
Referenced localities. The Sinai (ANDRES 1931b), probably Wadi Tarfa (KNEUCKER 1903).
General distribution. Subcosmopolitan (MIFSUD & SCUPOLA 1998).

Tribe Triboliini

38. *Tribolium* MACLEAY, 1825

38.1 *Tribolium* (*Tribolium*) *castaneum* (HERBST, 1797)
Colydium castaneum HERBST, 1797: 282.
Tribolium navale SEIDLITZ, 1894: 583.

Referenced localities. Wadi Isla, Wadi Feiran, El Arish, El Kantella, Wadi Helal, Megara (ALFIERI 1976), Wadi Gergir (ANDRES 1920), Feiran, in dates (PEYERIMHOFF 1907 sub *Tribolium navale* FABRICIUS [sic !]).
General distribution. Cosmopolitan, frequently synanthropic.

38.2 *Tribolium* (*Stene*) *confusum* JAQUELIN DU VAL, 1868
Tribolium confusum JAQUELIN DU VAL, 1868: 181.

Referenced localities. Wadi Isla, Monastery of Sainte-Catherine (ALFIERI 1976).
General distribution. Cosmopolitan, frequently synanthropic.

Tribe Heterocheirini

39. *Diphyrrhynchus* FAIRMAIRE, 1849

39.1 *Diphyrrhynchus* (*Neoabantis*) *aenescens* (FAIRMAIRE, 1892)

Abantis aenescens FAIRMAIRE, 1892: 110.

Referenced localities. Isla (ALFIERI 1976), Tor (GRIDELLI 1953-54a, KOCH 1935a, SCHAWALLER 1991), the Sinai (KOCH 1934).
General distribution. West coast of Red Sea from Djibouti up to the Sinai, Yemeni coast, Camaran, Perim (SCHAWALLER 1991).

Tribe Opatrini

40. *Ammobius* GUÉRIN-MÉNEVILLE, 1846

40.1 *Ammobius rufus* (LUCAS, 1849)

Trachyscelis rufus LUCAS, 1849: 339.

Referenced localities. El Kontella, Wadi El Arish (ALFIERI 1976).
General distribution. Moroccan Atlantic coast, coasts of the Meditarrenean Sea and of the Black Sea (GRIMM 1991).

41. *Cheirodes* GENÉ, 1839

41.1 *Cheirodes* (*Histaea*) *asperulus* (REITTER, 1884)

Anemia asperula REITTER, 1884: 260.
Anemia asperula var. *seriesetosa* BAUDI, 1894: 8.
Anemia denticulata PIC, 1923: 5 nec WOLLASTON, 1867: 197.
Anemia aegyptioca PIC, 1936: 300, nom. n.

Referenced localities. Wadi Gederat, Wadi Helal, Wadi Isla (ALFIERI 1976 sub *Anemia aegyptiaca*), between Wadi Mezara and Um Shousha (ALFIERI 1920 sub *Anemia* ? *seriesetosa*), Wadi Mezara, Um Shousha (ANDRES 1931b sub *Anemia denticulata*).
General distribution. South of Sahara from Senegal to Sudan, Egypt, Israel, Syria, Jordan, Iran (ARDOIN 1971a).

41.2 *Cheirodes* (*Pseudanemia*) *brevicollis* (WOLLASTON, 1864)

Pseudanemia brevicollis WOLLASTON 1864: 493.
Anemia aphodioides WALKER, 1871: 16.
Anemia fausti SOLSKY, 1881-82: 52.
Anemia pharao REITTER, 1897: 43.

Referenced localities. Wadi Mezara, Um Shusha (ALFIERI 1920, 1976 sub *Anemia fausti*), Wadi Budhr, Mear (ANDRES 1931b sub *Anemia pharao*), Wadi eth Thal (ANDRES 1931b t. PEYERIMHOFF, PEYERIMHOFF 1907), the Sinai (ARDOIN 1971a, GRIDELLI 1933a sub *Anemia fausti*, GRIDELLI 1952 sub *Anemia brevicollis*, PEYERIMHOFF 1931 sub *Anemia brevicollis*, REICHARDT 1936 sub *Anemia aphodioides*), Wadi Fawar (KOCH 1935a sub *Anemia fausti*),

Wadi Gneh, Wadi Feiran (PEYERIMHOFF t. WALKER sub *Anemia* ? *aphodioides*), Wadi Genneh, Wadi Feiran (WALKER 1871 sub *Anemia aphodioides* sp. n.).
General distribution. Canary Islands, North Africa up to Pakistan, eastern Africa, southern Europe (ARDOIN 1971a).

41.3 *Cheirodes* (*Spinanemia*) *pilosus* (TOURNIER, 1868)

Anemia pilosa TOURNIER, 1868: 146.

Referenced localities. Vicinity of Monastery of St Catherine (ALFIERI 1976 sub *Anemia pilosa*), desert of Ga'a (ANDRES 1920 sub *Anemia pilosa*), the Sinai (GRIDELLI 1952 t. ANDRES sub *Anemia pilosa*).
General distribution. Morocco up to Red Sea (ARDOIN 1971a), Israel (Negev) (AYAL & MERKL 1994).

41.4 *Cheirodes* (*Cheirodes*) *sardous sardous* GENÉ, 1839

Cheirodes sardous GENÉ, 1839: 73.

Referenced localities. Wadi Isla up to vicinity of Monastery of St Catherine (ALFIERI 1976 sub *Anemia sardoa*), between Wadi Werdan and Wadi Feiran (ANDRES 1920 sub *Anemia sardoa*), the Sinai (ANDRES 1931b, GRIDELLI 1933a sub *Anemia sardoa*, REICHARDT 1936 sub *Anemia sardoa*), Wadi Gneh, Wadi Feiran (PEYERIMHOFF 1907 sub *Anemia sardoa*).
General distribution. *Ch. sardous sardous*: Canary Islands, southern Europe up to Iran (ARDOIN 1971a). *Ch. sardous denticulatus* (WOLLASTON, 1867: 197): Cape Verde Islands up to Ethiopia (ARDOIN 1971a), Yemen (KASZAB 1982).

42. *Clitobius* MULSANT & REY, 1859

42.1 *Clitobius oblongiusculus oblongiusculus* (FAIRMAIRE, 1875)

Halonomus oblongiusculus FAIRMAIRE, 1875: 495.
Halonomus lineicollis FAIRMAIRE, 1879a: 196.
Halonomus lineicollis FAIRMAIRE, 1879b: 4.

New localities. 14 km S Taba, 27.XI.1992, L.P. (1); 10 km N Nuweiba, 28.XI.1992, L.P. (3); Dahab, 28.XI.1992, L.P. (2), Dahab, 20.IV.1995, P. (2) (ML, TP); Sharm el Sheik around Shark's Bay, 1.-4.I.1998, leg. W. Schawaller (10) (SMNS).
Referenced localities. Gebel Helal, El Arish (ALFIERI 1976 sub *C. oblongiusculus* var. *lineicollis*), the Sinai (ALFIERI 1976, f. t., ESPAÑOL 1967, GRIDELLI 1930 t. PEYERIMHOFF, KASZAB 1982, PEYERIMHOFF 1931, REICHARDT 1936), Tor (KOCH 1935a sub *C. oblongiusculus* ssp. *lineicollis*), Wadi eth-Thal, Gulf of Aqaba (PEYERIMHOFF 1907 sub *C. oblongiusculus* var. *lineicollis*).
General distribution. *C. o. oblongiusculus*: Algeria up to Arabia and Tadzhikistan (CARL 1991b), Morocco (KOCHER 1958), former Spanish Sahara, Mauritania (ESPAÑOL 1967). – *C. o. schneideri* (ALLARD, 1882: XXXVI): Egypt (ALFIERI 1976), Sudan (ARDOIN 1972a).
Comments. *C. oblongiusculus* var. *lineicollis* is in the Sinai, as well as in the Cyrenaica (GRIDELLI 1930), more frequent than *C. oblongiusculus oblongiusculus*, with which it occasionally appears.
Habitat. Halophile species (PEYERIMHOFF 1931).

43. *Dendarus* LATREILLE, 1829

43.1 *Dendarus* (*Rhizalemus*) *calcaroides* (PEYERIMHOFF, 1907)

(*Rhizalemus*) *calcaroides* PEYERIMHOFF, 1907: 36.

New localities. Mt. Moses (Gebel Musa), 7.-8.IV.1993, P. (8) (ML, TP).
Referenced localities. Wadi Helal, Wadi Isla (ALFIERI 1976), Monastery of St Catherine (ANDRES 1931b t. PEYERIMHOFF), Abu Hamaida (ANDRES 1931b), the Sinai (KOCH 1935a), and Mount Sinai, Djebel Katharina (INNES BEY 1909 t. PEYERIMHOFF, PEYERIMHOFF 1907).
General distribution. Southern Sinai (ALFIERI 1976).

43.2 *Dendarus* (*Rhizalus*) *syriacus* (REICHE & SAULCY, 1857)

Bioplanes syriacus REICHE & SAULCY, 1857: 257.

New localities. Santa Katarina, 1500 m, 1.-2.XII.1992, L.P. (1) (ML, TP); St. Katerine, 5.X.1992 (2) (ML, CGW).
Referenced localities. Wadi Helal, Wadi Isla (ALFIERI 1976), the Sinai (CROTCH 1872 sub *Bioplanes syriacus*).
General distribution. Palestine, ?Syria (KOCH 1935b), Jordan (PEYERIMHOFF 1907), the Sinai, Egypt (ALFIERI 1976).

44. *Eurycaulus* FAIRMAIRE, 1868

The subgenera mentioned by KOCH (1935a) are questioned by SCHAWALLER (1993). The subgenus *Scleronimon* REITTER, 1904 is a synonym of the genus *Ammotrypes* FAIRMAIRE, 1879a which is now downgraded to subgenus of the genus *Eurycaulus* (GRIMM 2001).

44.1 *Eurycaulus* (*Ammotrypes*) *peyerimhoffi* REITTER, 1904

Eurycaulus (*Scleronimon*) *peyerimhoffi* REITTER, 1904: 127.

Referenced localities. Magdaba (ALFIERI 1920 sub *E. henoni* FAIRMAIRE), Magdaba, El Kontella (ALFIERI 1976 sub *E. henoni* = *E. peyerimhoffi*), south of Ain Hawara (ANDRES 1920 sub *E. henoni* = *E. peyerimhoffi*), the Sinai (ANDRES 1921, 1931b sub *E. henoni* = *E. peyerimhoffi*, REITTER 1904, SCHAWALLER 1993), El Arish (KOCH 1935a), Hadjar er-Reqab (PEYERIMHOFF 1907 sub *E. henoni*).
General distribution. The Sinai (SCHAWALLER 1993), the Negev (TAU).
Comments. For PEYERIMHOFF (1907), the type comparison leads to a synonymy of *E. peyerimhoffi* REITTER, 1904 with *E. henoni* FAIRMAIRE, 1897. KOCH (1935a) and SCHAWALLER (1993) describe the two species separately.

45. *Gonocephalum* SOLIER, 1834

45.1 *Gonocephalum* (*Gonocephalum*) *patruele patruele* (ERICHSON, 1843)

Opatrum patruele ERICHSON, 1843: 248.
? *Hopatrum sericinum* REICHE (WALKER 1871).
? *Hopatrum sericeum* REICHE (INNES BEY 1911 [1912]).

Referenced localities. Wadi El Arish (ALFIERI 1976), the Sinai (ANDRES 1931b).
General distribution. *G. p. patruele*: Cape Verde Islands, Canary Islands, Libya, Egypt, Israel, Arabian Peninsula, Iran, Somalia, Sudan (FERRER 2000b), Ethiopia (FERRER 1995a), Niger, Chad (PIERRE 1961b), the Sinai (ALFIERI 1976), Morocco (KOCHER 1958), Algeria (THÉRONT & HOLLANDE 1965). – *G. p. turchestanicum* GRIDELLI, 1948: 9: Turkestan, "Central Asia" (FERRER 2000b).
Comments. INNES BEY 1911 [1912]) names the *Hopatrum sericeum* REICHE from Wadi Genneh dealt of by WALKER (1871), whereas WALKER (1871) speaks of this species as *Hopatrum sericinum* REICHE from Cairo. According to FERRER (1995a), *Opatrum sericeum* BAUDI (not REICHE) is synonymous with *Gonocephalum patruele patruele.*

45.2 *Gonocephalum* (*Gonocephalum*) *perplexum* Lucas, 1849

Referenced localities. Wadi Isla (Alfieri 1976).
General distribution. Western Sahara, Morocco, Algeria, Libya, Israel, Syria, Somalia, Saudi Arabia (FERRER 2000b), Yemen (KASZAB 1982), Tunisia (FERRER 1995a), Egypt, the Sinai (ALFIERI 1976), Jordan (KATBEH-BADER 1996).

45.3 *Gonocephalum* (*Gonocephalum*) *setulosum setulosum* (FALDERMANN, 1837)

Opatrum setulosum FALDERMANN, 1837: 60.
Gonocephalum demaisonis ALLARD, 1883: 32.

New localities. Wadi El Arish, 40 km SW Nakhl, 27.4.<19>68, coll. H. Schweiger (3) (TAU).
Referenced localities. Wadi Helal (ALFIERI 1976), Wadi Isla (ALFIERI 1976 sub *G. demaisoni*), Hadjar er-Reqab, Wadi eth-Thal, Wadi Gharandel, Ras abou Zenimeh, Wadi el Ain (PEYERIMHOFF 1907), the Sinai (GRIDELLI 1952, KASZAB 1982, MIFSUD & SCUPOLA 1998, PEYERIMHOFF 1931, REICHARDT 1936).
General distribution. *G. s. setulosum*: Turkmenistan, Kazakhstan, Caucasus, Iraq, Iran, Syria, Arabian Peninsula, Turkey („Asia Minor"), Israel, Egypt, Sudan, Libya, Tunisia, Niger, Cyprus, Crete, Rhodos, Cyclades, Malta (FERRER 1995a), Mauritania (Akjoujit) (ML, det. FERRER). – *G. s. angustum* LINDBERG, 1950: 11: Fuerteventura. – G. *s. lindbergi* FERRER, 1995: 3: Lower Egypt, Italy, Tunisia, Algeria, Morocco, western Sahara (FERRER 1993, 1995a).

45.4 *Gonocephalum* (*Gonocephalum*) *rusticum* (OLIVIER, 1811)

Opatrum rusticum OLIVIER, 1811: 498.

Referenced localities. The Sinai (CROTCH 1872 sub *Opatrum rusticum*).
General distribution. Southern Europe up to Turkmenistan, Canary Islands, the Azores, Madeira up to Egypt, Israel (FERRER 1995a), Jordan (KATBEH-BADER 1996).

45.5 *Gonocephalum* (*Gonocephalum*) *soricinum soricinum* (REICHE & SAULCY, 1857)

Opatrum soricinum REICHE & SAULCY, 1857: 259.

New localities. Wadi Rim, 1.V.1999, P. (1) (TP).
Referenced localities. Wadi Isla, El Kontella (ALFIERI 1976), Rinham, 1500 m (ANDRES 1931b), Wadi Sa'al, Ain el-Houdra (ANDRES 1931b t. PEYERIMHOFF), Wadi Isla (BODENHEIMER & THEODOR 1929), the Sinai (ESPAÑOL 1943, 1967, GRIDELLI 1939e, 1953-54a, PEYERIMHOFF 1931, REICHARDT 1936, SCHUSTER 1938), Wadi Isla, Wadi Hebran (KOCH 1935a), Wadi Sa'al, Ain el-Houdra (PEYERIMHOFF 1907).

General distribution. *G. s. soricinum*: the Sinai (ALFIERI 1976), Jordan (KATBEH-BADER 1996); Israel, Yemen, Saudi Arabia (FERRER 2000b). – *G. s. faraonicum* FERRER, 2000: 74: Sudan, Ethiopia (FERRER 2000b). – *G. s. insidiosum* (FAIRMAIRE, 1880: 16) Morocco, Algeria (FERRER 2000b).

46. *Mesomorphus* MIEDEL, 1880

46.1 *Mesomorphus setosus* (MULSANT & REY, 1853)

Opatrinus setosus MULSANT & REY, 1852 [1853]: 313.
Opatrum (*Gonocephalum*) *murinum* BAUDI, 1875b: 227.

Referenced localities. El Kontella (ALFIERI 1976), Oase Ain Musa (ANDRES 1920), Tor (KOCH 1935a), garden of the Sinai monastery (HEYDEN 1899 sub *Opatrinus setosus*), S. Caterina (GRIDELLI 1939d t. PEYERIMHOFF sub *Mesomorphus murinus murinus*), Monastery of St Catherine (PEYERIMHOFF 1907 t. HEYDEN).
General distribution. Egypt, Israel (FERRER 2000a), the Sinai (ALFIERI 1976).
Comments. There are still undescribed subspecies in Sudan (FERRER 2000a).

47. *Opatroides* BRULLÉ, 1832

47.1 *Opatroides punctulatus punctulatus* BRULLÉ, 1832

Opatroides punctulatus BRULLÉ, 1832: 220.

New localities. 8 km S Taba, 26.XI.1992, L.P. (7); 10 km S Taba, 27.XI.1992, L.P. (8); 13 km S Taba, 3.XII.1992, L.P. (5); 14 km S Taba, 27.XI.1992, L.P. (8); 16 km S Taba, 27.XI.1992, L.P. (3); 19 km S Taba, 3.XII.1992, L.P. (3); 38 km S Taba, 3.XII.1992, L.P. (1); 22 km N Nuweiba, 3.XII.1992, L.P. (2); 3 km N Nuweiba, 3.XII.1992, L.P. (2); 3 km E Ain El Furtaga, 28.XI.1992, L.P. (1); 20 km S Nuweiba, 28.XI.1992, L.P. (16); 20 km NNW Dahab, 2.XII.1992, L.P. (18); Santa Katarina, 1400 m, 1.-2.XII.1992, L.P. (27); Mt. Moses (Gebel Musa), 7.-8.IV.1993, P. (5); 22 km NE Santa Katarina, 1300 m (in the garden), 2.XII.1992, L.P. (4); 27 km NE Santa Katarina, 1300 m, 2.XII.1992, L.P. (6); Dahab, 9.IV.1993, P. (1); 45 km SSW Dahab, 29.XI.1992, L.P. (1); 35 km N Sharm el Sheikh, 29.XI.1992, L.P. (53); 15 km N Sharm el Sheikh, 30.XI.1992, L.P. (8); Dahab, 21.4.1995, P. (1); Santa Katarina, 14.4.1995, P. (1); Santa Katarina, 16.4.1995, P. (3); Mt. Moses, 16.4.1995, P. (2) (ML, TP); area around oasis Ain Khudra, 25.-29.XII.1997, 600-800 m, leg. W. Schawaller (1); Sharm el Sheik around Shark's Bay, 1.-4.I.1998, leg. W. Schawaller (1) (SMNS) (Fig. 22).
Referenced localities. El Kontella, Wadi El Arish (ALFIERI 1976), between Wadi Werdan and Wadi Feiran, between Tor and Djebel Hamam, desert of Ga'a, Wadi Gergir, Wadi Budr, Wadi Ta-albi, Wadi Chaschibi (ANDRES 1920), the Sinai (CROTCH 1872 sub *Penthicus punctuatus*, GEBIEN 1906, ESPAÑOL 1943, PEYERIMHOFF 1931, REICHARDT 1936), garden of the Sinai monastery (HEYDEN 1899 sub *Penthicus* (*Opatroides*) *punctulatus*), Wadi Isla (KOCH 1935a), Wadi Gharandel (WALKER 1871, PEYERIMHOFF 1907 t. WALKER), Gulf of Aqaba (PEYERIMHOFF 1907) (Fig. 22).
General distribution. *Opatroides punctulatus* is under revision (FERRER, in prep.). The distribution remains therefore unknown for the time being. KASZAB (1982) names the Mediterranean region, the Caucasus, Central Asia, western Siberia, Eritrea, Somalia, Sudan, the Near East, Iraq, Iran, Afghanistan, Pakistan, India, and the Arabian Peninsula. The subspe-

cies *O. punctulatus subcylindricus* (MÉNÉTRIÉS, 1849) is found in Turkey (FERRER & SOLDATI 1999).

48. *Proscheimus* DESBROCHERS DES LOGES, 1881

48.1 *Proscheimus arabicus* DESBROCHERS DES LOGES, 1881

Proscheimus arabicus DESBROCHERS DES LOGES, 1881: 127.

New localities. 20 km N Nuweiba, 3.XII.1992, L.P. (5); 2 km N Nuweiba, 28.XI.1992, L.P. (1) (ML).
Referenced localities. The Sinai (ALFIERI 1976 t. PEYERIMHOFF, ANDRES 1931b, KASZAB 1982, REICHARDT 1936), Tor (KOCH 1935a).
General distribution. Egypt, the Sinai, Jordan, Saudi Arabia (KASZAB 1982).

49. *Scleron* HOPE, 1840

49.1 *Scleron orientale orientale* (FABRICIUS, 1775)

Opatrum orientale FABRICIUS, 1775: 76.

Referenced localities. Wadi Helal, Wadi Isla (ALFIERI 1976), oasis of Feiran (ANDRES 1920), Wadi el Ain (HART 1891, PEYERIMHOFF 1907 t. HART), oasis of el-Hessoueh (PEYERIMHOFF 1907), the Sinai (REICHARDT 1936).
General distribution. Cameroon, Chad, Sudan, Ethiopia, Somalia, Saudi Arabia, Yemen (KASZAB 1982), Mauritania (ARDOIN 1972b), Niger (ROUGON & ARDOIN 1976), Jordan (FERRER 1995b), Palestine, Egypt (PIERRE 1961b). *S. o. yemense* KASZAB, 1972: Yemen.

50. *Scleropatrum* REITTER, 1890

50.1 *Scleropatrum hirtulum* (BAUDI, 1875)

Opatrum hirtulum BAUDI, 1875a: 703.

Referenced localities. Wadi Gharandel (PEYERIMHOFF 1907, ALFIERI 1976 t. PEYERIMHOFF), the Sinai (REICHARDT 1936).
General distribution. Armenia, Transcaspian, Iran, Iraq, Syria, Afghanistan, Turkmenistan, Uzbekistan, Kazakhstan (KASZAB 1969), the Sinai (REICHARDT 1936).

Tribe Leichenini

51. *Leichenum* DEJEAN, 1834

51.1 *Leichenum pulchellum pumilum* BAUDI, 1876

Leichenum pulchellum ? var. *pumilum* BAUDI, 1876: 73.

Referenced localities. Wadi Feiran, Wadi El Ain (ALFIERI 1976, PEYERIMHOFF 1907 sub *Leichenum pulchellum* LUCAS, ANDRES 1931b sub *Leichenum pulchellum* KÜSTER), Wadi

Feiran (KOCH 1935a sub *L. pulchellum* KÜSTER), the Sinai (ESPAÑOL 1973, GRIDELLI 1939b, PEYERIMHOFF 1931 sub *L. pulchellum* KÜSTER).
General distribution. *L. p. pulchellum* (LUCAS, 1849: 336): western European and African Mediterranean region. – *L. p. pumilum*: Eritrea, Egypt, the Sinai, Lebanon, Turkey ("Asia Minor"), Cyprus, Iraq, the Arabian Peninsula, Bahrein (GRIDELLI 1939b, KASZAB 1982), Chad (ESPAÑOL 1973).

Tribe Drosochrini

52. *Drosochrus* ERICHSON, 1843

52.1 *Drosochrus* (*Helopinus*) *costatus aegyptiacus* (GRIDELLI, 1939)
Helopinus costatus aegyptiacus GRIDELLI, 1939a: 198.

Referenced localities. Wadi Isla (ALFIERI 1976 sub *Helopinus costatus* ab. *elegans* BAUDI), Wadi Gneh, Wadi Taba (GRIDELLI 1939a, PEYERIMHOFF 1907 sub *Helopinus* sp.).
General distribution. *D. c. costatus* SOLIER, 1848: Saudi Arabia, Jordan (GRIDELLI 1939a). – *D. c. aegyptiacus*: Lower Egypt, the Sinai (GRIDELLI 1939a). – *D. c. elegans* (BAUDI, 1881: 287): Eritrea, Djibouti (GRIDELLI 1939a).

Tribe Scaurini

53. *Scaurus* FABRICIUS, 1775

53.1 *Scaurus aegyptiacus aegyptiacus* SOLIER, 1838
Scaurus aegyptiacus SOLIER, 1838b: 170.

Referenced localities. Wadi Isla, Wadi Helal (ALFIERI 1976), between Wadi Werdan and Wadi Feiran (ANDRES 1920), the Sinai (GRIDELLI 1930 t. ANDRES, PEYERIMHOFF 1948b), Nachle (HEYDEN 1899), Qala'at en-Nakhel (PEYERIMHOFF 1907 t. HEYDEN).
General distribution. *S. ae. aegyptiacus*: Tripolitania up to the Sinai, Castelrosso (PEYERIMHOFF 1948b) and Sudan (LILLIG 1995). – *S. ae. giganteus* KÜSTER, 1848: Algeria up to Libya and Italian islands (PEYERIMHOFF 1948b).

53.2 *Scaurus puncticollis puncticollis* SOLIER, 1838
Scaurus puncticollis SOLIER, 1838b: 173.

Referenced localities. Wadi Isla (ALFIERI 1976), Ain Musa, between Wadi Feiran and Wadi Selaf (ANDRES 1920), El Arish, Tor (ANDRES 1931b), the Sinai (GRIDELLI 1939e t. Andres 1920 and ANDRES, 1931b, KOCH 1965, PEYERIMHOFF 1948b).
General distribution. According to PEYERIMHOFF (1948b) the nominate subspecies, including the form *rugicollis* REICHE & SAULCY, 1857, lives in North Africa from Tripolitania to Egypt as well as in the Sinai up to Syria and Cyprus, and *S. puncticollis getula* PEYERIMHOFF, 1944 in the western Sahara. But PEYERIMHOFF (1948b) did not know *S. puncticollis macricollis* ALLARD, 1882, described from Mesopotamia and Egypt and *S. puncticollis dlabolai* KASZAB, 1959, described from Turkey.

Tribe Blaptini

54. *Blaps* FABRICIUS, 1775

54.1 *Blaps bifurcata bifurcata* SOLIER, 1848

Blaps bifurcata bifurcata SOLIER, 1848: 348.
Blaps bifurcata andresi KOCH, 1935b: 75.

Referenced localities. Gebel Katherin (ALFIERI 1976), Wadi Helal (ALFIERI 1976 sub *B. bifurcata andresi*), El Arish (ANDRES 1931b sub *B.* spec. pr. *bifurcata*, GRIDELLI 1952 t. KOCH, KOCH 1935a sub *B. bifurcata andresi*), Romani (BOYD 1917).
General distribution. *B. bifurcata bifurcata*: Israel (Negev) (AYAL & MERKL 1994), Libya (Fezzan), Egypt, the Sinai (GRIDELLI 1952). – *B. b. strauchi* REICHE, 1861: 88: Algeria, Tunisia, Libya, Chad, Morocco, former Spanish Sahara (GRIDELLI 1952). – *B. b. mirei* GRIDELLI, 1952: 92: Mauritania up to Chad (ROUGON & ARDOIN 1976), Sudan (HJB, ML). – *B. b. gridellii* PIERRE, 1961: 1042: Chad (Tibesti), Niger (Ténéré) (PIERRE 1961b).

54.2 *Blaps laticollis* SOLIER, 1848

Blaps laticollis SOLIER, 1848: 324.

Referenced localities. Wadi Helal, Gebel El Arish (ALFIERI 1976).
General distribution. Egypt (SOLIER 1848), the Sinai (ALFIERI 1976).

54.3 *Blaps nitens laportei* ARDOIN, 1973

Blaps nitens laportei ARDOIN, 1973: 291, nom. n.
Blaps sulcata LAPORTE DE CASTELNAU, 1840: 200 nec FABRICIUS, 1775: 254.

Referenced localities. Magdaba (ALFIERI 1920, GRIDELLI 1930 t. ALFIERI), the Sinai (CROTCH 1872 sub *B. sulcata*), Wadi Bel Maï, Wadi El Arish (HEYDEN 1899 sub *Blaps sulcata*).
General distribution. Libya (Cyrenaica), Egypt (KOCH 1944), Israel (Negev) (AYAL & MERKL 1994).
Comments. ARDOIN (1973) discusses the nomenclature of the superspecies complex.

54.4 *Blaps pharao* SEIDLITZ, 1893

Blaps pharao SEIDLITZ, 1893: 266.

Referenced localities. Northern Sinai (ANDRES 1931b), El Arish (KOCH 1935a).
General distribution. Egypt (SEIDLITZ 1893), the Sinai (KOCH 1935a).

54.5 *Blaps polychresta* (FORSKÅL, 1775)

Tenebrio polychrestus FORSKÅL, 1775: 75.
Blaps sulcata FABRICIUS, 1775: 154 nec SOLIER, 1848: 344.

Referenced localities. Wadi Ain El Gederat (ALFIERI 1920, 1976), Wadi Isla (ALFIERI 1976), oasis of Ain Musa (ANDRES 1920), Ain Musa (PEYERIMHOFF 1907 t. WALKER sub *Blaps sulcata* FABRICIUS, WALKER 1871 sub *Blaps sulcata* FABRICIUS), Wadi El Arish (PEYERIMHOFF 1907 t. HEYDEN sub *Blaps sulcata* FABRICIUS).
General distribution. Libya (Cyrenaica), Egypt (KOCH 1937), the Sinai (ALFIERI 1976), the Negev (BYTINSKI-SALZ 1955a).

Comments. Confusions are possible due to the name jumble (cf. *Blaps nitens laportei* ARDOIN, 1973).

54.6 ***Blaps wiedemanni* SOLIER, 1848**
Blaps wiedemanni SOLIER, 1848: 350.

Referenced localities. Wadi Bel Maï (HEYDEN 1899).
General distribution. Libya, Egypt, Saudi Arabia, Yemen (KASZAB 1982), the Sinai (HEYDEN 1899), Israel (KRASNOV & AYAL 1995).

Tribe ?
(the position of the genus *Phtora* in the system is uncertain)

55. ***Phtora* GERMAR, 1836**

55.1 ***Phtora apicilaevis* (MARSEUL, 1876)**
Cataphronetis apicilaevis MARSEUL, 1876: 36.

New localities. 5 km N Nuweiba, 28.XI.1992, L.P. (1) (ML).
Referenced localities. El Arish, Wadi Karam (ALFIERI 1976 sub *Cataphronetis apicilaevis*).
General distribution. Libya, Lower Egypt (GRIDELLI 1930), the Sinai (ALFIERI 1976), Tunis (NORMAND 1936).
Comments. See *Phtora subclavata*.

55.2 ***Phtora subclavata* (WOLLASTON, 1861)**
Pseudostene subclavata WOLLASTON, 1861: 250.

Referenced localities. El Arish (ALFIERI 1976 sub *Cataphronetis subclavata*).
General distribution. Egypt, Saudi Arabia (KASZAB 1982), the Sinai (ALFIERI 1976).
Comments. According to GRIMM (1995) *P. subclavata* (WOLLASTON, 1861), *P. apicilaevis* (MARSEUL, 1876) and other "species" are probably identical to *Phtora angusta* (WOLLASTON, 1861).

Subfamily Diaperinae

Tribe Crypticini

56. ***Pseudoseriscius* ESPAÑOL, 1949**

56.1 ***Pseudoseriscius maculosus murinus* (ALLARD, 1882)**
Crypticus murinus ALLARD, 1882: LXXXVII.

Referenced localities. El Qantara (BOYD 1917 sub *Crypticus murinus*).

General distribution. *P. maculosus maculosus* FAIRMAIRE, 1870: "Syria", Lebanon, Israel (ESPAÑOL 1949), Iran (Bushir) (GEBIEN & BORCHMANN 1927). – *P. m. murinus*: Lower Egypt (ESPAÑOL 1949), the Sinai (BOYD 1917).
Comments. Reports from Libya and former Spanish Sahara must be incorrect (ESPAÑOL 1949).

Tribe Phaleriini

57. *Phaleria* LATREILLE, 1802

57.1 *Phaleria* (*Epiphaleria*) *prolixa* FAIRMAIRE, 1868

Phaleria prolixa FAIRMAIRE, 1868: 797.
Phaleria munda WALKER, 1871: 16.
Phaleria aegyptiaca SEIDLITZ, 1894: 482.

New localities. 10 km S Taba, 27.XI.1992, L.P. (1 var. *aegyptiaca*); 3 km N Nuweiba, 3.XII.1992, L.P. (5 f. t., 10 var. *aegyptiaca*); Sharm el Sheikh, 30.XI.1992, L.P. (4 var. *aegyptiaca*); Dahab, 20.4.1995, P. (1); Dahab, 21.4.1995, P. (3); Dahab, 22.4.1995, P. (3) (all var. *aegyptiaca*) (ML, TP).
Referenced localities. Rafa, El Arish (ALFIERI 1976), the Sinai (ANDRES 1931b, GEBIEN & BORCHMANN 1927, REITTER 1916b), Tor (GRIDELLI 1953-54a t. WALKER 1871, INNES BEY 1911 [1912]), Ras abou Zenimeh (GRIDELLI 1953-54a t. PEYERIMHOFF, PEYERIMHOFF 1907 sub *P. munda*), Tor (PEYERIMHOFF 1907 t. WALKER, WALKER 1871 sub *Ph. munda* sp. n.).
General distribution. Coasts of the Red Sea and of Arabia (SCHAWALLER 1993), Iran (Bushir) (GEBIEN & BORCHMANN 1927), Somalia, western coast of Madagascar, probably also eastern Africa (ARDOIN 1974), Mediterranean coast of Egypt (ALFIERI 1976).
Comments. According to KASZAB (1981), the species lives on algae in the sand of the coast. The authors found it near Nuweiba and Sharm el Sheikh in washed up dead fish and near Taba on a dead crab. The nominal form and *P. prolixa* var. *aegyptiaca* live together. All kinds of transitions exist between them.

Tribe Trachyscelini

58. *Trachyscelis* LATREILLE, 1809

58.1 *Trachyscelis tenuestriatus* FAIRMAIRE, 1885

Trachyscelis tenuestriatus FAIRMAIRE, 1885: 449.

New localities. 3 km W Dahab, 3.XI.1992, L.P. (1) (ML).
Referenced localities. The Sinai (ANDRES 1931b t. PEYERINHOFF, KASZAB 1982), Tor (GRIDELLI 1953-54a t. KOCH 1935a), Gulf of Aqaba (GRIDELLI 1953-54a t. PEYERIMHOFF 1907, KOCH 1935a), Hayeh (Gulf of Aqaba) (PEYERIMHOFF 1907).
General distribution. Djibouti, Perim island, Yemen, the Sinai, Jordan (KASZAB 1982), Sudan (CB).
Comments. Psammobiont species of the coast.

Incorrect and doubtful records

(In alphabetic order)

1. ***Adesmia* (*Macradesmia*) *anthracina* (KLUG, 1830)**
Pimelia anthracina KLUG, 1830: No 28.

Referenced localities. Wadi Sheria (HEYDEN 1899).
General distribution. Turkey, Syria (ARDOIN 1978).
Comments. The determination is certainly incorrect.

2. ***Adesmia* (*Macradesmia*) *cancellata cancellata* (KLUG, 1830)**
Pimelia cancellata KLUG, 1830: No 37.
Adesmia clathrata SOLIER, 1835b: 541.

Referenced localities. This name has been reported several times. See *A. cancellata latreillei* SOLIER.
Comments. Already ANDRES (1931b) questions its presence in the Sinai. It is certainly *A. cancellata latreillei* SOLIER.

3. ***Adesmia* (*Oteroscelis*) *carinata* SOLIER, 1835**
Adesmia carinata SOLIER, 1835b: 547.

Referenced localities. The Sinai (HART 1891, PEYERIMHOFF 1907 t. HART).
General distribution. Syria, Iraq, Iran (CARL 1990).
Comments. The species cannot occur in the Sinai (ANDRES 1931b).

4. ***Adesmia gracilis* GORY**

Referenced localities. Mount Sinai (WALKER 1871).
Comments. There is no *Adesmia* bearing this name.

5. ***Adesmia* (*Oteroscelis*) *lacunosa* (KLUG, 1830)**
Pimelia lacunosa KLUG, 1830: No 33.

Referenced localities. Djebel Watiyeh (HART 1891), Pharaoh's Baths (= Hammam Fir'aoun), Wadi Gharandel (PEYERIMHOFF 1907 t. WALKER, WALKER 1871), Djebel Ouatiyet (PEYERIMHOFF 1907 t. HART), the Sinai (REITTER 1916a).
General distribution. Saudi Arabia, Yemen (KASZAB 1981).
Comments. The occurrence of this species in the Sinai is questionable (ANDRES 1931b, GRIDELLI 1953-54a, KASZAB 1981).

6. ***Adesmia* (*Oteroscelis*) *metallica metallica* (KLUG, 1830)**
Pimelia metallica KLUG, 1830: No 23.
Adesmia faremontii LUCAS, 1844: 264 **syn. restit.**

Referenced localities. The Sinai (ANDRES 1926, 1931b, CROTCH 1872), Mazar (BOYD 1917 sub *A. faremonti*).
General distribution. Morocco up to Egypt (KOCH 1940b).
Comments. The examination of several hundred specimens of the group of *Adesmia metallica* from the whole distribution area showed the distinctive criteria proposed by KOCH (1940b) for *A. metallica metallica* and *A. metallica faremontii* are not constant. Beetles oc-

cur in the distribution area of *A. metallica* s. str. (sensu KOCH) which do not differ from those from the area of *A. metallica faremontii* (sensu KOCH). Besides, the nominate subspecies is to be found mainly in Libya under the forma *A. metallica faremontii*, and more rarely also in Algeria and Tunisia. This confirms the assertion of GRIDELLI (1930) who recognized both forms as synonymous. According to the collection site, the specimen reported by BOYD (1917) must be *A. metallica brozai* ARDOIN, 1978.

7. ***Adesmia* (*Adesmia*) *metallica syriaca* BAUDI, 1874**
Adesmia metallica var. *syriaca* BAUDI, 1874: 95.

Referenced localities. Wadi Meghara (ALFIERI 1976), the Sinai (ANDRES 1931b, KASZAB 1981).
General distribution. Israel, Jordan (ARDOIN 1978), Iraq (KASZAB 1981).
Comments. It was probably confused also with *A. metallica brozai* ARDOIN, 1978.

8. ***Adesmia* (*Adesmia*) *montana acervata* (KLUG, 1830)**
Pimelia acervata KLUG, 1830: No 26.

Referenced localities. Wadi Ain el Gederat, Wadi Isla (ALFIERI 1976), the Sinai (GRIDELLI 1930).
General distribution. Algeria, Tunisia, Libya, Mediterranean Egypt (KOCH 1949).
Comments. Only *A. montana montana* (KLUG, 1830) has been surely identified from the Sinai. *A. montana acervata* differs from *A. montana* s. str. in the tubercles of the elytra which are smaller and somewhat more pointed in *A. montana acervata*. In some specimens of Lower Egypt the differences from *A. montana* s. str. are very small.

9. ***Adesmia* (*Adesmia*) *tenebrosa* SOLIER, 1835**
Pimelia tenebrosa SOLIER, 1835b: 536.

Referenced localities. Djebel Watiyeh (HART 1891, PEYERIMHOFF 1907 t. HART).
General distribution. Iran (SOLIER 1835b).
Comments. *A. tenebrosa* is surely not present in the Sinai. It has probably been mistaken with the resembling *Adesmia montana montana* (KLUG).

10. ***Allophylax variolosus* (OLIVIER, 1811)**
Opatrum variolosus OLIVIER, 1811: 497.

According to REICHARDT (1936), this species is to be found on the Iberian Peninsula, Morocco, Algeria and Egypt. It is missing in the catalogues of ALFIERI (1976), ANDRES (1931b) and KOCH (1935a). The information given by INNES BEY (1911 [1912]) as regards Wadi Genneh is questionable.

11. ***Cheirodes* (*Cheirodes*) *granulatus* (LAPORTE DE CASTELNAU, 1840)**
Anemia granulata LAPORTE DE CASTELNAU, 1840: 218.

Referenced localities. Ain Musa, Berg Sinai (WALKER 1871 sub *Anemia granulata*), the Sinai (INNES BEY 1911 [1912]).
General distribution. Cape Verde Islands, Senegal up to Sudan (ARDOIN 1971a), Saudi Arabia (KASZAB 1982).

Comments. This species had not been reported for the Sinai since WALKER (1871) and INNES BEY (1911 [1912]). The questionable specimens are destroyed. The distribution south of the Sahara mentioned by ARDOIN (1971a) makes the presence of this species on the Sinai Peninsula appear doubtful.

12. ***Clitobius ovatus* (ERICHSON, 1843)**
Opatrum ovatum ERICHSON, 1843: 249.

Referenced localities. South of Ain Musa, at the foot of Djebel Hamam (ANDRES 1920).
General distribution. Namibia, Angola, Senegal, Cape Verde Islands, Morocco, Canary Islands, Sicily, Malta, Tunisia, Libya, Egypt (GRIMM 1995).

13. ***Crypticus subpunctatus* WALKER, 1871**
Crypticus subpunctatus WALKER, 1871

This species has not been clearly determined. WALKER (1871) describes the species without naming the collection site. According to INNES BEY (1911) [1912] most of the insects described by WALKER (1871) have been destroyed. On the basis of the remaining labels, he regards Wadi Feiran as the collection site of the questionable species.

14. ***Erodius bilineatus* OLIVIER, 1791**
Erodius bilineatus OLIVIER, 1791: 426.

Referenced localities. Magdaba (ALFIERI 1920, 1976).
General distribution. *E. bilineatus bilineatus*: coastal dunes of Senegal and Mauritania (ARDOIN 1971b). – *E. b. moccai* KOCH, 1937: 327: Libya (Socna, Mizda, Fezzan (Hon) (KOCH 1937). – *E. b. bungemensis* KOCH, 1937: 328: Libya (Bu Ngem between Gheddahia and Hon) (KOCH 1937). – *E. b. rohlfsi* KOCH, 1941: 258: Libya (Cyrenaica) (KOCH 1941b).
Comments. Reports from Egypt need to be confirmed (ARDOIN 1963). The report by ALFIERI (1920, 1976) is probably based on an incorrect identification. Already ANDRES (1931b) noted that this species does not occur in Egypt.

15. ***Erodius glabratus* SOLIER, 1834**
Erodius glabratus SOLIER, 1834: 544.

Referenced localities. Wadi Mora (ANDRES 1931b), Wadi Karm Alam (ALFIERI 1976).
General distribution. Saudi Arabia (KASZAB 1981), ?Egypt, ?the Sinai.
Comments. Described from Arabia (SOLIER 1834). SOLIER also mentions a specimen in the GORY collection originating from Egypt. The only specimen from Cairo we examined and that had been referred to by KÜHNELT as *E. glabratus* (♀, NHMW, coll. KÜHNELT) differs from the beetles of the Arabian type series (MNHNP) and from other specimens of the vicinity of Djidda (HJB, ML) by its bigger size and above all by its strongly dotted pronotum. These are probably two different species. The occurrence of *E. glabratus* outside of Arabia seems questionable.

16. ***Erodius servillei* SOLIER, 1834**
Erodius servillei SOLIER, 1834: 540.
Erodius scaber SOLIER, 1834: 542.

Referenced localities. Wadi Chamile (HEYDEN 1899 sub *E. scaber*), the Sinai (ANDRES 1931b, GEBIEN & BORCHMANN 1927, HOLDHAUS 1919, REITTER 1914a), Wadi Khamileh (PEYERIMHOFF 1907 t. HEYDEN sub *E. scaber*).
General distribution. Syria, Iraq, Iran, Arabia (KASZAB 1981), ? the Sinai.
Comments. The species has been described as from Egypt although *E. servillei* auct. (= ? SOLIER) does not occur there. As for the specimens reported from the Sinai, they would appear to be *E. puncticollis sinaiticus* CROTCH (vgl. KOCH 1940a).

17. ***Erodius puncticollis puncticollis* SOLIER, 1834**
Erodius puncticollis SOLIER, 1834: 556.
Erodius contractus auct. nec KRAATZ, 1865: 31.
Erodius ecostatus CROTCH, 1872: 267.

Referenced localities. Between Abu Diab and El Mishedi, between Wadi Mezara and Um Shusha (ALFIERI 1920 sub *E. puncticollis contractus* KRAATZ), Wadi Isla (ALFIERI 1976).
General distribution. Egypt (KOCH 1935a), ? the Sinai.
Comments. The specimens found must be *E. puncticollis sinaiticus*.

18. ***Erodius octocostatus octocostatus* PEYERIMHOFF, 1907**
Erodius octocostatus PEYERIMHOFF, 1907: 28.

Referenced localities. In the north of the Sinai Peninsula (ANDRES 1931b), the Sinai (BLAIR 1925, 1933, KASZAB 1981, KOCH 1940a, REITTER 1914a).
General distribution. Iraq, SW Jordan, ? Arabia (KASZAB 1981), ? the Sinai.
Comments. PEYERIMHOFF (1907) writes "un peu au nord de la péninsule Sinaïtique ... In deserto Sabaeo, loco dicto Hisme lectus". It appears to be the northwestern Arabian region of Hisma crossed by the wadi Saba. The description of *Erodius octocostatus verruculiferus* KASZAB, 1982: 308 has been based on material collected in Saudi Arabia.

19. ***Gonocephalum strigosum* (REICHE, 1847)**
Opatrum strigosum REICHE, 1847: 369.

Referenced localities. Mazar (BOYD 1917).
General distribution. Dahomey (FERRER 1995a).
Comments. According to FERRER (1995a), only one specimen is known from Dahomey (Benin) apart of the unique specimen without indication of collection site (ARDOIN 1965, FERRER 1995a). All other specimens determined as *G. strigosum* are wrongly named.

20. ***Gonocephalum tomentosum* (WALKER, 1871)**
Hopatrum tomentosum WALKER, 1871: 16.

Referenced localities. Wadi Gharandel (GRIDELLI 1953-54a t. WALKER 1871, INNES BEY 1911 [1912], PEYERIMHOFF 1907 t. WALKER 1871, WALKER 1871).
General distribution. The Sinai (Type), ?Arabia (KASZAB 1982).
Comments. According to INNES BEY (1911 [1912]) and KASZAB (1982) the type has been destroyed. The species cannot be identified. Even the genus belonging cannot be determined reliably according to the description.

21. ***Himatismus* (*Curimosphena*) *sublinearis* WALKER, 1871**
Himatismus sublinearis WALKER, 1871: 15.

Referenced localities. Wadi Gneh (PEYERIMHOFF 1907 t. WALKER 1871), Wadi Genneh (WALKER 1871).
General distribution. The Sinai (WALKER 1871).
Comments. After WALKER (1871), nobody seems to have examined these types. PEYERIMHOFF (1907) quotes the description, ANDRES (1931b) does not know the species and ALFIERI (1976) and KOCH (1935a) do not mention it. It appears to be *H. villosus* (HAAG-RUTENBERG, 1870).

22. ***Himatismus* (*Curimosphena*) *variegatus* (FABRICIUS, 1781)**

Referenced localities. El Arish, Magdaba (ALFIERI 1920).
General distribution. Senegal, Bogos (GEBIEN 1937).
Comments. The data on *Himatismus variegatus* for the Sinai are based on determination mistakes. According to ALFIERI (1976), it appears to be *H. villosus*.

23. ***Mesostena* (*Mesostenopa*) *nabathaea* (PEYERIMHOFF, 1907)**
Mesostenopa nabathaea PEYERIMHOFF, 1907: 31.

Referenced localities. The Sinai (KASZAB 1981 sub *M. nabathea*, SCHAWALLER 1982 t. KASZAB 1981, SCHUSTER 1928).
General distribution. Jordan (PEYERIMHOFF 1907).
Comments. The species was not described, as KASZAB (1981) reports, on the base of material collected from Ain El Hondra in the Sinai, but from Jordan (Petra). According to ANDRES (1931b) and ALFIERI (1976) reports from the Sinai are incorrect.

24. ***Mesostena* (*Mesostenopa*) *picea picea* (KRAATZ, 1865)**
Mesostenopa picea KRAATZ, 1865: 180.

Referenced localities. Wadi Isla (ALFIERI 1976), desert of Ga'a, Wadi Gergir, Wadi Budr (ANDRES 1920), Qantara (BOYD 1917 sub *Mesostenopa picea* KLUG <!>), the Sinai (ANDRES 1931b, CROTCH 1872, GRIDELLI 1938) garden of the Sinai Monastery (HEYDEN 1899), Monastery of St. Catherine (PEYERIMHOFF 1907 t. HEYDEN), Gulf of Aqaba, Wadi Feiran (PEYERIMHOFF 1907).
General distribution. The species colonizes northern Africa with seven subspecies (KOCH 1940c). According to KOCH (1940c) *M. picea sinaitica* (Schatzmayr & Koch, 1934), and not *M. picea picea*, occurs in the Sinai.

25. ***Microtelus asiaticus* SOLIER, 1838**
Microtelus asiaticus SOLIER, 1838a: 10.

Referenced localities. Mount Sinai (SOLIER 1838a, PEYERIMHOFF 1907 t. SOLIER).
General distribution. Peloponnes, Crete, Turkey (region around Izmir) (CARL 1992a).
Comments. Described from Mount Sinai. This species was not found there since then.

26. ***Oxycara aelaniticum* PEYERIMHOFF**

Referenced localities. Tor (BODENHEIMER & THEODOR 1929).
Comments. PEYERIMHOFF did not describe any *Oxycara aelaniticum*. BODENHEIMER & THEODOR (1929) probably meant *Zophosis aelaniticum* PEYERIMHOFF (= *Z. nigroaenea* DEYROLLE).

27. ***Oxycara* (*Oxycara*) *laevigatum* (REICHE & SAULCY, 1857)**
Melanchrus laevigatus REICHE & SAULCY, 1857: 192.

Referenced localities. Wadi Bel Maï (HEYDEN 1899).
General distribution. Israel, Jordan (KASZAB 1981), Syria (SMNS). According to KASZAB (1981) also in Oman.
Comments. The species recorded by HEYDEN is probably a species of the subgenus *Symphoxycara*. The examination of numerous *Oxycara* from Oman did not result in the discovery of any *O. laevigatum*. However, numerous specimens of a still undescribed species very similar to *O. laevigatum* could be found.

28. ***Oxycara* (*Symphoxycara*) *subcostatum* (GUÉRIN-MÉNEVILLE, 1861)**
Melancrus subcostatus GUÉRIN-MÉNEVILLE, 1861: 375.

Referenced localities. Wadi Isla, Wadi Um Mitla (ALFIERI 1976), southern part of the Sinai Peninsula (ANDRES 1931b).
General distribution. The distribution area of this species is limited to Yemen and some of the neighbouring islands. The specimens from the Sinai must belong to *Oxycara peyerimhoffi* LILLIG, 2001 (LILLIG 2001).

29. ***Pimelia* (*Pimelia*) *angulata nilotica* SÉNAC, 1884**
Pimelia nilotica SÉNAC, 1884: 27.
Pimelia nilotica var. *aegyptiaca* ANDRES, 1929a: 15.

Referenced localities. Wadi Gharandel, Wadi Bel Maï, Wadi El Arish (HEYDEN 1899), Wadi Gharandel, Wadi El Arish (PEYERIMHOFF 1907 t. HEYDEN).
General distribution. Upper Egypt, Sudan (KOCH 1940b).
Comments. The beetles found in the Sinai must be the nominal form.

30. ***Pimelia* (*Pimelia*) *bajula* KLUG, 1830**
Pimelia bajula KLUG, 1830: No 8.

Referenced localities. The Sinai (CROTCH 1872 sub *Pimelia bajula* OLIVIER <!>).
General distribution. Turkey ("Asia Minor"), Iraq, Syria, Israel (KOCH 1941b), Cyprus (GRIMM 1991), Jordan (KATBEH-BADER 1996), Iran (HJB, ML).
Comments. It remains uncertain whether the species reported by CROTCH is actually this one.

31. ***Pimelia* (*Pimelia*) *derasa derasa* KLUG, 1830**
Pimelia derasa KLUG, 1830: No 7.

Referenced localities. Wadi El Arish (ANDRES 1931b t. HEYDEN, PEYERIMHOFF 1907 t. HEYDEN), Wadi Bel Maï, Wadi El Arish (HEYDEN 1899).
General distribution. *P. derasa derasa*: littoral and sublittoral of Cyrenaica and Lower Egypt (KOCH 1941b).
P. derasa barcana KOCH, 1941: Gebel Barka (KOCH 1941b).
Comments. The presence in the Sinai seems questionable.

32. ***Pimelia* (*Pimelia*) *granulata tenuicornis* SOLIER, 1836**
Pimelia tenuicornis SOLIER, 1836a: 99.

Referenced localities. Wadi Isla (ALFIERI 1976 sub *Pimelia tenuicornis*).
General distribution. There are reports from Libya (Tripolitania), Egypt (GRIDELLI 1930) and the Sinai (ALFIERI 1976). According to KWIETON (1977a), it occurs only in Libya (Tripolitania).
Comments. KWIETON (1977a) lists *P. tenuicornis* SOLIER as one of the eight subspecies of *P. granulata* SOLIER. He knows the most eastern subspecies from Tripolitania. A presence in the Sinai seems unlikely.

33. ***Pimelia* (*Pimelia*) *sericea* OLIVIER, 1795**
Pimelia sericea OLIVIER, 1795 (59): 8.
Pimelia asperata KLUG, 1830: No 10.

Referenced localities. The Sinai (CROTCH 1872 sub *Pimelia bajula* OLIVIER <!>).
General distribution. Lower Egypt (ALFIERI 1976).
Comments. The occurrence of this species in the Sinai is questionable.

34. ***Pimelia* (*Pimelia*) *subquadrata subquadrata* STURM, 1826**
Pimelia subquadrata STURM,1826: 68.
Pimelia (*Pimelia*) *irrorata* SOLIER, 1836a: 99.

Referenced localities. Wadi Ain El Gederat, Wadi Isla (ALFIERI 1976), south of Ain Musa (ANDRES 1920), Wadi Chamileh (ANDRES 1920 t. HEYDEN), between Suez and Abu Selima (BODENHEIMER & THEODOR 1929 sub *P. irrorata*), Mohammedia (BOYD 1917 sub *P. irrorata*), the Sinai (GRIDELLI 1930), Wadi Chamile (HEYDEN 1899), Wadi Khamileh (PEYERIMHOFF 1907 t. HEYDEN).
General distribution. Palestine, the Sinai, Egypt (GRIDELLI 1930).
Comments. ANDRES (1931b) questions its presence in the Sinai.

35. ***Scaurus barbarus* SOLIER, 1838**
Scaurus barbarus SOLIER, 1838b: 165.

Referenced localities. Mohammedia (Boyd 1917).
General distribution. Moroccan-Algerian border up to Cyrenaica (PEYERIMHOFF 1948b).
Comments. Surely not present in the Sinai.

36. ***Scaurus tristis* OLIVIER, 1795**
Scaurus tristis OLIVIER, 1795: 4.

Referenced localities. Ain Musa (PEYERIMHOFF 1907 t. WALKER, WALKER 1871).
General distribution. Western Mediterranean zone (GRIMM 1985, PEYERIMHOFF 1948b).
Comments. Is not to be expected in the Sinai due to its west Mediterranean distribution.

37. ***Scleron sulcatum saharense* PEYERIMHOFF, 1931**
Scleron sulcatum saharense PEYERIMHOFF, 1931: 103.

Referenced localities. Wadi Isla (ALFIERI 1976, GRIDELLI 1953-54a t. KOCH 1935a, KOCH 1935a).
General distribution. *S. sulcatum sulcatum* BAUDI, 1876: 59: Arabia. – *S. s. scotti* GRIDELLI, 1953-54a: 58: Yemen. – *S. s. lomii* GRIDELLI, 1953-54a: 59: Arabia, tropical eastern Africa. – *S. s. saharense*: central Sahara, the Sinai (GRIDELLI 1953-54a).

Comments. The only specimen known from the Sinai is placed doubtfully by KOCH (1935a) under *S. sulcatum saharense*.

38. ***Tentyrina orbiculata orbiculata* (FABRICIUS, 1775)**
Pimelia orbiculata FABRICIUS 1775: 253.

Referenced localities. Wadi Isla, Wadi Mezara, Um Shusha (ALFIERI 1976), Wadi Amarah (PEYERIMHOFF 1907).
Comments. It appears to be *T. orbiculata subsulcata* (REICHE & SAULCY 1857). According to KOCH (1940c) *T. orbiculata orbiculata* occurs only in Lower Egypt.

39. ***Tentyrina longicollis* (LUCAS, 1855)**
Tentyria longicollis LUCAS, 1855: 291.

Referenced localities. The Sinai (PIERRE 1963).
General distribution. Morocco (KOCHER 1958), Algeria, Tunisia, Libya (KOCH 1940c).
Comments. According to PIERRE (1963), the distribution area of this species is the Sinai, Mesopotamia, Arabia, Tibesti and Fezzan. The species has been described from the Algerian Sahara (LUCAS 1855).

40. ***Zophosis* (*Septentriophosis*) *bicarinata quadricostata* SOLIER, 1834**
Zophosis quadricostata SOLIER, 1834: 628.

Referenced localities. South of Ain Musa up to Wadi Werdan, Wadi Hebran, desert of Ga'a, Wadi Chaschiba (ANDRES 1920 sub *Z. quadricostata*), Wadi Amara, Wadi Nasb (PEYERIMHOFF 1907 sub *Z. quadricostata* t. WALKER, PEYERIMHOFF 1933 sub *Z. quadricostata*, WALKER 1871 sub *Z. quadricostata*), Aïn el-Houdrâ, Wadi el Aïn (PEYERIMHOFF 1907 sub *Z. quadricostata*), the Sinai (KASZAB 1981).
General distribution. Along the Red Sea from Jemini near Aqaba (Jordan) up to Yemen and Eritrea (PENRITH 1982a).
Comments. *Z. bicarinata quadricostata* has been described on the basis of material collected in Egypt without more precise specification of the collection site. The published data suggest that the specimens from the Sinai are *Z. bicarinata* cf. *ghilianii*.

Species expected to be found on the Sinai Peninsula

(in alphabetical order)

1. ***Adesmia* (*Adesmia*) *montana parallela* MILLER, 1861**
Adesmia parallela MILLER, 1861: 171.

New locality. Surroundings of Suez, leg. L. Vaillant 1864 (2) (MNHNP).
Referenced localities. Pharaoh's Baths (= Hammam Fir'aoun), Wadi Gharandel (PEYERIMHOFF 1907 t. WALKER, WALKER 1871).
General distribution. Arabian desert of Egypt, northern Sudan (KOCH 1949).
Comments. A confirmation for the Sinai is still missing, even if the evidence from Suez (BM, MNHNP) makes the occurrence in the north-west of the Peninsula plausible.

2. ***Cheirodes* (*Pseudanemia*) *submetallica* (RAFFRAY, 1873)**
Anemia ? *submetallica* RAFFRAY, 1873: 377.

General distribution. North Africa, north of the Sahara, from Morocco to Egypt, Sudan, Jericho (ARDOIN 1971a).
Comments. On the basis of its distribution, an occurrence on the Sinai Peninsula is to be expected.

3. ***Cyptus aegyptiacus* (MULSANT & REY, 1859)**
Caedius aegyptiacus MULSANT & REY, 1859: 136.

General distribution. Egypt, Sudan, Niger (PIERRE 1972 sub *Neocaedius aegyptiacus*).
Comments. *C. aegyptiacus* was found in Port Said (PIERRE 1972). An occurrence on the eastern bank of the Suez Canal is possible.

4. ***Erodius quadrilineatus* KRAATZ, 1865**
Erodius quadrilineatus KRAATZ, 1865: 31.

General distribution. Egypt, Israel (the Negev) (LILLIG 1994).
Comments. This species is to be expected in the north of the Sinai.

5. ***Gonocephalum controversum* GRIDELLI, 1948**
Gonocephalum controversum GRIDELLI, 1948: 11.

General distribution. Syria, Egypt, Sudan, Erytrea, Chad (FERRER 2000b), Palestine (ESPAÑOL 1973), Uganda (GRIDELLI 1948).
Comments. The species could also be found in the Sinai.

6. ***Gonocephalum* (*Gonocephalum*) *costatum rugulosum* (KÜSTER, 1849)**
Opatrum rugulosum KÜSTER, 1849: 55.

General distribution. Turkey, Iran, Israel (FERRER 1995a).
Comments. *G. costatum rugulosum* was found in Eilat, Israel (FERRER 1995a). It could also occur on the Sinai Peninsula.

7. ***Mesomorphus longulus* (REICHE & SAULCY, 1857)**
Crypticus longulus REICHE & SAULCY, 1857: 263.

General distribution. Island of Kos, Cyprus, Turkey, Israel (FERRER 2000a).
Comments. In all Israel, also Ze'elim near the border to the Sinai (ML). To be expected in the north/east of the Sinai.

8. ***Micipsa batesi* HAAG-RUTENBERG, 1875**
Micipsa batesi HAAG-RUTENBERG, 1875b: 92.

General distribution. "Syria" (HAAG-RUTENBERG 1875b), the Negev (BYTINSKI-SALZ 1955a).
Comments. An occurrence in the northern part of the Sinai seems possible.

9. ***Microtelus lethierryi* REICHE, 1860**
Microtelus lethierryi REICHE, 1860: 334.
Microtelus torretassoi KOCH, 1934: 24.

General distribution. In the distribution zone of the species, CARL (1992a: 82) includes the northern part of the Sinai in his generalized map, although he does not name any collection site on the Peninsula. To be considered as sure are findings from Corsica, Algeria, Tunisia, the Egyptian Mediterranean coast and Israel (CARL 1992a), which makes an occurrence in the Sinai plausible. Besides, *M. lethierryi* has been reported from Italy (island of Lampedusia) (PEYERIMHOFF 1931), Sicily (GRIDELLI 1930), Morocco (KOCHER 1958, PEYERIMHOFF 1944) and the former Spanish Sahara (ESPAÑOL 1943).

10. ***Phaleria* (*Phaleria*) *acuminata syriaca* REITTER, 1916**
Phaleria syriaca REITTER, 1916b: 7.

General distribution. Mediterranean coast of Egypt, Israel and Lebanon (CANZONERI 1968).
Comments. The distribution gap on the Mediterranean coast of the Sinai is probably artificial.

11. ***Philhammus* (*Philhammus*) *aharonii* (REITTER, 1910)**
Psilachnopus aharonii REITTER, 1910: 197.

General distribution. Egypt, Jordan, Israel (KASZAB 1967), Sudan.
Comments. To be expected in the north of the Sinai.

12. ***Pimelia* (*Pimelia*) *derasoides* SCHUSTER, 1922**
Pimelia (*Pimelia*) *derasoides* SCHUSTER, 1922: 19.

General distribution. Jordan (KATBEH-BADER 1996), Jordan valley (KOCH 1941b), Israel (Negev, Ze'elim, ML).
Comments. The specimens published under *P. derasa* KLUG, 1830: No 7 belong probably to *P. derasoides*.

13. ***Pimelia* (*Pimelia*) *interpunctata* Klug, 1830**
Pimelia interpunctata KLUG, 1830: No 2.
Doderoella cyrenaica SCHUSTER, 1926: 134 **syn. n.**
Doderoella andreinii GRIDELLI, 1929a: 10 **syn. n.**

General distribution. Libya (Tripolitania) (KOCH 1937), Egypt (Alexandria) (ALFIERI 1976), Israel (Negev, Ze'elim) (ML).
Comments. One can assume that with further searching in the northern part of the Sinai the species could be found there. The examination of the type of *P. interpunctata cyrenaica* (GF), a specimen determined by KOCH as *P. interpunctata andreinii* from Tauorga, north-east of Tripolitania, IV.<19>38, G. Frey (GF) as well as of several specimens of Egyptian *P. interpunctata* (HJB, GF) shows that the forms listed as subspecies are only varieties. This was already indicated by KOCH (1937). Formerly, *P. interpunctata* was listed under the monotype genus *Doderoella*. KWIETON (1982) unifies this genus with *Pimelia* s. str.

14. ***Pseudoseriscius griseovestris* (FAIRMAIRE, 1879)**
Crypticus griseovestris FAIRMAIRE, 1879a: 192.

General distribution. Algeria, Tunisia, Cyrenaica, Egypt (ESPAÑOL 1949).
Comments. ESPAÑOL (1949) names two collection sites at the border of the Sinai, Ismailia and Port Said, so that an occurrence on the Peninsula appears possible.

15. ***Scleron armatum* (WALTL, 1835)**
Opatrum armatum WALTL, 1835: 72.

General distribution. Spain, Sicily, Algeria, Tunisia (GRIDELLI 1930), Libya (KOCH 1937), Egypt, Jordan (KATBEH-BADER 1996), Syria, Canary Isles (ML).
Comments. On the basis of its distribution, the species could also be found in the Sinai.

16. ***Scleron multistriatum* (FORSKÅL, 1775)**
Tenebrio multistriatus FORSKÅL, 1775: 77.

General distribution. Southern Russia, Greece, Crete, "Syria", Turkey, Israel, Lower Egypt, Cyrenaica, Sicily (GRIDELLI 1930).
Comments. GRIMM (1981) quotes different opinions regarding the distribution of this species. It is to be expected in the Sinai.

17. ***Tenebrio syriacus* ZOUFAL, 1892**
Tenebrio syriacus ZOUFAL, 1892: 284.

General distribution. Lower Egypt (ALFIERI 1976, KOCH 1935a), "Syria" (ZOUFAL 1892), also known from Spain.
Comments. The species could also be found in the Sinai.

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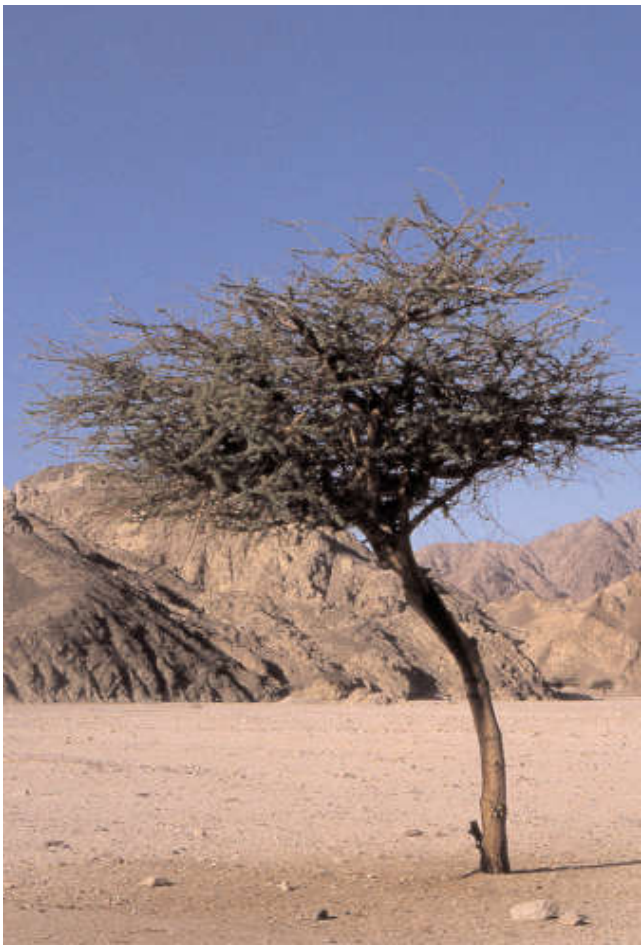
Taxonomic index

Black magmatic rock dominates the mountainous region of the Sinai Peninsula. Photograph: M. Lillig.

Soft limestone forms numerous hills and wadies. Photograph: M. Lillig.



A solitary Acacia tree at the bottom of a wadi.
Photograph: M. Lillig.

Date palms signal the presence of water.
Photograph: M. Lillig.

A narrow coastal plane along the Gulf of Aqaba with mountain range in the background. Photo: M. Lillig.

Zoology in the Middle East

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Zoology in the Middle East is a journal which publishes original papers on ecology, zoogeography, animal biology, biodiversity, faunistics, systematics, and morphology of the Middle East. Supplementary publications (supplementa) are produced at irregular intervals and are dedicated to monographs on certain topics, animal groups or regions.