

ANALYSIS OF THE MORPHOLOGICAL CHARACTERISTICS OF THE FRUIT BARK BEETLE - SCOLYTUS MALI (BECHST, 1805)

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Abstract

Populations of the species *Scolytus mali* distributed in the Fergana Valley living on apple and apricot trees were comparatively analyzed, and the indicators of variability of morphometric characters between one population and the similarities and differences of morphometric characters between populations and between species at the 1% level of significance ($P < 0.01$) proved to be.

Keywords: upper wings, body size, elytra size, differences, morphometric parameters, mean value

By analyzing the morphometric parameters of the genus *Scolytus* distributed in the Fergana Valley, it is possible to analyze their mutual differences within the species, as well as the variation of variability between populations. At the same time, in the orchards of the valley, we can see the presence of several large populations of *Scolytus mali*, a member of the genus *Scolytus*.

In the morphometric comparison of *Scolytus mali* species living on different plants, the main attention was paid to their plastic variable characters. The populations of *Scolytus mali* found in apples and apricots were compared and analyzed. Indicators of variability of morphometric characters between populations, as well as similarities and differences of morphometric characters between populations (interspecies) and species (intraspecies) were analyzed at the 1% significance level ($P < 0.01$) (Tables 1 and 2).

Table 1

№	Structure	Code	Morphometric indicators of <i>Scolytus mali</i> . Apricot plant (n=20)				
			Min	Max	M±m	CD	V
1	Body length	TU	2,38	3,22	2,8±0,06	0,29	10,38
2	Body width	TK	1,01	1,37	1,2±0,03	0,13	10,62
3	Elytra length	EU	1,20	1,74	1,5±0,04	0,16	10,94
4	Elytra width	EK	0,47	0,64	0,6±0,01	0,05	9,89
5	Chest length	KU	0,88	1,19	1,0±0,02	0,11	10,37
6	Chest width	KK	0,97	1,31	1,1±0,03	0,12	10,21
7	Head width	BK	0,57	0,78	0,7±0,02	0,07	10,28



Explanation. Min – minimum length; Max - maximum length; $M\pm m$ is the average length and m is the error of the average arithmetic value; CD - mean square deviation; V – Is the coefficient of variation.

Table 1

№	Structure	Code	Morphometric indicators of Scolytus mali species. In an apple plant (n=20)				
			Min	Max	$M\pm m$	CD	V
1	Body length	TU	2,43	3,44	$2,9\pm 0,06$	0,26	8,90
2	Body width	TK	1,01	1,42	$1,2\pm 0,02$	0,10	8,42
3	Elytra length	EU	1,21	1,81	$1,5\pm 0,03$	0,15	9,76
4	Elytra width	EK	0,47	0,64	$0,6\pm 0,01$	0,04	7,51
5	Chest length	KU	0,85	1,28	$1,1\pm 0,02$	0,10	9,79
6	Chest width	KK	1,00	1,39	$1,2\pm 0,02$	0,10	8,18
7	Head width	BK	0,58	0,82	$0,7\pm 0,01$	0,06	8,91

Explanation. Min – minimum length; Max - maximum length; $M\pm m$ is the average length and m is the error of the average arithmetic value; CD - mean square deviation; V – Is the coefficient of variation.

A morphometric analysis of representatives of *Scolytus mali* occurring on apricot and apple trees in the territory of the horticultural farm "Aziz Chavandoz", Fergana region of the Republic of Uzbekistan, used in the research work was carried out. When the representatives of the *Scolytus mali* species in the apricot groves were analyzed, the body length was 2.43-3.22 mm, on average 2.8 ± 0.06 mm, and the width of the head capsule was 0.57-1.47 mm, on average It was 1.0 ± 0.07 mm. The total length of insects in diamonds is 2.43–3.44 mm, the average is 2.9 ± 0.06 mm, and the width of the head capsule is 0.58–0.82 mm, the average is 0.7 ± 0.01 mm. organized.

The investigation was conducted on the basis of samples of insects of different sizes found on two different plants. Insects found in two different fruit trees and members of the same genus *Scolytus* with many plastic characters were analyzed by Student's test (t-distribution), and there was a 1% significance level between their mean values. ($P < 0.01$) shows that there are no significant differences ($t_f < t_{st}$). The absence of differences between collections indicates that they are relatively equally developed in apple and apricot plants.



At the same time, during the research, variation indicators of insect samples developed in two different plants were also analyzed. According to the results, the variability index of beetles developing in apple and apricot plants is high, especially the variability index of Scolytus mali species in apricot plants is TU, TK, EU, KU, $V > 10$ is high in signs KK, BK, and only one sign, EK, shows that $V < 10$ is small. It was found that the variability indicators of this type of apple plant are less than $B < 10$ percent. This shows the high variability of the insects in the apricot plant compared to the insects in the apple plant, and the diversity of the development of signs. So, it means that the population of insects in the apricot plant is more subject to change compared to the population of the insects in the apple plant.

References

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