

2109

POLSKA AKADEMIA NAUK
INSTYTUT ZOOLOGICZNY

ANNALES ZOOLOGICI

Tom XVI

Warszawa, 29 V 1954

Nr 1

Maciej MROCZKOWSKI

Materiały do poznania *Dermestidae* (Coleoptera). *Anthrenus flavidus* SOLSKIJ

Материалы к познанию *Dermestidae* (Coleoptera). *Anthrenus flavidus* SOLSKIJ

Contribution to the knowledge of *Dermestidae*. (Coleoptera) *Antherenus flavidus* SOLSKIJ

[With 17 text-figures]

In this contribution I wish to discuss the extent of variability of *Anthrenus* (*Florilinus*) *flavidus* SOLS. and point to the differences distinguishing this species from other allied species of the subgenus *Florilinus* MULS. and REY.

Anthrenus (*Florilinus*) *flavidus* SOLSKIJ 1876 (2, p. 281) = *Anthrenus* (*Florilinus*) *rufulus* SOLSKIJ 1876 (2, pp. 281—282) syn. n.

According to GUSSAKOVSKIJ (1, p. 335, 336) this species is found in Uzbekistan, Tadzhikistan, Armenia, Turkmenia and (?) in China. A new locality of its occurrence is Warszawa, where it got acclimatized having been accidentally introduced, probably about 1935. It is here one of the most noxious pests of entomological and ornithological collections. Outside the premisses of the former Polish Museum of Zoology it has not been noticed so far in any other spots in Warszawa. Several years of breeding of this species gave not only a number



of biological data, but made it possible also to get an idea of the range of individual variability shown by this species, based on a fairly large material (over 2000 specimens). This enabled me as well to establish a new synonymy, as will be shown below.

As in other species of the subgenus *Florilinus* MULS. and REY, *A.(F.) flavidus* SOLS. shows a sexual dimorphism,

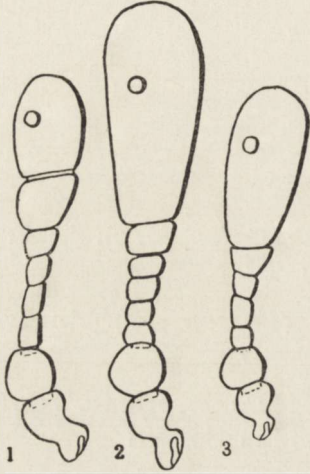


Fig. 1-3. Antennae of *Anthrenus (Florilinus) flavidus* SOLS. 1 - female, 2-3 - males. $\times 150$
Czulki *Anthrenus (Florilinus) flavidus* SOLS. 1 - samicy, 2-3 - samców. $\times 150$

Усики *Anthrenus (Florilinus) flavidus* SOLS. 1 - самки, 2-3 - самцов. $\times 150$

consisting in different structure of the antennae in males and females. The club of the antenna is in the male two-jointed: the terminal joint is 5-7 times as long as the penultimate which exceeds but slightly in length the preceding joints, not belonging to the club, thus, the whole antenna makes an impression of having a one-jointed club [fig. 2]. In the females the club is distinctly two-jointed, with the terminal joint only about twice as long as the preceding one [fig. 1]. Among others, this is a distinctive feature of the subgenus *Florilinus* MULS. and REY, which was evidently not known to SOLSKIJ (2, pp. 281, 282, pl. I, fig. 14-15) as a sexual character, for he mentioned it in his key as the only difference between the species *A.(F.) flavidus*

SOLS. and *A.(F.) rufulus* SOLS. which he described then as new. The trifle difference given in the original descriptions of these two species consists chiefly in the following details: the upper side of *A.(F.) flavidus* SOLS. is clothed with unicoloured, greyish-yellow scales, while in *A.(F.) rufulus* SOLS. three hardly discernible darker bands running across the elytra are to be noticed. These differences fall within the limits of sexual dimorphism, as indicated below, and there is no doubt that the description of *A.(F.) flavidus* SOLS.

concerns the female, while that of *A.(F.) rufulus* SOLS. the male belonging to the same species. As in the paper of SOLSKIJ the name *A.(F.) flavidus* has page precedence, I consider it to be the valid name for this species, the description of *A.(F.) rufulus* SOLS. being the description of the male of *A.(F.) flavidus* SOLS.

The individual variability is different in both sexes of this species. The length of the females varies from 1,9 to 3,5 mm, the average being 2,7 mm. The males are smaller, from 1,3 to 2,5 mm long, with a mean length of 1,9 mm. In the females the structure of the antennae is not much variable, as the joints 3—6, forming the antennal pedicel show only slight deviations. As regards the joints 7—8, constituting the club, their length varies but very slightly. In the males, however, rather considerable differences in the structure of the antennae can be noticed. Small males have often 7-jointed antennae [fig. 3], in which case one of the joints in the antennal pedicel, composed of the joints 3—6, tends to reduction. The length of the terminal joint of the antenna shows as well a fairly pronounced variability. It may be from 5—7 times as long as the preceding joint.

No special deviations are found in the shape of the scales clothing the body, a typical scale being shown on fig. 11. The scales of the upper side of the body are of two colours: greyish-yellow and brown. In various specimens a large scale of the colour shades may be seen: from light-grey-golden to dark-yellow and from light-brown to dark-brown. Yet, every particular specimen has always scales of only one shade of each of the two colours. There are never white, or black scales in this species. The brown scales form the ground colour on the elytra upon which three bands consisting of greyish-

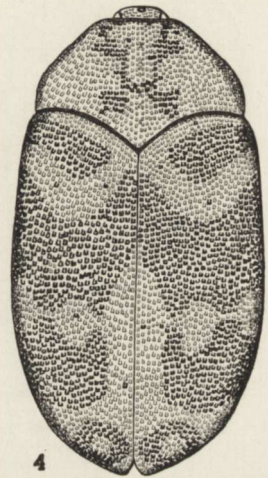


Fig. 4. Male of *Anthrenus (Florilinus) flavidus* SOLS. Samec *Anthrenus (Florilinus) flavidus* SOLS. Cameř *Anthrenus (Florilinus) flavidus* SOLS.

yellow scales, running more or less regularly, can be seen. This pattern does not show any distinct aberrations in the males. It is shown on fig. 4. The females are much paler than the males. About 35 per cent of the females are covered above with one-coloured, greyish-yellow scales [fig. 5]. In the remaining females a varying number of brown scales may be

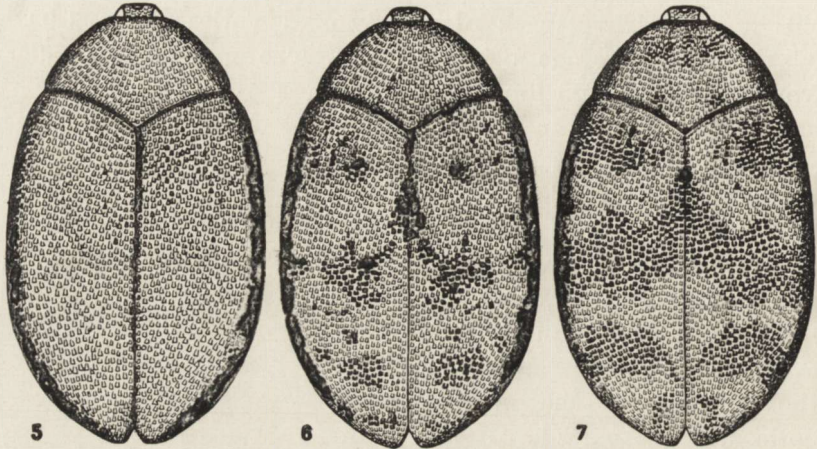


Fig. 5–7. Females of *Anthrenus (Florilinus) flavidus* SOLS.
 Samice *Anthrenus (Florilinus) flavidus* SOLS.
 Самки *Anthrenus (Florilinus) flavidus* SOLS.

seen [fig. 6, 7], which can form finally a distinct, brown ground-colour mentioned above. Those females which have most numerous brown scales resemble much in pattern and coloration average males. The underside of the body is, in both sexes, clothed with white scales. These may get sometimes pale yellow.

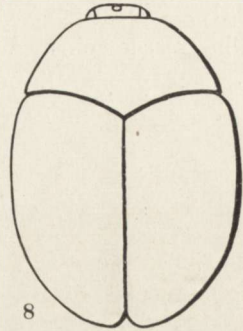
The biological data concerning this species, as well as some others, will be dealt with in a future paper. It can be incidentally mentioned here, that oviposition takes place in April–May, about 4 weeks elapsing between the laying of eggs and the hatching of the larvae; pupation occurs during February–March, the imagines appearing in March–April.

The differences between *A.(F.) flavidus* SOLS. and the remaining Palaearctic species of this subgenus may be summarized as follows:

A.(F.) sordidulus REITT., occurring in Asia Minor and in the Pyrenean Peninsula, has a much wider body, with a sub-circular outline [fig. 8], as well as very broad scales [fig. 14]; these features distinguish it from all the remaining species of the subgenus.

A.(F.) oberthüri REITT. occurring in the Pyrenean Peninsula, in Corsica and Algeria, as well as *A.(F.) museorum* (LIN.) [fig. 15], distributed over the whole Palaearctic and also in North America have likewise a broader body than *A.(F.) flavidus* SOLS. In both these species the scales are triangular, in *A.(F.) oberthüri* REITT. more elongated [fig. 12, 13]. Contrary to what is found in other species of the subgenus, the scutellum is well visible.

A.(F.) caucasicus REITT., found in Georgia, Armenia and Turkmenia, and also reported from Vienna, where it has been introduced accidentally, as well as *A.(F.) olgae* KAL. occurring in Czechoslovakia and in Poland, are most closely related to *A.(F.) flavidus* SOLS. Their scales



8
Fig. 8. Body outline of *Anthrenus (Florilinus) sordidulus* REITT.

Zarys ciała *Anthrenus (Florilinus) sordidulus* REITT.

Контур тела *Anthrenus (Florilinus) sordidulus* REITT.

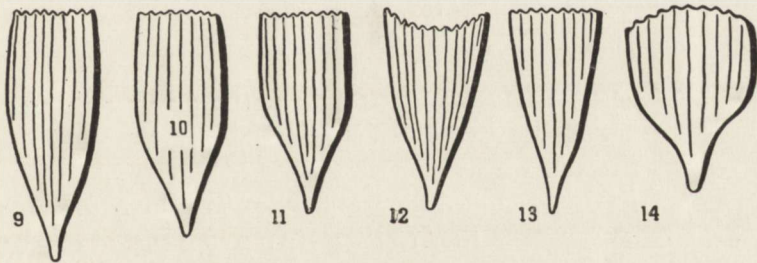


Fig. 9-14. Scales of elytra. $\times 365$.

Łuski z pokryw. $\times 365$

Чешуйки надкрылий. $\times 365$

9—*Anthrenus (Florilinus) olgae* KAL., 10—*A.(F.) caucasicus* REITT.,

11—*A.(F.) flavidus* SOLS., 12—*A.(F.) museorum* (LIN.),

13—*A.(F.) oberthüri* REITT., 14—*A.(F.) sordidulus* REITT.

are of a simpler shape, differing but slightly in length [fig. 9-11]. Body almost equally elongate [fig. 4-7, 16, 17].

The differences consist here mostly in the coloration of the elytra. In *A.(F.) olgae* KAL. the bands are formed of white scales. In this species yellow scales occur but quite exceptionally. White scales are never present in *A.(F.) flavidus* SOLS. The last species, *A.(F.) caucasicus* REITT., shows two-coloured scales in the bands of the elytra: white and golden-yellow ones, the golden-yellow encircling the white ones [fig. 16].



Fig. 15–17. Females.

Samice.

Самки.

15 — *Anthrenus (Florilinus) museorum* (LIN.), 16 — *A.(F.) caucasicus* REITT., 17 — *A.(F.) olgae* KAL.

Closing this contribution I would like to add a few words on the variability of *A.(F.) olgae* KAL., in order to help to distinguish this species from *A.(F.) flavidus* SOLS. A considerable material (over 2000 specimens) obtained in the course of breeding experiments with *A.(F.) olgae* KAL. enables me to define its variability. It does not show such a marked variability as *A.(F.) flavidus* SOLS. Both the males and females have always 8-jointed antennae. The length of the joints both of the antennal pedicle, and of the club shows but little variability. The shape of the scales clothing the body

does not vary much, their length exceeds, however, that of *A.(F.) flavidus* SOLS. Typical scale shape is shown on fig. 9. The scales clothing the upper side are two-coloured: white and dark-brown. Among the white scales there appear exceptionally greyish-yellow ones, being isolated as a rule, and very scanty. The dark-brown colour of the scales is rather constant — the large range of brown shades, characteristic for *A.(F.) flavidus* SOLS., is absent. Dark-brown scales form a dark ground-colour on the elytra crossed by three distinct bands of white scales [fig. 17]. The width of these bands varies, they are on the average narrower in the males.

BIBLIOGRAPHY

1. GUSSAKOVSKIJ V. V. *Coleoptera, Dermestidae* in: PAVLOVSKIJ E. N. and ŠTAKELBERG A. A. *Vrednye životnye srednej Azii*. Moskva, Leningrad, 1949, pp. 332—336.
2. SOLSKIJ S. M. *Žestkokrylja (Coleoptera); tetrad vtoraja*; in: FEDČENKO A. P. *Putešestvie v Turkestan*, t. 2, č. 5. *Izv. Imp. Obšč. ljub. Est. Antrop. Etnogr.*, S.-Peterburg, Moskva, **21**, vyp. 1, 1876.

STRESZCZENIE

Autor omawia zmienność indywidualną nowego dla Europy szkodnika zbiorów entomologicznych i ornitologicznych a mianowicie *Anthrenus (Florilinus) flavidus* SOLS. oraz dowodzi, że opis *Anthrenus (Florilinus) flavidus* SOLS. jest opisem samicy, a opis *Anthrenus (Florilinus) rufulus* SOLS. jest opisem samca tego samego gatunku. Nazwę ostatnią należy więc traktować jako synonim nazwy *Anthrenus (Florilinus) flavidus* SOLS.

Autor omawia dalej różnice między *Anthrenus (Florilinus) flavidus* SOLS. a innymi palearktycznymi gatunkami tego podrodzaju oraz zmienność indywidualną *Anthrenus (Florilinus) olgae* KAL.

РЕЗЮМЕ

Автор рассматривает индивидуальную изменчивость нового для Европы вредителя энтомологических и орнитологических коллекций, а именно *Anthrenus (Florilinus) flavidus* SOLS. и доказывает, что описание *Anthrenus (Florilinus) flavidus* SOLS. является описанием самки, а описание *Anthrenus (Florilinus) rufulus* SOLS. описанием самца одного и того же вида. Второе название следует таким образом считать синонимом *Anthrenus (Florilinus) flavidus* SOLS.

Затем автор обсуждает различия между *Anthrenus (Florilinus) flavidus* SOLS. и другими палеарктическими видами этого подрода, а также индивидуальную изменчивость *Anthrenus (Florilinus) olgae* KAL.

ZAWIADOMIENIE

Od r. 1953 dotychczasowe Państwowe Muzeum Zoologiczne w Warszawie weszło w skład Instytutu Zoologicznego Polskiej Akademii Nauk.

W związku z tym tytuł wydawnictwa „Annales Musei Zoologici Polonici” zmienia się na „Annales Zoologici” wydawane przez Instytut Zoologiczny Polskiej Akademii Nauk, przy czym bieżąca numeracja tomów będzie prowadzona dalej.

W sprawach redakcyjnych oraz dotyczących wymiany wydawnictw należy zwracać się pod adresem:

*Instytut Zoologiczny Polskiej Akademii Nauk,
Warszawa, ul. Wilcza 64.*

ИЗВЕЩЕНИЕ

С 1953 г. бывший Государственный Зоологический Музей в Варшаве вошел в состав Зоологического Института Польской Академии Наук.

В связи с этим заглавие издания „Annales Musei Zoologici Polonici” изменяется на „Annales Zoologici” издаваемые Зоологическим Институтом Польской Академии Наук, причем текущая нумерация томов будет продолжаться.

По редакционным делам и по делам касающимся обмена изданиями следует обращаться по адресу:

*Зоологический Институт Польской Академии Наук,
Варшава, Польша, ул. Вильча 64.*

NOTICE

Since 1953 the former Polish Museum of Zoology at Warszawa has been incorporated with the Institute of Zoology of the Polish Academy of Science.

In this connection the title of the publication „Annales Musei Zoologici Polonici” is changed into „Annales Zoologici”

published by the Institute of Zoology of the Polish Academy of Science, the current numeration of the volumes being, however, continued.

Letters concerning editorial matters and exchange of publications should be addressed as follows:

*Institute of Zoology of the Polish Academy of Science,
ul. Wilcza 64, Warszawa, Poland.*

A V I S

L'ancien Musée Zoologique Polonais fut incorporé en 1953 à l'Institut Zoologique de l'Académie Polonaise des Sciences.

Pour cette raison, les „Annales Musei Zoologici Polonici”, publiés dès lors par l'Institut Zoologique de l'Académie Polonaise des Sciences, ont prit le nom d'„Annales Zoologici”. Le numérotage des volumes sera continué.

La correspondance concernant l'édition, de même que les publications d'échange doivent être envoyées à l'adresse suivante:

*Institut Zoologique de l'Académie Polonaise des Sciences,
ul. Wilcza 64, Warszawa, Pologne.*

Państwowe Wydawnictwo Naukowe – Warszawa 1954

Nakład 1400+160 egz. – Oddano do składania 8. II. 54. – Podpisano do druku 26. V. 54.

Druk ukończono w maju 1954 r.

Ark. wyd. 0,5, druk. $\frac{1}{8}$ – Papier III kl. bezdrz. 100 g. Cena zł 1.–

Nr zam. 171/54.

Wrocławska Drukarnia Naukowa

F-5-19066.