

Orthoptera, Mantodea and Blattodea from the North Aegean Island of Thásos, Greece

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Abstract

Collections and records of Orthoptera and related orders were made during nine visits to Thásos between 1995 and 2016. Although there are records from the island since 1938, these visits have added a further 20 species to the Thassian fauna, bringing the total to 54 species, comprised of 46 Orthoptera and 8 Dictyoptera.

Zusammenfassung

Während insgesamt neun Aufenthalten zwischen 1995 und 2016 hat der Letztautor Heuschrecken und verwandte Insekten auf Thásos beobachtet, fotografiert und zum Teil gesammelt. Obwohl die ersten Nachweise von der Insel bis 1938 zurückreichen, konnten 20 Arten der Fauna von Thásos hinzugefügt werden. Der bekannte Artenbestand beläuft sich derzeit auf 54 Species, davon 46 Orthoptera und 8 Dictyoptera-Arten.

Introduction

The first report on the Orthoptera of Thásos was published by WERNER (1938), recording five bushcricket and eight grasshopper species. In October 1942 and June 1943 MARINOV (1959) undertook a survey of the Orthoptera and related Orders, recording 21 species (plus two earwigs). However, in the light of current taxonomic knowledge, some of Marinov's records are invalid and require confirmation. CHOPARD (1964) described the endemic cave cricket *Dolichopoda thasosensis* and KALTENBACH (1965) reported on the twelve species he recorded during day visits to Thásos in July 1962 and July 1964. WILLEMSE (1984), in his thorough review of Greek Orthoptera (*sensu stricto*), summarized in total 18 species, including two records from material in the Museum Amsterdam (*Decticus verrucivorus* and *Eupholidoptera smyrnensis*), not reported from Thásos earlier. GOROCHOV (1995) described the scaly cricket *Pseudomogoplistes byzantius* from specimens collected in several countries, including a male captured on the beach at Limenária, Thásos, in 1990, whilst CIPLAK et al. (2007) include a record of *E. smyrnensis* from Thásos. Obviously more material stored in collections could be included, as seen in unpublished data of *Eupholidoptera smyrnensis* from the Prague Museum. Public data sources such as www.gbif.org including www.naturgucker.de, <http://search.biocase.org/edit/> and www.observado.org have been checked but they do not contain any records from Thásos.

As part of the major series *Fauna Graeciae*, the Hellenic Zoological Society published a comprehensive treatment of the Orthoptera of Greece (WILLEMSE 1984, 1985a, 1985b) but for the Dictyoptera such a book is still missing. However, it is evident that the island supports several native cockroach species, as well as the usual cosmopolitan ones. Ectobiid cockroaches are not uncommon in grassland habitats from the lowlands up to the summit of Ipsarion (1204 m a.s.l.) and under flotsam on beach strandlines but the species involved have not been identified so far. BATTISTON et al. (2010) provide an identification guide with brief species accounts for the ten mantid species recorded from Greece; five out of this group have been reported from Thásos.

Several visits to Thásos between 1995 and 2016 by the last author (AF) are therefore a great step forward: we are now able to add twenty taxa to the island list. These are the strikingly-marked, diminutive cockroach *Phyllodromica marginata*, which is frequent amongst leaf litter in old olive groves; the termites *Kalotermes flavicollis* and *Reticulitermes aegaeus*; the mantids *Mantis religiosa* and *Geomantis larvoides*; the crickets *Acheta domestica*, *Gryllomorpha dalmatina*, *Trigonidium cicindeloides* and *Arachnocephalus vestitus*; the ant-cricket *Myrmecophilus* cf. *ochraceus*; the tree-cricket *Oecanthus pellucens*; the bushcrickets *Leptophyes punctatissima* and *Sepiana sepium*; the pygmy mole cricket *Xya pfaendleri*; the pygmy grasshopper *Paratettix meridionalis* and the grasshoppers *Acrotylus insubricus*, *Acrotylus longipes*, *Chorthippus bornhalmi*, *Oedipoda germanica* and *Omocestus rufipes*. Species confirmations are needed for the undetermined *Gryllotalpa* and *Conocephalus* nymphs.

Collecting Sites

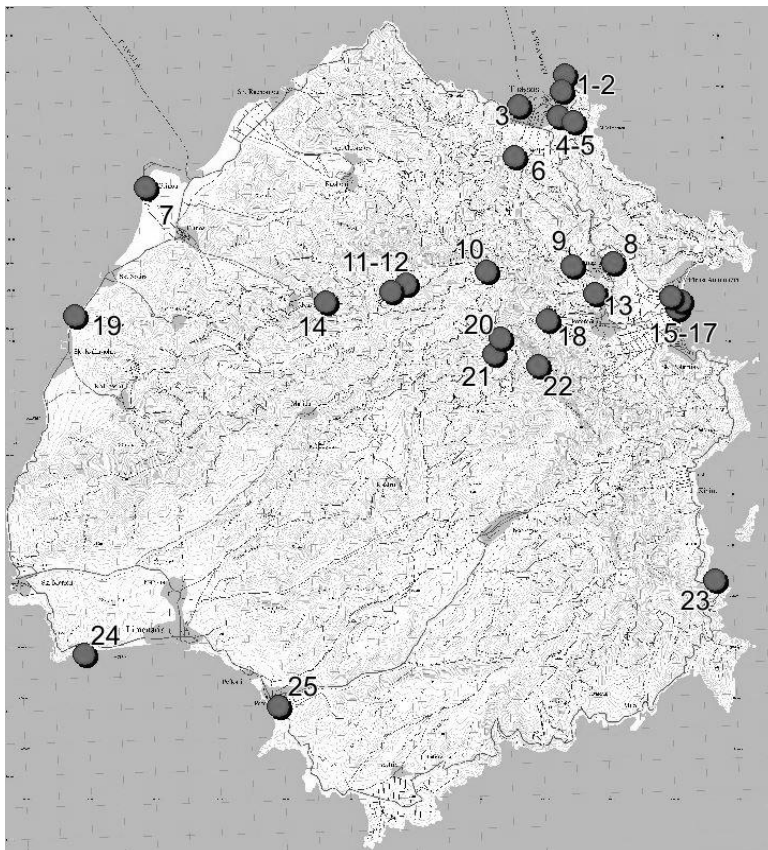


Figure 1:
Map of Thásos with localities of the recorded species, the numbers follow the direction north to south.

Table 1: Collecting sites in Thásos with locality name, geographic coordinates, altitude, and habitat type, sorted from North to South.

No.	Locality name	Coordinates	m asl	habitat
1	Thásos Head	N 40°47'08.68" E 24°42'56.07"	4	Coastal phrygana
2	Limenas Agora	N 40°46'48.47" E 24°42'47.39"	6	Damp grassland
3	Limenas West Bay	N 40°46'33.91" E 24°41'54.58"	2	Sandy beach
4	Makriammos Junction	N 40°46'26.59" E 24°42'47.36"	14	Damp grassland
5	Makriammos	N 40°46'21.48" E 24°43'11.88"	66	Pine forest
6	Thásos valley	N 40°45'52.29" E 24°41'51.69"	75	Olive grove
7	Cap Prinos	N 40°45'10.73" E 24°33'44.22"	2	Coastal grassland
8	Cave Drakotrypa	N 40°43'54.94" E 24°43'55.47"	270	Cave
9	Panagia Valley	N 40°43'54.83" E 24°43'05.14"	365	Woodland
10	Profitis Ilias	N 40°43'52.85" E 24°41'01.28"	921	Montane grassland
11	Toumba Junction	N 40°43'31.10" E 24°39'27.60"	950	Upland flushes
12	Toumba heath	N 40°43'26.54" E 24°39'08.32"	856	Montane heath
13	Agios Nikolaos chapel	N 40°43'26.11" E 24°43'35.69"	295	building
14	Megalo Kazaviti	N 40°43'22.04" E 24°37'34.03"	340	Olive grove
15	Skala Potamias 1	N 40°43'24.19" E 24°45'25.25"	5	Sand dunes
16	Skala Potamias 2	N 40°43'21.46" E 24°45'16.91"	6	Sandy riverbank
17	Skala Potamias 3	N 40°43'12.50" E 24°45'20.46"	4	Damp grassland
18	Potamia Valley	N 40°43'05.45" E 24°42'52.54"	275	Woodland
19	Skala Kallirachis	N 40°43'02.06" E 24°32'13.99"	1	Shingle beach
20	Spitoudia	N 40°42'35.19" E 24°41'46.30"	950	Montane grassland
21	Mesonisi	N 40°42'24.23" E 24°41'22.47"	846	Limestone pavement
22	Ipsarion	N 40°42'13.84" E 24°42'14.46"	1157	Montane grassland
23	Paradise Beach	N 40°38'44.94" E 24°45'59.92"	12	Sandy grassland
24	Trypiti	N 40°37'25.71" E 24°32'31.24"	13	Sandy grassland
25	Dipotamos	N 40°36'25.92" E 24°36'39.03"	5	Sandy riverbank

Records including taxonomic remarks

The last author (AF) has observed an extensive number of individuals on Thásos and unless otherwise indicated all records below are by AF. Some pictures were identified previously by Robert Vlk from Czechia, further evaluated by AL and GL. Some individuals were collected and identified by AF, whilst a subsample of 140 Orthoptera individuals stored for further determination in 70 percent alcohol were generously donated to the private collection of the first author (Collectio AW Lehmann = CL). Specimens were determined by the first author using HARZ (1969, 1975) and WILLEMSE (1985a). Further evaluations were made for Tridactylidae (GÜNTHER 1990), the genus *Poecilimon* (WILLEMSE & HELLER 1992) and *Chorthippus* (WILLEMSE et al. 2009). Material was compared with collections made in Greece and elsewhere in the Collectio Lehmann.

Abbreviations of collections:

CL = Collectio Arne W. Lehmann, Stahnsdorf

NMW = Naturhistorisches Museum Wien

NBCL = Naturalis Biodiversity Center, Leiden, material integrated from the former Instituut voor Taxonomische Zoölogie, Amsterdam (ITZ).

ZMB = Zoologisches Museum Berlin

ORTHOPTERA

Rhaphidophoridae

***Dolichopoda (Dolichopoda) thasosensis* CHOPARD, 1964**

References: CHOPARD (1964), BOUDOU-SALTET (1980, 1982), ALLEGRUCCI et al. (2011)

Records: Panaghia Drakotripa - cave 15/07/1963 1M 1F S. Daan & V. van Laar leg. collectio NBCL (CHOPARD 1964, Di RUSSO et al. 2014), 04/1969 (BOUDOU-SALTET 1980, 1982), (ALLEGRUCCI et al. 2011), 05/2005 2 individuals (Richard Trafford pers. comm., see picture), 14/08/2014 1 individual (L. Enking <https://www.flickr.com/photos/33037982@N04/14847750749>); Agios Nikolaos between Potamia and Panagia - chapel in woodland 05/2008, several crickets behind stacked furniture (Lance Chilton pers. comm., see picture).

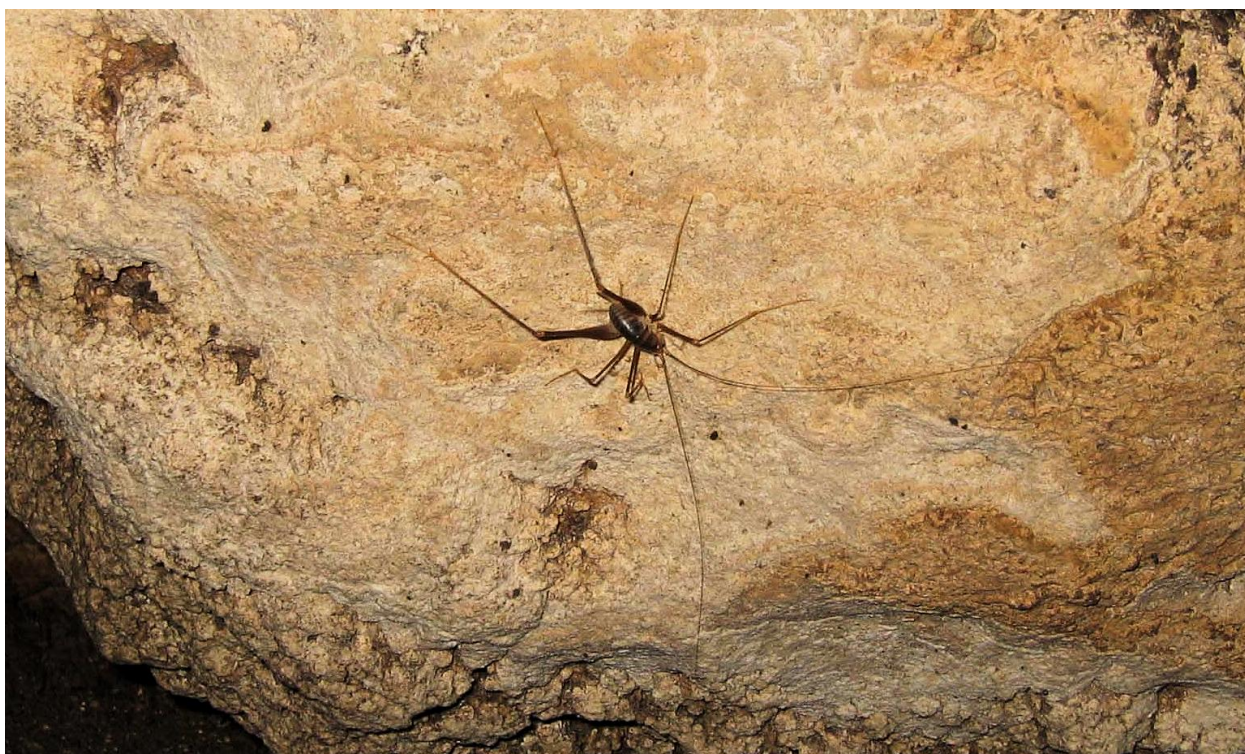


Figure 2: Picture of an individual of *Dolichopoda (Dolichopoda) thasosensis* CHOPARD, 1964. At the Panaghia Drakotripa cave (type locality). 2005, © R. Trafford.

The 'cave cricket' *Dolichopoda thasosensis* was described in 1964 from specimens found in the cave Drakotrypa at Panaghia (CHOPARD 1964). This was thought, until recently, to be the sole locality for this endemic species, mentioned as such in several publications (cited in HARZ 1969, ALEXIOU et al. 2013, Di RUSSO et al. 2014). The life cycle has been described by BOUDOU-SALTET (1980, 1982) and the phylogenetic position analysed by molecular genetic data by ALLEGRUCCI et al. (2011).

Richard Trafford visited Drakotrypa in May 2005 and saw two of the crickets on the wall of the cave (Fig. 2). In May 2008 Lance Chilton discovered several *Dolichopoda* crickets behind stacked furniture inside the Agios Nikolaos chapel in woodland between Potamia and Panagia. The remote possibility exists that these individuals represent a different species but it seems more likely that Agios Niko-

laos is a second locality for *D. thasosensis*, two kilometres south-west of Drakotrypa, and this discovery raises interesting questions about the ecology of this 'cave cricket'.

Phaneropteridae

***Acrometopa [servillea] servillea* (BRULLÉ, 1832)**

References: KALTENBACH (1965), WILLEMSE (1979)

Records: Liménos 15/07/1962 1F Collectio NMW (KALTENBACH 1965, WILLEMSE 1979); Prinos 21/07/1963 2 MM S. Daan & V. van Laar leg. Collectio NBCL (WILLEMSE 1979).

***Tylopsis lilifolia* (FABRICIUS, 1793)**

References: WERNER (1938), MARINOV (1959), KALTENBACH (1965)

Records: Thásos 14/07/1938 2 FF (WERNER 1938); Limenas 23/10/1942 (MARINOV 1959); Liménos 15/07/1962 1M, 2FF (KALTENBACH 1965); Skala Potamias - sandy pasture 07/08/2013 (image det. Robert Vlk).

***Leptophyes punctatissima* (Bosc, 1792)**

Records: Makriammos - pine forest 28/05/2003; Cap Prinos – sandy grassland 16/06/2005; Mesonisi – montane limestone scree 15/06/2007; Toumba Junction – upland grassland 16/05/2016.

Taxonomic note: The present record is based on nymphal individuals, which probably belong to this species. However, ongoing studies into the *Leptophyes punctatissima* complex in Greece suggest that the identity of this taxon on Thásos is uncertain and further investigations are required to confirm the presence of this species on the island. Song recordings and adult male material to study the stridulatory file needs to be collected in the future.

***Poecilimon brunneri* (FRIVALDSKY, 1867)**

Reference: WERNER (1938)

Records: Thásos 13/07/1938 M&F (WERNER 1938); Spitoudia – montane grassland 15/06/2007 2 MM, 1F (det. AL).

Tettigoniidae

***Tettigonia viridissima* LINNAEUS, 1758**

Reference: WERNER (1938)

Records: Thásos 14/07/1938 1F (WERNER 1938); Potamia Valley – upland scrub 18/6/2005 F-N₇ (image det. Robert Vlk and AL).

***Decticus verrucivorus* (LINNAEUS, 1758)**

Reference: WILLEMSE (1984)

Record: Limenos, Collectio NBCL (WILLEMSE 1984).

***Platycleis intermedia* (SERVILLE, 1839)**

Reference: WERNER (1938), MARINOV (1959)

Record: Thásos 14/07/1938 – Phrygana-Region (WERNER 1938), 25/10/1942 (MARINOV 1959).

***Sepiana sepium* (YERSIN, 1854)**

Record: Skala Potamias – sand dunes 21/06/2005 (1F- N₇, det. AL).

***Platycleis (Incertana) incerta* BRUNNER VON WATTENWYL, 1882**

References: WERNER (1938), KALTENBACH (1965)

Records: Thásos 14/07/1938 1M, 1F-N – auf einer Wiese (WERNER 1938); Liménos 15/07/1962 1M, 2FF (KALTENBACH 1965).

***Eupholidoptera smyrnensis* (BRUNNER VON WATTENWYL, 1882)**

References: WILLEMSE (1980), CIPLAK et al. (2007)

Records: Panayia 17/07/1963 1M 1F S. Daan & V. van Laar leg. collectio NBCL (WILLEMSE 1980); Kinoira sea level VII/1988 2MM, 2FF G. Theophilidis leg. (CIPLAK et al. 2007); Thásos 8MM, 5FF (Museum Prague 2016); Thásos May 2001, 1M-N₄ (I. Beddison, picture, det. AL).

***Bucephaloptera bucephala* (BRUNNER VON WATTENWYL, 1882)**

Reference: KALTENBACH (1965)

Records: Liménos 15/07/1962 1M, 3FF (KALTENBACH 1965).

***Rhacocleis germanica* HERRICH-SCHÄFER, 1840**

Reference: KALTENBACH (1965)

Records: Liménos 15/07/1962 1F-N (KALTENBACH 1965).

Conocephalus spec.

Records: Cap Prinos – wet grassland 16/06/2005 nymphs frequent.

Taxonomic note: There are several species of this genus known from Greece, of which *C. fuscus* (FABRICIUS, 1793) would seem to be the most likely species on Thásos.

Gryllotalpoidea

Gryllotalpidae

***Gryllotalpa* cf. *stepposa* ZHANTIEV, 1991**

Records: Limenas West Bay – sandy beach 13/09/1993 nymph; Limenas Agora - marshy grassland 17/05/1997 1 adult; Skala Potamias – abundant in burrows on the newly-dredged banks of a sandy river 25/05/1999.

Taxonomic note: Two *Gryllotalpa* species occur in Greece, only separated by chromosome number. On the adjacent mainland of Thraki, individuals were identified to have 14 chromosomes, and were attributed to *G. stepposa* ZHANTIEV, 1991 (WILLEMSE & WILLEMSE 2008). However, only a fraction of individuals are chromosome stained and morphological characters for distinguishing *G. stepposa* from *G. kimbasi* proved to be unreliable (IORGU et al. 2015). Further studies are required to clarify which taxon occurs on Thásos.

Myrmecophilidae

***Myrmecophilus* (*Myrmecophilus*) cf. *myrmecophilus* (SAVI, 1819)**

Records: Profitis Ilias – montane grassland in nest of the ant *Lasius alienus* (Foerster) 01/10/2001 1 adult male (det. Thomas Stalling); Spitoudia – montane grassland, in ants' nest 16/06/2007 two nymph (undeterminable, vide Thomas Stalling).

Taxonomic note: Three species from *Myrmecophilus* are known from Greece so far (STALLING 2010, STALLING & BIRRER 2013). As the species are hard to distinguish, the three specimens collected from Thásos were sent to Thomas Stalling for examination. The two specimens from Spitoudia turned out to be nymphs, undeterminable at the moment. The individual from Profitis Ilias is an adult male. Thomas Stalling wrote: 'It belongs 'either to *Myrmecophilus myrmecophilus* or (more probable) to a so far undescribed species. I have got specimens from the northern Greece mainland that look similar and belong to a still undescribed species'.

Grylloidea

Mogoplistidae

***Arachnocephalus vestitus* COSTA, 1855**

Records: Thásos valley – olive groves 17/09/1995; Dipotamos River – sandy riverbed 28/09/2001; Skala Potamias – damp pasture 29/09/2001; Paradise Beach – coastal cliff 30/09/2001.

***Pseudomogoplistes byzantius* GOROCHOV, 1995**

Reference: GOROCHOV (1995)

Record: Limenaria 26-31/08/1990 1M leg. Mey, *Mogoplistes squamiger* det. K.K. Günther, Paratypus *Pseudomogoplistes byzantinus* Gorochov, sp. n. in Collectio ZMB (GOROCHOV 1995), compare pictures in Orthoptera Species File (2016).

GOROCHOV (1995) described the Beach-cricket *Pseudomogoplistes byzantius* from specimens collected in several countries with the Crimea as locus typicus, including a male paratype captured on the beach at Limenaria, Thásos.

Trigoniidae

***Trigonidium cicindeloides* RAMBUR, [1839]**

Record: Cap Prinós – reedbed/damp pasture 15/09/1995.

Gryllidae

***Oecanthus pellucens* (SCOPOLI, 1763)**

Record: Limenas – olive grove, 13/09/1993.

On late summer evenings around the outskirts of Limenas a chorus of calls from *Oecanthus pellucens* is emanating from hedgerows.

***Gryllomorpha dalmatina* (OCSKAY, 1832)**

Records: Panagia – woodland edge, under stones, 05/2002 (L. Chilton, pers. comm.); Potamia Valley – woodland glade, under stones, 05/2002 (L. Chilton, pers. comm.), 18/06/2005.



Figure 3: A well camouflaged male of *Gryllomorpha dalmatina* (OCSKAY, 1832) from Thásos woodland.

***Acheta domestica* (LINNAEUS, 1758)**

Records: House crickets *Acheta domestica* appear to be widely distributed, at least in Limenas, given the chorus that emanates from many balconies in the old part of town at night during the summer. No specimens have been observed directly, but their calls were heard frequently in 05/1993 and 05/1997.

***Gryllus campestris* LINNAEUS, 1758**

Reference: MARINOV (1959)

Records: Rahoni 27/10/1942 (MARINOV 1959); Makriammos Junction - disturbed earth at edge of pasture 25/05/1999 & 18/06/2005, – damp pasture 11/06/2007 calling males.

Taxonomic note: A single *Gryllus* was seen under stones on the coastal grassland at Cap Prinos, 15/09/1995 and *Gryllus* burrows were common in damp sandy hollows in the dunes at Skala Potamias on 12/06/2007.

***Melanogryllus desertus* (PALLAS, 1771)**

Reference: MARINOV (1959)

Records: Rahoni 24/10/1942 (MARINOV 1959); Kazaviti 24/09/1942 (MARINOV 1959).

Acridoidea

Tridactylidae

***Xya pfaendleri* (HARZ, 1970)**

Records: Dipotamos river – sandy riverbed 28/09/2001 & 13/06/2007 1 nymph (det. AL); Toumba Junction – montane damp pasture 16/05/2016.

Tetrigidae

***Paratettix meridionalis* (RAMBUR, [1838])**

Records: Dipotamos – sand bar 26/09/2001 & 13/06/2007 21MM, 5MM-N, 7FF, 4FF-N (det. AL); Skala Potamias – sandy pasture 26/05/2003 & 12/06/2007 2MM-N, 3FF-N (det. AL) & 13/06/2007 2FF-N (det. AL); Makriammos Junction – damp grassland 11/06/2007 1M, 1M-N, 1F-N (det. AL).

Material studied: 47 adults and nymphs from three localities, all individuals were f. *macroptera*.

Taxonomic notes: MARINOV (1959) reported *Tetrix subulata* on 23/10/1942 between Limenas and Rahoni and from Limenas on 26/04/1943. The occurrence of this species seems to be restricted in Greece to mountains and might instead refer to the widespread Mediterranean lowland species *P. meridionalis*. Tetrigidae records previous to the 1950' needs to be checked and corrected for large parts of Europe, as misidentifications are common. We compared the collected specimens with series covering the whole known distribution from the Canary Islands throughout the Mediterranean towards Jordan in the East. The material from Thásos clearly falls within the morphological range of this species.

***Tetrix depressa* BRISOUT DE BARNEVILLE, [1848]**

Reference: MARINOV (1959)

Records: Between Limenas & Rahoni 26/10/1942 (MARINOV 1959); Dipotamos – sand bar 26/09/2001; Thásos West Valley – plane woodland 29/09/2001; Makriammos Junction – disturbed earth in ploughed pasture 18/06/2005 (det. AL), 11/06/2007 damp pasture 2MM f. brachyptera, 2MM-N, 5FF-N (det. AL); Megalo Kazaviti – old olive groves 17/06/2005 (det. AL); Skala Potamias – dune slack 12/06/2007 2MM f. brachyptera, 10MM-N, 10FF-N (det. AL), – sand dunes 13/06/2007 3MM-N, 11FF-N (det. AL); Toumba Junction – montane damp pasture 13/06/2007 3MM-N, 1F f. brachyptera, 2FF-N (det. AL); Toumba Junction – montane damp pasture 16/05/2016.

Material studied: 51 adults and nymphs from 4 localities, all adult individuals were f. brachyptera.

ACRIDIDAE

***Calliptamus italicus* (LINNAEUS, 1758)**

Reference: KALTENBACH (1965)

Records: Liménos 15/07/1962 1M, 2FF (KALTENBACH 1965).

***Calliptamus barbarus* (COSTA, 1836)**

References: WERNER (1938), MARINOV (1959)

Records: Thásos 13/07/1938 (WERNER 1938); Thásos 25/10/1942 (MARINOV 1959); Skala Potamias – sand dunes 13/06/2007 1M-N₄, 1M-N₃ (det. AL); Toumba heath – sandy upland heath 16/06/2007 1M (det. AL).

***Pezotettix giornae* ROSSI, 1794**

References: WERNER (1938), KALTENBACH (1965)

Records: Thásos 15/07/1938 (WERNER 1938); Liménos 15/07/1962 1F (KALTENBACH 1965).

***Anacridium aegyptium* (LINNAEUS, 1764)**

References: WERNER (1938), MARINOV (1959), KALTENBACH (1965)

Records: Thásos 13/07/1938 Nymph (WERNER 1938); Thásos 17/10/1942 (MARINOV 1959); Liménos 15/07/1962 1M-N (KALTENBACH 1965); Profitis Ilias – montane grassland 01/10/2001; Trypiti – olive grove 13/06/2007; Skala Potamias – sand dunes 17/05/2016 (image det. AL).

***Locusta migratoria* LINNAEUS, 1758**

Reference: MARINOV (1959)

Records: Rahoni 20/11/1942 (MARINOV 1959).

***Oedalus decorus* (GERMAR, 1826)**

References: WERNER (1938), KALTENBACH (1965)

Records: Thásos 13/07/1938 extremely common (WERNER 1938); Liménos 15/07/1962 common 3MM, 4FF leg. (KALTENBACH 1965).

***Oedipoda caerulescens* (LINNAEUS, 1758)**

References: WERNER (1938), MARINOV (1959), KALTENBACH (1965)

Records: Thásos 13/07/1938 (WERNER 1938); Rahoni 26/10/1942 (MARINOV 1959); Potamija 19/07/1964 1F (KALTENBACH 1965); Profitis Ilias – montane limestone grassland 01/10/2001; Ipsarion – montane grassland 02/10/2001 & 06/08/2013.

***Oedipoda germanica* (LATREILLE, [1804])**

Record: Thásos Head – coastal phrygana 27/09/2001 (picture verified AL).

***Oedipoda miniata* (PALLAS, 1771)**

Reference: MARINOV (1959)

Records: Rahoni 26/10/1942 (MARINOV 1959); Skala Potamias – sand dunes 30/09/2001 1M (det. AL), 18/06/2005, 21/06/2005, 13/06/2007 1F (det. AL), 17/05/2016; Skala Kallirachis shingle beach 02/10/2001 & 13/06/2007 1M (det. AL).



Figure 4: Picture of *Oedipoda miniata* PALLAS, 1771 male. It is characterized by its distinctive pronotum, with a sharp indentation at the sulcus, separating it clearly from *O. germanica*, another species having red hindwings.

***Acrotylus longipes* (CHARPENTIER, 1845)**

Records: Paradise Beach - sand dunes 30/09/2001; Cap Prinos – sandy coastal grassland 11/06/2007 (image det. Robert Vlč, see Fig. 5) & 05/08/2013.



Figure 5: This *Acrotylus longipes* (CHARPENTIER, 1845) male was found at Cap Prinos.

***Acrotylus insubricus* (SCOPOLI, 1786)**

Records: Skala Potamias – sand dunes 30/09/2001 1F (det. AL); Cap Prinos – sandy coastal grassland 16/06/2007 1M (det. AL); Skala Prinos – sandy coastal grassland 14/05/2016 (image det. AL).

***Acrotylus patruelis* (HERRICH-SCHÄFFER, 1838)**

Reference: WERNER (1938), MARINOV (1959)

Records: Thásos 14/07/1938 (WERNER 1938); Rahoni 26/10/1942 (MARINOV 1959); Skala Kallirachis shingle beach 13/06/2007 1M (det. AL); Skala Potamias – sand dunes 13/06/2007 1M (det. AL); Trypiti – olive grove, sandy coastal pasture 13/06/2007 1M (det. AL); Cap Prinos – sandy coastal grassland 16/06/2007 1F (det. AL).

***Aiolopus thalassinus* (FABRICIUS, 1781)**

References: MARINOV (1959)

Records: Rahoni 28/10/1942 (MARINOV 1959); Skala Potamias – sand dunes 30/09/2001; Cap Prinos – sandy coastal grassland 16/06/2007 4MM, 2FF (det. AL).

***Aiolopus strepens* (LATREILLE, 1804)**

Reference: KALTENBACH (1965)

Records: Liménos 15/07/1962 3MM, 1F (KALTENBACH 1965).

***Tropidopola graeca* UVAROV, 1926**

Reference: MARINOV (1959)

Records: Kazaviti 28/11/1942 (MARINOV 1959).

***Acrida ungarica* (HERBST, 1786)**

References: MARINOV (1959)

Records: Kazaviti 28/10/1942 (MARINOV 1959); Skala Potamias – sand dunes 30/09/2001 & damp pasture 07/08/2013; Skala Kallirachis shingle beach 13/06/2007; Cap Prinos – damp pasture 05/08/2013.

***Doclostaurus maroccanus* (THUNBERG, 1815)**

Reference: WERNER (1938), MARINOV (1959)

Records: Thásos 14/07/1938 (WERNER 1938); Limenaria 09/06/1943 (MARINOV 1959); Makriammos Junction – damp pasture 11/06/2007 1M (det. AL); Profitis Ilias – montane grassland 16/06/2007 1M (det. AL); Spitoudia – montane grassland 15/06/2007 2MM (det. AL).

***Omocestus rufipes* (ZETTERSTEDT, 1821)**

Records: Potamia Valley – rough pasture 12/06/2007 1M (det. AL); Mesonisi – montane limestone scree 15/06/2007 1M (det. AL).

***Chorthippus bornhalmi* HARZ, 1971**

Reference: MARINOV (1959) as *Ch. brunneus*

Records: Kazaviti 28/10/1942 (MARINOV 1959); Cap Prinos – sandy coastal grassland 11/06/2007 1F (det. AL); Ipsarion - montane grassland 02/10/2001; Mesonisi – montane limestone scree 15/06/2007 3MM, 1F (det. AL); Profitis Ilias – montane grassland 01/10/2001 & 16/06/2007 3MM, 1F (det. AL); Toumba heath – sandy upland heath 16/06/2007 2MM, 2FF (det. AL).

Taxonomic note: MARINOV (1959) reported *Chorthippus brunneus* Thunb. Taxonomic research has shown the *brunneus*-species group to consist of several taxa. *Chorthippus bornhalmi* is a widespread balcanian-anatolian species with a very distinct song (WILLEMSE et al. 2009), ecologically replacing *Ch. brunneus* and being quite common in Greece (ANTONATOS et al. 2014, LEHMANN et al. 2014). Therefore we transfer the old record of MARINOV (1959) to *C. bornhalmi*.

***Chorthippus parallelus* (ZETTERSTEDT, 1821)**

Reference: WERNER (1938)

Record: Thásos 14/07/1938 (WERNER 1938).

MANTODEA

***Mantis religiosa* (LINNAEUS, 1758)**

Records: Limenas – olive groves 12 & 16/09/1993

***Empusa fasciata* BRULLE, 1832**

Reference: MARINOV (1959)

Records: Kazaviti 26/10/1942 (MARINOV 1959); Malūk Thásos 28/10/1942 (MARINOV 1959); Thásos Valley – olive groves 17/09/1995; Skala Kallirachis – sandy beach 27/05/2003; Cap Prinos – sandy grassland 16/06/2005.

***Ameles heldreichi* BRUNNER VON WATTENWYL, 1882**

Reference: MARINOV (1959), BATTISTON & FONTANA (2005)

Records: between Limenas & Rahoni 26/10/1942 (MARINOV 1959); Thásos 02/08/1983 1M leg. Susini, Collectio Paolo Fontana (BATTISTON & FONTANA 2005); Profitis Ilias – montane grassland 02/10/2001.

***Geomantis larvoides* PANTEL, 1896**

Records: Skala Potamias– sand dunes 18 & 21/06/2005 and 13/06/2007.



Figure 6: The nymph like appearance stimulated Pantel to give this mantid the name *Geomantis larvoides* PANTEL, 1896. It was found on Thásos in sand dunes at Skala Potamias.

***Iris oratoria* (LINNAEUS, 1758)**

Reference: MARINOV (1959)

Records: Between Limenas & Rahoni 26/10/1942 (MARINOV 1959).

BLATTODEA

Ectobiidae

***Phyllodromica marginata* (SCHREBER, 1781)**

Records: Limenas – olive groves 07/09/1993 & 12/05/1997; Mesonisi – montane limestone scree 19/06/2005; Panagia Valley – woodland leaf litter 07/08/2013.

Kalotermitidae

***Kalotermes flavicollis* (FABRICIUS 1793)**

Records: Thásos West Bay – ancient plane tree 14/09/1995, 1M.; Skala Potamias – sand dunes, on dead plane tree 29/09/2001, 1M.

Rhinotermitidae

***Reticulitermes aegeus* GHESINI & MARINI 2015**

Records: Cap Prinos – beach strandline 15/09/1995, colony in driftwood; Panagia Valley – woodland 16/9/95, colony in log; Makriammos – pine forest 18/09/1995, colony in dead branch; Thásos Valley – olive groves 19/09/1995, colony under stone; Thásos West Bay – olive groves 12/05/1997, colony under stone; Profitis Ilias – montane limestone pavement 21/05/1999 & 01/10/2001, colony; Mesonisi – limestone pavement 02/10/2001, 27/05/2003, 19/06/2005 & 15/06/2007, colony in log; Potamia Valley – woodland 18/06/2005; colony under stones.

Taxonomic note: The eastern Mediterranean *Reticulitermes* species are reliably identifiable only by DNA analysis but all confirmed records from the Thracian region are of *R. aegeus* (GHESINI & MARINI 2015) and hence it is assumed that this is the species which is widespread on Thásos.

Discussion

In his original review of the Orthoptera of Greece, WILLEMSE (1984) listed 313 taxa occurring in the country, but he listed only twenty species from Thásos. Willemse (loc. cit.) records 15 species from the nearby Thracian island of Samothraki and 25 species were noted on their near neighbour Limnos. Along the Turkish coast, from Limnos to Chios (including Lesbos), the six North-East Aegean islands of Greece had 51 taxa listed. The present paper provides records of 46 Orthopteran species from Thásos (plus five Mantodea and three Blattodea species), demonstrating that the Aegean islands have been under-recorded in the past and are still incompletely known.

In biogeographical terms, the most restricted species on Thásos is the endemic cave cricket *Dolichopoda thasosensis*, which is currently known from just two localities. About half of the fauna (26 species) have a wide distribution that encom-

passes Europe, North Africa, the Middle East and into Asia, and a further twelve species have a circum-Mediterranean distribution. Of the remainder, three species (*Sepiana sepium*, *Acrida ungarica* and *Calliptamus italicus*) occur in southern Europe with their range extending further east into Asia, and twelve species (*Phyllodromica marginata*, *Reticulitermes aegeus*, *Empusa fasciata*, *Ameles heldreichi*, *Poecilimon brunneri*, *Platycleis incerta*, *Eupholidoptera smyrnensis*, *Bucephaloptera bucephala*, *Pseudomogoplistes byzantius*, *Acrometopa servillea*, *Tropidopola graeca* and *Chorthippus bornhalmi*) are restricted in Europe to the north-east Mediterranean but extend further east into Turkey and beyond.

Collecting in recent years has almost doubled the known Orthopteran fauna of Thásos, but it was only during one week in June 2007 that effort was specifically targeted towards the Orthoptera, as the Coleoptera were the main focus of studies during other visits. Inevitably these surveys have managed to explore a limited area of the island and it can be expected that more species remain to be discovered. The few wetland habitats on the island, notably at Cap Prinos, Skala Potamias and the valley fen on the outskirts of Limenas, are probably the most likely areas to support additional species, but the sandy habitats of Cap Prinos and Skala Potamias (both of which are decreasing in area due to tourist developments) would also repay further survey. Much of the island is covered by pine forest, although in the uplands extensive areas of good quality montane grassland can be found, worth to be investigated.

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ORTHOPTERA & DICTYOPTERA CHECKLIST

DICTYOPTERA: BLATTODEA

Ectobiidae – Kalotermitidae - Rhinotermitidae

Phyllodromica marginata (SCHREBER, 1781)

Kalotermes flavicollis (FABRICIUS, 1793)

Reticulitermes aegeus GHESINI & MARINI 2015

DICTYOPTERA: MANTODEA

Mantis religiosa (LINNAEUS, 1758) - Praying Mantis

Empusa fasciata BRULLE, 1832

Ameles heldreichi BRUNNER VON WATTENWYL, 1882

Geomantis larvoides PANTEL, 1896

Iris oratoria (LINNAEUS, 1758) - Mediterranean Mantis

ORTHOPTERA: RHAPHIDOPHORIDAE

Dolichopoda (Dolichopoda) thasosensis CHOPARD, 1964 – Thassos Cave-cricket

ORTHOPTERA: PHANEROPTERIDAE

Acrometopa [servillea] servillea (BRULLÉ, 1832) - Serville's Long-legged Bush-cricket

Tylopsis lilifolia (FABRICIUS, 1793) - White Sickie Bush-cricket

Leptophyes punctatissima (BOSC, 1792) - Common Speckled Bush-cricket

Poecilimon brunneri (FRIVALDSKY, 1867) - Brunner's Bright Bush-cricket

ORTHOPTERA: TETTIGONIIDAE

Conocephalus spec. – Cone-head

Tettigonia viridissima LINNAEUS, 1758 - Great Green Bush-cricket

Decticus verrucivorus (LINNAEUS, 1758) - Common Wart-biter

Platycleis intermedia (SERVILLE, 1839) - Intermediate Grey Bush-cricket

Sepiana sepium (YERSIN, 1854) - Red-faced Bush-cricket

Platycleis (Incertana) incerta BRUNNER VON WATTENWYL, 1882 - Uncertain Decorated Bush-cricket

Eupholidoptera smyrnensis (BRUNNER VON WATTENWYL, 1882) - Smyrna Marbled Bush-cricket

Bucephaloptera bucephala (BRUNNER VON WATTENWYL, 1882) - Red-headed Bush-cricket

Rhacocleis germanica HERRICH-SCHÄFER, 1840 - Mediterranean Bush-cricket

ORTHOPTERA: GRYLLOTALPIDAE

Gryllotalpa cf. *stepposa* ZHANTIEV, 1991 - Steppe Mole-cricket

ORTHOPTERA: MYRMECOPHILIDAE

Myrmecophilus (Myrmecophilus) cf. *myrmecophilus* (SAVI, 1819) - Mediterranean Ant-cricket

ORTHOPTERA: MOGOPLISTIDAE

Arachnocephalus vestitus COSTA, 1855 - Hairy Scale-cricket

Pseudomogoplistes byzantius GOROCHOV, 1995 - Eastern Beach-cricket

ORTHOPTERA: TRIGONIIDAE

Trigonidium cicindeloides RAMBUR, [1839] - Common Trig

ORTHOPTERA: GRYLLIDAE

Oecanthus pellucens (SCOPOLI, 1763) - European Tree-cricket

Gryllomorpha dalmatina (OCSKAY, 1832) - Common Crevice-cricket

Acheta domesticus (LINNAEUS, 1758) - House-cricket

Gryllus campestris LINNAEUS, 1758 - Common Field-cricket

Melanogryllus desertus (PALLAS, 1771) - Lesser Field-Cricket

ORTHOPTERA: TRIDACTYLIDAE

Xya pfaendleri (HARZ, 1970) - Pfaendler's Molehopper

ORTHOPTERA: TETRIGIDAE

Paratettix meridionalis (RAMBUR, [1838]) - Mediterranean Groundhopper

Tetrix depressa BRISOUT DE BARNEVILLE, [1848] - Dented Groundhopper

ORTHOPTERA: ACRIDIDAE

Calliptamus italicus (LINNAEUS, 1758) - Common Pincer Grasshopper

Calliptamus barbarus (COSTA, 1836) - Eurasian Pincer Grasshopper

Pezotettix giornae ROSSI, 1794 - Common Maquis Grasshopper

Anacridium aegyptium (LINNAEUS, 1764) - Egyptian Grasshopper

Locusta migratoria LINNAEUS, 1758 - Migratory Locust

Oedalus decorus (GERMAR, 1826) - Handsome Cross Grasshopper

Oedipoda caerulea (LINNAEUS, 1758) - Blue Band-winged grasshopper

Oedipoda germanica (LATREILLE, [1804]) - Red Band-winged Grasshopper

Oedipoda miniata (PALLAS, 1771) - Scarlet Band-winged Grasshopper

Acrotylus longipes (CHARPENTIER, 1845) - Yellow-winged Digging Grasshopper

Acrotylus insubricus (SCOPOLI, 1786) - Common Digging Grasshopper

Acrotylus patruelis (HERRICH-SCHÄFFER, 1838) - Slender Digging Grasshopper

Aiolopus thalassinus (FABRICIUS, 1781) - Slender Green-winged Grasshopper

Aiolopus strepens (LATREILLE, 1804) - Broad Green-winged Grasshopper

Tropidopola graeca UVAROV, 1926 - Greek Cylindric Grasshopper

Acrida ungarica (HERBST, 1786) - Common Cone-headed Grasshopper

Docostaurus maroccanus (THUNBERG, 1815) - Moroccan Cross-backed Grasshopper

Omocestus rufipes (ZETTERSTEDT, 1821) - Woodland Grasshopper

Chorthippus bornhalmi HARZ, 1971 - Balkan Field Grasshopper

Chorthippus parallelus (ZETTERSTEDT, 1821) - Meadow Grasshopper

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