TACHINUS LATICOLLIS GRAV. (COLEOPTERA, STAPHYLINIDAE, TACHYPORINAE) – A NEW REPRESENTATIVE OF TACHIPORINS IN THE FAUNA OF THE REPUBLIC OF MOLDOVA

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Abstract. The paper presents the approach of researches on the species *Tachinus laticollis* Gravenhorst, 1802 (Coleoptera, Staphylinidae, Tachyporinae) identified as a new species for the fauna of the Republic of Moldova. The tachiporin specimen was collected at 05.03.2016 in the cattle manure in the pasture from Cocieri village, Dubasari District. The principal method of collecting was extraction by applying the flotation method. In the context of this study, the paper refers in more detail to the species in the collection of Staphylinidae within the Museum of Entomology of the Institute of Zoology, during the applied research (2015-2017). Also, to the analysis of rove beetles material extracted from samples accumulated during study, data on the systematic classification of the species, geographical distribution, bioecology, morphology, illustrative presentation.

Introduction

The species *Tachinus laticollis* Gravenhorst, 1802 (Coleoptera Order, Staphylinidae Family, Tachyporinae Subfamily) constitutes the completion of the chapter with new species found in our country. It also constitutes the maintaining records with the potential for expansion in certain territories, peak of occurrence in various ecosystems, preferred habitat and substrate for population, etc. Researches effectuated during 2015-2017 in the Cocieri village, Dubasari district allowed accumulation of staphylinids material abundant in species and specimens and diverse in population structure. In this context, the highlighting of tachiporins through new species status for the fauna of the Republic of Moldova continues with the sequential presentation of the some aspects like the existence of representatives from Tachyporinae subfamily into Staphylinidae collection; the period of initiation of research in the accumulation of staphylinids material; presentation of the species by systematic framing, synonymous, geographical spread, bioecology, aspects of morphology, presentation of illustrative material.

Materials and methods

The applied researches in the study of natural and anthropogenic points were carried out quarterly using the classic entomological methods of collecting staphylinids and materials that made work easier for storage in time.

The *tools* used – polyethylene bags, Eppendorf tubes and Petri plates, rubber gloves, secateurs, entomological needles, magnifier, etc.

The *methods* used in the working process were: 1) manual collection; 2) shaking through collection on a cloth with a texture resistant to application to various surfaces; 3) accumulation of material by raking; 4) flotation methods; 5) *insect* aspirator also known as a pooter, etc.

In the field the research and accumulation of staphylinids material included several practical steps from various types of biotopes and substrates:

- were applied collections, fixations and labeling of staphylinides from dead wood on standing trees, dry and/or in the drying phase, within fallen (felled) trees, within middle of whole and/or chipped trunks, stumps and wood in different stages of decomposition, trunks, branches, etc.;
- sectioning of wood elements of different antiquities and bark detachments;
- shaking the mushrooms with the concave hats in the blades where the insects accumulated;
- exploration of the litter in forests, forest strips, unmaintained gardens by taking samples and selecting them;
- direct observations on the habitats and behavior of staphylinides observed and then collected;
- photographing of the materials and of studied points, etc.

In the laboratory conditions were done:

- sorting of the captured biological material, preparation, structuring and storage;
 - identification according to the specific characters of determination; with the approach of the taxonomic classification and nomenclature according to the system accepted on the WEBSITES Fauna Europaea [5] and BioLib.cz [6]; with data analysis by comparison of staphylinide signals from the researched points and their numerical estimation.

Results and discussions

In the result of analysis and determining of collected materials during the years species, summaries in workbooks and statistical tables, a new species of rove beetles from the subfamily Tachyporinae for the fauna of our country was identified. The *T. laticollis* species is discussed for the first time and is an element through which the author expresses his contribution in completing the database of staphylinides for the Republic of Moldova.

Tachyporines group collection. The tachyporines group currently is represented by 31 species. The number is completed with a new species *T. laticollis* addressed in the paper, in total listing 32 species. Tachyporinae specimens are stored in boxes located on the upper floors of the entomological wardrobe, where the entire collection of staphylinides is kept, these being marked with the numbers 1, 2 and 3. For each specimen are established labels with the name of the subfamily and the genus to which they belong. The species *T. laticollis* is stored in the box with no. 2, the place where all the representatives of the genus *Tachinus* Gravenhorst, 1802 are positioned. The box is made of durable glass, thus the specimens being protected from dust and the penetration of foreign organisms inside. For accessibility in the work process and/or record keeping, the boxes are accompanied by lists of stored representatives (figure 1).

The faunal material studied. The research included several species of staphylinids collected during 2015, 2016 and 2017 in the pasture area of Cocieri village, Dubasari district and the apple orchard not maintained over time. Out of accumulated samples were extracted specimens of staphylinides by the genera *Philonthus*, *Ocypus*, *Gabrius*, *Sepedophilus*, *Tachinus*, *Tachyporus*, *Bisnius*, etc. Based on the identifications made according to the classical keys of determination, was highlighted the presence of staphylinid *Tachinus laticollis* Gravenhorst, 1802 of subfamily

Tachyporinae. The species was collected on 05.03.2016 on the pasture from Cocieri village, Dubăsari district, being extracted from cattle manure.

Systematic framing. The species *T. laticollis* belongs to Hexapoda subphylum, Insecta class, Coleoptera order, Polyphaga suborder, Staphyliniformia infraorder, Staphylinidea superfamily, Staphylinidae family, Tachyporinae subfamily, Tachinus Gravenhorst, 1802 genera [2, 5, 6].

Synonymous. The synonyms given during the study for *T. laticollis* treated in foreign specialized sources are *Tachinus immaturus* Gravenhorst, 1802, *Tachinus laticollis* Gravenhorst, 1802, *Tachinus nigripes* Stephens, 1832, *Tachinus pastoralis* Veselova, 1993, *Tachinus ergates* Gistel, 1857, *Tachinus intermedius* Mannerheim, 1830 [4, 7].

Bioecology of the species. The *T. laticollis* prefers moderate temperature and humidity conditions. It falls into mesophilic species group. Is a predator, eurytopic and coprobiont species [1]. Geographical spread. The *T. laticollis* species is found in the fauna of European countries: Austria, Republic of Belarus, Belgium, Bulgaria, Czech Republic, Denmark, Estonia, Finland, France, Germany, Italy, Hungary, Lithuania, Slovakia, Poland, Romania, Ukraine, and Spain. Russian Federation: European side, Caucasus, Ural, Western and Eastern Siberia [8]. Asia: Armenia, Georgia, Turkey, Republic of Tajikistan, Republic of Turkmenistan, Uzbekistan, Republic of Kazakhstan, Mongolian People's Republic of [4, 5, 6]. Palearctic element.

Morphology. The adult of *T. laticollis* has a convex body, smooth surface, size 10-12 mm, with brown-brown coloration. Small head, slightly rounded, more wide is found below the basal segments of the pronotum. Eyes are quite accentuated, the temples exceed in length the surface of the eyes. The antennae have filiform form, are elongated, exceed the cephalic capsule and pronotum, the last antennal segment having more convex shape. Pronotum smooth, with rounded lateral edges. The rectangular and elongated elytra cover the first abdominal segment. The legs are reddish yellow with thickened tarsi. The forelegs are wider compared to the middle and hind legs. The abdomen is wide in the basal part and narrow in the distal part. The larva, is white-brown and has a length of 6-7 mm [3].

The figure of the species *T. laticollis* is the proof of identification and storage of the species in Staphylinidae collection which is deposited in the Museum of Entomology of the Institute of Zoology (fig. 1).

a) adult displayed on cardboard plate

b) labeling of the species

c) storage in the collection box

d) framing in the collection list

Figure 1. *Tachinus laticollis* Gravenhorst, 1802 a new species for the fauna of the Republic

Conclusions

The faunal researches on the pastures from Cocieri village, Dubăsari district and other biotopes allowed carrying out researches during three successive years (2015-2017) in order to follow the faunistical potential of the rove beetles in this field and to extract the species specific to this point.

Among the target staphylinid specimens collected from Cocieri village, Dubăsari district the was identified *T. laticollis* which has status as a new species for the fauna of the Republic of Moldova.

In the paper for *T. laticollis* was analysed the aspects of systematic classification, bioecology, geographical spread, storage in the Staphylinidae collection.

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