

## Two new species and new records of the genus *Amaurobius* (Araneae, Amaurobiidae) from Greece

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### Summary

In N. Greece two widespread European species occur: *Amaurobius erberi* and *A. fenestralis*. Further species are apparently endemic to Greece: *A. phaeacus* n.sp. from Corfu, and four others showing restricted montane distributions in SW Peloponnese (*A. paon*, Taigetos Mts), along the East coast of the Peloponnese (*A. longipes*, Mts Parnon and Artemisio), in Thessalia (*A. ossa*, Mts Ossa and Olympus), and in Makedonia (Chalkidiki, *A. ausobskyi* n.sp.). *A. timidus*, discovered in NW Peloponnese, is widely distributed on the mainland, from Epiros (Pindos Mts) to Chalkidiki and to Bulgaria. The ranges of *A. pelops* and of *A. atticus* are not yet precisely known. Species occurring on the Aegean islands and Crete await further study. Members of the Phyxelidinae, which are present in Cyprus and in S. Turkey, are not known from this region.

### Introduction

The inventory of endemic *Amaurobius* species in the Ponto-Mediterranean subregion of Europe is not yet complete, despite recent discoveries (Thaler & Knoflach, 1991, 1993, 1995; Wunderlich, 1995). Here we describe two further new species, from the Greek mainland (Chalkidiki) and from Corfu, respectively, and report additional localities from N. Greece and from N. Peloponnese for other species. The faunistic pattern emerging from these data is tentatively discussed.

All material collected by authors, unless indicated otherwise. Depository of type specimens: MHNG = Muséum d'Histoire naturelle, Genève; NMB = Naturhistorisches Museum, Basel; NMW = Naturhistorisches Museum, Wien; CD = Deltshv collection; CTh = Thaler collection. All measurements are in mm.

### *Amaurobius phaeacus*, new species (Figs. 1–6, 10)

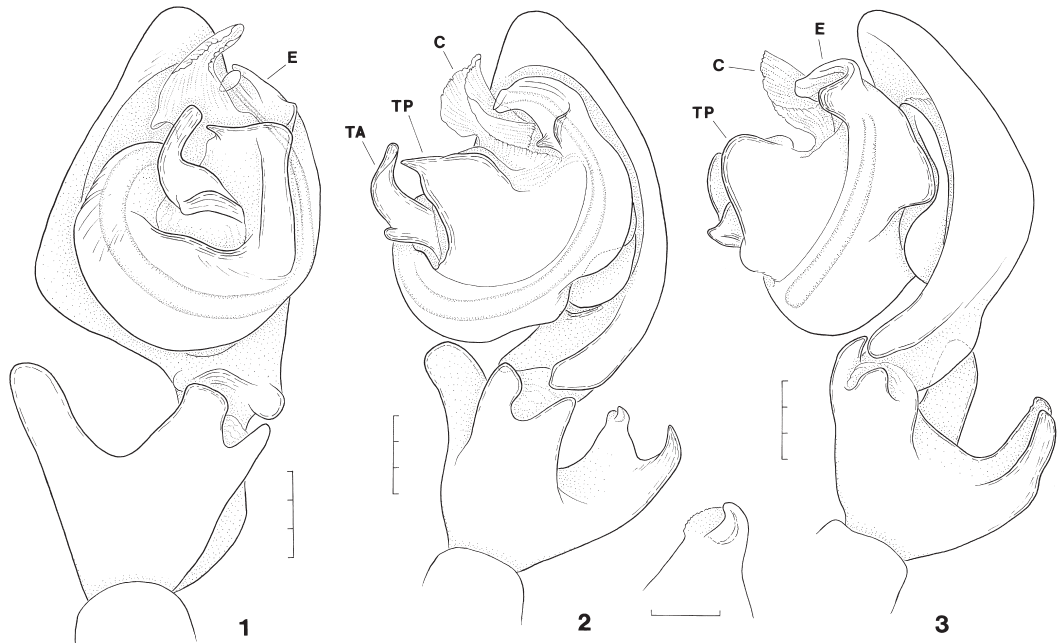
*Material examined:* Corfu: Kato Korakiana near Dasia, in olive garden at hill slope with dense bushes, c. 100 m a.s.l. Juveniles collected

late May 1996, reared to maturity in Oct. 1996: 3♂, 9♀. Depository: 1♂ holotype NMW; 3♀ paratypes NMW; 2♀ paratypes MHNG; 2♂, 4♀ paratypes CTh.

*Etymology:* Latin adjective; Corfu probably was the island of the Phaeac where Odysseus met Nausikaa.

*Diagnosis:* The species can readily be distinguished by the dorsal apophysis of the male palpal tibia, by its truncate tegular process and by the arch of its distal embolus (Figs. 1, 3, 10). Epigyne: Fig. 4.

*Description* (♂/♀): Total length 9.1–9.5/9.1, prosoma length 4.2–4.6/4.1, width 2.9–3.2/2.9. Femur I 3.4–3.6/4.6. Prosoma and legs brownish yellow, with pattern: sides of cephalic part and thoracic striae blackish; legs annulated. Abdomen greyish, with indistinct pattern of light spots. Palp: Figs. 1–3, 10. Tibia without intermediate apophysis; dorsal apophysis strong, curved anteriorly, distal rim bifurcate with prolateral branch claw-like, retrolateral branch truncate, with small terminal cavity. Bulbus: tegular process rounded in lateral view (Fig. 3), anterior border straight, sharply pointing to prolateral side. Distal embolus strongly arched, with two knobs at its base. Epigyne and vulva: Figs. 4–6.



Figs. 1–3: Male palp, *Amaurobius phaeacus* n.sp. 1 ventral; 2 ventral/prolateral; 3 prolateral. Scale lines = 0.3 mm (inset in Fig. 2 = 0.1 mm).

Median plate transverse, narrow, its posterior border slightly convex; side lobes small, with inner borders diverging. Sperm ducts very short, receptacles broader than long, close together at anterior border of median plate.

**Affinities:** According to the key of Simon (1914), *A. phaeacus* n.sp. will enter the group of *A. ferox* (Walckenaer, 1830). Nevertheless, dorsal tibial apophysis and embolus are quite distinct, whereas the tegular process is slightly reminiscent of that of *A. obustus* L. Koch, 1868 (Hubert, 1965; Thaler, 1990; Pesarini, 1991).

**Distribution:** Known only from the type locality.

#### ***Amaurobius ausobskyi*, new species**

(Figs. 7–9)

**Material examined:** Makedonia: Chalkidiki, Athos peninsula, track from monastery Aghia Anna to Kerasies, under stones in sweet chestnut forest c. 1100 m a.s.l., 3♀, leg. Ausobsky, 3 May 1969. Depository: 1♀ holotype NMW; 2♀ paratypes NMW, CTh.

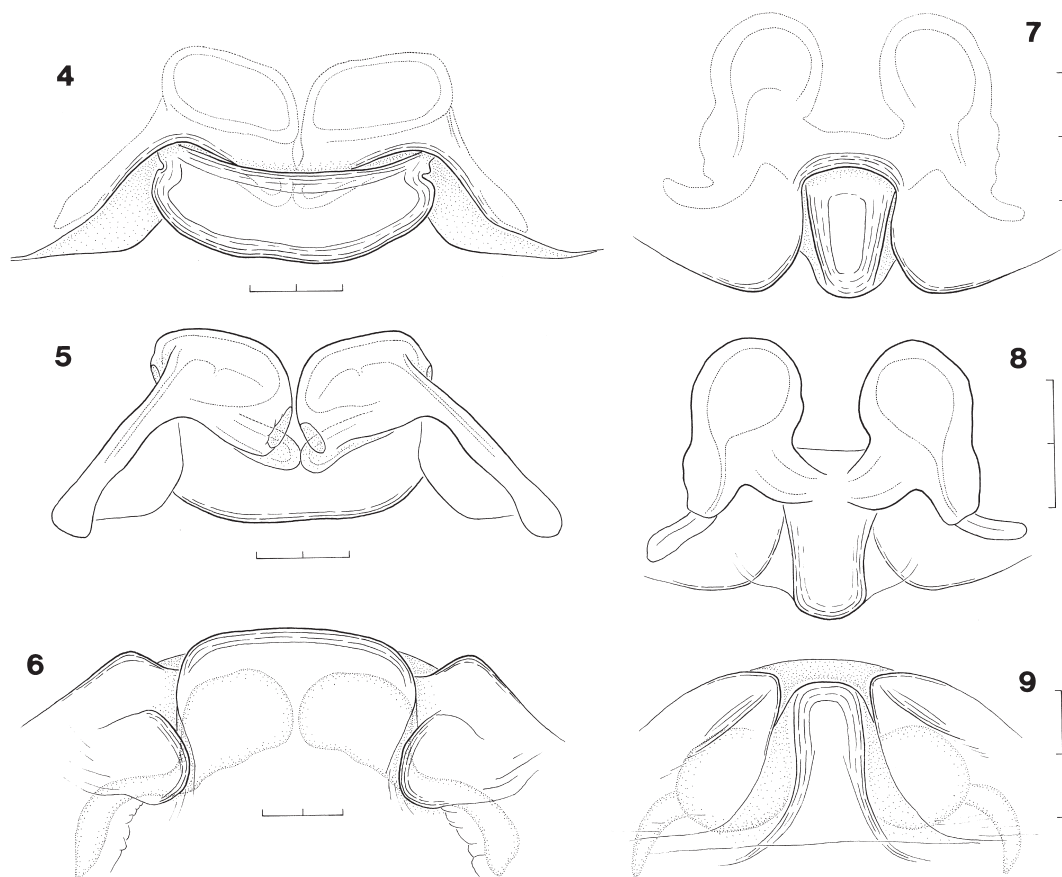
**Etymology:** The new species is dedicated to its collector, who also discovered the first laniatorid harvestman in Greece (Martens, 1972).

**Diagnosis:** The female can be clearly distinguished from all species known from the region by its narrow median plate (Fig. 7).

**Description** (♀): Total length 7.1, 7.9, prosoma length 3.0–3.5, width 2.0–2.2. Femur I 2.2–2.4. Prosoma brownish-yellow, legs not annulated. Abdomen uniformly greyish, without pattern, possibly due to long conservation. Epigyne and vulva: Figs. 7–9. Lateral lobes well developed, projecting; median plate narrow. Vulva strongly sclerotized, sperm ducts distinct, receptacles separated by less than their diameter. Male not known.

**Affinities:** From the shape of the epigyne, *A. ausobskyi* n.sp. is probably related to *A. obustus*. This latter species ranges from Bulgaria and Croatia to N. Italy and S. Austria (Deltshv, 1976; Thaler, 1990; Pesarini, 1991). Discovery of the male will be necessary to corroborate this supposition.

**Distribution:** Known only from the type locality.



Figs. 4–9: Epigyne/vulva. 4–6 *Amaurobius phaeacus* n.sp.: 4 ventral view; 5 dorsal view; 6 aboral view. 7–9 *A. ausobskyi* n.sp.: 7 ventral view; 8 dorsal view; 9 aboral view. Scale lines = 0.2 mm.

### Additional records

*Amaurobius deelemanae* Thaler & Knoflach, 1995

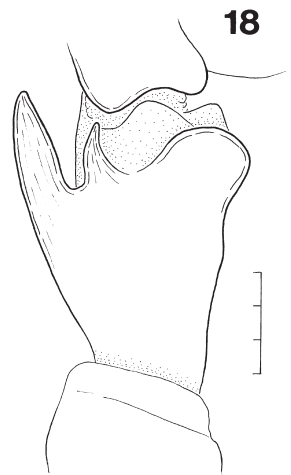
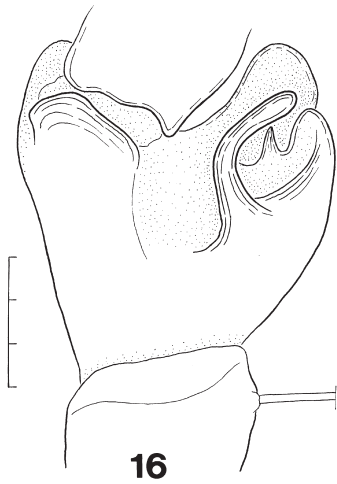
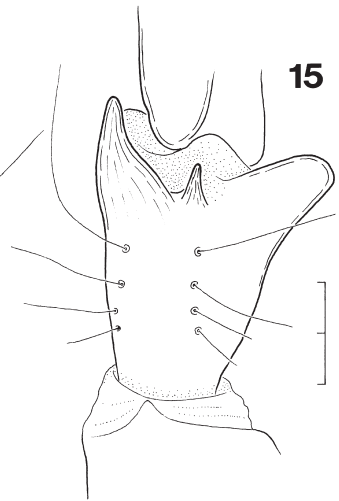
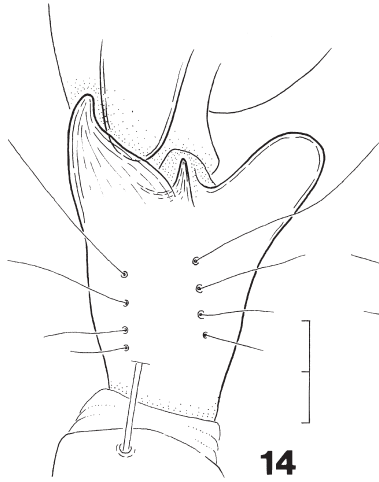
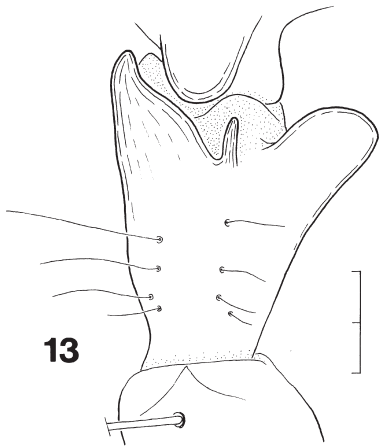
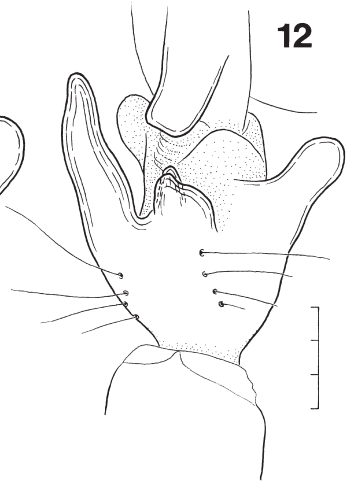
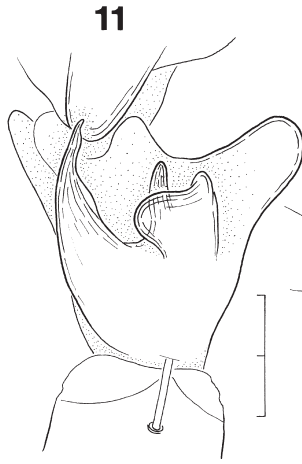
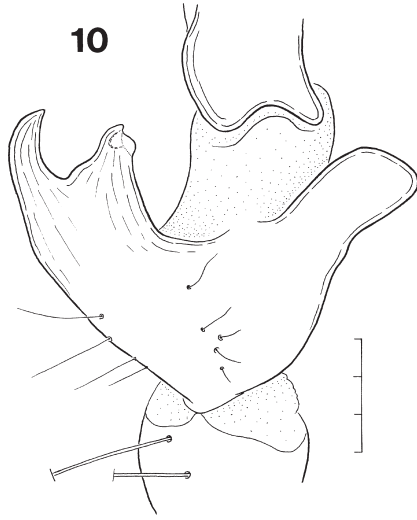
*Material examined:* Rhodes: Salakos, path to Mt Profitis Ilias, in pine forest and in scrub 400–600 m, 4♂, 11♀, 8–12 April 1996. Petaloudes valley, near Kalopetra, in forest (pine, plane tree) 300 m, 1♂, 15♀, 9 April 1996.

*Remarks:* Specimens from Rhodes exhibit slight differences from the types from Naxos I. To assess the taxonomic status of these scattered populations more materials from the other islands of the Aegean Sea will be needed.

*Amaurobius erberi* (Keyserling, 1863)

*Material examined:* Epiros: road to Koronisia, scrub at hill near Salaora, close to sea shore. Subadult specimens collected 11 Sept. 1996, final moults in Sept./Oct. 1996: 10♂, 6♀.

*Remarks:* According to the literature, *A. erberi* occurs widely in Greece and in the Balkans (Simon, 1884; Bristowe, 1935; Drensky, 1936; Hadjissarantos, 1940). We have seen material only from N. Greece, Athos (Thaler & Knoflach, 1995) and Epiros, probably due to sampling bias. All these specimens were collected in low regions and near the sea shore. Furthermore, the existence of superficially similar species in



mid-Greece and on the Aegean islands should also be kept in mind (*A. atticus* Thaler & Knoflach, 1995, *A. deelemanae*, *A. pelops*).

*Amaurobius fenestralis* (Ström, 1768) (Fig. 12)

*Material examined:* Makedonia: Menikio range, Mt Vrontos above Serres, road to Lelias, in beech forest at 1500 m, 1♂, 5♀, 16 Sept. 1996 (CTh).

*Remarks:* Locality at the southern border of distribution of this mid-European species, which has commonly been recorded from the Balkans (Drensky, 1936; Fuhn & Oltean, 1970), easternmost records coming from the Caucasus range (Mikhailov, 1997). *A. fenestralis* also occurs in montane woodland also in peninsular Italy, but is probably absent from Spain and from the Russian plain (Thaler, 1990; Esjunin *et al.*, 1993).

*Amaurobius longipes* Thaler & Knoflach, 1995 (Fig. 18)

*Material examined:* Peloponnese: Argolis, Mt Artemisio near Argos, in fir forest above Karya, at 1750 m, 3♀, 24 Sept. 1985; at 1100–1400 m, 9♀, 26 Sept. 1995. 9♂ reared to maturity from juveniles collected on 26 Sept. 1995: 2♂ Dec. 1995, 1♂ Feb. 1996, 1♂ March 1996, 3♂ April 1996, 1♂ July 1996, 1♂ May 1997. Depository: CTh, MHNG, NMB, NMW.

*Remarks:* This exquisite species, resembling a *Phyxelida* (Amaurobiidae: Phyxelidinae, Griswold, 1990) because of its long forelegs, is endemic to the mountains along the East coast of the Peloponnese. It is shown here to occur on Mt Artemisio *c.* 60 km distant from its type locality on Mt Parnon, again in remnants of montane fir forest. Its life cycle deviates from the diplochronous type of its congeners. Mating activity is assumed to take place in late spring and early summer. Females collected in late September had already copulated.

*Amaurobius ossa* Thaler & Knoflach, 1993 (Figs. 16–17)

*Material examined:* Thessalia: Mt Olympos, track from Prionia to Agapitos, in pine forest 1850 m, 2♀, 26 Sept. 1987. Road from Litothoro to Prionia *c.* 1000 m, in mixed forest (fir, beech, pine); subadult specimens, 18 Sept. 1996, final moults in Oct. 1996: 7♂, 10♀. Mt Ossa, eastern slope, road from Melivio to Karitsa, in forest (maple, plane trees) *c.* 600 m, and Stomio *c.* 100 m, subadult specimens, 22 Sept. 1995, final moults in Sept./Oct.: 2♂, 3♀. Mt Ossa, western slope, above Spilia, in forest *c.* 1000 m, subadult specimens, 19 Sept. 1996, final moults in Sept./Oct.: 3♂, 4♀. Depository: CTh, MHNG, NMB, NMW.

*Remarks:* Apparently endemic in the mountains of Thessalia along the Aegean Sea.

*Amaurobius pelops* Thaler & Knoflach, 1991 (Fig. 11)

*Material examined:* Peloponnese: Feneos basin, western slope, 3 sites along road Kastanea to Steno, *c.* 800–1000 m, 28♂, 14♀, 27 Sept. 1995.

*Remarks:* Specimens come from the type locality at the western slope of Feneos basin. We are now convinced that the tibial apophyses of the holotype male are aberrant, as all these specimens have the intermediate apophysis without fingerlike interior process and the prolateral apophysis more prominent (Fig. 11). Specimens reported in Thaler & Knoflach (1995) as *cf. pelops* from Feneos basin, eastern slope at 900 m (collected 19 Sept. 1993, date omitted in our publication) should therefore be considered conspecific without any doubt. The range of this species is not yet clear and relations to *A. atticus* must be investigated more closely.

Figs. 10–18: Male palpal tibia, dorsal (10–15, 17–18) and prolateral (16) views. **10** *Amaurobius phaeacus* n.sp.; **11** *A. pelops* Thaler & Knoflach, Peloponnese, Feneos; **12** *A. fenestralis* (Ström), Makedonia, Vrontos. **13–15** *A. imidus* Thaler & Knoflach: **13** Corfu, Spartilas; **14** Chalkidiki; **15** Shumen. **16–17** *A. ossa* Thaler & Knoflach: **16** Mt Ossa, Spilia; **17** Mt Olympos, Prionia. **18** *A. longipes* Thaler & Knoflach, Mt Artemisio. Scale lines = 0.2 mm (11, 13–15), = 0.3 mm (10, 12, 16–18).

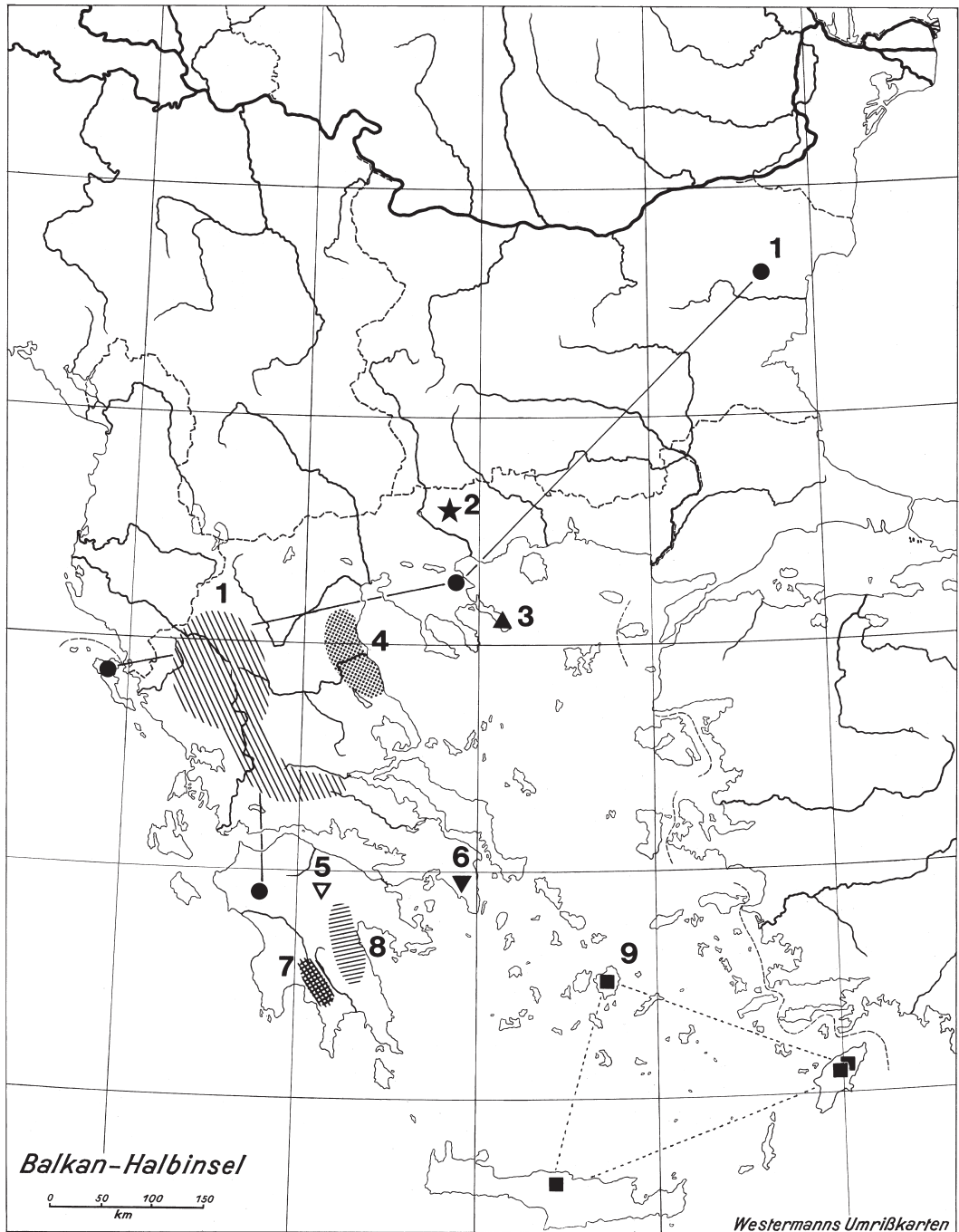


Fig. 19: Distribution and localities of some *Amaurobius* species in Greece. 1 *A. timidus* Thaler & Knoflach; 2 *A. fenestralis* (Ström); 3 *A. ausobskyi* n.sp.; 4 *A. ossa* Thaler & Knoflach; 5 *A. pelops* Thaler & Knoflach; 6 *A. atticus* Thaler & Knoflach; 7 *A. paon* Thaler & Knoflach; 8 *A. longipes* Thaler & Knoflach; 9 *A. deelemanae* Thaler & Knoflach.



*Amaurobius timidus* Thaler & Knoflach, 1995 (Figs. 13–18)

*Material examined:* Corfu: Pantocrator, Taxiarkhis above Spartilas 650 m, juv., 31 May 1996, final moult 15 Oct. 1996: 1♂. Epiros, Pindos Mts: Mt Timfi, Mikropapingo 1100 m, scrub (hornbeam, hazel), 1♂, 1♀, 10 Sept. 1996. Konitsa, Aaos gorge 550 m, hornbeam scrub, 4♂, 3♀, 9 Sept. 1996. Pendalofos, Grammos Mt (road Ioannina-Kozani), fir forest 1300 m, 4♂, 5♀, 12 Sept. 1996. Katara pass (road Ioannina-Kalambaka), fir forest 1690 m, 3♂, 6♀, 18 Sept. 1995. Thessalia: Kalambaka, road to Kastanea, fir forest at 1300 m, 10♂, 13♀, 19 Sept. 1995; 3♂, 2♀, 20 Sept. 1996. Meteora monasteries, oak scrub 500 m, 5♂, 7♀, 19 Sept. 1995. Makedonia, Chalkidiki: Olimbias/Stavritos, in scrub 150 m, 1♂, 3♀, 15 Sept. 1996. Varvara, beech forest 600 m, 4♂, 2♀, 14 Sept. 1996. Bulgaria: Shumen, 3♂, 1♀, 28 March 1994, leg. Deltshv (CD). Depository: CTh, MHNG, NMB, NMW. On the map (Fig. 19) three additional records from field work in September 1997 have been included: Pindos Mts, Athamanon 1000–1500 m, near Drosopigi/Vourgareli; Panetoliko 1000–1200 m, road Agrinio to Karpenisi, near Agios Vlasios; Mt Oiti 1400m, near Ipati/Lamia.

*Remarks:* *A. timidus* was first discovered in NW Peloponnese, Mt Erimanthos, and is widely distributed in forests of N. Greece, in Epiros and in Makedonia, with a range in altitude of c. 500–1700 m. It is also present in Corfu and in NE Bulgaria. Females apparently are very close to *A. pallidus* L. Koch, 1868 (see Loksa, 1969), whose type locality Mehadia is situated in Romania. Intermediate records based only on females probably must be re-investigated.

## Discussion (Fig. 19)

Endemism is high in the *Amaurobius* fauna of Greece: ten of the twelve species presently known are confined to this area. Two remaining species are distributed more widely, but have been found only marginally in N. Greece: *A. fenestralis*, common in mid-Europe, in a mountain beech forest near to the Bulgarian frontier; the Mediterranean *A. erberi*, in scrub close to the sea shore in Epiros and Makedonia (despite early records from Attica and Evvoia).

With the exception of *A. longipes*, all these endemic species have a diplochronous life cycle as do their congeners in mid-Europe. Five species are apparently confined to mountains. The widest range has been found for *A. timidus*, which is present in NW Peloponnese, in Epiros and Chalkidiki, and even in Corfu and Bulgaria. Other species occur rather locally in SW Peloponnese (*A. paon* Thaler & Knoflach, 1993, Taigetos Mts), along the East coast from SE Peloponnese (*A. longipes*, Parnon Mt), in Thessalia (*A. ossa*, Mts Ossa, Olympos), and in Chalkidiki (*A. ausobskyi* n.sp., Mt Athos). The relations of *A. pelops* (NE Peloponnese) and *A. atticus* are not yet clear, both eventually will stand as semispecies. Islands, especially Crete, also deserve further investigation despite the recent discovery of *A. cretaensis* Wunderlich, 1995. *A. phaeacus* n.sp. is known only from Corfu. *A. deelemanae* apparently is a polytypic complex on the islands of the Aegean Sea. Another subfamily of Amaurobiidae of African origin, Phyxelidinae, apparently does not occur in the area studied; nearest localities are in Cyprus and in SW Turkey (Griswold, 1990; Thaler & Knoflach, 1998).

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## References

- BRISTOWE, W. S. 1935: The spiders of Greece and the adjacent islands. *Proc. zool. Soc. Lond.* **1934**: 733–788.
- DELTSHEV, C. 1976: [On the spiders (Araneae) in the Loudogorié]. *Bulg. Acad. Sci., Terrestrial Fauna of Bulgaria, Materials* **1976**: 251–260.
- DRENSKY, P. 1936: Katalog der echten Spinnen (Araneae) der Balkanhalbinsel. *Spis. bulg. Akad. nauk* **32**: 1–223.
- ESJUNIN, S. L., GOLOVATCH, S. I. & PENEV, L. D. 1993: The fauna and zoogeography of spiders inhabiting oak forests of the East European Plain (Arachnida: Araneae). *Ber. naturw.-med. Ver. Innsbruck* **80**: 175–249.

- FUHN, I. E. & OLTEAN, C. 1970: Lista Araneelor din R.S. Romania. *Studii Comun. Muz. St. nat. Bacau* **1970**: 157–196.
- GRISWOLD, C. E. 1990: A revision and phylogenetic analysis of the spider subfamily Phyxelidinae (Araneae, Amaurobiidae). *Bull. Am. Mus. nat. Hist.* **196**: 1–206.
- HADJISSARANTOS, H. 1940: [Les araignées de l'Attique]. Athens.
- HUBERT, M. 1965: Remarques sur quelques espèces d'araignées du genre *Amaurobius* C. Koch, 1837 et description d'une espèce nouvelle. *Bull. Mus. nat. Hist. Paris* (2) **36**: 784–796.
- LOKSA, I. 1969: Pókok I.— Araneae I. *Fauna Hung.* **97**: 1–133.
- MARTENS, J. 1972: *Ausobskya athos*, der erste Krallenweberknecht aus Griechenland (Opiliones: Phalangodidae). *Senckenberg. biol.* **53**: 431–440.
- MIKHAILOV, K. G. 1997: Catalogue of the spiders of the territories of the former Soviet Union (Arachnida, Aranei). *Archs zool. Mus. Moscow State Univ.* **37**: 1–416.
- PESARINI, C. 1991: The Amaurobiidae of Northern Italy (Araneae). *Atti Soc. ital. Sci. nat.* **131**: 261–276.
- SIMON, E. 1884: Études arachnologiques 16e Mémoire. Matériaux pour servir à la faune des arachnides de la Grèce. *Annl. Soc. ent. Fr.* (6) **4**: 305–356.
- SIMON, E. 1914: *Les arachnides de France*, **6** (1). Paris: Roret.
- THALER, K. 1990: *Amaurobius ruffoi* n.sp., eine weitere Reliktart der Südalpen—mit Bemerkungen über die Amaurobiidae der Alpen (Arachnida: Aranei). *Zool. Anz.* **225**: 241–252.
- THALER, K. & KNOFLACH, B. 1991: Eine neue *Amaurobius*-Art aus Griechenland (Arachnida: Araneae, Amaurobiidae). *Mitt. schweiz. ent. Ges.* **64**: 265–268.
- THALER, K. & KNOFLACH, B. 1993: Two new *Amaurobius* species (Araneae: Amaurobiidae) from Greece. *Bull. Br. arachnol. Soc.* **9**: 132–136.
- THALER, K. & KNOFLACH, B. 1995: Über Vorkommen und Verbreitung von *Amaurobius*-Arten in Peloponnes und Ägäis (Araneida: Amaurobiidae). *Revue suisse Zool.* **102**: 41–60.
- THALER, K. & KNOFLACH, B. 1998: *Phyxelida anatolica* Griswold—new for Cyprus (Arachnida, Araneae: Amaurobiidae, Phyxelidinae). *Bull. Br. arachnol. Soc.* **11**: 36–40.
- WUNDERLICH, J. 1995: Beschreibung einer bisher unbekanntten Art der Gattung *Amaurobius* C. L. Koch 1837 von Kreta (Arachnida: Araneae: Amaurobiidae). *Beitr. Araneol.* **4**: 729–730.