Notes on Lepidoptera, mostly Microlepidoptera

by
J. H. KUCHLEIN
(*Zoölogisch Museum, Amsterdam*)

Tinea pallescentella Stainton.

VAN ROSSEM reported that this species was found in fish-meal originating from Iceland (1952, *Tijdschr. Entom.* 95 : LXXXVI). The material was collected at Amsterdam (prov. of Noord-Holland). Some years later, in 1954, the larvae were found in an apparatus for breeding *Enchytraeus* at Maastricht (prov. of Limburg) (1955, *Entom. Ber.* 15 : 365). In the collection of the Plantenziektenkundige Dienst (Wageningen) no adults of this species are represented now, but I saw two larvae which Mr. VAN ROSSEM kindly sent to me.

T. pallescentella was described from England in 1851 and is supposed to come originally from South America. It has been recorded, as far as I know, from the following neighbouring countries: Sweden, Germany (GRABE, 1955, Kleinschmetterlinge des Ruhrgebietes : 143), Austria and Belgium. In the later country it was discovered by JANMOULLE in 1951 (1955, *Lambillionea* 55 : 3).

May be these scarce records are due to the superficial resemblance with *Tinea fuscipunctella* Haworth, but the adults differ both in colour of the forewings and genitalia.

It is remarkable that this species is not mentioned in handbooks like those of ZACHER and SORAUER. According to COURBET & TAMS (1943, *Proc. zool. Soc.* ser. B. 113 : 111) the larvae live in stored cereals, dried skins and woollen material. In their paper photographs of male and female, as well as text figures of head and genitalia of both male and female are given. PIERCE & METCALFE (1935, The Genitalia of the Tineina) figured the genitalia of male and female on plate 58. HINTON figured the prothorax of the larvae (1943, *Bull. ent. Research* 34 : 211, fig. 125).

See for the conception "indigenous" of insects associated with stored products: DIAKONOFF (1937, *Tijdschr. Entom.* : XXXII—XXXIII) and VÁRI (1951, *Entom. Ber.* 13 : 195).

Eidophasia messingiella (Fischer von Röslerstamm), f. *triangulella* Schille 1905 = *dorsana* Caradja 1920 = *dorsomaculata* Doets 1950.

Of this species, discovered in our country in 1929 by HAVERHORST (1930, *Entom. Ber.* 8 : 135), DOETS raised in 1947 and 1948 a hundred specimens from larvae, found by him near Rhenen (prov. of Utrecht). He described a number of forms and one of these is f. *dorsomaculata* (1950, *Entom. Ber.* 13 : 85, fig. 5), in which of the fascia on the forewings only a dot on the dorsum is left. BENTINCK (1950, *Entom. Ber.* 13 : 85—86) found a specimen of this form near Meerssen (prov. of Limburg).

AMSEL (1953, *Zeitschr. Lepid.* 3 : 50) states that this form had already been described as *dorsana* by CARADJA (1920, *Iris* 34 : 93), but when following punctually the rules of priority we must give the honour to SCHILLE, who described and figured this form as *triangulella* in 1905 (*Spraw. Kom. Fizjogr.* 38 : 5, pl. 1, fig. 2).

Ancylis paludana Barrett

In the marshes of Botshol (near Abcoude, prov. of Noord-Holland) I captured two specimens of this species on 27.V.1956.

A. paludana was described from England in 1871 and occurs there locally plentiful in some fens. MEYRICK, discussing in his „Handbook" (1895 : 477) the geographical distribution of this species, recorded "Germany", but in his "Revised Handbook" (1928: 534) he put a question-mark against this indication. Mr. E. JÄCKH (in litt.) possesses no data about the occurrence of *A. paludana* in Germany and I suppose that MEYRICK erroneously mentioned this country in his „Handbook".

So this species is only recorded on the continent from the Netherlands, viz. Zegveld (prov. of Utrecht; G. A. BENTINCK, 1942, *Tijdschr. Entom.* **85** : XXIV, C. DOETS leg.), Kortenhoef (prov. of Noord-Holland; C. DOETS, 1946, *Entom. Ber.* 12 : 85; 1949, *Entom. Ber.* 12 : 415), Botshol (prov. of Noord-Holland) and Hillegom (prov. of Zuid-Holland, one specimen on m.v. lamp). These localities are all situated in the western part of our country.

Various species of insects have co-subspecific forms in England and the western part of our country and perhaps we should look in this direction for a geopraphical explanation, as it is difficult to admit that this beautiful moth would have been overlooked in other parts of Europe.

Mr. J. D. BRADLEY of the British Museum (N.H.), London, was so kind as to send me some British examples of *A. paludana* and it appeared that they are quite the same as our Netherlands material. Dr. A. DIAKONOFF, who kindly made preparations of the genitalia of three British specimens (♂, ♀) and of three Dutch ones (♂, ♀), drew my attention to the fact that both males and females showed slight differences, which however remain within the range of individual variability.

The caterpillar was described by DOETS (1949, *Entom. Ber.* 12 : 415), but this publication was not mentioned in recent work on Tortricids; it lives on *Lathyrus paluster* L., but is not easily discovered.

The moth was pictured by KNAGGS (1872, *Ent. Annual,* London, pl. 1 fig. 5) and KENNEL (1908—1921, Die Palaearktischen Tortriciden, pl. 18 fig. 15). The genitalia of both male and female are figured by PIERCE & METCALFE (1922, The Genitalia of the Tortricidae, pl. 19).

Ancylis lundana (Fabr.), f. **marginepunctana** nov. (fig. 1).

In the keys, given by MEYRICK in his above mentioned handbooks (1895, 1927), and also in the keys of VAN DEURS (1956, Danmarks Fauna, Sommerfugle VIII, Viklere: 126) *Ancylis paludana* Barrett is distinguished from this species by the presence of three black dots at the base of the cilia of the forewings. Examining the material of *A. lundana* in the collection of the Zoölogisch Museum, Amsterdam, I could etablish that some specimens had one or more similar dots at the base of the cilia of the forewings. I give the name **marginepunctana** nov. to this form of *Ancylis lundana.* Holotype from Leipzig (Germany, E. HEYNE leg.) in the collection of the Zoölogisch Museum, Amsterdam. Allotype in the same collection (ex coll. SCHUYT), without further indication, probably from Central Europe (fig. 1).

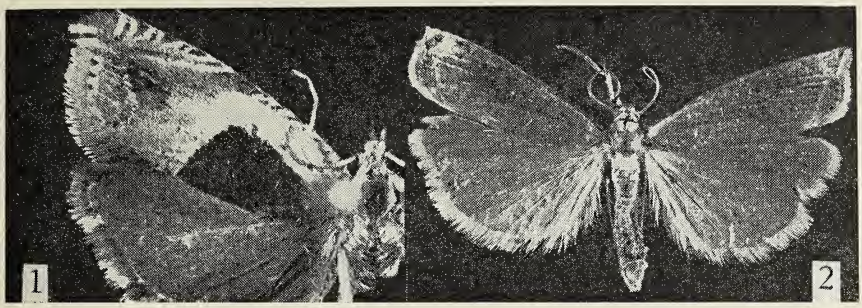

Photo J. J. HOEDEMANN

Fig. 1. *Ancylis lundana* (Fabr.), f. *marginepunctana* nov.; × 6. Fig. 2. *Crambus pascuellus* (L.), f. *obscurellus* nov.; × 2½.

Crambus pascuellus (L.), f. **obscurellus** nov. (fig. 2).

The forewings are dark brown; of their markings only the subterminal line is left as a yellow fascia. The ciliae of the forewings are metallic. Hindwings grey. Head, labial palps, thorax, legs and abdomen dark brown.

Holotype (fig. 2) in my collection. I captured this specimen in the marshes of Botshol near Abcoude (prov. of Noord-Holland) amongst many typical specimens.

I shall give a key here for the forms of *Crambus pascuellus*, based upon the original descriptions.

The diagnosis of this species, given by LINNAEUS in his "Fauna Suecica" (1761): 355 runs as follows: "PH. TINEA pascuella alis superioribus pallidis: linea maculisque duabus oblongis albissimis", completed by the following description: "Alae superiores flavicantes: Linea albo-argentea, lata, lanceolata, longitudine fere alae; ad hujus apicem utrinque macula oblonga utrinque acuta; ante apicem lineolae duae, obliquae. Inferiores alae albidae. Subtus omnes fuscae".

1. ground colour of the forewings lighter than in typical specimens . . . 2
— ground colour of the forewings darker than in typical specimens, in any case the labial palps darker 3
2. median stripe of the forewings white, though shorter and narrower than that of typical specimens. Ground-colour of the forewings a dirty light mixture of grey and gold . . . . . f. *extinctellus* Zeller
   described as a distinct species from Iceland (1857, *Stett. ent. Z.* **18**: 271—272).
— median stripe of the forewings only indicated. Ground colour of the forewings dirty-white. Of the original ground-coulour some yellowish rests remain . . . . . f. *collutellus* Fuchs
   described from Odinsnack near Bornich (Germany) (1902, *Stett. ent. Z.* 63 : 319).
3. median stripe white, but narrower than that of typical specimens . . . . . subsp. *cyrnellus* Schawerda
   ground colour of forewings as well as hindwings darker than that of subsp. *fumipalpellus* Mann. Described from Corsica (1926, *Iris* 40 : 152)
— median stripe more or less darkened 4
4. labial palps greyish yellow . . . . . f. *scrirpellus* de la Harpe

median stripe of the same shade as the ground colour, which is like that of *Crambus dumetellus* (Hübner). Described as a distinct species from Aigle (Switzerland), where three specimens were captured amongst typical *C. pascuellus* (1863, Suppléments à la Faune des Lépidoptères suisses : 46). One of these specimens was pictured by Millière (1864, Iconographie et Description de Chenilles et Lépidoptères inédits, pl. 45 fig. 1). Possibly Zeller's "var. b", described from Iceland (1857, *Stett. ent. Z.* **18** : 270—271) represents an extreme example of this form.

— labial palps deep smoky brown or black brown 5

5. ground-colour of the forewings as well as the markings brown . . . . . subsp. *fumipalpellus* Mann

described as a distinct species from the Glockner area (Austria; 1871, *Verh. zool.-bot. Ges. Wien* **21** : 75).

— ground-colour of the forewings dark grey-brown. Hindwings dark grey . . . . . f. *obscurellus* nov.

markings only indicated.

Zeller (1857, *Stett. ent. Z.* **18** : 270—271) described from Iceland a form of *Crambus pascuellus* as "var. a", in which the forewings as well as head, labial palps and thorax have a greyish bloom. Snellen (1882) in his „Vlinders van Nederland — Microlepidoptera": 97 recorded as "variëteit II' a similar specimen from Rotterdam (prov. of Zuid-Holland). Dr. Diakonoff kindly sent me Snellen's two specimens, captured at Rotterdam, now in the Museum van Natuurlijke Historie at Leiden. One of them answers to the description of Linnaeus, the other one, most probably the "variëteit 'II has head, labial palps, thorax and abdomen somewhat greyish, whilst the forewings have a different gloss, and the hindwings are darker grey. In my opinion, however, these slight differences do not justify a new name for this specimen.

I wish to express my thanks to Prof. Dr. G. de Lattin (Hamburg), Dr. S. Bleszynski (Krakow), and Dr. J. Klimesch for their valuable information concerning this species.

Photo J. J. Hoedeman

Fig. 3. *Palpita unionalis* Hübner, ♂, Loenen-Utr., 25.IX.1956. Fig. 4. ♀, Amsterdam, 28.IX.1956.

Palpita unionalis Hübner, f.n.sp. (figs. 3 and 4).

In 1956 this species was recorded within our frontiers from three different localities :

Amsterdam (Amsterdamse Bos, prov. of Noord-Holland), 28.IX (one female Kuchlein), Loenen (prov. of Utrecht), 25.IX (two males) and 19.X (one male,

Fig. 5. Map of the localities of *Palpita unionalis* Hübner in Western Europe.

Kuchlein), Hoog-Keppel (prov. of Guelderland), 2.IX (two specimens, Boer Leffef), all at m.v. lamps.

Geographical distribution.

I have seen records from the following countries or territories :

Europe: Ireland, Great Britain, Netherlands, Belgium, Germany, Denmark, France (damage on *Jasminum*, Berland & Séguy 1922, Balachowsky, fide Balachowsky & Mesnil, 1936), Spain (damage on olive trees Riba Feeré 1920), Gibraltar, Switzerland, Italy (damage on olive trees, Martelli 1915, Malenotti 1926), Carpathians, Austria, Yugo-Slavia, Greece (damage on olive trees, Koronéos 1939) and Cyprus (damage on olive trees, Morris 1937).

Africa: Canarian Islands, Madeira, Tangier, Morocco, Algeria (damage on olive trees, Watières 1921), Tunesia (damage on olive trees, report 1929), Egypt, Sierra Leone, Congo, Uganda, Mozambique, South Africa.

Asia: Turkey, Lebanon, Israel (damage on olive trees, Aaronsohn 1914), Southern Arabia, India, Ceylon, Indo-China and Indonesia (damage on *Jasminum*, Kalshoven 1950).

Australia.

Palpita unionalis AS A MIGRANT.

In Central, N.W. and N. Europa *Palpita unionalis* is an immigrant as is apparent from its distribution, the irregulartity of its occurrence (it has, however, become a regular immigrant on the British southcoast in the last few years), the dates of the captures and its biology. Already MILLIÈRE (1864, Iconographie et Description de Chenilles et Lépidoptères inédits: 42) was surprised at records from the Midi (France), "où cependant ne croissent jamais les oliviers", some years before the first specimens had been captured in England.

An impression of the localities where *Palpita unionalis* has been captured in this part of Europe, as far as they are known to me, is given in the map fig. 5. This map shows the frequent migration to the British south-coast, which has also been noticed with other migrating Lepidoptera (e.g. *Nycterosea obstipata* (Fabr.), *Colias crocea* (Fourcr.), *Herse convolvuli* (L.)), and also with migrating birds.

Another remarkable feature is represented by the fluctuations in the records in Great Britain since the first specimen was captured in 1859:

1859—1890	19 specimens
1891—1944	13 specimens
1945—1954	54 specimens
1955	42 specimens
1956	108 specimens

Perhaps these fluctuations are due to the interests or methods (the use of m.v. lamps !) of the collectors or to the influence of the established amelioration of the British climate (BRETHERTON, 1955, *Entomologist* **88** : 78), but may also be ascribed to a change in the habits of this insect.

Except on the English south-coast, *Palpita unionalis* remains in N., N.W. and Central Europa a rarity, though 1956 was a comparatively favourable year for this species on this part of the continent. I noted:

Belgium: Liège (2 specimens in September, JANMOULLE in litt.)

Germany: Hirzstein near Kassel (one specimen on 13.IX, leg. REUHL, JÄCKH in litt.); Garding (Eiderstedt), one specimen on 6.IX JESCHKE (1956, *Mitt. faun. Arbeitsgem. Schleswig-Holstein,* Neue Folge 9 : 49).

The Netherlands: the six specimens mentioned above.

In Great Britain *Palpita unionalis* was found in years, good for migrant insects generally (1877, 1947, 1949) as well as in cold and wet years (1920, 1954, 1955, 1956). In 1956 there was also strong invasion of *Acherontia atropos* (L.) and *Herse convolvuli* (L.) in N.W. Europe, but this was evidently not the case in the preceding year. The geographical data of *Palpita unionalis* in this part of Europe remind of those of *Nycterosea obstipata* (Fabr.), a species which, some years later however, also became a more regular immigrant on the English south-coast.

WHENCE AND HOW DOES *Palpita unionalis* COME ?

Without doubt this species is a resident in Southern Europe. MILLIÈRE (l.c.: 42), in southern France, found the moths in winter. MARTELLI (1915, *Boll. Labor. Zool. Portici* **10** : 100) bred *Palpita unionalis* in southern Italy during a whole year. He got at least five generations, but in December and January no adults hatched. However, in Southern Europe *Palpita unionalis* is by far not as

common as in the tropical and subtropical regions of Africa. In Uganda it is one of the commonest Pyralids (SEVASTOPULO, 1955, *Entomologist* **88** : 165). There are some other indications, that the invasions may not have their origin in Southern Europe, but more to the South. So KLIMESCH (1942, *Mitt. Münchn. ent. Ges.* **32** : 357) states for Gravosa (near Dubrovnik, S. Dalmatia), that in springtime few specimens were captured, but that it was common in September 1936. BALACHOWSKY & MESNIL (1936, Les Insectes nuisibles aux Plantes cultivées II : 1492), describing the damage caused to *Jasminum* in S. France, pointed out the "brusquerie" of the invasion. Finally BRETHERTON observed (1956, *Entomologist* **89** : 183) that *Palpita unionalis* was recorded from two localities in England along with *Rhodometra sacraria* (L.) wich is essentially a North African species.

Another point that gives food for hypotheses is the way in which *Palpita unionalis* and other smaller migrating Lepidoptera might reach our latitudes. SEILKOPF (1955, *Bombus* **88/89** *:* 370) and WARNECKE (*Bombus* **88/89** *:* 372) thought to be able to explain the captures of *Palpita unionalis* from Hamburg and S. England in 1954 by air-currents, originating from the S.W. part of the Sahara. Dr. TEN KATE of the Meteorological Office at De Bilt informed me that indeed in some years dust from the Sahara was observed in our country. However, the frequent records from the English south coast (preferred by many migrants !) are much more numerous than could be accounted for by local upward air currents in the regions of origin (BRETHERTON, 1956, *Entomologist* **89** : 183), and meteorologists cannot see why especially South England might be situated more favourably for these air currents than other parts of N.W. Europe. Moreover, a provisional research of the Meteorological Office at De Bilt could not make clear what special circumstances in the higher layers of air made the autumn of 1956 in our country so favourable for *Palpita unionalis*.

THE BIOLOGY OF *Palpita unionalis*.

In Uganda the moth may be observed in all seasons (SEVASTOPULO, l.c.). In S. Italy there are at least five generations a year, the life-cycle varying from 33 to 82 days, according to the season (MARTELLI, l.c.: 101). HOWARTH (1950, *Ent. Gazette* 1 : 85—88) bred the larva at a steady temperature of 75—80° F. and under these conditions the life-cycle was completed in 31 to 36 days.

At our latitudes the moths are mostly captured in September and October; in England from the end of July to November. I know but two specimens of earlier dates: Ostende (Belgium), 15.V.1939 (in England no captures during that year), and S. England 16.VI.1955. BRETHERTON (1955, *Entomologist* **88** : 80; 1956, **89** : 183) thinks that the recording of specimens in the same place 6—12 weeks later almost certainly represents the offspring of this former generation. According to him the relatively large number of autumn specimens may be the offspring of small numbers of immigrants which have arrived from June to August. However, at present it is supposed for migrants with similar appearance that in summer and autumn new immigration takes place. HOWARTH (l.c.) even suggests that *Palpita unionalis* could weather the English winter in some places on the South-coast where *Jasminum* keeps its leaves. Nevertheless none of the earlier stages have yet been found wild in England.

According to litterature the larvae feed on Oleaceae (*Olea* spp., *Jasminum* spp.,

Ligustrum japonicum, Forsythia) and is also reported from *Arbutus (Ericaceae)*. For our latitudes *Olea* and *Arbutus* can be left out of consideration, but *Ligustrum japonicum* keeps its leaves here even in winter. Dr. P. VERMEULEN (Hugo de Vries Laboratorium, Amsterdam) informed me that *Jasminum officinale* loses its leaves after the first frost, whilst *Jasminum nudiflorum* keeps its leaves here during winter. *Forsythia* has no leaves during winter, but this plant flowers very early in spring. According to these data it would be possible for *Palpita unionalis* to find food in our regions in winter (so not only on the British South-coast !). There must therefore be other factors which prevent this species from surviving from one season to another.

It is repeatedly reported as a pest on olive trees and *Jasminum*. MARTELLI (l.c. : 101) stated that usually it attacks the leaves of the suckers of olive trees in South Italy and is beneficial in this case, but when young plants are attacked by large numbers of larvae it is injurious. It attacks the tender leaves at the tip of the twig after first weaving a few threads around the leaf thus forcing it to assume a tubular form, and remains in this tube until the first moult is completed. BALACHOWSKY & MESNIL (l.c. : 1491—1492) described the same habits of the larvae on *Jasminum* in Southern France, but here the flowers are also attacked. According to BERLAND & SÉGUY (1922, *Bull. Soc. ent. France* : 93) the larvae, after feeding in the flowers for some time, escape by perforating the corolla in search of further food. KALSHOVEN (1950, De Plagen van de Cultuurgewassen in Indonesië I : 455—456) figured an attacked leaf at the tip of *Jasminum*. He remarks that on Java the pest develops especially at the end of the rainy season. It may occur that in the following months all the trees in the gardens are deprived of their leaves as a result of the voracity of the numerous larvae.

The larva was described and pictured by MILLIÈRE (l.c. : 40—41, pl. 55 figs. 3 and 4).

In daytime in England the moth has only been found at rest and there are no records than it has been easily disturbed or seen flying naturally. It appears to fly at dusk, and has then been found feeding on ivy blossom, on flowers of *Arbutus,* honeysuckle, *Buddleya,* and on sugar (BRETHERTON, 1955, *Entomologist* **88** : 78—79). MARTELLI (l.c. : 97) records moreover that it feeds on sweet excreta of Coccids. LHOMME (1935, Cat. Lép. France Belgique II : 116) mentions an observation in Sicily where swarms of *Palpita unionalis* were flying round Jasmine just before dawn. MARTELLI (l.c. : 96—97) states that it is seen flying round olive branches with new growth in Southern Italy. If disturbed by day it flies away zigzag and settles quickly under another leaf. MILLIÈRE (l.c. : 42) states for the Provence (France) that it „vole rapidement dans la campagne et sur les collines cultivées".

Its eggs are deposited separately or together either on the surface of the olive leaves or on the green twigs (MARTELLI, l.c.: 101). BERLAND & SÉGUY (1922, *Bull. Soc. ent. France* : 93) state that it evidently oviposits in the interior of the flowers of *Jasminum,* which open at night.

A remarkable feature of the captures at light in England is the predominance of females over males: 17 to 11 in the cases where the sex is stated, whereas for most moths just the contrary is recorded (BRETHERTON, 1955 *Entomologist* **88** : 79). In Uganda SEVASTOPULO (l.c. : 165) found decidedly more males than

females and suggests that the reported preponderance of females over males in Britain may have something to do with the migration of the species. On the other hand, however, the ratio of the sexes in some English breedings were the following:

males	females
1	8
36	65
7	6
9	6

BRETHERTON (1956, *Entomologist* 89 : 184) points out the fact that the latter brood was reared under difficult conditions and he concludes that there really may be a sex discrepancy in favour of the female, but that this may be masked by superior hardiness among the male larvae.

NOMENCLATURE.

Finally some remarks about the generic name used. The well known name *Margaronia*, a dust-bin for hundreds of almost merely tropical and subtropical species, must fall, for it was preceded by three other names of the same application in HÜBNER's own works, viz. *Palpita, Hapalia* and *Conchia. Palpita* is the oldest name and as defined by MUNROE *(Can. Entom.* 82 (1950): 218—220) it includes only a small part of the group assembled in the genus *Margaronia.* Moreover this species could be found in the genera *Diaphania* Hübner, *Glyphodes* Guenée (adopted by HAMPSON), and *Margarodes* Guenée.

My thanks are due to Mr. E. JÄCKH (Bremen), Mr. E. JANMOULLE (Brussels), Mr. G. HELMERS Jr. (Amsterdam), Dr. TEN KATE (De Bilt) and Dr. P. VERMEULEN (Amsterdam) for the valuable information they gave me.

Odezia atrata (L.)

At Vaals (prov. of Limburg) I captured on 2.VII.1951 a specimen of this species, which within our frontiers had only been found at Rolduc in 1904 (LEMPKE, 1949, *Tijdschr. Entom.* 90 : 151) and at "Piet Haan", where JESWIET, later a professor at Wageningen, captured a number of this Geometrid (1904, *De Levende Natuur* 9 : 85—86). Of JESWIET's specimens, which were divided among three collections, probably only one now remains (LEMPKE, l.c.). From the map, given by JESWIET (1904, l.c. : 123) it appears that Piet Haan is situated between Lemiers, Mamelis and Vijlen and so this locality is certainly another than where this species was captured by me. These three localities are all situated in South Limburg, not far from Aix-la-Chapelle (Germany), and adjoin those of the German and Belgian records.

The peculiarities in its habits and geographical distribution made the Chimney-Sweeper the object of some studies. In Germany *O. atrata* was at first taken for a mountain and subalpine species, but is proved to occur also in the lowlands of Northern Germany. According to WARNECKE (1942, *Ent. Z. Frankfurt* 56 : 161—164) this is a phenomenon, that can be observed more than once with species of Siberian origin, like *Rhyacia depuncta* (L.) and *Colostigia olivata* (Schiff.). But the fact remains that *O. atrata* is almost completely absent along the North-Sea coasts of the continent, in N.W. France and also in north Scotland. In Jutland and Schleswig-Holstein this species appears to be more

numerous in the eastern than in the western parts. FRANZIUS (1943, *Ent. Z. Frankfurt* 57 : 52—54) suggests in this connection that the wind may be an important factor, limiting the distribution, and he pointed out the fact that *O. otrata* fails on the coasts of Norway except the S.W. coast, where the mountains should create more favourable conditions. Also in Great Britain attention is paid to this matter as appears from the request for information of TOPPING (1951, *Ent. Gazette* 2 : 28) to attempt to ascertain the factors limiting the distribution of *O. atrata.*

According to BERGMANN (1955, Die Groszschmetterlinge Mitteldeutschlands 5 (1) : 28) *O. atrata* is the „Leitart von Massenbeständen des Rauhen Kälberkropfes auf feuchten Talwiesen des Gebirges".

A well-known fact is that the moths may sometimes be found in large numbers close together, like sea-gull colonies, as observed by FRANZIUS (l.c.). WARNECKE (l.c. : 164) described that in many spots in Vorarlberg (Austria) he counted about a hundred moths on ten square meters.

According to litterature the larvae live solitary on *Chaerophyllum hirsutum* L. and *Ch. aureum* L., *Conopodium denudatum* Koch (= *Bunium flexuosum), Anthriscus silvestris* Hoffm. and possibly on other Umbellifers.

Geosargus (Chrysochroma) bipunctatus, een aanvulling. In mijn artikel over *Geosargus* (*Chrysochroma*) *bipunctatus* Scop. (Diptera, Stratiomyidae; *Ent. Ber.* 15 : 468—472, 1955) merkte ik op, dat omtrent de leefwijze van deze soort weinig of niets bekend is. In de literatuur vond ik een notitie van J. EDWARDS (*Ent. monthl. Mag.* 83 : 64, 1947) dat hij een ♀ waarnam in Staffordshire, Engeland, dat zich geheel ingroef in een hoop koemest; hij veronderstelt, dat de vlieg in kwestie eieren af ging zetten, te meer daar het dier langer dan twintig minuten wegbleef. Een en ander klopt min of meer met de levenswijze van de andere soorten van het geslacht *Geosargus.*

De mededeling van EDWARDS is overgenomen door C. N. COLYER & C. O. HAMMOND (Flies of the British Isles, London & New York, p. 92, 1951). Deze auteurs, die een fraaie gekleurde afbeelding van het ♀ geven, spreken van *G. bipunctatus* als „not uncommon" in Groot-Brittannië.

A. C. VAN BRUGGEN, Division of Entomology, P.O. Box 513, Pretoria (Tvl.), Zuid-Afrika.

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E. A. STEINHAUS is de editor van het tweede deel van deze belangrijke serie en we kunnen ons eigenlijk al op het derde verheugen, voordat we ten volle de waarde van deel 2 gesavoureerd hebben. Fysioloog, systematicus, oecoloog, geneticus, toegepast entomoloog, of wat men ook zij, iedereen vindt er een stuk van betekenis. Men kan natuurlijk de vraag opwerpen of een compilatie wel zo heel trouw elke referentie ter plaatse geven moet, zodat er bijna geen zin normaal gelezen kan worden, wat in sommige stukken ver wordt doorgevoerd. Men kan ook de vraag stellen waarom nu juist deze auteur voor dit stuk gekozen is, maar als men geen kritiek oefent om der kritiek wille, kan men beter erkennen dat deze publicatie uitstekend is.

Het is niet goed om enkele auteurs te noemen, omdat het onaardig zou zijn tegenover de verzwegen namen. De twintig artikelen zijn merendeels door erkende onderzoekers geschreven. Sommigen weerklinken wat luider in de holten van het geheugen dan anderen, maar ook zij geven door hun ander timbre een aantrekkelijk accent aan de harmonie, waarin geen dissonanten voorkomen, die pas in het derde deel opgelost behoeven te worden.

Een goede aanwinst. — D. J. KUENEN