Skippers, Butterflies, Burnets and Harvesters from the Greek island of Límnos, a Skipper new to the Greek island of Santoríni and two Butterflies new to the Greek island of Síros (Lepidoptera: Hesperioidea, Papilionoidea, Zygaenidae)

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Introduction
The Greek island of Límnos (also known as Lemnos) lies in the northern part of the Aegean sea, at a latitude of approximately 40°N and a longitude of approximately 25°E, and its area is about 470km². The geological origin of the island is volcanic, probably dating as far back as the Oligocene period. At present it consists of a series of rounded hills (highest point: 374m), the majority
of which occur in its western part, as well as of a number of plains that extend mostly over its central, southern and eastern part.

The island is relatively dry, having few and sparsely situated streams. Trees are to be met with only near these streams, in gullies, in gardens and in some cultivated areas, while the major part of the island supports a low vegetation, consisting of a mixture of shrubs and grasses in hilly terrain and mostly of cereal cultivations and vineyards in the plains. Level areas where cultivations have been temporarily suspended are as a rule transformed into flowery meadows, but these areas are few and usually short-lived.

Limnos island also supports a large population of cattle and is being constantly heavily overgrazed. This condition together with frequent fires, suggests that a severe degradation of its original flora and fauna may have taken place over time.

Collecting history

The first published accounts on the lepidoptera of Limnos are by Mathew (1898), who personally collected there, and by Rebel (1934, 1937), who based his accounts on the material collected by the herpetologist Franz Werner. The first systematic survey of the butterflies of the island is by Koutsafikis (1970), who apparently collected the material himself. The most recent and complete overview of the butterflies of Limnos is by Olivier (1988), who presents his own collecting records, together with an account of all the records previously published by others.

Further to this there are works by Bernardi (1961, 1971), by Koutsafikis (1973a, 1973b, 1974a, 1974b), by Tauber & Tauber (1968) and by Olivier (1993) that basically constitute compilations of previously published records on the skippers and butterflies of Limnos.

List of recorded species

The list of species now being presented is derived from personal collecting experiences carried out on 16–18 October 1999, 20–24 April 2000, 1–4 June 2000 and 6–9 September 2000:

Hesperiidae


2. *Thymelicus acteon* (Rottemburg, 1775). Common throughout the island, primarily in fields and meadows, but also in more xeric situations, in June. Previously recorded by Olivier (1988).
3. *Gegenes nostrodamus* (Fabricius, 1793). Two males captured by the sea, near Evreókastro, in September. Identification confirmed by the genitalia. **A first record for Límnos.**

4. *Carcharodus alceae* (Esper, [1780]). In fair numbers locally, especially at edges of fields and meadows and at the bottom of gullies. Collected in April, June, September and October. Collecting sites: halfway along the road between Mirina and Káspakas; Ágios Athanásios; near Sardès; near Ágios Dimitrios; near Diapóri. Previously recorded by Koutsafíkis (1970) and by Olivier (1988).

5. *Carcharodus orientalis* Reverdin, 1913. In small numbers, particularly near streams, at edges of fields and meadows and at the bottom of gullies. Collected in April, June and October. Collecting sites: halfway along road between Mirina and Káspakas; near Sardès; near Ágios Dimítrios; Ágios Ioánnis; halfway along road between Sardès and Dáfni; halfway along road between Thános and Kondiás. Identification confirmed by the genitalia. Previously recorded by Olivier (1988).

6. *Spialia orbifer* (Hübner, [1823]). Few specimens recorded, all at the bottom of gullies, in garrigue situations. Found in April and June. Collecting sites: halfway along road between Mirina and Káspakas; near Sardès; halfway along road between Sardès and Dáfni; halfway along road between Ágios Dimítrios. Previously recorded by Olivier (1988).

**Papilionidae**

7. *Papilio machaon* Linnaeus, 1758. Found in small numbers over the whole of the island, being a strong flyer and wanderer. Recorded in April, June and September. Previously also recorded by Mathew (1898) and Koutsafíkis (1970).

**Pieridae**

8. *Colias crocea* (Fourcroy, 1785). Found in fair numbers everywhere. Recorded in April, June and October. Previously recorded by Mathew (1898), Koutsafíkis (1970) and Olivier (1988).

9. *Euchloe ausonia* (Hübner, [1804]). Recorded as common in April (first brood) and in small numbers in June (second brood), mostly in fields, flowery meadows and waste places. Collecting sites: halfway along road between Mirina and Káspakas; Ágios Athanásios; near Sardès; near Ágios Dimítrios. Previously recorded by Olivier (1988) as *E. simplonia* (Freyer, 1829) [sic!].

10. *Aporia crataegi* (Linnaeus, 1758). Worn specimens recorded in small numbers in June, especially over fields and meadows as well as in orchards. Collecting sites: near Ágios Dimítrios; near Katálakos. Previously also recorded by Olivier (1988).
11. *Pontia edusa* (Fabricius, 1777). Recorded as fairly common in April, June, September and October, especially in fields, meadows and waste places. Collecting sites: Stavrós, S of Diapóri; near Ágios Dimitrios. Previously also recorded by Koutsaitikis (1970) and by Olivier (1988), in both cases as *P. daplidice* (Linnaeus, 1758) [sic!].

12. *Pieris brassicae* (Linnaeus, 1758). Recorded commonly throughout the island in April, June, September and October, especially in orchards, gardens, fields and meadows. Previously also recorded by Koutsaitikis (1970) and by Olivier (1988).

13. *Pieris rapae* (Linnaeus, 1758). Recorded in April, June, September and October, primarily in orchards, gardens, fields and meadows, but nowhere as common as *brassicae*. Collecting sites: halfway along road between Mirina and Káspakas; near Ágios Dimitrios. Previously also recorded by Koutsaitikis (1970) and by Olivier (1988).
Lycaenidae

14. *Lycaena phlaeas* (Linnaeus, 1761). Recorded in very large numbers in April and June and in small to fair numbers in September and October. Found mostly at edges of fields, in flowery meadows and at the bottom of gullies. Collecting sites: halfway along road between Mírina and Káspakas; near Ágios Dimitrios; Ágios Athanásios; near Sardés. Previously also recorded by Mathew (1898), Rebel (1937), Koutsafíkis (1970) and Olivier (1988).

15. *Satyrium ilicis* (Esper, [1779]). Found to be locally fairly abundant in June in an area supporting bushes of *Quercus ilex*, near Ágios Dimitrios. Previously also recorded by Olivier (1988).

16. *Leptotes pirithous* (Linnaeus, 1767). Recorded in small numbers in September and in very large numbers in October, especially near coastal areas. Collecting sites: Mírina; halfway along road between Mírina and Káspakas; near Katálakos. A first record for Límnos.
17. *Celastrina argiolus* (Linnaeus, 1758). Found singly in April and in fair numbers in September, in both cases fresh. Recorded in the vicinity of streams with dense vegetation. Collecting sites: near Ágios Dimítrios; near Katálakos. **A first record for Límnos.**

18. *Pseudophilotes vicrama* (Moore, 1865). Recorded in June in small numbers, nearly always in the vicinity of *Thymus* bushes. Collecting sites: Ágios Ioánnis; near Ágios Dimitrios. Previously also recorded by Rebel (1934) and by Olivier (1988).

19. *Glaucopsyche alexis* (Poda, 1761). Only three specimens recorded in April at a wet spot, near Katálakos. Previously also recorded by Olivier (1988).

20. *Aricia agestis* ([Denis & Schiffermüller], 1775). Recorded in fair numbers in April, June and October. Found primarily at edges of fields, in flowery meadows and at the bottom of gullies. Collecting sites: near Ágios Dimitrios; near Thános; halfway along road between Mirina and Káspakas; Ágios Athanásiós; Ágios Ioánnis; near Sardés; near Katálakos. Previously also recorded by Koutsaftikis (1973b) and by Olivier (1988).

21. *Polyommatus icarus* (Rottemburg, 1775). Recorded in April, June, September and October, always abundant. Found primarily in fields and flowery meadows, at road edges and at the bottom of gullies. Collecting sites: halfway along road between Mirina and Káspakas; near Ágios Dimitrios; near Katálakos; near Thános; halfway along road between Thános and Kondiás; near Sardés; halfway along road between Sardés and Dáfni; Ágios Ioánnis; Ágios Athanásiós. Previously also recorded by Mathew (1898), Rebel (1937) and Olivier (1988).

**Nymphalidae**

22. *Lasiommata megera* (Linnaeus, 1767). Recorded in April, June, September and October. Found to be locally fairly abundant, especially at edges of fields, roadsides, hillsides and the bottom of gullies. Collecting sites: near Ágios Dimitrios; halfway along road between Mirina and Káspakas; Ágios Athanásiós; near Katálakos; near Sardés; halfway along road between Sardés and Dáfni; near Thános. Individuals of spring brood quite dark on upperside and relatively large, reminiscent in flight of *L. maera* (Linnaeus, 1758). **A first record for Límnos.**

23. *Maniola jurtina* (Linnaeus, 1758). Found practically everywhere in June and in some places (bushy roadsides, gullies with lush vegetation and flowery meadows) the numbers were astronomical. A few, especially females, still flying in worn condition in September. Identification confirmed by the genitalia. Previously also recorded by Rebel (1934), Tauber & Tauber (1968), Koutsaftikis (1970) and Olivier (1988).

*Phegea* 29 (1) (I. III. 2001): 14
24. *Melanargia larissa* (Geyer, [1828]). Found everywhere in large numbers in June. Previously also recorded by Rebel (1934) and Olivier (1988).

25. *Hipparchia fata* Freyer, 1843. Few individuals observed and only two worn females captured in September, suggesting the butterfly was on its way out. Collecting sites: near Ágios Dimitrios; near Katálakos. Previously also recorded by Koutsafikis (1970).

26. *Limenitis reducta* Staudinger, 1901. A single specimen recorded in June at a wet spot, by a stream, about 8km NE of Mirina and near Agios Dimitrios. Previously also recorded by Olivier (1988).

27. *Vanessa atalanta* (Linnaeus, 1758). Recorded in small numbers in June and October, predominantly in gardens and areas with large bushes and trees, mostly in the vicinity of Mirina and Ágios Dimitrios. Previously also recorded by Olivier (1988).

28. *Vanessa cardui* (Linnaeus, 1758). Recorded in small numbers almost everywhere in June, September and October. Previously also recorded by Mathew (1898) and by Olivier (1988).


30. *Melitaea didyma* (Esper, [1778]). A few recorded in June in a flowery meadow, 8km NE of Mirina and near Ágios Dimitrios; one female observed near Kótsinas. Previously also recorded by Olivier (1988).

31. *Argynnis pandora* ([Denis & Schiffermüller], 1775). Recorded as fresh and quite numerous in June and as worn and less numerous in September, always in the vicinity of trees and, as a rule, near streams. Collecting sites: near Ágios Dimitrios; near Katálakos. Previously also recorded by Olivier (1988).

**Zygaenidae**

32. *Jordanita graeca* (Jordan, 1907). A few, male and female, recorded in June in a flowery meadow, 8km NE of Mirina and near Ágios Dimitrios. Identification established on the basis of the genitalia. A first record for Límnos.

33. *Zygaena punctum* Ochsenheimer, 1808. Recorded in small numbers in June, in a flowery meadow, 8km NE of Mirina and near Ágios Dimitrios. Previously recorded by Olivier in 1987 from Mirina, but the record was never published. A first published record for Límnos.
Discussion

The number of taxa reported here is relatively small when compared to that of the Greek mainland and this should be attributed to the island’s small land mass, its geographic isolation, its lack of habitat diversity, its poor flora and its biotope destruction through overgrazing and frequent fires. It is of interest to note that all resident taxa are to be found also on the Greek mainland and that no single one of them is exclusively of Asia Minor origin. Species having a vast distribution on the other islands of the Aegean, such as *Iphiclides podalirius* (Linnaeus, 1758), *Gonepteryx cleopatra* (Linnaeus, 1767) and *Hipparchia senthes* (Fruhstorfer, 1908), were found to be totally absent from Limnos.

Taxa not noticed by the present author, but recorded previously by others include the following:

Lycaenidae: *Callophrys rubi* (Linnaeus, 1758) and *Cupido osiris* (Meigen, 1829), both recorded by Olivier (1988).

Nymphalidae: *Coenonympha pamphilus* (Linnaeus, 1758) and *Lasiommata maera* (Linnaeus, 1758), both recorded by Koutsafikis (1970).

The presence of *C. pamphilus* on Limnos island is seriously doubted both by Olivier (1988) and the present author, as, despite extensive search for it at various times of the warm season, the butterfly was nowhere to be found. The same also applies to *maera*, but in this particular instance the dark spring form of the closely related and relatively abundant *megera* may have been mistaken for it on the wing by Koutsafikis.

2. Santorini

During a recent visit to this island between 1 and 4 September 2000, two specimens (a male and a female), of a *Gegenes* species were captured while feeding on the flowers of *Lantana* bushes in the town of Firá, at an altitude of about 300m. These were eventually dissected and their genitalia showed them to be *Gegenes pumilio* (Hoffmansegg, 1804), a first record of this taxon for Santorini island (cf. Coutsis 1992, 1994, 1996).

3. Síros

This island was visited between 28 September and 2 October 2000 and despite the almost total absence of butterflies there, two species, *Lampides boeticus* (Linnaeus, 1767) and *Leptotes pirithous*, both constituting new additions to the island’s fauna (cf. Coutsis 1994, 1996), were recorded in very limited numbers near Posidonia.

*Phegea* 29 (1) (1.III.2001): 16
References


Olivier, A., 1993. The butterflies of the Greek island of Ródos: taxonomy, faunistics, ecology and phenoology with a tentative synthesis on the biogeography of the butterflies of Kríti (Crete), Kárpathos, Ródos, the Eastern Aegean islands and Kípros (Cyprus) (Lepidoptera: Hesperioidea & Papilionoidea). — Vlaamse Vereniging voor Entomologie, Antwerpen, 250 pp., 17 tabs., 6 pls. (2 in col.) (incl. 46 figs.), 21 text figs.

