

Г. Г. Якобсон (1913) писал о нахождении данного вида в окрестностях Ярославля. В дальнейшем эти данные считались ошибочными и в литературе не было указаний на нахождение *A. rufiventris* Esch. в европейской части Союза.

В 1974 г. впервые в республике был обнаружен колорадский жук *Leptinotarsa decemlineata* Say, уже в 1975 г. было зарегистрировано более 140 очагов, включая единичные находения на колхозных полях и индивидуальных огородах почти во всех районах. Наибольшее их количество было зарегистрировано в центральных районах, прилегающих к Кировской области. После проведенных истребительных мероприятий в 1976 и 1977 годах колорадский жук в Удмуртии не отмечался.

На территории республики нами не найден эндемик Урала — жу-желица *Pterostichus uralensis*, однако этот вид в единичных экземплярах отмечен западнее, в Кировской области. По-видимому, для *P. uralensis*, как и для *Athous rufiventris* Esch., данные территории являются границей ареала, где эти виды имеют крайне спорадическое распространение.

Таким образом, за счет иммигрантов с юга и востока наблюдается некоторое обогащение фауны жесткокрылых республики как под влиянием антропогенных факторов, так и в процессе естественного расширения ареалов.

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ANEW ABOUT SECTOPHILONTHUS ROSSICUS COIFF. (COLEOPTERA, STAPHYLINIDAE)

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Prof. H. Coiffait (1965) had found out, that one male of the common European beetle species *Philonthus decorus* Grav. was characterized by a peculiar form of genitalia. The male occurred in the small series of beetles (2 males, 1 female) reared from larvae collected in Vologda district (USSR).

Representatives of this genus have the unpaired lateral lobe (paramere) divided at the apex in some species. It is attached to the surface bearing the basal orifice, which was named as „sternal“ by Coiffait after Jeannel and Paulian. The abnormal male described by Coiffait has two free parameres arranged on both sides of medial lobe (penis). Their bases are fused at the side with the basal orifice and at the other one — „dorsal“ (after Coiffait) as well. They form the common phallobase.

The position of the aedeagus seems to be „primitive“: its basal part (bulbus) is not turned in relative to penis (as in other *Philonthus*) and the aedeagus is arranged in the abdomen with the basal orifice downwards, whilst in other representatives of *Philonthus* this orifice is directed laterally. Such genitalia are characteristic to *Philonthus biparamerosus* Totth. from Madagascar only, which was separated by Tottenham into the subgenus *Sectophilonthus*. According to the morphology of aedeagus Coiffait considered *Sectophilonthus* as a distinct genus with two species: *S. biparamerosus* from Madagascar and *S. rossicus* from Vologda (described by Coiffait, 1965 on the basis of the above mentioned male). This structure of genitalia seems to be a generic character, but such a strange disjunction of the area does not agree with any zoogeographical and faunogenetical conceptions. The finding of a single typical specimen undistinguishable externally from other specimens of the very common species allowed (after R. Crowson, 1970) to consider *S. rossicus* as an abnormal form of *Ph. decorus*. *Sectophilonthus* would be considered in this case as monotypical Madagascan genus.

The Crowson's point of view was very coarsely criticized by M. Abdullah (1975) who classified all facts of monstrosity among Coleoptera known to him. But he did not find among them analogies to this case and restored *S. rossicus* as a good species. This author did not examine mechanisms of appearance of either monstrosities; he proved the impossibility of such monstrosity.

The cases of emergence of some ancestral features seem to be very common in various groups of animals. Genitalia of the above mentioned specimen *S. rossicus* appeared to be plesiomorphous in comparison with the genitalia of normal *Philonthus*. So we had tried to find their analogies in ontogenesis of *Philonthus*.

The genitalia of more than 30 pupae of different age of *Ph. decorus* and *Ph. chalceus* (similar to the first species in all significant features: unpaired long and narrow paramere attached at the side bearing the basal orifice) were examined. Parameres appeared in the praepupa during ontogenesis as paired appendages (possibly extremities) of the 9th abdominal segment. Firstly (at an early pupal stage), their bases fused in the frontal (later ventral) part and then in the hind one, forming phallobase. Inside the phallobase formed a medial lobe (penis) showing at an early stage clear signs of paired structure and looked like a wide tube with apex deeply excised at the ventral side and more shallowly at the dorsal one. Parameres looked like two symmetrical tapered lobes, placed on both sides of the penis and fused each other at the base. The phallobase had dorsally a deep excision with ductus ejaculatorius passed along. The basal edge of this excision bordered with the basal orifice later. It is essential that from the beginning and almost to the end of the development the aedeagus is arranged in the abdomen with the basal orifice directed dorsally. Such position of aedeagus is very common among primitive groups of Staphylinidae, that is why it is supposed to be plesiomorphous, while positions with basal orifice directed laterally or ventrally are considered to be apomorphous. In the early stage (about two days of pupal life) *Philonthus* resembles in the general structure of genitalia imago of the primitive genera (*Erichsonius*, etc.) but at the same time its genitalia differs in the form, by the absence of chaetae and in other features. It was interesting that 9th sternite transformed at the imaginal stage into narrow long sclerite bilobed at the apex, at this time looked like the normal abdominal sternite excised in the middle of its apical edge. Apical edge of the 8th sternite was quite straight at this time, without excision which is peculiar to imago of all *Philonthus* species. Later parameres were brought together as in the imago of *Ph. rectangulus* but yet broadly connected ventrally. At the next stage they fused into

single lobe with only apices divided as in the imago of *Ph. marginipennis*. The phallobase at the ventral side gradually disappeared. The 9th sternite narrowed and at the apical edge of the 8th ones there appeared a wide excision. At the middle stage of pupal development parameres fused and the aedeagus in the whole became more and more long and narrow. Firstly penis was yet rather short and broad and wide paramere gradually narrowed to the apex like in the aedeagus of *Ph. carbonarius*. Just shortly before hatching a small dilatation appeared near the apex of paramere (in *Ph. decorus* pupa). In the second half of pupal development basal part of aedeagus (bulbus) increased and grew at an angle to the apical parts and the whole aedeagus turned to the position with basal orifice and paramere directed laterally. This process completed only before hatching.

So during ontogenesis general structure of genitalia passed through successive stages comparable with such structure in the related genera (two free parameres, common phallobase as in *Erichsonius* and *Sectophilonthus*) and other species of *Philonthus*. At first appeared features of species with genital morphology rather far from *Ph. decorus* (one but deeply divided paramere as in *Ph. rectangulus*; a little divided at the apex paramere as in *Ph. marginipennis*) and then with more close one (a short and broad aedeagus and paramere without distal dilatation as in *Ph. carbonarius*). All this resemblance in early ontogenetical stages of this species to imaginal morphology of other genera and species is limited by the common structure (division, form, relative length of main parts) and is not applied to the details of sclerotisation, chaetotaxy and other not fundamental characters. But treating pupa of *Ph. decorus* with juvenile hormone mimic (Altozar 4E : ZR-512) we managed to get one specimen with aedeagus resembling in general structure *Ph. quisquiliarius*, i. e. its development was stopped on rather early stage. But paramere of this specimen had a specific chaetotaxy and the whole aedeagus was partly sclerotised. This beetle was quite developed (with the exception of genitalia) and almost perfectly pigmented. So it was an artificially obtained form with genitalia delayed in the development (in comparison with the other features of the same organism) and resembling definitive genitalia of other species. Therefore an appearance of a single specimen with genital features of the related genus (which are also retained in ontogenesis) may be explained by such heterochrony. It is especially real to get such form in laboratory where contact of the insect with one of the numerous juvenile hormone mimics is quite possible.

All these facts support us in the opinion that the specimen described by Coiffait as *Sectophilonthus rossicus* is an abnormal form of *Ph. decorus* and so genus *Sectophilonthus* is yet monotypical and does not present in the fauna of Europe.

But symmetry, regularity and full differentiation of aedeagus (Prof. Coiffait even has considered it to be functioning) point on the viability of such forms. So such heterochronies (of course on a smaller scale) which appears when balance of hormones is broken genetically or after changing of environment may be considered as a material for speciation. Here appears a complex of features peculiar to an earlier ontogenetic stage and this complex may be the same in various individuals so it would be more probably retained as specific difference. Mentioned facts also explain similar modifications of genitalia in neighbouring groups, for example, an independent origin of bifurcate paramere in various groups of *Philonthus*. So we suppose a classification of *Philonthus* based only on the structure of genitalia (Coiffait, 1967) to be artificial, because juvenilization in the evolution of genitalia may be a rather rapid process and therefore very related species forming a natural group in all other features (for example *Ph. punctus* and *Ph. binotatus* placed by Coiffait

into very far groups) may have very different genitalia. So it is quite possible that partial juvenilization being a result of changes in hormonal system may be one of mechanisms of appearing specific (and probably generic) differences.

НЕКОТОРЫЕ АСПЕКТЫ ХОРОЛОГИИ УСАЧЕЙ (COLEOPTERA, CERAMBYCIDAE) ФАУНЫ УКРАИНЫ

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С целью выяснения особенностей распространения отдельных таксонов Cerambycidae, исследования границ их ареалов, установления региональных и зональных черт церамбицидофауны нами на протяжении ряда лет проводилось хорологическое исследование семейства во всех ландшафтных зонах Украины (лесная, лесостепная, степная зоны, Горный Крым, Карпаты). Кроме собственных сборов и наблюдений мы обработали фонды музеев, вузов и научно-исследовательских учреждений, экспедиционные сборы, а также коллекции усачей специалистов и других лиц.

На основании обработанного материала можно отметить:

1) среди выявленных видов региональной фауны преобладают таксоны с обширными ареалами;

2) по характеру распространения видов в условиях Украины четко преобладают виды локализованного распространения над широко распространенными;

3) на территории УССР проходят границы ареалов многих видов усачей.

Из 263 видов и подвидов усачей, составляющих церамбицидофауну Украины, 154 имеют обширные ареалы (голарктические — 7, трансалеарктические — 18, западноалеарктические — 14, европейско-сибирские — 18, борео-монтанные — 18, широко распространенные европейские — 58, степные — 3, средиземноморские — 18 видов). Сравнительно ограничены ареалы целого ряда европейских, средиземноморских, степных, крымско-кавказских, балканских и других усачей (всего 109 таксонов).

Важной характерной чертой региональной церамбицидофауны является значительное количество видов (138), локально распространенных в пределах республики, тогда как широко распространенных значительно меньше. Часть видов по характеру размещения здесь занимает промежуточное положение между указанными группами.

Наиболее широко распространенные на Украине виды (условно выделяем таких видов 60) преимущественно распределены на исследованной территории неравномерно и встречаются в отдельных зонах или вертикальных поясах в различной численности. У некоторых из них широкое распространение в одних ландшафтных зонах сочетается с локализованным размещением в других. Например, *Acmaeops collaris* L. и *Strangalina attenuata* L. выявлены во всех зонах, однако в степях они локализованные, а в Карпатах почти не встречаются выше 1000 м над уровнем моря.

Собранные нами данные свидетельствуют о прохождении по территории УССР границ ареалов многих усачей. На первое место здесь выдвигается большая группа южных видов (114 таксонов), имеющих здесь северные, северо-восточные или северо-западные границы распространения.