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Anthrenus (Helocerus) polonicus sp. n. z Europy Środkowej i Wschodniej oraz opis nowego podrodzaju w obrębie rodzaju *Anthrenus* GEOFFR.

Anthrenus (Helocerus) polonicus sp. n. from Central and Eastern Europe with a description of a new subgenus of *Anthrenus* GEOFFR.

[Pl. XXXV and 2 text-figures.]

When studying the species of the genus *Anthrenus* GEOFFROY at the Polish Museum of Zoology, my attention was attracted by a series of 13 specimens belonging to the subgenus *Helocerus* MULS. They were collected by Mr. M. WĘGRZECKI on 26 V 1949 at Radość near Warsaw and offered to the Polish Museum of Zoology in Warsaw. As they remarkably differed from *Anthrenus fuscus* OL., it gave me a suggestion that there probably existed in Central Europe two species of the above-mentioned subgenus. A subsequent field research supplied substantial material permitting the discrimination of a new species.

I wish to express here my sincere indebtedness to Mr. WĘGRZECKI for indicating me the place and the circumstances of capture of the specimens — as well as to Dr. St. ADAMCZEWSKI for his valuable biological remarks on the species referred to, also to Dr. W. EICHLER, who had lent me materials of his own collection.

Anthrenus polonicus sp. n.

Description of holotype. Male. Length of body 2.5 mm. Length of head 0.3 mm. Breadth of head 0.3 mm. Length of pro.

notum along the middle line 0.5 mm. Maximal breadth of pronotum 1.0 mm. Length of elytra along the suture 1.7 mm. Maximal width of elytra 1.3 mm.

Shape of body oblong-ovate. Upper part covered with black, white and yellow scales. Body dark brown. Antennae and legs pale brown.

Head. Length slightly exceeds breadth. Antennae with 5 joints. The first and second joint spherical. The third and fourth joint square, distinctly smaller than the former ones; fifth joint considerably enlarged and lengthened forming the club of the antennae. Scales on the head yellow and black, irregularly mingled, with yellow prevailing.

Pronotum. Width is the double of length. Maximal breadth at the base of pronotum. Anterior border curved inwards. Lateral borders arched, very slightly S-shaped. Under the lateral borders there are antenae cavities reaching $\frac{3}{4}$ of them. Posterior border straight at the beginning, in the middle bent backwards, and rounded at the scutellum. Back angles of the pronotum covered with white scales forming a distinct white patch, which reaches on both sides $\frac{2}{3}$ of the half of the posterior border of pronotum. A wide patch of black scales in the middle of the pronotum extends from its beginning up to the half of length and contains a few single yellow scales. The space confined by that patch and those in the posterior angles of the pronotum as well as by the posterior border of the latter, is clothed with yellow scales and a trivial admixture of black.

Scutellum small, black, hardly visible, with no scales.

Elytra 1.3 times longer than broad. Humeral tubercles nearly imperceptible. The anterior border of elytra forms a wide opened V letter curved outwards. Lateral border regularly arched. Maximal breadth of elytrae is beyond their middle. Elytra covered with black, yellow and white scales. Yellow and white scales form 3 bands on the elytra. The first one runs over the anterior part of the elytra. Near the suture it is sharply broken forwards and terminates at the scutellum. Beyond the middle of the elytra there is a second band and a third one which runs near the tip. Both the latter bands are straight. Yellow and white scales on the bands irregularly disposed. On the elytrae, besides those bands, there are two patches on each side, consisting of yellow scales. One is broad, situated between the humeral tubercle and the scutellum. The other is at the posterior angle of elytrae. Ventral clothing unicolourous, white.

Femora with white scales. No scales on pale brown tibiae and on tarsi. Well developed wings, fit for flight.

Description of allotype. Female. Body length 3.0 mm. Head 0.3 mm long. Breadth of head 0.3 mm. Pronotum along the middle line 0.6 mm in length. Maximal width of pronotum 1.2 mm. Elytra along the suture 2.1 mm. Maximal width of elytrae 1.6 mm.

Shape and coloration of body resembling those of holotype.

Yellow scales on the head more numerous, with an admixture of white. Left antenna 6-jointed, right one 5-jointed. The first and second joint like in holotype. The 3-rd and 4-th joint is 1.5 time longer than broad. In the left antenna the distinct 5-th joint identical in shape with the two preceding ones. The terminal joint of antenna forms a club. In the left antenna the club is shorter than in the right one by the length of the 5-th joint.

Pronotum. Shape and pattern resembling those of the holotype, the white patches being larger, while the black one has a marked admixture of yellow scales. Antennal cavities hardly reaching the half of the lateral border of pronotum.

Elytra. Shape and pattern similar to those of the holotype, the bands being wider and with more white scales. Between the bands a small group of single, yellow scales, irregularly disposed among the black ones.

Body below as well as legs and wings like in holotype.

Both specimens hitherto described have been collected by the author on flowers of *Spiraea trilobata* L. at the premises of the University of Warsaw — the holotype on May 21-st and the allotype on May 22-nd, 1950.

Paratypes totalling 196 specimens were collected as follows:

Poland, Warszawa. In different buildings 34 ♂♂ and 30 ♀♀; 32 ♂♂ and 52 ♀♀ on flowers of *Spiraea trilobata* L.; Warszawa, Saska Kępa, 1 ♀ on flowers, 1 ♂ in a flat and one couple on flowers of *Prunus avium* L.; Bielany near Warszawa, 1 ♀ (Coll. B. BURAKOWSKI); Radość near Warszawa, 7 ♂♂ and 14 ♀♀; Otwock near Warszawa, 3 ♀♀; Tworki near Warszawa, 4 ♂♂, 6 ♀♀.

Roumania, Craiova, 11 VI 1940, leg. Dr. W. EICHLER — 1 ♀ (Coll. W. EICHLER).

Ukrainian S. S. R., Tatarów (Podolia), VIII 1939 — 2 ♀♀ (Coll. W. EICHLER); Zaleszczyki (Podolia): 3 VII 1931 — 1 ♀; 9 VII 1932 — 1 ♀; 10 VII 1933 — 2 ♂♂, 1 ♀ (leg. Sz. TENENBAUM). Dniepropetrowsk — 1 ♀. The above-mentioned para-

types, except those from BURAKOWSKI's and EICHLER's collection, are kept, together with the holotype and the allotype, at the Polish Museum of Zoology.

In paratypes body length of males varies from 2.0 mm to 3.1 mm, while in females from 2.1 mm to 3.6 mm. The average size in males is 2.4 mm, in females 3.0 mm.

There is only a trivial variability in colouring of pronotum and elytrae; however, the females always seem at first sight somewhat brighter, owing to the presence of more abundant yellow and white scales. A blending of white spots at the posterior angles of the pronotum, sometimes occurring in females, form one uniform patch running across the whole breadth of the pronotum [Pl. XXXV, Fig. 1].

The structure of copulatory apparatus shows nearly no variability.

Antennae in males always 5-jointed, the 3-rd and 4-th joint showing an insignificant variability of shape. There is a marked diversity in female antennae. Number of joints is 5 to 6; often a different number of joints in the left and right antennae of the same specimen is to be noted. Nearly all females with 5-jointed antennae show at microscope examination a more or less incomplete partition in the 5-th joint. All the transitory stages from 5- to 6-jointed antennae are present, and even a partition in the 6-th joint — as if a vestige of a 7-jointed type of antennae — is noticeable. The variableness of the whole antennae length is slight, both in males and females, the male antennae being, however, longer. The mutability of antennae is illustrated for both sexes on Pl. XXXV, Fig. 15, 16 (males) and 11—14 (females). The ratio of the length of pronotum to the length of antennal cavities in males and females is represented on Pl. XXXV, Fig. 3 and 4.

Remarks on biology of *Anthrenus polonicus* sp. n. In larval stage that species is the pest of ornithological and entomological collections.

It was observed at the premises of the Polish Museum of Zoology and of the Institutes of Systematical and General Zoology at the University of Warsaw, as well as in the Institute of Zoology at the High School of Agriculture in Warsaw. This proves that the species is present in places where zoological collections are amassed. Moreover, it was found (by Dr. St. ADAMCZEWSKI and by the author) in private flats as well as on flowers in the open. In buildings this species appears earlier, by the end of February already, while at liberty it is observed in May; in later months it is seen exceptio-

nally. Specimens collected on flowers do not differ from those taken in buildings. At present, experimental breeding is being carried on by the author of this paper. Biological and ecological observations will be published later on, the present paper being just a note.

Anthrenus polonicus sp. n. differs from the Mediterranean *Anthrenus minutus* ER. in size of body and pronotum. *Anthrenus minutus* ER. is a smaller species of an average size of 1.8 mm. Here is, what KÜSTER (2) writes about the ratio of the length to the breadth of pronotum in this species: „Brustschild 1.5 mal so lang als hinten breit, . . .“ — This is in striking contradiction with the analogical sizes in *A. polonicus* sp. n.

For a better distinction of *A. polonicus* sp. n. from *A. fuscus* OL. the following table will be of use:

<i>A. polonicus</i> sp. n.	<i>A. fuscus</i> OLIVIER
Brighter. There is less white than yellow scales on the elytrae.	Darker. Elytrae almost deprived of white scales.
The bands, in general, are complete; exceptionally the 2-nd and seldom the 3-rd one are interrupted. The first band is, near the suture, sharply broken forwards, thus forming a more or less acute angle. [Pl. XXXV, Fig. 1].	Incomplete bands on the elytrae; the first one in the shape of two yellow arches contiguous at the scutellum, the 2-nd and 3-rd in the shape of spaced yellow spots. [Pl. XXXV, Fig. 2.]
There are a few black scales on the head — the rest is yellow.	Head covered with black scales with a slight admixture of yellow.
Only the middle part of pronotum is covered with black scales, while the whole of it shows a preponderance of yellow ones. The posterior border as on Pl. XXXV, Fig. 5.	Black scales on pronotum, except white spots in the posterior angles and a few yellow scales. Its posterior border as on Pl. XXXV, Fig. 6.
The 3-rd and 4-th joint in males each as long as broad. [Pl. XXXV, Fig. 15, 16].	Length of 3-rd and 4-th joint taken together in males equalizes the width. [Pl. XXXV, Fig. 9, 10].
The length of 3-rd and 4-th joint of female antennae exceeds the breadth. [Pl. XXXV, Fig. 11-14]	The 3-rd and 4-th joint in females each as long as broad. [Pl. XXXV, Fig. 7, 8].
Number of joints in female antennae variable (5 or 6 joints).	Female antennae always with 5 joints, the 3-rd and 4-th one

A more distinct variableness in shape of 3-rd and 4-th joint. [Pl. XXXV, Fig. 11—14].

Dorsal penis line viewed from side is arched [arrow on Fig. 1a].

Tips of parameres are not tucked downwards. Posterior tips of penis longer. Bristles on parameres more abundant. [Fig. 1a, b].

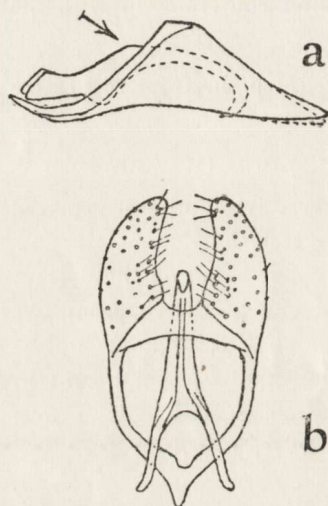


Fig. 1. *Anthrenus polonicus* sp. n. Male copulatory apparatus, x 130. a — side view; b — dorsal view.

showing but a small variableness. [Pl. XXXV, Fig. 7, 8].

Dorsal line of penis viewed from side is straight. [Fig. 2a].

Tips of parameres tucked downwards. Posterior appendages of penis shorter. Scarce bristles on parameres. [Fig. 2a, b.]

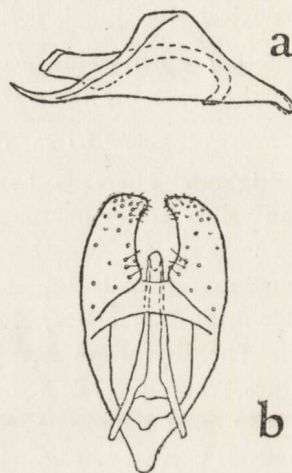


Fig. 2. *Anthrenus fuscus* OL. Male copulatory apparatus, x 130. a — side view; b — dorsal view.

In conclusion, *A. (H.) fuscus* OL., *A. (H.) minutus* ER., and *A. (H.) polonicus* sp. n. should be considered as belonging to the subgenus *Helocerus* MULS.

According to my opinion, the fourth species described of this subgenus: *A. heptamerus* PEYERIMHOFF (3), together with *A. leucogrammus* SOLSKY (4) and *A. sinensis* ARROW (1) rather form a separate subgenus, which is characterized herebelow.

Solskinus subg. n.

Antennae 7-jointed; the length of the 1-jointed club exceeds twice the length of the remaining joints taken together.

Distribution of the above-mentioned species is the following:

Anthrenus leucogrammus SOLSKY 1876 . . . Turkestan
Anthrenus sinensis ARROW 1915 . . . North China
Anthrenus heptamerus PEYERIMHOFF 1924 . . Marocco

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EXPLANATION OF FIGURES

Plate XXXV.

- Fig. 1. *Anthrenus polonicus* sp. n. Female. Paratypus, x 20.
 Fig. 2. *Anthrenus fuscus* OL. Female, x 20.
 Fig. 3. *Anthrenus polonicus* sp. n. Male. Antennal cavity, x 37.
 Fig. 4. *Anthrenus polonicus* sp. n. Female. Antennal cavity, x 30.
 Fig. 5. *Anthrenus polonicus* sp. n. Posterior border of pronotum, x 30.
 Fig. 6. *Anthrenus fuscus* OL. Posterior border of pronotum, x 30.
 Fig. 7 and 8. *Anthrenus fuscus* OL. Various female antennae, x 92.
 Fig. 9 and 10. *Anthrenus fuscus* OL. Various male antennae, x 92.
 Fig. 11, 12, 13 and 14. *Anthrenus polonicus* sp. n. Various female antennae, x 92.
 Fig. 15 and 16. *Anthrenus polonicus* sp. n. Various male antennae, x 92.

STRESZCZENIE.

Pracując w Państwowym Muzeum Zoologicznym w Warszawie nad rodzajem *Anthrenus* GEOFFROY, autor zwrócił uwagę na ofiarowaną Muzeum przez dyr. M. WĘGRZECKIEGO serię 13 okazów z podrodzaju *Helocerus* MULS. z Radości pod Warszawą, różniących się znacznie od jedyne go krajowego gatunku z tego podrodzaju. Po przeprowadzeniu badań terenowych, autor zdobył materiał, pozwalający na wyróżnienie nowego gatunku z tego podrodzaju. Autor składa podziękowanie dyr. M. WĘGRZECKIEMU za wskazanie miejsca i ilości połowu wymienionych okazów, dr. St. ADAMCZEWSKIEMU za dostarczenie cennych obserwacji biologicznych, oraz dr. W. EICHLEROWI za wypożyczenie materiałów z jego zbioru.

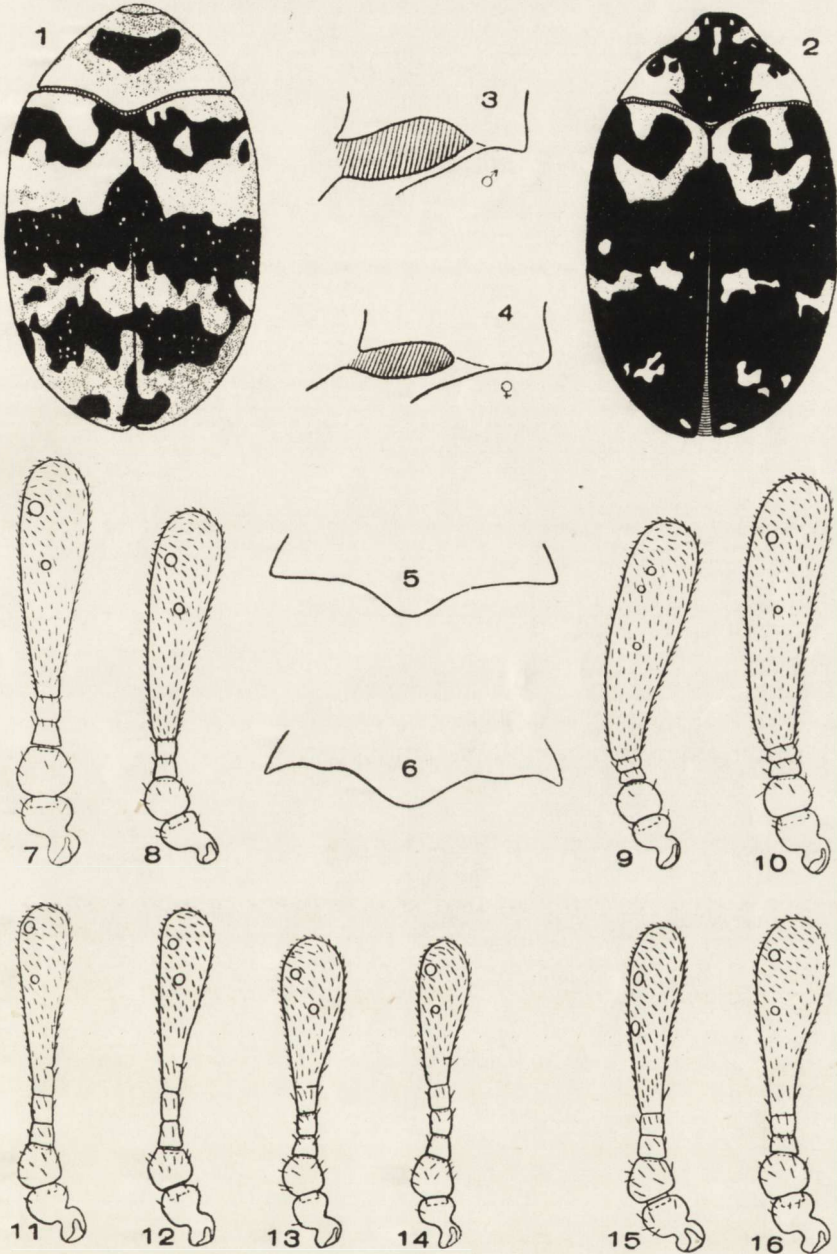
Następnie autor podaje opis holotypu i allotypu nowego gatunku, który nazywa *Anthrenus polonicus* sp. n. Z kolei następuje wykaz miejscowości, z których pochodzą paratypy. Paratypy w ilości 196 okazów zbierane były w Warszawie i okolicach (187 okazów) w Rumunii (1 okaz) i w U. S. S. R. (8 okazów), i znajdują się, prócz okazów wypożyczonych ze zbiorów W. EICHLERA i B. BURAKOWSKIEGO, w Państwowym Muzeum Zoologicznym w Warszawie.

Dalej autor omawia zmienność jaką zaobserwował wśród paratypów. Ciekawy jest fakt zmienności ilości członów w czułkach samic, trafiający się często nawet u jednego osobnika.

Osobno podaje autor kilka uwag o biologii nowego gatunku. W stanie larwalnym jest on szkodnikiem zbiorów entomologicznych i ornitologicznych. Znajdowany był w Państwowym Muzeum Zoologicznym w Warszawie, w Zakładzie Zoologii Systematycznej Uniwersytetu Warszawskiego oraz w Zakładzie Zoologii Szkoły Głównej Gospodarstwa Wiejskiego. Prócz tego znajdowany był w mieszkaniach (St. ADAMCZEWSKI) prywatnych oraz na swobodzie na kwiatach. W budynkach pojawia się wcześniej, bo już pod koniec lutego, na swobodzie w maju. Wyjątkowo można napotkać go w późniejszych miesiącach. Dalej autor zaznacza, iż prowadzi hodowlę tego gatunku, a obserwacje ekologiczne i biologiczne ogłosi później.

W dalszym ciągu następuje porównanie nowego gatunku z gatunkami do tej pory opisanymi. Od *Anthrenus fuscus* OL. różni się on znacznie wyraźniej zaznaczonymi przepaskami na pokrywach, kształtem tylnego brzegu przedplecza [Tab. XXXV, rys. 5 i 6], budową aparatów kopulacyjnych samców [rys. 1—2] oraz kształtem 3-go i 4-go człona czułków [Tab. XXXV, rys. 7—16.]

Z kolei autor stwierdza, iż opisany w tym podrodzaju gatunek *A. heptamerus* PEYERIMHOFF nie powinien się w nim znajdować, i tworzy nowy podrodzaj, któremu nadaje nazwę *Solskinus* subgen. nov. Do podrodzaju tego zalicza prócz gatunku wyżej wymienionego jeszcze dwa inne. Podrodzaj ten charakteryzuje się 7-mio członowymi czułkami o jednoczłonowej maczudze przeszło dwukrotnie dłuższej od wszystkich pozostałych członów razem wziętych.



Auctor del.

M. Mroczkowski