The butterflies of the Greek island of Sími (Lepidoptera : Hesperioidea & Papilionoidea)

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Samenvatting. De dagvlinders van het Griekse eiland Sími (Lepidoptera : Hesperioidea & Papilionoidea)

Na een korte inleiding over de geografische ligging van het Griekse eiland Sími en de geschiedenis van het daar verrichte lepidopterologisch onderzoek volgt het systematisch gedeelte. 20 soorten zijn nu van het eiland bekend, waarvan er 3 voor de eerste maal worden vermeld. Enkele kenmerken ter differentiatie van de taxa *Spialia (sertorius)* semispecies *orbifer orbifer* (HÜBNER, [1823]), *Muschampia proto aragonensis* DE SAGARRA, 1924 en *M. tessellum tessellum* (HÜBNER, [1803]) worden opgesomd. Een lijst van gedane waarnemingen op 21 en 22 april 1990 te Bozburun (Prov. Muğla, Turkije) wordt eveneens gepresenteerd. Het artikel wordt afgesloten met enkele biogeografische beschouwingen over de dagvlinderfauna van het eiland Sími.

Résumé. Les papillons diurnes de l'île grecque de Sími (Lepidoptera : Hesperioidea & Papilionoidea)

Après un bref exposé concernant la situation géographique de l'île grecque de Sími et l'historique de la recherche lépidoptérologique y effectuée suit la partie systématique. 20 espèces sont à présent connues de l'île dont 3 sont mentionnées pour la première fois. Quelques critères de différenciation entre les taxa *Spialia (sertorius)* semispecies *orbifer orbifer* (HÜBNER, [1823]), *Muschampia proto aragonensis* DE SAGARRA, 1924 et *M. tessellum tessellum* (HÜBNER, [1803]) sont énumérés. Une liste d'observations faites à Bozburun (province de Muğla, Turquie) les 21 et 22 avril 1990 est également présentée. L'article se termine par quelques considérations biogéographiques concernant la faune des papillons diurnes de l'île de Sími.

Key words : Sími - *Muschampia proto aragonensis* - *Muschampia tessellum tessellum*

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Introduction

The Greek island of Sími lies at a distance of about 8 km from the Turkish mainland (Daraçya Yarimadasi peninsula, Prov. Muğla) and of about 28 km to the NW of the island of Ródos (fig. 1). It has an area of 57 km^2 and it is composed of hard limestone. The climate of this part of the Aegean and a detailed study of the flora and phytogeography of Sími are treated in CARLSTRÖM (1987).

TURATI (1929) mentions two butterfly taxa from Sími, viz. «*Satyrus fatua insularis* f.n.» [= *Hipparchia fatua fatua* (FREYER, [1845])] and «*Epinephele jurtina telmessia*» [= *Maniola telmessia* (ZELLER, 1847)]. These two records are included again in the compilatory publications by BERNARDI (1961, 1971). KOUTSAFTIKIS (1974) discusses the results of a visit to the island of Sími in April 1973 and he mentions 11 species, of which 10 are new to the island. *Ypthima asterope* (KLUG, 1832) is reported for the first time from Greece. ONDRIAS, KOUTSAFTIKIS & DOUMA-PETRIDOU (1979) discuss briefly the differences they found in the external morphology and the genitalia of populations of *Z. cerisy* from Sími, Kastellórizo and NE Greece (Alexandroúpoli, Dráma) but they don't go into any details just stating that there are differences. They don't describe any subspecies. THOMSON (1985) presents

the results of a one-day-trip to Símí on 31 May 1983 including 6 records 5 of which are new.

While preparing a study on the biogeography of the butterflies of Ródos I decided to go and visit the neighbouring areas, including a one-day-trip to Símí on 16 April 1990. I could only collect for a couple of hours at walking distance from the harbours of Símí and Panormítis. Near Símí town I collected in garrigue on a dry rocky hill and in a dry gully, the latter place proving to be a very good collecting spot. At Panormítis there was just entirely desiccated and degraded garrigue and a small pine wood. Very few butterflies were seen there and only two species were caught. At present 20 species are known from the island, 3 of which are reported for the first time. In the systematic part I give an exhaustive survey of the literature records and of my own observations.

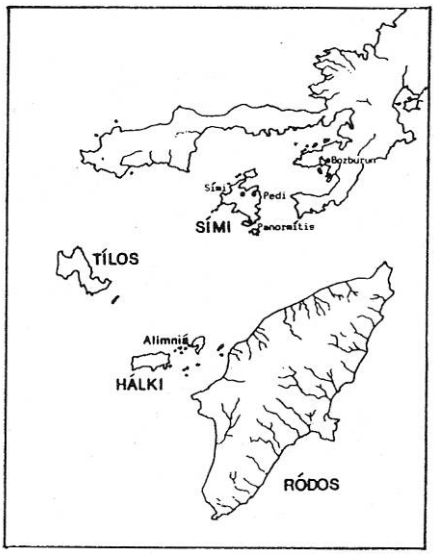

Fig. 1 : Geographical situation of the island of Símí (Greece).

Systematic part

I shall not enter into lengthy discussions about the taxonomic status of the species listed here. The great majority of these belong to the nominotypical subspecies. For a more detailed discussion on these matters one is referred to OLIVIER (1990), my forthcoming study on the butterflies of Ródos and the forthcoming monograph on the butterflies of Turkey by HESSELBARTH, VAN OORSCHOT & WAGENER. Species reported for the first time from Símí are indicated by an asterisk *.

* ***Thymelicus sylvestris*** (PODA, 1761) : Sími (0-100m), 16.IV.1990. The butterfly still had to emerge and only one very fresh male was taken.

Spialia (sertorius) semispecies ***orbifer orbifer*** (HÜBNER, [1823]) : Pedi, 31.V.1983 (THOMSON 1985); Sími, 31.V.1983 (THOMSON 1985). Not recorded during my visit.

Muschampia proto aragonensis DE SAGARRA, 1924 [figs. 2a, b & 5] : Sími, 31.V.1983. Locally common on a steep, dry, rocky hillside above the village. One male taken (THOMSON 1985). Not recorded during my visit. All populations from the lowland localities near the Aegean coast of Turkey belong to ssp. *aragonensis* DE SAGARRA (DE JONG pers. comm.).

* ***Muschampia tessellum tessellum*** (HÜBNER, [1803]) [figs. 3a, b & 6] : Sími (0-100m), 16.IV.1990, 5 males taken and a few more seen. Spotting on upper- and underside of the forewings well-developed (figs. 3a, b), except for one single aberrant specimen which is very much darkened with reduced spotting on both upper- and underside (figs. 4a, b). The butterflies were often attracted by a yellow-flowered plant of the fam. Lamiaceae (Labiatae) (*Phlomis* or *Salvia* sp.?) growing in a dry gully.

Note

The three forementioned species are fairly similar in external appearence. The following criteria may help to distinguish the 3 taxa on Sími.

A. Distinction between *proto/tessellum* and *orbifer*

1 a) costal fold on forewing present in male ..... *proto, tessellum*
  b) costal fold on forewing absent in male ..... *orbifer*
2 a) pale discal spots in s1b on upperside forewing slightly proximal to or below spot in s2 ..... *proto, tessellum*
  b) pale upper discal spot in s1b usually placed distally to spot in s2 ..... *orbifer*
3 a) length of forewing more than 13 mm ..... *proto, tessellum*
  b) length of forewing less than 13 mm ..... *orbifer*

B. Distinction between *proto* and *tessellum*

1 a) upperside of the wings groundcolour greyish brown ..... *proto*
  b) upperside of the wings groundcolour cold grey ..... *tessellum*
2 a) submarginal markings on upperside indistinct ..... *proto* ([1])
  b) submarginal markings on upperside distinct and often very well marked ..... *tessellum*
3 a) underside forewing groundcolour brown, underside hindwing groundcolour reddish brown ..... *proto*
  b) underside forewing groundcolour grey, underside hindwing groundcolour olive grey, white markings more complete ..... *tessellum*
4 a) gnathos horizontal and tapering at end, apex of cucullus upturned with proximal dorsal toothed area, penis rather short, almost straight (fig. 5) ..... *proto*
  b) gnathos elongate oval and pointed at end, apex of cucullus sharply toothed, with strong proximal dorsal spine, penis rather long, slender and sinuous (fig. 6) ..... *tessellum*

It is possible that on Sími the flight periods of *proto* and *tessellum* do not overlap, *proto* beginning to fly in late May, when *tessellum* (flight period April-May) is already over, but more data should be available to be conclusive. However, the capture of anything else than *tessellum* (and *orbifer*) in April seems unlikely.

Zerynthia cerisy (GODART, [1824]) : not specified (KOUTSAFTIKIS 1974, ONDRIAS, KOUTSAFTIKIS & DOUMA-PETRIDOU 1979); Sími (0-100m), 16.IV.1990; Panormítis (0m), 16.IV.1990. 7 males and 1 female taken; in all specimens the row of postdiscal markings on the hindwings is of a red colour (on Ródos these markings are yellow in more than 2/3 of the population). 2 males fresh, all other specimens worn. ONDRIAS, KOUTSAFTIKIS & DOUMA-PETRIDOU (l.c.) state that there are differences in the male and female genitalia of the specimens from Sími as compared to other material but as they don't give any precision no importance should be accounted to this statement.

([1]) completely absent in aberrant specimen of *tessellum* shown on fig. 4a.

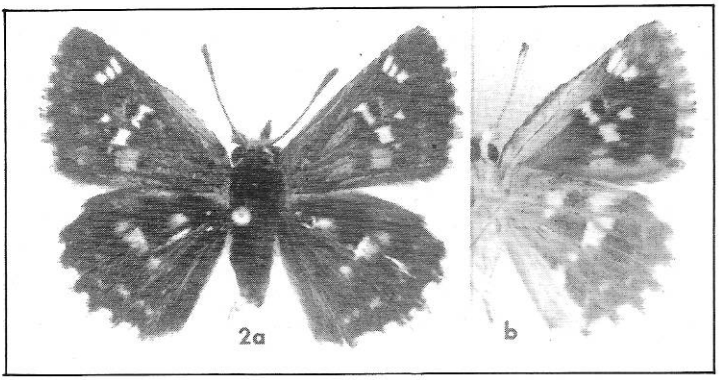

Fig. 2 : *Muschampia proto aragonensis* DE SAGARRA, 1924, male, Sími (Sími, Greece), 31.V.1983, leg. G. THOMSON, in coll. A. OLIVIER, a. upperside, b. underside.

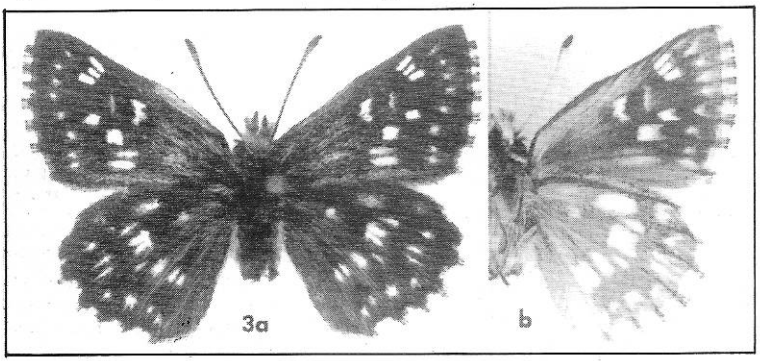

Fig. 3 : *Muschampia tessellum tessellum* (HÜBNER, [1803]), male, Sími (Sími, Greece) (0-100m), 16.IV.1990, leg. et coll. A. OLIVIER, a. upperside, b. underside.

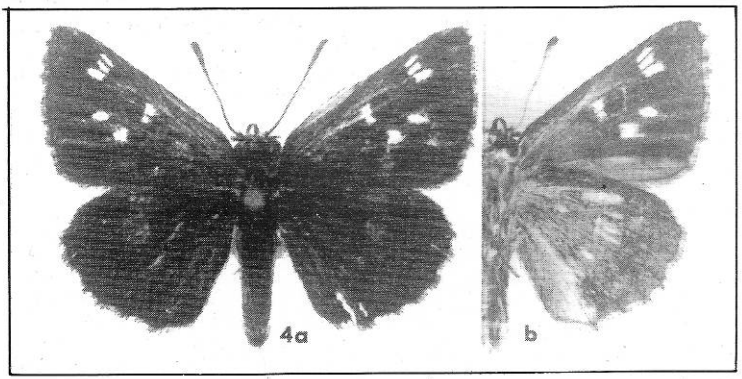

Fig. 4 : *Muschampia tessellum tessellum* (HÜBNER, [1803]), male [aberrant specimen], Sími (Sími, Greece) (0-100m), 16.IV.1990, leg. et coll. A. OLIVIER, a. upperside, b. underside.

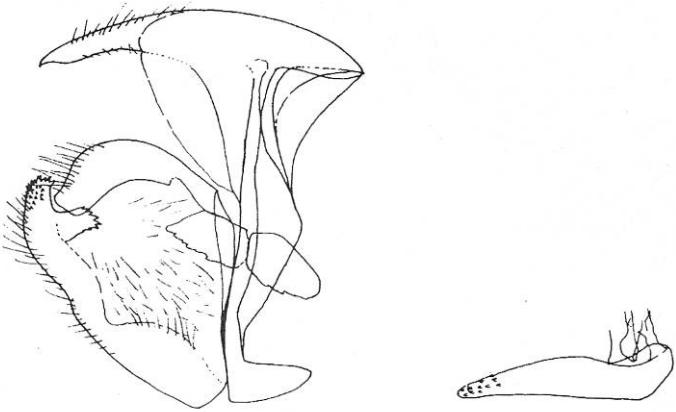

Fig. 5 : *Muschampia proto aragonensis* DE SAGARRA, 1924, male genitalia, Sími (Sími, Greece), 31.V.1983, leg. G. THOMSON, in coll. A. OLIVIER, a. genitalia, right valva omitted, b. penis (Prep. GT).

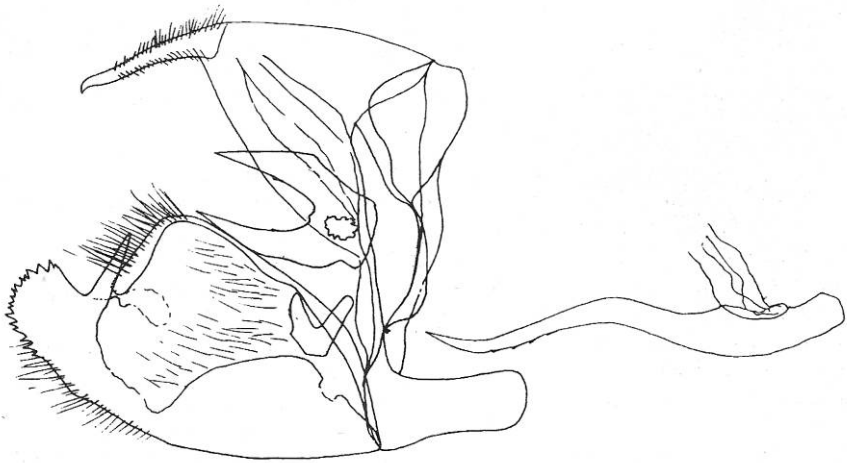

Fig. 6 : *Muschampia tessellum tessellum* (HÜBNER, [1803]), male genitalia, Sími (Sími, Greece) (0-100m), 16.IV.1990, leg. et coll. A. OLIVIER, a. genitalia, right valva omitted, b. penis (Prep. WDP 3025).

Papilio machaon syriacus ELLER, 1936 : not specified (KOUTSAFTIKIS 1974). Not recorded during my visit.

Iphiclides podalirius podalirius (LINNAEUS, 1758) : not specified (KOUTSAFTIKIS 1974); Sími (0-100m), 16.IV.1990, 1 female taken, a few more specimens seen.

Colias crocea (FOURCROY, 1785) : not specified (KOUTSAFTIKIS 1974). Not recorded during my visit.

Pieris brassicae brassicae (LINNAEUS, 1758) : not specified (KOUTSAFTIKIS 1974); Sími (0-100m), 16.IV.1990, 4 males taken.

Pieris rapae rapae (LINNAEUS, 1758) : not specified (KOUTSAFTIKIS 1974); Símí (0-100m), 16.IV.1990; Panormítis (0m), 16.IV.1990, 1 male collected in each locality.

Satyrium ilicis ilicis (ESPER, [1779]) : Símí, 31.V.1983, one only (female) taken (THOMSON 1985). Not recorded during my visit although I took it commonly (males only) 5 days later at Bozburun (Prov. Muğla, Turkey).

* ***Lycaena phlaeas phlaeas*** (LINNAEUS, 1761) : Símí (0-100m), 16.IV.1990, 1 female taken.

Leptotes pirithous (LINNAEUS, 1767) : not specified (KOUTSAFTIKIS 1974). Not recorded during my visit.

Vanessa atalanta atalanta (LINNAEUS, 1758) : not specified (KOUTSAFTIKIS 1974). Not recorded during my visit.

Vanessa cardui (LINNAEUS, 1758) : not specified (KOUTSAFTIKIS 1974). Not recorded during my visit.

Hipparchia fatua fatua (FREYER, [1845]) : not specified (TURATI 1929). Not recorded during my visit; the flight period of this species starts in mid-June on the eastern Aegean islands (pers. obs.).

Maniola telmessia (ZELLER, 1847) : not specified (TURATI 1929, KOUTSAFTIKIS 1974); Pedi, 31.V.1983 (THOMSON 1985); Símí, 31.V.1983 (THOMSON 1985); Símí (0-100m), 16.IV.1990, 5 males taken in a dry gully.

Ypthima asterope asterope (KLUG, 1832) : not specified (KOUTSAFTIKIS 1974); Símí (0-100m), 16.IV.1990, 4 males taken in a dry gully, together with a.o. *M. tessellum tessellum* and *M. telmessia*. Judging on the perfect state of the specimens the species had just emerged (5 days later at Bozburun both sexes were well out, the males mostly worn).

Lasiommata megera megera (LINNAEUS, 1767) : Pedi, 31.V.1983 (THOMSON 1985); Símí, 31.V.1983 (THOMSON 1985). Not recorded during my visit.

Lasiommata maera maera (LINNAEUS, 1758) : Pedi, 31.V.1983 (THOMSON 1985); Símí, 31.V.1983 (THOMSON 1985); Símí (0-100m), 16.IV.1990, 2 males taken.

Comparative data from the adjacent Turkish mainland

A few days after my visit to Símí I had the opportunity to collect for a period of two days at Bozburun, a locality situated on the Turkish mainland facing Símí. Here I could collect 21 butterfly species, 9 of which have not been recorded so far from Símí. At least some of these will probably turn up on Símí in the future, provided the right conditions (foodplants etc.) exist. Specimens of taxa occurring on Símí as well as at Bozburun differ in no way. A list of my observations at Bozburun is given below (two asterisks ** before a species indicate that it has not been recorded from Símí).

Bozburun (Daraçya Yarimadasi, Prov. Muğla, Turkey) (0-50m), 21/22.IV. 1990 [Waste grounds with many Cruciferae, dry flowery waysides and meadows, rocky garrigue on the hills].

Thymelicus sylvestris (PODA, 1761) : 21 & 22.IV.1990
***Gegenes pumilio pumilio* (HOFFMANSEGG, 1804) : 21.IV.1990
***Carcharodus alceae alceae* (ESPER, [1780]) : 21 & 22.IV.1990
Spialia (sertorius) semispecies *orbifer orbifer* (HÜBNER, [1823]) : 21 & 22.IV.1990
Muschampia tessellum tessellum (HÜBNER, [1803]) : 21 & 22.IV.1990
Zerynthia cerisy (GODART, [1824]) : 21.IV.1990
Iphiclides podalirius podalirius (LINNAEUS, 1758) : 21.IV.1990
Colias crocea (FOURCROY, 1785) : 21.IV.1990
Pieris brassicae brassicae (LINNAEUS, 1758) : 21.IV.1990
Pieris rapae rapae (LINNAEUS, 1758) : 21.IV.1990

** *Euchloe ausonia taurica* RÖBER, 1907 : 21 & 22.IV.1990
** *Callophrys rubi rubi* (LINNAEUS, 1758) : 21 & 22.IV.1990
** *Satyrium acaciae acaciae* (FABRICIUS, 1777) : 21 & 22.IV.1990
Satyrium ilicis ilicis (ESPER, [1779]) : 21 & 22.IV.1990
Lycaena phlaeas phlaeas (LINNAEUS, 1761) : 21 & 22.IV.1990
** *Lycaena thersamon thersamon* (ESPER, [1784]) : 21 & 22.IV.1990
** *Glaucopsyche alexis alexis* (PODA, 1761) : 21.IV.1990
** *Melitaea trivia trivia* ([DENIS & SCHIFFERMÜLLER], 1775) : 21.IV.1990
Maniola telmessia (ZELLER, 1847) : 21 & 22.IV.1990
Ypthima asterope asterope (KLUG, 1832) : 21 & 22.IV.1990
** *Kirinia roxelana* (CRAMER, 1777) : 21.IV.1990

Concluding remarks

The island of Sími is well worth being revisited in the future and no doubt some more species will turn up there. With 20 species recorded the island is relatively rich in comparison to the much larger island of Ródos (with 47 species reliably recorded). Noteworthy is also the presence on Sími of some species that occur on most of the eastern Aegean islands and/or in SW Turkey, but that seem absent on Ródos (*T. sylvestris, M. proto, M. tessellum, S. ilicis*), combined with the fact that none of the species have differentiated to any significant degree on Sími as compared to the populations of the adjacent mainland. To the contrary on Ródos there are a few well-differentiated endemic subspecies of otherwise widespread species (OLIVIER in prep.).

Both Sími and Ródos have been separated from the nearby Turkish mainland since the late Pliocene-early Pleistocene (MEULENKAMP 1985 : 313, CARLSTRÖM 1987 : 9) and have remained isolated during the Pleistocene glaciations, Sími however being separated from the mainland only by a narrow passage of water. It must be taken into consideration that the presence of two plant taxa *Campanula simulans* and *Nigella arvensis* subsp. *glauca* on Sími and Tílos as well as on the nearby Turkish mainland suggests nevertheless that the islands could have been connected with the mainland at some time later than Ródos became isolated (CARLSTRÖM op.cit.: 21).

At any rate it is obvious that physical barriers to gene flow and access between the islands and the Turkish mainland (width of the sea arms) have been far less intense from the Pleistocene up till now on Sími as on Ródos, this probably explaining some of the characteristic differences between the butterfly faunae of both islands.

Acknowledgments

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Boekbespreking

Emmet, A.M. : *The Scientific Names of the British Lepidoptera. Their History and Meaning.* 15,5 x 23,5 cm, 288 p., 8 zwartwit-foto's, Harley Books, Martins, Great Horkesley, Colchester, Essex CO6 4AH, England, 1991, paperback 24.95 Pounds (ISBN 0-946589-35-6), hard cover 49.95 Pounds (ISBN 0-946589-28-3).

Door de steeds dalende belangstelling voor een Grieks-Latijnse opleiding is de betekenis van vele Latijnse namen in de biologie verloren gegaan. Vooral bij vlinders worden vele namen gevormd naar namen uit de Griekse mythologie, geografische namen of namen van beroemde entomologen. Dikwijls ook krijgt een soort een meer beschrijvende naam. A. JANSSEN zocht de betekenis op van de Latijnse namen van de Belgische dagvlinders (*Phegea* **8**: 37-45). A.M. EMMET ging verder en trachtte bij alle namen van Britse Lepidoptera een verklaring te zoeken. Dit leidde tot een indrukwekkende lijst van meer dan 3000 namen, want ook familie- en genusnamen werden opgezocht. Slechts van een klein aantal namen kon de oorsprong niet meer afgeleid worden.

Het boek begint met een algemene inleiding in de zoölogische nomenclatuur en een overzicht van de historiek van de nomenclatuur in de Lepidoptera. Ook wordt uitgelegd waarom het noodzakelijk is sommige namen te wijzigen. Het hoofddeel bestaat echter uit een systematische opsomming van alle Britse Lepidoptera met een korte uitleg bij elke naam. Griekse namen worden zowel in het Grieks als getranslitereerd afgedrukt. In een aantal appendices worden opgesomd: de beroemdheden waarnaar vele vlinders werden genoemd, geografische namen gebruikt in de naamgeving, de onopgeloste gevallen (slechts 35 namen), fouten in het boek door McLEOD «Key to the names of British butterflies and moths». Het boek eindigt met een literatuurlijst en een alfabetische lijst van de taxa.

Een erg interessant boek voor wie meer wil weten over de achtergrond van de zoölogische nomenclatuur.

W.O. De Prins