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Materiały do znajomości wachlarzykowatych (*Lepidoptera, Crambidae*) Część XVIII. Rewizja rodzaju *Chrysocrambus* BŁESZ.

Материалы к познанию семейства *Crambidae* (*Lepidoptera*) Часть XVIII. Ревизия рода *Chrysocrambus* BŁESZ.

Studies on the *Crambidae* (*Lepidoptera*) Part XVIII. Revision of the genus *Chrysocrambus* BŁESZ.

[Pl. LXXII — LXXVIII]

In the revision of the European species of the generic group *Crambus* F. s. l., I established a separate genus *Chrysocrambus* BŁESZ. (1957) for the species of the groups *Crambus cassentiniellus* ZELL. and *Crambus craterellus* (SCOP.). As I have shown in that paper, in spite of very pronounced similarity in design and coloration of the species, the groups show quite marked differences in the structure of the male genital armature. Owing to these differences, I established subgenera for either of the two groups, namely the subgenus *Chrysocrambus* BŁESZ. s. str. for the group *Crambus cassentiniellus* ZELL. and the subgenus *Chrysocramboides* BŁESZ. for the group *Chrysocrambus craterellus* (SCOP.).

The genus *Chrysocrambus* BŁESZ. is, to my knowledge, represented by species distributed almost exclusively in the Mediterranean area. Only *Ch. (Chrysocramboides) craterellus* (SCOP.) extends somewhat further to the North and has been reported from numerous localities in Central Europe. There

may be distinguished three main areas in which the species of the genus *Chrysocrambus* Błesz. occur. One would be South and Central Europe, the second North Africa and the third the Near East. In Europe we find six species of the genus *Chrysocrambus* Błesz.: *Ch. (Chrysocrambus) cassentiniellus* (Zell.), *Ch. (Chrysocrambus) sardiniellus* (Trti.), *Ch. (Chrysocrambus) cornutellus* (Pierce & Metcalfe), *Ch. (Chrysocrambus) dentuellus* (Pierce & Metcalfe). *Ch. (Chrysocrambus) danutae* sp. n. and *Ch. (Chrysocramboides) craterellus* (Scop.). As can be seen, most species belong to the subgenus *Chrysocrambus* Błesz. s. str., which is on the whole twice as numerous as the subgenus *Chrysocramboides* Błesz. I found in the material from North Africa which I was able to study four species of the genus *Chrysocrambus* Błesz. as well, but none of them is common for booth the North African and European areas. The species referred to were: *Ch. (Chrysocrambus) lambessellus* (Car.), *Ch. (Chrysocrambus) tingitanellus* (Chrét.), *Ch. (Chrysocrambus) maghrebellus* (Marion), and *Ch. (Chrysocramboides) kobelti* (Saalm.). Thus, also in North Africa, species of the subgenus *Chrysocrambus* Błesz. s. str. dominate over those of the subgenus *Chrysocramboides* Błesz. The third area inhabited by species of the genus *Chrysocrambus* Błesz. presents in this respect an altogether different picture since of the three species known to occur there, two belong to the subgenus *Chrysocramboides* Błesz. These are: *Ch. (Chrysocramboides) craterellus* (Scop.) and *Ch. (Chrysocramboides) syriellus* (Zerny). The only representative of the subgenus *Chrysocrambus* Błesz. s. str. known to live in the Near East is *Ch. (Chrysocrambus) cassentiniellus* (Zell.).

Although *Ch. (Chrysocrambus) cassentiniellus* (Zell.) and *Ch. (Chrysocramboides) craterellus* (Scop.) are frequently reported in literature to occur in North Africa I consider these data as unreliable. I examined an ample material of the genus *Chrysocrambus* Błesz. from North Africa. It included numerous specimens identified as *Ch. cassentiniellus* (Zell.) or *Ch. (Chrysocramboides) craterellus* (Scop.), but examination of the genitalia proved them to belong as a rule to other species. This renders the presence in North Africa of the two species open to serious doubt.

As far as I know, none of the 11 species referred to before has been found outside Europe, North Africa and the Near East, and outside these areas representatives of *Chrysocrambus* Błesz. are probably unknown. [1]

With reference to the vertical distribution it is important to say that the species of the genus *Chrysocrambus* Błesz. attain much greater heights in North Africa and in the Near East than in Europe. Let me quote, for instance, that the most elevated locality of *Ch. (Chrysocramboides) craterellus* (Scop.) I know of is Montgenèvre Près Briançon in the Alps, 1600—1700 m. The second species of *Chrysocrambus* Błesz. more widely distributed in Europe does not reach as high up and occurs in the lowlands or in the submontane regions. In North Africa *Ch. (Chrysocrambus) maghrebellus* (Marion) subsp. *rungsellus* (Marion) inhabits the Atlas Mountains (Moyen Atlas) at a height of 2000—2100 m (Marion, 1950). In my collection there is a specimen of this species from Tachdirt collected at a height of 2600—2700 m in the Atlas Mountains. *Ch. (Chrysocramboides) syriellus* (Zerny) occurs in the North Libanon at a height of 1400 m, and *Ch. (Chrysocramboides) craterellus* (Scop.) at a height of 1900 m.

Irrespective of the geographical region, the species of the genus *Chrysocrambus* Błesz. generally fly in June and July, with the only exception of *Ch. (Chrysocramboides) craterellus* (Scop.) which flies already in May. The biology of the species of *Chrysocrambus* Błesz. is almost unknown. Their larvae feed probably on grasses.

In 1763, Scopoli described the first species of the genus *Chrysocrambus* Błesz. as *Phalaena craterella* Scop., but it is now difficult to decide whether Scopoli described the species which is now generally known as *Ch. (Chrysocramboides) craterellus* (Scop.) or the very similar *Ch. (Chrysocrambus) cassentiniellus* (Zell.). The matter was recently raised by Obraztsov, who argued in his publication (1954) that the name *Phalaena craterella* Scop. refers to the species generally called *Ch.*

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[1]) Dr. H. G. Amsel described a new species of *Chrysocrambus* Błesz. This species is closely related to *Ch. cassentiniellus* (Zell.). The description is, probably yet in print.

(Chrysocrambus) cassentiniellus (ZELL.). *Ch. (Chrysocrambus) cassentiniellus* (ZELL.) and *Ch. (Chrysocramboides) craterellus* (SCOP.) are very much alike in external appearance and occasionally even confused with each other. They are usually distinguished by the design of the fore wing which has a number of dark streaks between the nerves in the area between the outer band and the outer margin. The first of these, below the costal margin (the apical streak), is in European specimens of *Ch. (Chrysocrambus) cassentiniellus* (ZELL.) single, unbranched (the streak is branched in the Libanon form of this species). In the second species, *Ch. (Chrysocramboides) craterellus* (SCOP.), the apical streak is always branched and on the fore wing of the species there are generally nine streaks between the outer band and the outer margin while in *Ch. (Chrysocrambus) cassentiniellus* (ZELL.) there are only eight of them. On evidence of the original description which reads: „*Phalaena craterella.* — long. lin. $5^1/_2$. Diagn. Alae anticae albidae; lineis longitudinalibus octo binisque transversis ferrugineis. In Graminae. Palpi porrecti lin. $1^1/_2$ longi; fimbria alae super. argentea", OBRAZTSOV inferred that since SCOPOLI described in his *Phalaena craterella* SCOP. eight longitudinal dark streaks on the fore wing the name ought to be referred to the species generally known as *Ch. (Chrysocrambus) cassentiniellus* (ZELL.). There are several reasons which make it difficult to agree fully with this view. The design of the fore wing is in both species somewhat variable and some pairs of the streaks show frequently a tendency to fuse or to become closer to each other. Thus, for instance, in *Ch. (Chrysocramboides) craterellus* (SCOP.) both branches of the apical streak become very close to each other, or even merge, so that they can be taken to represent a single streak. Moreover, SCOPOLI reported in his description of *Phalaena craterella* SCOP. that there are eight longitudinal streaks on the fore wing of this species, yet he referred to no particular part of the wing, while the apical streak, as was mentioned before, runs between the outer band and the outer margin of the wing. The remaining parts of the streaks are between the inner and the outer bands of the wing, as well as between the inner band and the alar base. Between the transverse bands of either of the two species there are nine

streaks, but the first one near the posterior margin of the wing obliterates and there are then only eight of them. This infers that the eight streaks quoted by Scopoli in his description of *Phalaena craterella* Scop. cannot be assumed to indicate unequivocally that the name *Phalaena craterella* Scop. should be referred to the species called generally *Ch. (Chrysocrambus) cassentiniellus* (Zell.). Since the type of *Phalaena craterella* Scop. does not exist, we do not know what specimens were available to Scopoli, typical or aberative ones, nor which streaks were counted by the author and exactly where. Nor should we disregard the likelihood of a certain confusion ensuing in the literature from a change of the existing nomenclature of the two species in question. Even if it were certain that Scopoli described under the name *Phalaena craterella* (Scop.) the species known generally as *Ch. (Chrysocrambus) cassentiniellus* (Zell.), the International Commision on Zoological Nomenclature should rather be approached to fix the existing nomenclature established by general use. Concluding these considerations we should add one important detail. Obraztsov quoted Herrich-Schäffer as the author of the name *Crambus cassentiniellus*. *Crambus cassentiniellus* was described in the same year (1849) by two authors independently, namely by Zeller and by Herrich-Schäffer. This happened probably because they both received from Mann specimens of a species which was called by Mann *Crambus cassentiniellus*. We read in Zeller's description: „*Cr. cassentiniellus* Mann n. sp." and in Herrich-Schäffer's description: „188. *Cassentiniellus* Mann. ". I do not understand why did Obraztsov quote 1848 as the year of Herrich-Schäffer's description, since volume IV of the work of the author, which presents on page 59 the description of *Crambus cassentiniellus*, is dated 1849. Zeller's description was published in the „Entomologische Zeitung" in October 1849. I could not ascertain the month in which volume IV of the work by Herrich-Schäffer was published. If the description by Herrich-Schäffer were the earlier one, I think that the International Commission on Zoological Nomenclature should be approached to recognize Zeller as the author of the name *Crambus cassentiniellus*, in agreement with general practice in lepidopterology since 1849.

With regard to pattern and coloration the genus *Chrysocrambus* BŁESZ. represents a closely allied group. The design of the fore wings consists of longitudinal dark streaks alternating with pale ones along the nerves. The streaks are intersected by two distinctly marked and arched transverse bands, an inner and an outer one. At the outer margin of the fore wing more or less discernible dark dots are found. The cilia of the outer margin are uniformly coloured and have a metallic lustre. Hind wings plain, brown-grey, with cilia usually distinctly brighter than the background, occasionally even white. Palpi long, very slender, with a metallic lustre. The underside of the antennae is in the males fairly distinctly serrate, unlike in the females.

As I have said before, I divided the species of the genus *Chrysocrambus* BŁESZ. in two subgenera on base of differences in the structure of the genital armature.

Subgenus: *Chrysocrambus* BŁESZ. s. str.

Chrysocrambus BŁESZYŃSKI, 1957, Acta Zoologica Cracoviensia, Kraków, **1**: 443.

The species of the subgenus *Chrysocrambus* BŁESZ. s. str. show a tendency towards darker coloration of the fore wings and a consequently fading design. The darker coloration extends over the alar base, the fields on both sides of the inner band and the field bounded on the outside by the inner band. Occasionally the entire wing is darker. In the females the wings are usually more slender and have a more pointed apex than in the males.

A very characteristic feature of the male genital armature is the absence of the pars basalis of the valvae. Only in *Ch. (Chrysocrambus) cassentiniellus* (ZELL.) thickening of the basal part of the valva can be noticed on the dorsal side. Nor has the valva any other appendages. The anellus shows frequently considerable differences between the species. Vinculum normally developed and not elongated. There is frequently one cornutus in the aedeagus and the vesica ends occasionally in a spike.

The presence and shape of the cornutus and of the spike constitute important taxonomical characters.

In the female genital armature the connection between the subgenital lamella and the ostium bursae is weakly sclerotized. Lamella subgenitalis narrow and occasionally without developed anterior gonapophyses. In the membranaceous connection between the subgenital lamella and the ostium bursae a distinct, strongly sclerotised collar-like structure. Ostium bursae not distinct from the rest of the ductus bursae which is frequently strongly sclerotized and not costate on the surface. Bursa copulatrix transparent. Usually only one signum, but occasionally traces of a second signum can be discerned. Signa not always plainly visible, sometimes weakly sclerotized, disjointed. Variability in the number of signa is exceptional in the generic group *Crambus* F. s. l., but forms characteristic feature of the genus *Chrysocrambus* Błesz. Labia normally developed, triangular. Gonapophyses posteriores short, broad at the end, swollen and rounded.

Chrysocrambus (Chrysocrambus) cassentiniellus (Zeller, 1849)

Crambus rorellus Duponchel, 1836 (nec Linnaeus), (partim) Hist. Nat. Lép. France, **10**: 73, pl. 269, fig. 5 b.

Crambus cassentiniellus Zeller, 1849, Zeit. Ent., Stettin, **1849**: 312.

Crambus cassentiniellus Herrich-Schäffer, 1849 (nec Zeller), Syst. Bearb. Schm. Eur. **4**: 59.

Crambus craterellus Obraztsov, 1954 (nec Scopoli), Zeit. Wien. Ent. Ges., Wien, **39**: 254.

Chrysocrambus (Chrysocrambus) cassentiniellus Błeszyński, 1957, Acta Zool. Crac., Kraków, **1**: 444, pl. 48, fig. 6, pl. 61, fig. 4, pl. 92, fig. 1, 2.

Crambus craterellus var. *cassentiniellus* auct.

In the typical form [Plate LXXVI, Fig. 18] the design of the wings is normally developed and the apical streak single, which makes the species easy to distinguish from similar related ones.

subsp. *caspicus* (CARADJA, 1910)

Crambus craterellus var. *cassentiniellus* var. [sic!] *caspicus* CARADJA, 1910, Dtsch. Ent. Zeit. Iris, Dresden, **24**: 112.

Describing this form CARADJA reports: „In Armenien fliegt sie in einer prachtvoll goldgelben Form die ich nicht anstehe als var. *caspicus* von *cassentiniellus* zu trennen. Flügel sehr glänzend licht goldgelb, die dunklere Grundfarbe und Querstreifung auf ein Minimum reduziert und kupfergelb statt braun, oft kaum angedeutet. Es ist die schönste und auffallendste Varietät dieser sehr veränderlichen Art. Von Kasikoparan und Lenkoran eine schöne Suite in meiner Sammlung". I infer from the description that the form *caspicus* CAR. is a subspecies of *Ch. (Chrysocrambus) cassentiniellus* (ZELL.).

subsp. *pseudocraterellus* subsp. n.

In specimen from the Northern Libanon the apical streak on the fore wings is forked in a similar way as in the majority of the species of the genus *Chrysocrambus* BŁESZ. [Plate LXXVI, Fig. 20].

Holotype (male and two paratypes (males) are in the collection at the Naturhistorisches Museum in Vienna.

ab. *distinctus* (MÜLLER-RUTZ, 1920)

Crambus rorellus DUPONCHEL, 1836 (nec LINNAEUS), (partim), Hist. Nat. Lép. France, **10**: 73, pl. 269, fig. 5 a.

Crambus cassentiniellus var. HERRICH-SCHÄFFER, 1852, Syst. Bearb. Schm. Eur., pl. 23, fig. 161.

Crambus cassentiniellus distinctus MÜLLER-RUTZ, 1920, Mitt. Ent. Ges., Zürich, **5**: 335, pl. 2, fig. 2.

Crambus craterellus ab. *distincta* OBRAZTSOV, 1954, Zeit. Wien. Ent. Ges. Wien, **39**: 255.

Chrysocrambus (Chrysocrambus) cassentiniellus ab. *distinctus* BŁESZYŃSKI, 1957, Acta Zool. Crac., Kraków, **1**: 444.

Specimen of this form have distinctly darker fore wings [Plate LXXII, Fig. 22]. A form frequently found among typical specimens.

Male genital armature [Plate LXXII, Fig. 1]: valva slightly narrowed terminally, dorsally swollen at the base. Anellus basally broad, forms terminally on the ventral side a constriction in the shape of a distinctly pointed beak. Gnathos with slight widening at the end. Aedeagus distinctly curved, slender. No cornuti.

Female genital armature [Plate LXXIV, Fig., 11]: Gonapophyses anteriores notably reduced. The plate between the subgenital lamella and the ostium bursae comparatively narrow, the collar-like structure behind it indistinct. Ductus bursae slender, half way up notably sclerotized, further on, up to the bursa copulatrix, transparent. On the bursa copulatrix one distinct signum.

Ch. (Chrysocrambus) cassentiniellus (Zell.) is common in Southern Europe and in the Near East. Reports from Northern Africa refer most likely to other similar species. Pierce and Metcalfe report it from England (1938) but I doubt whether this species could have found suitable conditions for development in the climate of Great Britain. I rather suppose that the specimens collected there have immigrated on ships sailing from the South.

Material examined:

1 male: „Auzay (Vendée) 9 V 1953 [leg. Lucas]", France; 1 female: „Montpellier Hérault, 8 VIII 1953 [leg. Lucas]" France; 1 male: „Evreux", „près Paris, de Joannis", France; 1 male: „Emilia Poena, 17 VI 1928 [leg.] A. Fiori", Italy; 1 male and 2 females: „Bologna Torr. Ravone 13 VI [and] 14 VI 1931—1951 [leg.] A. Fiori", Italy; 1 male and 1 female: „Cuneo Fabrosa Soprana 11 VII [1]948 [leg.] A. Fiori", Italy; 1 female: „Slavonia Fruška Gora 28 VI — 12 VII [19]35 Daniel leg., coll. Osthelder"; 1 male: Dalm[atia] Ins[el] Arbe Loparo, 17—30 VI [19]34, Zerny [leg.]"; 2 males: „1866 Rossia m. Sarepta Chr[istoph]"; 3 males [subsp. *pseudocraterellus* subsp. nova]: „Nord- Libanon Becharré, 1400 m, 3 VI — 4 VII 1931, Zerny"; 1 female [? subsp. *caspicus* (Car.)]: „1871 Hyrcan[ia], Stgr. [Staudinger]".

Chrysocrambus (Chrysocrambus) sardiniellus (Turati, 1911)

Crambus craterellus subsp. *sardiniellus* Turati, 1911, Bull. Soc. Ent. France, Paris, 293.

Crambus sardiniellus Müller-Rutz, 1931, Mitt. Schweiz. Ent. Ges., Bern, **15**, 2: 36, pl. 1, figs. 4, 16.

Chrysocrambus (Chrysocrambus) sardiniellus Błeszyński, 1957, Acta Zool. Crac., Kraków, **1**: 445, pl. 48, fig. 5, pl. 92, fig. 3.

A species similar to *Ch. (Chrysocramboides) craterellus* (Scop.) and to other species of the genus *Chrysocrambus* Błesz. The outer fascia on the fore wing with a distinct bright margin on the outer side. Size variable. Span of the fore wings varies between 20 and 22 mm. According to Müller-Rutz (1931) the female is smaller than the male, has brighter fore wings, and more distinct streaks. The inner band is fairly variable in shape, straight or oblique above the inner margin [Plate LXXVII, Fig. 26].

Male genital armature [Plate LXXII, Fig. 2]: valva slightly narrowed at the end. Saccus considerably smaller and narrower than in *Ch. (Chrysocrambus) cassentiniellus* (Zell.). Anellus slender and long. Gnathos terminally slightly wider and pointed. Aedeagus fairly wide, terminally notably constricted and obliquely truncate. There is one slender cornutus.

Female genital armature unknown to me.

Ch. (Chrysocrambus) sardiniellus (Trti.) is an endemic and common species in Sardinia.

Material examined:

7 males from Sardinia: Aritzo, St. Teresa, Stazione Gairo, VI—VII, leg. Hartig, Amsel and Predota.

Chrysocrambus (Chrysocrambus) cornutellus (Pierce & Metcalfe, 1938)

Crambus cornutellus Pierce & Metcalfe, 1938, Gen. Brit. Pyr. Delt. Plumes, Oundle, 20, pl. 12.

Chrysocrambus (Chrysocrambus) cornutellus Błeszyński, 1957, Acta Zool. Crac., Kraków, **1**: 446, pl. 92, fig. 4.

The species is closely related to the former. It may be argued whether it is a seperate species or morely a subspecies

of *Ch. (Chrysocrambus) sardiniellus* (Trti.). Marion (1950), basing on the work of Kiriakoff (1946), introduced the taxonomical units: ultraspecies, species and semispecies. The latter would represent a species: „in statu nascendi", in the stage of differentiation. Marion recognized *Ch. (Chrysocrambus) sardiniellus* (Trti.) and *Ch. (Chrysocrambus) cornutellus* (Pierce & Metcalfe) as semispecies. Personally I am not in favour of such systematic units like those ultra- or semispecies, since they have a purely speculative character and cannot be substantiated scientifically. The species problem is a very difficult one and should not be further obscured. In addition to certain differences in the male genital armature between *Ch. (Chrysocrambus) cornutellus* (Pierce & Metcalfe) and *Ch. (Chrysocrambus) sardiniellus* (Trti.) also their disjunctive distribution and biological isolation indicate the former to be a distinct species. As referred to before, *Ch. (Chrysocrambus) sardiniellus* (Trti.) is endemic to Sardinia, while *Ch. (Chrysocrambus) cornutellus* (Pierce & Metcalfe) inhabits Spain. The specimens of this species found in Great Britain and taken by Pierce and Metcalfe as type specimens are most likely to have been brought on ships.

I identified a male specimen from Andalusia as *Ch. (Chrysocrambus) cornutellus* (Pierce & Metcalfe). It was distinctly darker than specimens of *Ch. (Chrysocrambus) sardiniellus* (Trti.) and had a less distinct bright design of the fore wings [Plate LXXVI, Fig. 23].

Male genital armature [Plate LXXII, Fig. 3] very much like in *Ch. (Chrysocrambus) sardiniellus* (Trti.). Aedeagus slightly longer and more evenly tapering towards the apex than in *Ch. (Chrysocrambus) sardiniellus* (Trti.). The cornutus is in *Ch. (Chrysocrambus) cornutellus* (Pierce & Metcalfe) shorter and the small subterminal cornuti of the vesica larger and less numerous than in *Ch. (Chrysocrambus) sardiniellus* (Trti.).

Female genital armature: since I do not know the female of *Ch. (Chrysocrambus) cornutellus* (Pierce & Metcalfe) I can merely quote the original description by Pierce and Metcalfe: „A female Mr. Bisset found may be the female of this species. Ostium with strong lip. Ductus bursae thickened. Signum one, scobinate".

Material examined:
1 male: „Andalusia Algeciras V 1925, PREDOTA [leg.]".

Chrysocrambus (Chrysocrambus) danutae sp. n.

Coloration and design of the fore wings deceptively like in *Ch. (Chrysocrambus) dentuellus* (PIERCE & METCALFE) and in *Ch. (Chrysocrambus) craterellus* (SCOP.). The wings span equals in the male 24 mm, which is quite an exception in species of the subgenus *Chrysocrambus* BŁESZ. s. str., since the largest specimens of the largest of the species, *Ch. (Chrysocrambus) cassentiniellus* (ZELL.), do not exceed 22 mm. Specimens of *Ch. (Chrysocrambus) sardiniellus* (TRTI.) and of *Ch. (Chrysocrambus) dentuellus* (PIERCE & METCALFE) do not exceed 21 mm in wing span. The span of the fore wings equals in the female 21 mm. Fore wings distinctly narrower and with a more acute apex than in the male. [Plate LXXVI, Fig. 24, 25].

Male genital armature [Plate LXXVI, Fig. 4] very much like in the former species. Aedeagus more constricted towards the end, and the cornutus more straight than in the former species.

Female genital armature [Plate LXXVI, Fig. 12] very distinctly different than in the former species, as can be inferred from their original description. Gonapophyses anteriores reduced. Plate distinct, collar-like structure behind it slightly marked. Ductus bursae flaccid, twisted, weakly sclerotized, while in the former species it is supposed to be „thickened", i. e., notably sclerotized like in the other species of the subgenus *Chrysocrambus* BŁESZ. s. str. Bursa copulatrix without traces of a signum, unlike in the former species which has one.

Holotype: „Hispania, F. ESCALERA", „Sierra la Sagra Prov. Granada [1]927 V 15".

Allotype: „Hispania, F. ESCALERA", „Sierra la Sagra Prov. Granada [1]927 V 15".

Both specimens are in the collection of the Magyar Nemzeti Múzeum in Budapest.

Chrysocrambus (Chrysocrambus) dentuellus (Pierce & Metcalfe, 1938)

Crambus dentuellus Pierce & Metcalfe, 1938, Gen. Brit. Pyr. Delt. Plumes, Oundle, 20, pl. 12.

Chrysocrambus (Chrysocrambus) dentuellus Błeszyński, 1957, Acta Zool. Crac., Kraków, **1**: 447.

The species has been described from England, similarly as in the case of *Ch. (Chrysocrambus) cornutellus* (Pierce & Metcalfe) and, probably, does not belong to the fauna of the British Isles but has been introduced from the South. Since 1938, when it was described, no new records have been reported in the literature. Only quite recently, while examining material of the genus *Chrysocrambus* Błesz. collected in Spain, I came across three specimens which, on evidence of the original description of the species in question, I recognized as belonging to *Ch. (Chrysocrambus) dentuellus* (Pierce & Metcalfe).

As regards coloration and design of the fore wings, *Ch. (Chrysocrambus) dentuellus* (Pierce & Metcalfe) resembles to a misleading degree *Ch. (Chrysocramboides) craterellus* (Scop.). The apical streak of the fore wing is distinctly forked. The inner band is straight or slightly oblique. Span of the fore wings 21 mm.

Male genital armature [Plate LXXIII, Fig. 5] similar as in the former two species. The basic difference lies in the size of the cornutus which is notably larger and thicker in *Ch. (Chrysocrambus) dentuellus* (Pierce & Metcalfe) than in the former two species. Anellus slightly longer and aedeagus somewhat shorter than in the former species.

Female genital armature [Plate LXXV, Fig. 17]; Pierce and Metcalfe write (1938): „Ostium lipped. Ductus bursae short, in folds. Bursa with large patch of hard chitin". It is difficult to deduce from this description whether the ductus bursae, which is supposed to be „in folds", is strongly or weakly sclerotized. The „large patch of hard chitin" on the bursa copulatrix is very intriguing. It is an unusual feature in species of the generic group *Crambus* F. s. l. Without an examination of the preparation of the genitalia of the type specimen it

is difficult to decide whether this character is genuine or whether we are possibly faced with an artefact produced by faulty boiling in potash of the preparation. If the latter were the case, the entire bursa copulatrix would be weakly sclerotized in *Ch. (Chrysocrambus) dentuellus* (PIERCE & METCALFE), similarly as in *Ch. (Chrysocrambus) danutae* sp. n. As referred to before, it is difficult to deduce from the original description of the female genital armature of *Ch. (Chrysocrambus) dentuellus* (PIERCE & METCALFE) whether the ductus bursae is markedly or weakly sclerotized. In view of the two facts mentioned we have to reckon with the possibility that the female described as allotype of *Ch. (Chrysocrambus) danutae* sp. n. belongs perhaps to *Ch. (Chrysocrambus) dentuellus* (PIERCE & METCALFE). This is a very difficult problem and can be resolved only upon examination of a more ample material pertaining to the group in question. Owing to deceptive resemblance between the species of the genus *Chrysocrambus* BŁESZ., it is very easy, when merely single specimens of the particular species are available, to include in one species two specimens belonging to the two sexes of two entirely different species.

Material examined:

2 males: „Hispania Prov. Madrid Cieu Vallejos 1927 VI F. ESCALERA leg.]"; 1 male: „Hispania Arenas de San Pedro 1927 VI 12 Dr. SCHMIDT [leg.]".

Chysocrambus (Chrysocrambus) lambessellus (CARADJA, 1910)

Crambus craterellus var. *lambessellus* CARADJA, 1910. Dtsch. Ent. Zeit. Iris, Dresden, **24**: 112.

Crambus similimellus MÜLLER-RUTZ, 1931, Mitt. Schweiz. Ent. Ges. Bern, **15**: 38, pl. 1, fig. 8, 19.

CARADJA'S description of *Crambus craterellus* var. *lambessellus* CAR. reads: „Von Lambèze habe ich 4 Stücke ♂ ♀, bei denen das äussere Drittel der Vdfl. derart verdunkelt ist, dass sich vom Vdrr. bis zum Htrr. eine dunkelbraune Binde erstreckt, welche der äussere Querstreifen als feine lichte Linie durchzieht. Dicht vor dem Saum erscheinen die lichten Längsstreifen in Form kleiner Punkte wieder. Die auffallende Va-

rietät ist konstant und ich benenne sie var. *lambessellus*". The description matches very well with the specimens I identified as the species described by Müller-Rutz as *Crambus similimellus*. M. R. (1931). It should be noted that *Ch. (Chrysocramboides) craterellus* (Scop.) never shows a tendency towards darker fore wings and, besides, the species is unlikely to be found in North Africa. On this evidence I assume Müller-Rutz's species to be a synonym of *Ch. (Chrysocrambus) lambessellus* (Car.).

The specimens described by Caradja are intermediate between the form recognized by Müller-Rutz as typical *C. similimellus* M.-R. and darker form *C. similimellus* f. *umbrosellus* M.-R. Examining a number of specimens of the species in question collected in Tunisia, I established that it is variable and that there are various intermediate forms between specimens showing no darker coloration and markedly darker specimens. Darker coloration is found chiefly in the males; the females are very pale, golden-yellow, with a less sharply outlined pattern on the fore wings. It is interesting to note that there are almost no differences in the shape of the forewings between the females and the males, the latter having more narrow wings than those of other species. [Plate LXXVII, Fig. 28, 30].

ab. *umbrosellus* (Müller-Rutz, 1931)

[Plate LXXVII, Fig: 29]

Crambus similimellus f. *umbrosellus* Müller-Rutz, 1931, Mitt. Schweiz. Ent. Ges., Bern. **15**: 38, pl. 1, fig. 9.

Specimens with fore wings notably darker, especially in the basal part and in the field adjacent to the outer band.

Male genital armature [Plate LXXII, Fig. 6]: uncus and gnathos very slender and long. Uncus terminally acute. Gnathos expanding terminally in a sharp triangle. Anellus well developed, long, notably bent upwards. Aedeagus strongly curved, at the tip distinctly constricted, with a strong prong.

Female genital armature [Plate LXXV, Fig. 13]: anterior gonapophyses reduced. Plate connecting the subgenital la-

mella with the ostium bursae well developed. The collar-like structure behind the plate less sclerotized than in *Ch. (Chrysocrambus) tingitanellus* (CHRÉT.). Ostium bursae not bordered from the ductus bursae which is strongly sclerotized and similar in length to that of *Ch. (Chrysocrambus) maghrebellus* (MARION) but much wider and without the involute edges present in the latter species. Bursa copulatrix transparent with a slightly disjointed and poorly sclerotized signum.

Material examined:

6 males and females: „Tunisia Ain Draham [1]913 20 VI [—] 12 IX"; 1 male: „Tunisia Les Sources, [1]913 VII 30".

Chrysocrambus (Chrysocrambus) maghrebellus (MARION, 1950)

Crambus maghrebellus MARION, 1950, Rev. Franc. Lép., Paris, **12**: 267, pl. 8, fig. 7.

I quote the original description: „Extérieurement *maghrebellus* est très proche de *mauretanicus* et s'en distingue à peine. En général la seconde ligne transverse (postmédiane) est moins nettement double que chez *mauretanicus*, mais le filet blanc subsiste. Les exemplaire de la région littorale (Rabat) sont d'un brun chaud, comme nos *craterellus* avec lequel on peut facilement les confondre. Mais dans les basses régions de la zone montagnieuse, les dessins s'épaississent et devient brun café. Enfin, au-delà d'une certaine altitude, impossible à préciser actuellement, le fond des ailes est envahi de brun chez les ♀, qui peuve même devenir entièrement brun café avec un lavis roux vif vers la marge; mais les femelles restes identiques à celles des basses altitudes...".

subsp. *rungsellus* (MARION, 1950)

[Plate LXXVII, Fig. 31]

Crambus maghrebellus subsp. *rungsellus* MARION, 1950, Rev. Franç. Lép., Paris, **12**: 268, pl. 8, fig. 8.

A high-mountain species from the Moyen Atlas, inhabiting

heights of 2000—2700 m. Fore wings of males markedly darker and with a fading pattern.

Male genital armature [Plate LXXIII, Fig. 7]: valva without processes, distinctly tapering towards the end. Anellus short, wide, conic. Uncus and gnathos of medium length, uncus at the end rounded, gnathos terminally pointed with a slight dilatation. Aedeagus notably slender, very strongly arcuate, distally markedly constricted, acute. There is a single cornutus and the vesica ends in a long spike terminally curved like a claw.

Female genital armature [Plate LXXV, Fig. 14]: anterior gonapophyses plainly developed. The plate connecting the lamella subgenitalis with the ostium bursae relatively very narrow. The collar-like structure behind it notably sclerotized like the plate. The plate and the collar-like structure reinforce the wide transparent sac behind which there begins the slender notably sclerotized ductus bursae, its margins appear as being involute. Bursa copulatrix transparent, without traces of a signum.

Material examined:

1 male: „42.27. Tachdirt & S. slopes of Djebel Tachdirt 2500—2600 m Great Atlas Marocco 5 VI [19]27 Talbot & Le Cerf."; 1 female: „Marokko, Gr. Atlas Tachdirt, 2200—2700 m, 2—10 VII [19]33, Zerny [leg.]".

Chrysocrambus (Chrysocrambus) tingitanellus (Chrétien, 1922)

Crambus tingitanellus Chrétien, 1922, Étude Lép., Rennes, **19**: 327.

A form with markedly darker fore wings and a faded pattern has been described as typical. The type specimen comes from Qued Didia (Marocco) and was collected on 15 VI 1921.

subsp. *mauretanicus* (Müller-Rutz, 1931)

[Plate LXXVII, Fig. 32]

Crambus mauretanicus Müller-Rutz, 1931, Mitt. Schweiz. Ent. Ges., Bern, **15**: 36, pl. 1, fig. 5.

According to MARION (1950) the form is not a distinct species but merely a lowland subspecies of *Ch. (Chrysocrambus) tingitanellus* (CHRÉT.). The typical form inhabits the Moyen Atlas. *Ch. (Chrysocrambus) tingitanellus* (CHRÉT.) subsp. *mauretanicus* (M.-R.) shows a normally developed pattern on the fore wings. The apical streak is plain. It resembles in a misleading way the related species as regards the external appearance and determination must be consequently based on the examination of the genital armature.

subsp. *major* (MÜLLER-RUTZ, 1931)

Crambus mauretanicus f. *major* MÜLLER-RUTZ, 1931, Mitt. Schweiz. Ent. Ges., Bern, **15**: 37, pl. 1, fig. 6.

The form has been described by MÜLLER-RUTZ after 10 specimens collected at Sebdu, Magenta (Algeria). They differ from the typical form in their larger size, since the length of their fore wings is 12—13 mm while in the typical form it is 9—12 mm.

ab. *ambustellus* (MÜLLER-RUTZ, 1931)

Crambus mauretanicus f. *ambustellus* MÜLLER-RUTZ, 1931, Mitt. Schweiz. Ent. Ges., Bern, **15**: 37.

Specimens with a wider inner band and a darker field inside the outer band on the fore wing.

Male genital armature [Plate LXXIII, Fig. 8]: uncus and gnathos long and slender. Uncus terminally rounded. Gnathos distallywider and pointed. Valva without appendages, distinctly tapering towards the end. Anellus in the form of a long hook strongly bent downwards like an arc. According to MARION (1950) the individuals vary considerably as regards the structure of the male genital armature; this led that author, as was referred to before, to regard the form *mauretanicus* M.-R. as a subspecies of *Ch. (Chrysocrambus) tingitanellus* (CHRÉT.). In the paper of MÜLLER-RUTZ, the figure (Fig. 17) representing the male genital armature of *Ch. (Chrysocrambus) mauretanicus*

(M.-R.) shows the anellus shorter and less bent downwards than the figure (Fig. 18) of the male genital armature of *Ch. (Chrysocrambus) tingitanellus* (Chrét.). The male specimen I examined had an anellus still longer than on both figures referred to above and, moreover, the anellus was distally deflected in a horizontal plane. This would substantiate Marion's supposition as to the variability of the genital armature in the species in question. I find it difficult to express a conclusive opinion since I had only one specimen of *Ch. (Chrysocrambus) tingitanellus* (Chrét.) available for examinations and my arguments are based chiefly on the literature.

Female genital armature unknown to me. It is possible that the female described above as *Ch. (Chrysocrambus) maghrebellus* (Marion) belongs to *Ch. (Chrysocrambus) tingitanellus* (Chrét.), since the areas inhabited by the two species are likely to overlap, at least partly. Both are found in the Moyen Atlas.

Material examined:

1 male: „Tunisia".

As can be seen from the above considerations concerning the subgenus *Chrysocrambus* Błesz. s. str., numerous problems need further investigation which call, however, for ample material, first and foremost for large series of specimens collected in one locality.

Subgenus: *Chrysocramboides* Błesz.

Chrysocramboides Błeszyński, 1957, Acta Zool. Crac., Kraków, **1**: 448.

The species of the subgenera *Chrysocramboides* Błesz. and *Chrysocrambus* Błesz. s. str. are similar in external appearance. But, the species of the subgenus *Chrysocramboides* Błesz., unlike those of the subgenus *Chrysocrambus* Błesz. s. str., show no tendency towards a darker coloration of the fore wings.

In the male genital armature the pars basalis is well developed and separated from the valva. The aedeagus is wide, with two large and numerous small cornuti. Female genital armature rather difficult to describe since we know thus far

the female of only one species, namely *Ch. (Chrysocramboides) craterellus* (Scop.).

Chrysocrambus (Chrysocramboides) craterellus (Scopoli, 1763)

Phalaena craterella Scopoli, 1763, Entomol. Carn., Vindobonae, 246.

Phalaena Tinea rorella Linnaeus, 1767, Syst. Nat., Holmiae, ed. 12: 12: 886.

Tinea linetella Fabricius, 1781, Spec. Ins., Hafniae, **2**: 291.

Crambus lineatus Fabricius, 1798, Suppl. Entom. Syst., Hafniae, 470.

Phalaena Tinea chrysonuchella Hübner, 1796, (nec Scopoli), Samml. Eur. Schmett., Augsburgi, 28, pl. 7, fig. 43.

Chilo rorellus Treitschke, 1832, Schmett. Eur., Leipzig, **9**: 89.

Crambus rorellus Stephens, 1834, Illustr. Brit. Entomol. *Haustellata*, London, **4**: 326.

Crambus craterellus Wocke, 1871, Stgr.-Wocke Catal. Lep. Eur. Faun., Dresden, 218.

Crambus klimeschi Toll, 1938, Ann. Mus. Zool. Pol., Warszawa, **13**: 206, pl. 12, fig. 4, pl. 13, fig. 19.

Chrysocrambus (Chrysocramboides) craterellus Błeszyński, 1957, Acta Zool. Crac., Kraków, **1**: 448; pl. 48, fig. 4, pl. 61, fig. 3, pl. 92, fig. 5–8.

A highly variable species as regards coloration of the pattern and size. The streaks on the fore wings in typical specimens yellowish. The apical streak on the fore wing invariably forked, but occasionally the branches merge. The inner band in the upper part of the wing shows usually a pronounced curvature and is broken at the centre of the wing. These characters fairly clearly distinguish the species in question from the similar *Ch. (Chrysocrambus) cassentiniellus* (Zell.) in the typical form of which the apical streak in the fore wing is single and the inner band usually straight or faintly arcuate, rarely broken at the centre of the wing.

subsp. *alpinus* subsp. n.

[Plate LXXVIII, Fig. 37]

Specimens from Briançon près Orange in the High Alps, collected at a height of 1500—1700 m, are distinctly larger

than the typical ones and of a beautiful golden colour. The span of the wings varies in typical specimens between 19 and 21 mm and in specimens of the subsp. *alpinus* subsp. n. between 20 and 23 mm. Holotype, allotype and 6 paratypes (males) are in the author's collection.

subsp. *abruzzellus* subsp. n.

[Plate LXXVIII, Fig. 36]

The bright streaks on the fore wings have in the specimens from Parco N. Abruzzo (Italy) a whitish coloration and the cilia of the fore wings have on the outer margin a more greenish hue than the usual green-gold of typical specimens.

Holotype and 9 paratypes (males) in the author's collection.

subsp. *stachiellus* (TOLL, 1938)

[Plate LXXVIII, Fig. 38]

Crambus stachiellus TOLL, 1938, Ann, Mus. Zool. Pol., Warszawa, **13**: 206, pl. 12, fig. 5—6, pl. 13, fig. 20.

Chrysocrambus (Chrysocramboides) craterellus subsp. *stachiellus* BŁESZYŃSKI, 1957, Acta Zool. Crac., Kraków, **1**: 449.

An Eastern European subspecies. Specimen of the subsp. *stachiellus* (TOLL) are slightly smaller than the typical ones. Their span of the fore wings is about 18 mm.

subsp. *defessellus* (TOLL, 1947)

[Plate LXXVIII, Fig. 40]

Crambus craterellus subsp. *defessellus* TOLL, 1947, Zeit. Wien. Ent. Ges., Wien, **32**: 108, pl. 4, fig. 2—3, pl. 6, fig. 27.

A Persian subspecies. The dark streaks on the fore wings have indistinct, diffuse margins, and a greyish coloration.

subsp. *libani* subsp. n.

[Plate LXXVIII, Fig. 39]

Fore wings distinctly more slender, comparatively narrower than in the typical specimens. The dark streaks on the fore wings brown-grey, the bright ones whitish. Span of the fore wings 17—20 mm.

Holotype and 2 paratypes (males) in the collection of the Naturhistorisches Museum, Vienna.

ab. *approximellus* (PREISSECKER, 1937)

Crambus craterellus ab. *approximellus* PREISSECKER, 1937, Verh. Zool.-bot. Ges., Wien, **86/87**: 419.

The distance between the two bands of the fore wings smaller than in the typical specimens.

COSTA (1887) described the species *Crambus italellus* COSTA (Atti Acad. Sci. fis. e mat., Napoli, **1**:9, pl. 1, fig. 9) but neither the description nor the figures make it possible to decide what species the author had in hand. Therefore, I do not include this name in the synonymy of any of the species of *Chrysocrambus* BŁESZ. We find the name *Crambus italellus* COSTA included in the synonymy of „*Crambus craterellus* v. *cassentiniellus* ZELL." in the catalogue of STAUDINGER and REBEL (1901).

Male genital armature [Plate LXXIV, Fig. 9] not as variable as the external characters. Uncus and gnathos relatively short, broad. Pars basalis very well developed, notably curved. It forms a markedly sclerotized lobe, basally broad and sharply tapering towards the end, separated and clearly distinct from the valva. Aedeagus slightly curved, wide, with two large and numerous small cornuti.

Female genital armature [Plate LXXV, Fig. 15]: gonapophyses anteriores reduced. Gonapophyses posteriores longer and more slender than in the species of the subgenus *Chrysocrambus* BŁESZ. s. str. Ostium bursae distinctly wider than the ductus bursae, which is fairly sclerotized and longitudinally costate.

Bursa copulatrix transparent, small and provided with two distinct signa.

Ch. (Chrysocramboides) craterellus (Scop.) is commonly found in Southern and Central Europe. Eastwards it is known to Persia. It appears from May to July on dry xerothermic sites. Pierce & Metcalfe (1938) report it from England but these specimens have been probably brought from the South.

Material examined:

Typical form: 1 male: „St. Pyrréol près Nyons Drome, 23 VII 1948 Ch. Fischer, 750 m"; 10 males and females: „Zenng, Dobiasch [1]914 [and 1]918 VI [and] VII 10—21"; 1 male and 1 female: „Salona, Schmidt, [1]929 VI 10"; 1 female: „Albania Galica Luma"; 3 males: „Dalmatia Mt. Biokovo, Schmidt [1]929 VI 4"; 2 males: „Ujszász, Schmidt [1]915 VI 23"; 1 male: „Tápió-György Schmidt 17 VI 1910"; 4 males: „Grünstadt 26 V [—] 13 VI [19]49 Jöst"; 1 male: „Ile D'Aix Chozeulé maritime 9 VI 1953 [leg. Lucas]"; 1 male: „Auzay Vendée 26 V [19]53 [leg. Lucas]"; 1 male: „Montpellièr (Hérault) 1 VII 1953 [leg. Lucas]"; 3 males: „Makedonia Ochrid. leg. Silbernagel"; 1 male: „Sloviakia Sosàr-Kiarov [Ipel] VI 1936 Dr. Rud. Schwarz"; 1 male: „Morava Breclav 22 V 1936 Dr. Rud. Schwarz"; 1 male: „Tatry Łomik 1100 m 12 VI 1951 Błeszyński.

subsp. *alpinus* subsp. n.

Holotype, allotype and 6 paratypes (males): „Briançon Mt. St. Pierre Ht.-Alpes 1500 m, 3—27 VII 1951 Ch. Fischer".

subsp. *abruzzellus* subsp. n.

Holotype and 9 paratypes (males): „Parco N. Abruzzo Pascasseroli Ovindoli VI 1933—1949, leg. A. Fiori.

subsp. *stachiellus* (Toll.).

4 males: „1866 [and] 1872 Rossia m. Sarepta Chr[istoph]"; 3 males: „[Rakułowa Podole] Kamieniecki".

subsp. *defessellus* (Toll)

2 males and 1 female: „1870 [and] 1871 Hyrcan[ia] Stgr. [Staudinger]".

subsp. *libani* subsp. n.

Holotype and 2 paratypes (males): „Nd.-Liban[on], Cedern b. Becharrée, 1900 m 3—6 VI [19]31 Zerny".

Chrysocrambus (Chrysocramboides) syriellus (Zerny, 1943)

Crambus syriellus Zerny, 1934, Dtsch. Ent. Zeit. Iris, Dresden, **48**:2.

A species resembling in external appearance *Ch. (Chrysocramboides) craterellus* (Scop.), but considerably larger; span of fore wings 24—26 mm as compared with 17—20 mm in *Ch. (Chrysocramboides) craterellus* (Scop.) subsp. *libani* subsp. n. found in the Libanon wherefrom *Ch. (Chrysocramboides) syriellus* (Zerny) has been described. The fore wings are also considerably less glossy in the latter species [Plate LXXVIII, fig. 41].

There are pronounced differences between the two species as regards the structure of genital armature. Pars basalis is in the male of *Ch. (Chrysocramboides) syriellus* (Zerny) markedly reduced, small, in the form of an appendage at the very base of the valva [Plate LXXIV, Fig. 10]. The appendage can be seen with difficulty which probably caused Zerny to write, while describing the species, that the pars basalis is massing.

The female of *Ch. (Chrysocramboides) syriellus* (Zerny) is hitherto unknown as far as I know.

Material investigated:

4 males from the Taurus — Marasch (Northern Syria), collected towards the end of May and in June.

Chrysocrambus (Chrysocramboides) kobelti (Saalmüller, 1885)

Crambus Kobelti Saalmüller, 1885, Ent. Zeitung, Stettin, **46**: 335.

In external appearance the species differs considerably from those allied to it. On the fore wing there is a bright streak forking between the inner and the outer bands. Between the outer band and the outer margin there are a few bright streaks on the nerves.

Male genital armature [Plate LXXV, Fig. 16]: pars basalis very well developed, not curved. Valva very slender. Aedeagus flexed, resembling that in the former two species.

Since I have no material available for purposes of compa-

rison I described the species in question on the basis of figures published by Müller-Rutz (1931).

Ch. (Chrysocramboides) kobelti (Saalm.) is known from North Africa.

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STRESZCZENIE

Autor omówił wszystkie gatunki z rodzaju *Chrysocrambus* Błesz. Rozsiedlone są one głównie w krajnie śródziemnomorskiej. Genitaliowo tworzą dwie wyraźne grupy — podrodzaj *Chrysocrambus* Błesz. s. str., oraz mniej liczny podrodzaj *Chrysocramboides* Błesz. Autor opisuje nowy gatunek z Hiszpanii *Chrysocrambus (Chrysocrambus) danutae* sp. n., oraz nowe podgatunki *Ch. (Chrysocrambus) cassentiniellus pseudocraterellus* subsp. n. z Libanu, *Ch. (Chrysocramboides) craterellus alpinus* subsp. n. z Alp, *Ch. (Chrysocramboides) craterellus abruzzellus* subsp. n. z Włoch, oraz *Ch. (Chrysocramboides) craterellus libani* subsp. n. z Libanu. Nadto została omówiona dokładnie synonimika dwóch gatunków: *Ch. (Chrysocrambus) cassentiniellus* (Zell.) oraz *Ch. (Chrysocramboides) craterellus* (Scop.).

РЕЗЮМЕ

Автор оговорил все виды рода *Chrysocrambus* Błesz. Распростанены они главным образом в краях, окружающих Средиземное Море. По строению генитального аппарата виды эти принадлежат к двум группам — подроду *Chrysocrambus* Błesz s. str. именее многочисленному подроду *Chrysocramboides* Błesz. Автор описывает новый вид *Chrysocrambus* (*Chrysocrambus*) *danutae* sp. n. из Испании и новые подвиды: *Ch.* (*Chrysocrambus*) *cassentiniellus pseudocraterellus* subsp. n. из Ливана, *Ch.* (*Chrysocramboides*) *craterellus alpinus* subsp. n. из Альп, *Ch.* (*Chrysocramboides*) *craterellus abruzzellus* subsp. n. из Италии и *Ch.* (*Chrysocramboides*) *craterellus libani* subsp. n. из Ливана. Кроме того подробно оговорена автовом синонимика двух видов: *Ch.* (*Chrysocrambus*) *cassentiniellus* (Zell.) и *Ch.* (*Chrysocramboides*) *craterellus* (Scop.).

PLATES

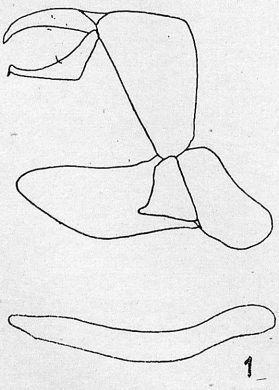
Plate LXXII

Fig. 1. *Chrysocrambus (Chrysocrambus) cassentiniellus* (Zell.). Male genitalia. „Rossia m. Sarepta Cri(stoph)", „Praep. Gen. Cramb. IZ. PAN. Nr. 39", coll. I. Z. P. A. S. Warszawa.

Fig. 2. *Chrysocrambus (Chrysocrambus) sardiniellus* (Trti.). Male genitalia. „Sardinia St. Teresa, 27 IX 1934, Predota", praep. nr. 352, author's coll.

Fig. 3. *Chrysocrambus (Chrysocrambus) cornutellus* (Pierce & Metc.). Male genitalia. „Andalusia Hl. Algeciras, V 1925, Predota", praep. nr. 3718, coll. Museum of Natural History in Vienna.

Fig. 4. *Chrysocrambus (Chrysocrambus) danutae* sp. n. Holotype. Male genitalia. „Hispania F. Escalera", „Sierra la Sagra Prov. Granada, 15 V 1927", praep. nr. 2708, coll. Hungarian National Museum in Budapest.



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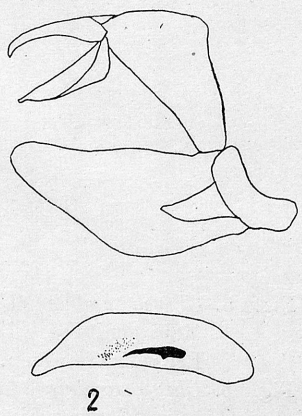

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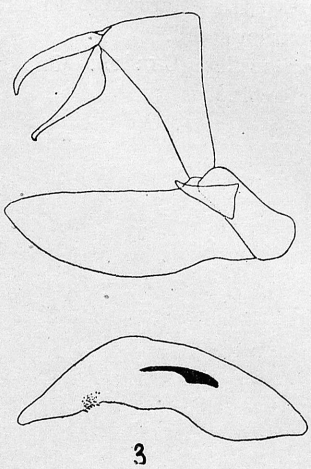

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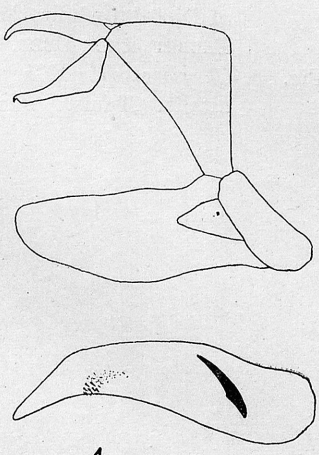

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Plate LXXIII

Fig. 5. *Chrysocrambus (Chrysocrambus) dentuellus* (Pierce & Metc.). Male genitalia. „Hispania Prov. Madrid Ciou Vallejos, VI 1927, Escalera", praep. nr. 411, author's coll.

Fig. 6. *Chrysocrambus (Chrysocrambus) lambessellus* (Car.). Male genitalia. „Tunisia Ain Draham, 20 VII 1913", praep. nr. 491", author's coll.

Fig. 7. *Chrysocrambus (Chrysocrambus) maghrebellus* (Marion) Subsp. *rungsellus* (Marion). Male genitalia. „42. 27. Tachdirt & S. slopes of Djebel Tachdirt 2500—2600 m Great Atlas Marocco, 5 VI 1927, Talbot & Le Cerf.", praep. 495, author's coll.

Fig. 8. *Chrysocrambus (Chrysocrambus) tingitanellus* (Chrét.). Male genitalia. „Tunis", praep. 510, author's coll.

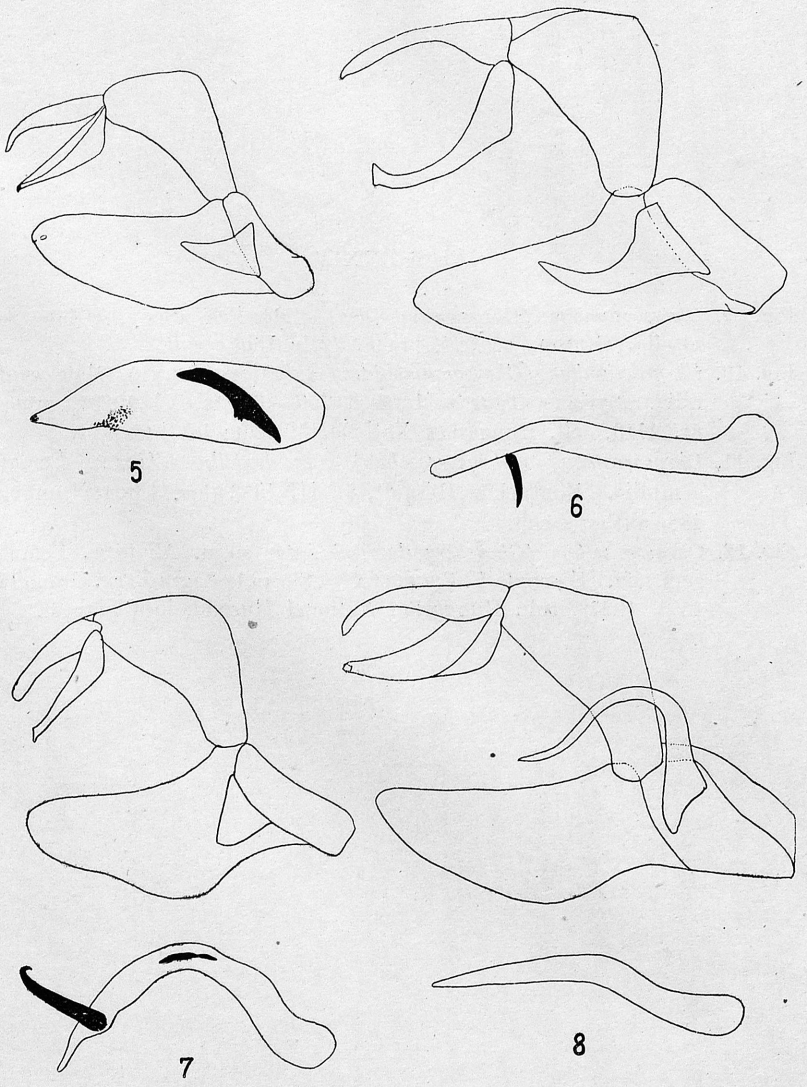

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Plate LXXIV

Fig. 9. *Chrysocrambus (Chrysocramboides) craterellus* (Scop.). Male genitalia. „Europa centr.", praep. 72, author's coll.

Fig. 10. *Chrysocrambus (Chrysocramboides) syriellus* (Zerny), Male genitalia. „Syria s. Taurus Marasch 700—900 m, VI 1929", praep. nr. 2713, coll. Hungarian National Museum in Budapest.

Fig. 11. *Chrysocrambus (Chrysocrambus) cassentiniellus* (Zell.). Female genitalia. „Montpellièr Hérault, 8 VIII 1953 (leg. Lucas)", praep. 488, author's coll.

Fig. 12. *Chrysocrambus (Chrysocrambus) danutae* sp. n. Allotype. Female genitalia. „Hispania F. Escalera", „Sierra la Sagra Prov. Granada, 15 V 1927", coll. Hungarian National Museum in Budapest.

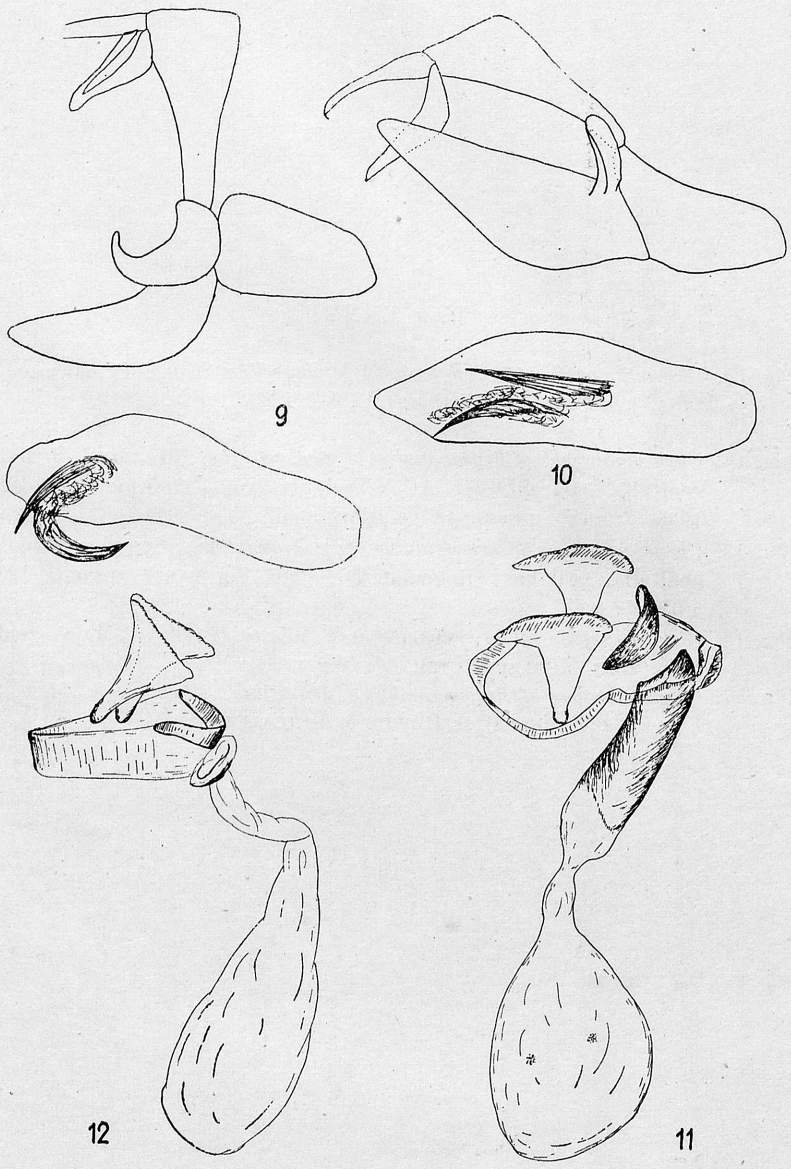

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Plate LXXV

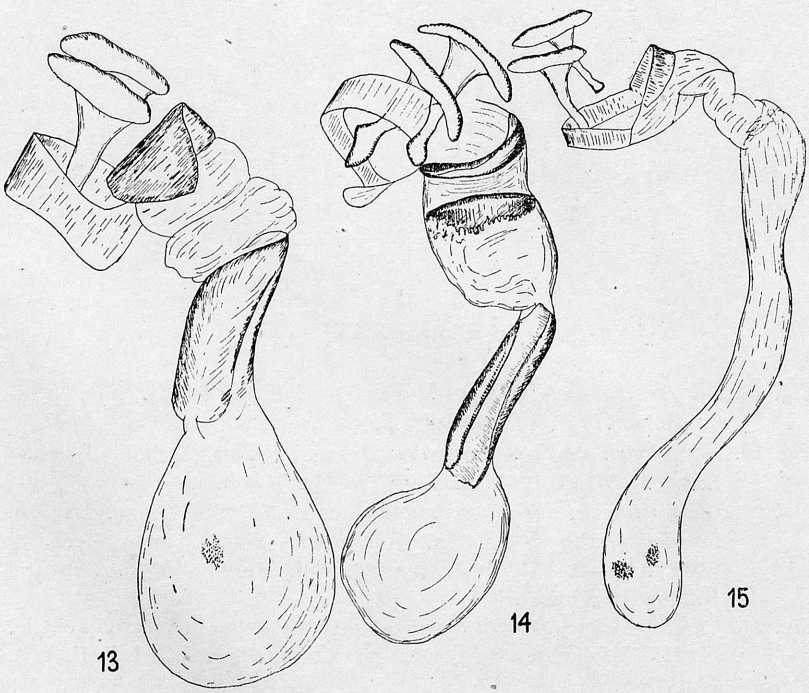
Fig. 13. *Chrysocrambus (Chrysocrambus) lambessellus* (Car.). Female genitalia. „Tunisia Ain Draham, 12 IX 1913", praep. 512, author's coll.

Fig. 14. *Chrysocrambus (Chrysocrambus) maghrebellus* (Marion). Female genitalia. „Marokko Gr. Atlas Tachdirt 2200—2700 m, 2—10 VII 1933, Zerny", praep. 487, author's coll.

Fig. 15. *Chrysocrambus (Chrysocramboides) craterellus* (Scop.). Female genitalia. „Filakovo Bohemia, Dr. Rud. Schwarz", praep. 123, author's coll.

Fig. 16. *Chrysocrambus (Chrysocramboides) kobelti* (Saalm.). Male genitalia (after Müller Rutz).

Fig. 17. *Chrysocrambus (Chrysocrambus) dentuellus* (Pierce & Metc.). Female genitalia (after Pierce & Metcalfe).



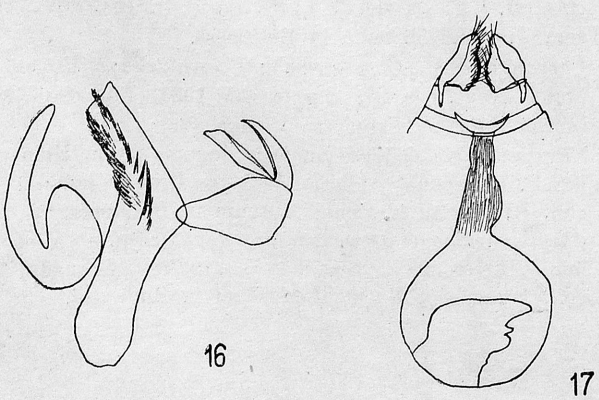


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Plate LXXVI

Fig. 18. *Chrysocrambus (Chrysocrambus) cassentiniellus* (Zell.). Male. „Emilia Bologna, 12 VI 1923, A. Fiori", author's coll.

Fig. 19. *Chrysocrambus (Chrysocrambus) cassentiniellus* (Zell.). „Bologna Ravona, 14 VI 1951, A. Fiori", author's coll.

Fig. 20. *Chrysocrambus (Chrysocrambus) cassentiniellus* (Zell.) subsp. *pseudocraterellus* subsp. n. Holotype. „Nord-Libanon Becharré 1400 m, 1—4 VII 1932, Zerny", coll. Museum of the Natural History in Vienna.

Fig. 21. *Chrysocrambus (Chrysocrambus) cassentiniellus* (Zell.). Female. „1871, Hyrcan(ia), Stgr (Staudinger)", coll. I. Z. P. A. S. Warszawa.

Fig. 22. *Chrysocrambus (Chrysocrambus) cassentiniellus* (Zell.) ab. *distinctus* (M.-R.). „Evreux", „près Paris de Joannis", coll. Hungarian National Museum in Budapest.

Fig. 23. *Chrysocrambus (Chrysocrambus) cornutellus* (Pierce & Metc.). Male. „Andalusia Hl. Algeciras, V 1925, Predota", coll. Museum of the Natural History in Vienna.

Fig. 24. *Chrysocrambus (Chrysocrambus) danutae* sp. n. Holotype. „Hispania F. Escalera", „Sierra la Sagra Prov. Granada, 15 V 1917", coll. Hungarian National Museum in Budapest.

Fig. 25. *Chrysocrambus (Chrysocrambus) danutae* sp. n. Allotype. „Hispania F. Escalera", „Sierra la Sagra Prov. Granada, 15 V 1917", coll. Hungarian National Museum in Budapest.

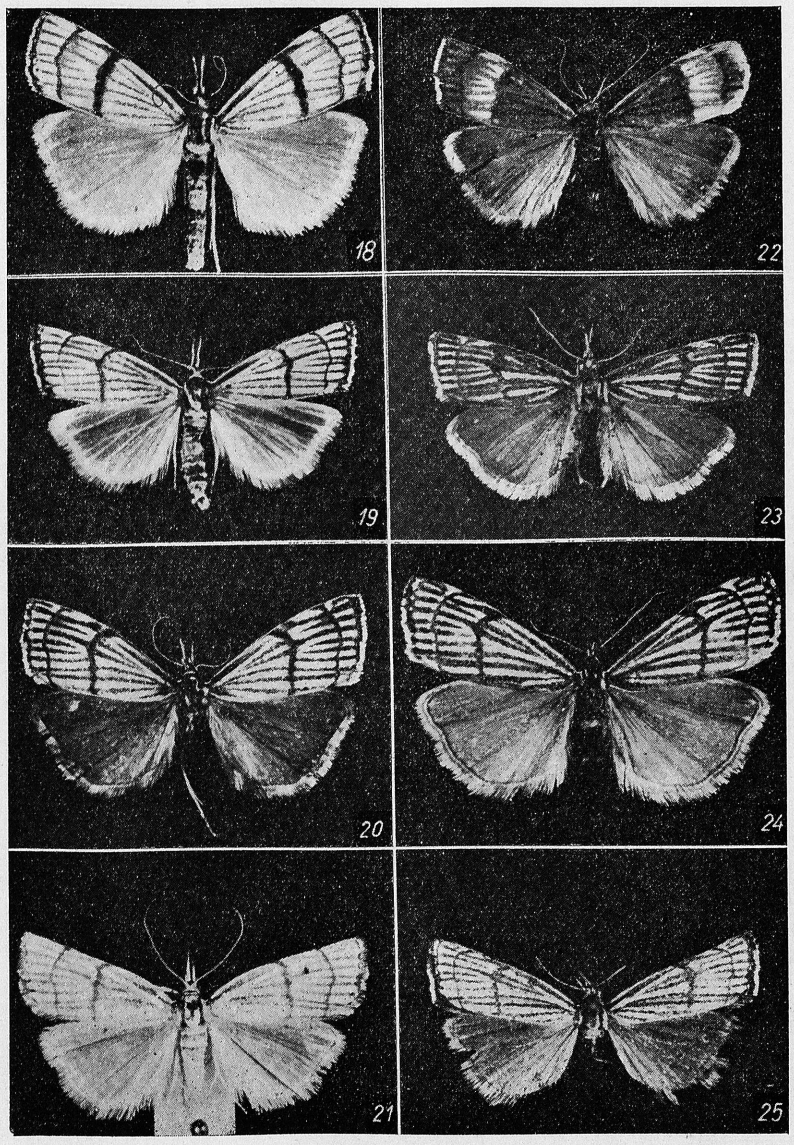

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Plate LXXVII

Fig. 26. *Chrysocrambus (Chrysocrambus) sardiniellus* (Trti.). Male. „Stazione Gairo, 28 VI 1936, H. G. Amsel", coll. Hungarian National Museum in Budapest.

Fig. 27. *Chrysocrambus (Chrysocrambus) dentuellus* (Pierce & Metc.). Male. „Hispania Prov. Madrid Ciou Vallejos, VI 1927, Escalera", author's coll.

Fig. 28. *Chrysocrambus (Chrysocrambus) lambessellus* (Car.). Male. „Tunisia Ain Draham, 20 VII 1920", author's coll.

Fig. 29. *Chrysocrambus (Chrysocrambus) lambessellus* (Car.) ab. *umbrosellus* (M.-R.). Male. „Tunisia Ain Draham, 20 VII 1920", coll. Hungarian National Museum in Budapest.

Fig. 30. *Chrysocrambus (Chrysocrambus) lambessellus* (Car.). Female. „Tunisia Ain Draham, 12 IX 1913", author's coll.

Fig. 31. *Chrysocrambus (Chrysocrambus) maghrebellus* (Marion) subsp. *rengsellus* (Marion). Male. „42. 27. Tachdirt & S. slopes of Djebel Tachdirt 2500—2600 m Great Atlas Marocco, 5 VI 1927, Talbot & Le Cerf.", author's coll.

Fig. 32. *Chrysocrambus (Chrysocrambus) tingitanellus* (Chrét.). Male. „Tunis", author's coll.

Fig. 33. *Chrysocrambus (Chrysocrambus) tingitanellus* (Chrét.). Female. „Marokko Gr. Atlas Tachdirt 2200—2700 m, 2—10 VII 1933, Zerny", author's coll.

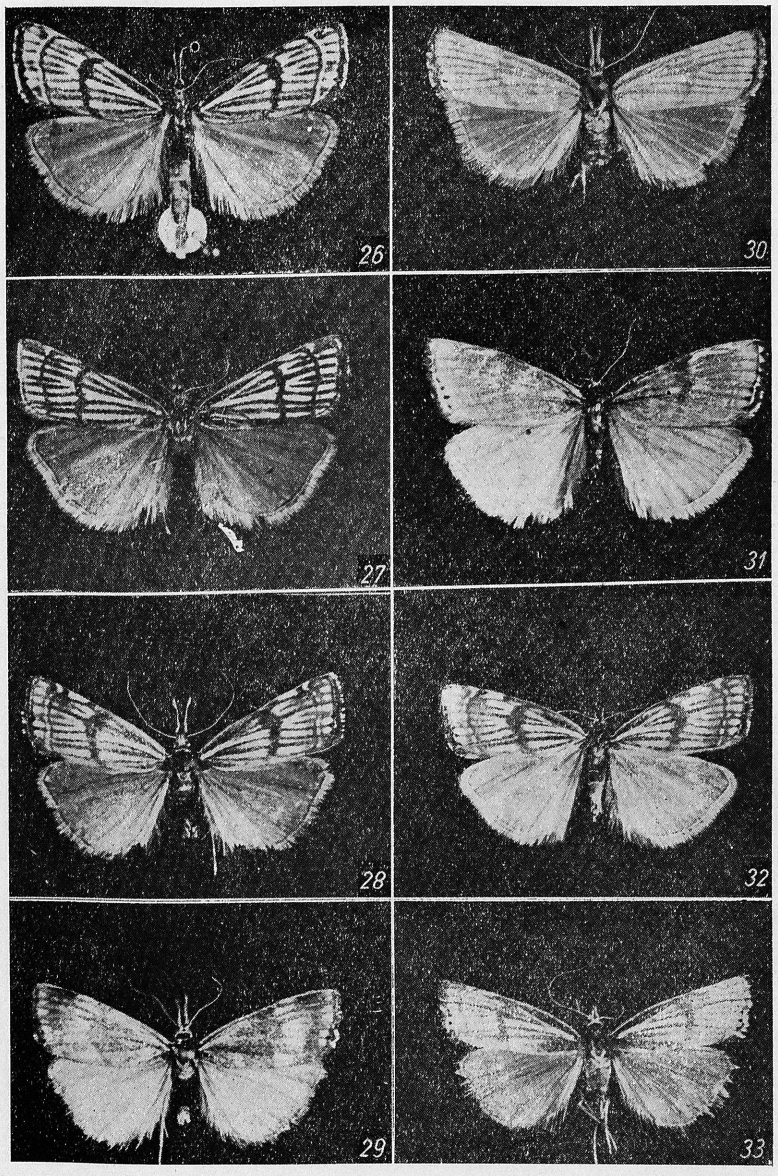

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Plate LXXVIII

Fig. 34. *Chrysocrambus (Chrysocramboides) craterellus* (Scop.). Male. „Budapest, Uhryk, Széchényi h., 15 V 1910", author's coll.

Fig. 35. *Chrysocrambus (Chrysocramboides) craterellus* (Scop.). Female. „Zengg, Dobiasch", author's coll.

Fig. 36. *Chrysocrambus (Chrysocramboides) craterellus* (Scop.). subsp. *abruzzellus* subsp. n. Holotype. Male. „Parco N. Abruzzo Pescasseroli, 22 VI 1949, A. Fiori", author's coll.

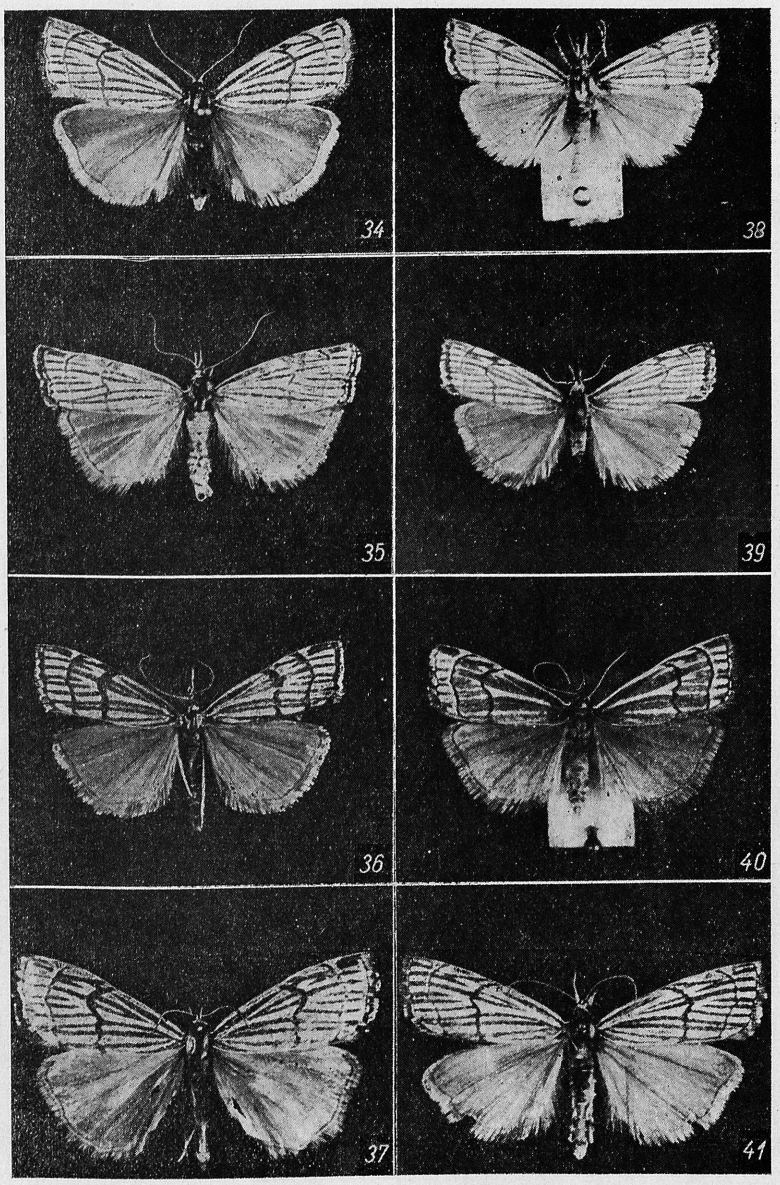
Fig. 37. *Chrysocrambus (Chrysocramboides) craterellus* (Scop.) subsp. *alpinus* subsp. n. Holotype. Male. „Briançon Mt. St. Pierre Ht.-Alpes 1500 m, 3—23 VII 1951, coll. Ch. Fischer", author's coll.

Fig. 38. *Chrysocrambus (Chrysocramboides) craterellus* (Scop.) subsp. *stachiellus* (Toll). Male. „1866, Rossia m, Sarepta, Chr(istoph)", coll. I. Z. P. A. S. Warszawa.

Fig. 39. *Chrysocrambus (Chrysocrambus) craterellus* (Scop.) subsp. *libani* subsp. n. Holotype. Male. „Nd.-Liban Cedern b. Becharré 1900 m, 3—6 VI 1931, Zerny", coll. Museum of the Natural History in Vienna.

Fig. 40. *Chrysocrambus (Chrysocramboides) craterellus* (Scop.) subsp. *deffessellus* (Toll). Male. „Hyrcania, 1870", author's coll.

Fig. 41. *Chrysocrambus (Chrysocramboides) syriellus* (Zerny.). Male. „Syria sept. Taurus Marasch 1200 m, 29 V 1928, L. Osthelder leg.", coll Hungarien National Museum in Budapest.



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