Erratom to: DETERMINATION OF THE CHIRONOMIDAE FAMILIA OF KARASU STREAM (KIRIKHAN-HATAY), 15(2): 80-86, 2022

Bu düzeltme yazısı **"DETERMINATION OF THE CHIRONOMIDAE FAMILIA OF KARASU STREAM (KIRIKHAN-HATAY), 15(2): 80-86, 2022"** başlıklı makalenin**,** editör ve hakem değerlendirmeleri sonucunda yazara önerilmiş olan düzeltmelerin yapılmış olduğu makale metni yerine sehven yazarın ilk gönderdiği makalenin basılmış olduğunun anlaşılması üzerine yayınlanmıştır. Makale içerisinde yapılan düzeltmeler aşağıda verilmiş olup, çalışmanın, bulgular, bilimsel içeriği ve sonucuna etki edecek herhangi bir durum söz konusu değildir.

Yapılan düzeltmeler;

1. Sayfa 80'de 3.satırdaki "benthic scoop" şeklinde olan kelime "benthic sampler" şeklinde değiştirilmiştir.
2. Sayfa 82'de yer alan Tablo 1'de "Station Coordinates" şeklinde olan kelime "Station Coordinates (N, E)" şeklinde değiştirilmiştir.
3. Sayfa 82'de yer alan Results and Discussion bölümündeki son cümle olan "Chironomus tentans and Paratendipes sp. have been" şeklindeki cümle "Species detected in only 2 stations, Chironomus tentans and Paratendipes sp. has been." Şeklinde değiştirilmiştir.
4. Sayfa 83'de 3.satırdaki "Chirominae" şeklinde olan kelime "Chironominae" şeklinde değiştirilmiştir.
5. Sayfa 83'de 4.satırdaki "we" şeklinde olan kelime "I" şeklinde değiştirilmiştir.
6. Sayfa 84'te son paragrafta yer alan "we" şeklinde olan kelime "I" şeklinde değiştirilmiştir.
7. Sayfa 85'te yer alan 3.paragraf 3.satırdaki "tea" şeklinde olan kelime "stream" şeklinde değiştirilmiştir.
8. Metin içinde ve "Kaynaklar" bölümünde yer alan kaynakça numaralandırılmaları düzeltilmiştir.

Research Journal of Biology Sciences
E-ISSN: 1308-0262 15(2): 80-86, 2022
Research Article

DETERMINATION OF THE CHIRONOMIDAE FAMILIA OF KARASU STREAM (KIRIKHAN-HATAY)

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(Received 29th August 2022; accepted 17th December 2022)

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ABSTRACT. In this study, samples were collected in May 2022 from 8 stations on the Karasu Stream passing through Hatay Kırıkhan. As a result of the examination and identification of the collected samples, 7 taxa belonging to the Chironominae subfamily, 3 taxa belonging to Orthocladiinae subfamily, 4 taxa belonging to the Tanypodinae subfamily, a total of 14 taxa were determined.

Keywords: *tanypodinae, chironominae, orthocladiinae, karasu, hatay*

INTRODUCTION

The source of the Karasu Stream is the skirts of the Nur Mountain, located on the upper side of the Nurdağı district of Gaziantep province. The water, which originates as a small stream here, pours into the Tahta Köprü Dam within the borders of İslahiye. After Tahta Köprü Dam, it continues on its way as Karasu Stream in a wide area. After the dam, it extends along the Turkey-Syria border, up to the upper parts of Kaletepe Village in the Kırıkhan district of Hatay.

After Kaletepe village, an irrigation dam in the southeast of Kamışlar village provides agricultural irrigation water to two additional regions.

Hatay Airport continues by merging with Muratpaşa Stream at the top and Afrin Water at the bottom. It joins the Asi River at the bottom of the New Hatay Stadium.

It is important both to determine the water quality and to examine the basal invertebrates, which provide great nutrition for other aquatic invertebrate and vertebrate species.

There are hundreds of previous studies on Chironomidae throughout Turkey. However, a limited number of studies on Chironomidae in the region were found in the literature review. Arslan, N., et al, (2013); Şahin, Y. (1984); the studies conducted by Şahin, Y. (1991) can be given as an example.

MATERIALS AND METHODS

Samples were collected in May 2022 from 8 previously determined stations within the borders of the Kırıkhan district (Figure 1). The coordinates of the stations are given in Table 1. The samples were collected with a benthic hand net and placed in 4% formaldehyde. Samples taken in 70% alcohol in the laboratory were then examined under a stereo microscope and their temporary preparations were made.

While making species identifications; Şahin, Y. (1980,1984, 1991), Epler, J.H. (1995), Cranston, P. S., (1982), Fittkau, E. J. and S. S. Roback, (1983), Klink, A.G. and H.K.M. Moller Pilot. (2003), Wiederholm, T., (1983), used.

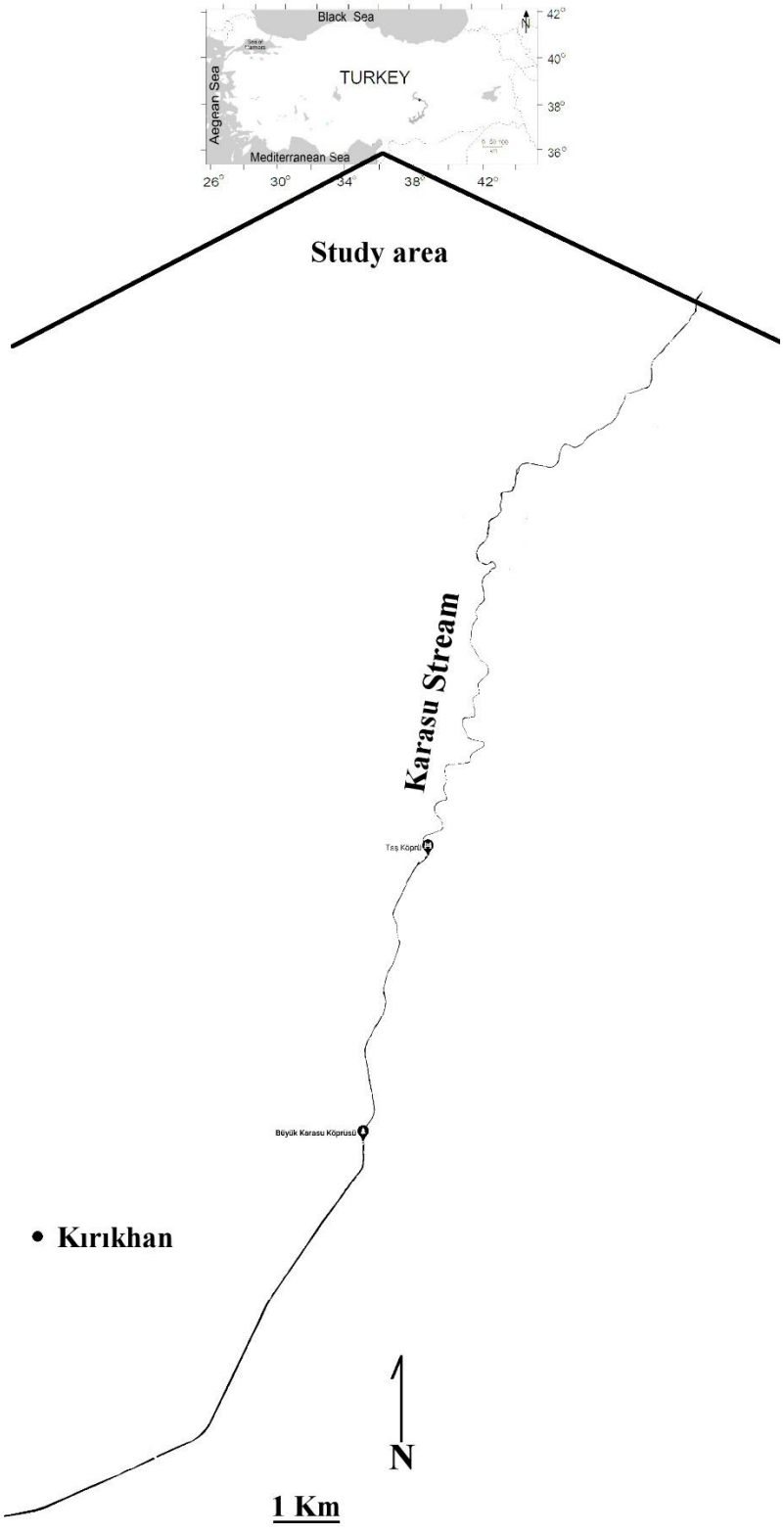

Figure 1. *Study area.*

Table 1. *Sampling stations coordinates.*

Station	Coordinates (N, E)
1st Sta.	36.599242, 36.455851
2nd Sta.	36.577263, 36.429480
3rd Sta.	36.558075, 36.429582
4th Sta.	36.540334, 36.422141
5th Sta.	36.521437, 36.415487
6th Sta.	36.505032, 36.412336
7th Sta.	36.485631, 36.398256
8th Sta	36.464155, 36.376609

RESULTS AND DISCUSSION

As a result of our study, 14 taxa were identified, of which 7 belong to the Chironominae subfamily, 3 to the Orthocladiinae subfamily, and 4 to the Tanypodinae subfamily.

The distribution of the detected taxa according to the stations is given in Table 2. As can be seen, the highest number of taxa was found at stations 3 and 4 with 11 taxa, while the least number of taxa was found at station 8 with 3 taxa. *Chironomus sp.* It was determined as the most common taxa in all stations. This is followed by *Chironomus plumosus* and *Tanypus puctipennis* detected at 6 stations. Species detected in only 2 stations, *Chironomus tentans* and *Paratendipes sp.* has been.

Table 2. *Distribution of taxa belonging to Chironomidae at stations.*

Taxa		Station Number							
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Chironominae	*Chironomus thummi* (Kieffer, 1911)	-	-	-	+	+	+	+	+
	Chironomus plumosus (Linnaeus, 1758)	+	+	+	+	-	-	+	-
	Chironomus sp.	+	+	+	+	+	+	+	+
	Chironomus tentans Fabricius, 1805	+	+	-	-	-	-	-	-
	Paratendipes sp.	-	-	+	+	-	-	-	-
	Polypedilum scalaenum (Schrank, 1803)	+	+	-	+	-	-	-	-
	Cladotanytarsus sp.	-	-	+	+	+	-	-	-
Orthocladiinae	*Paracladius conversus* (Walker, 1856)	+	-	+	+	-	+	+	-
	Rheocricotopus sp.	+	+	+	+	+	-	-	-
	Halocladius sp.	+	+	+	-	+	+	-	-
Tanypodinae	*Tanypus puctipennis* Meigen, 1818	-	-	+	+	+	+	+	+
	Psectrotanypus varius (Fabricius, 1787)	-	+	+	+	+	-	-	-
	Procladius (Holotanypus) sp.	-	-	+	+	+	-	-	-
	Ablabesmyia phatta (Eggert, 1863)	+	+	+	-	-	-	-	-

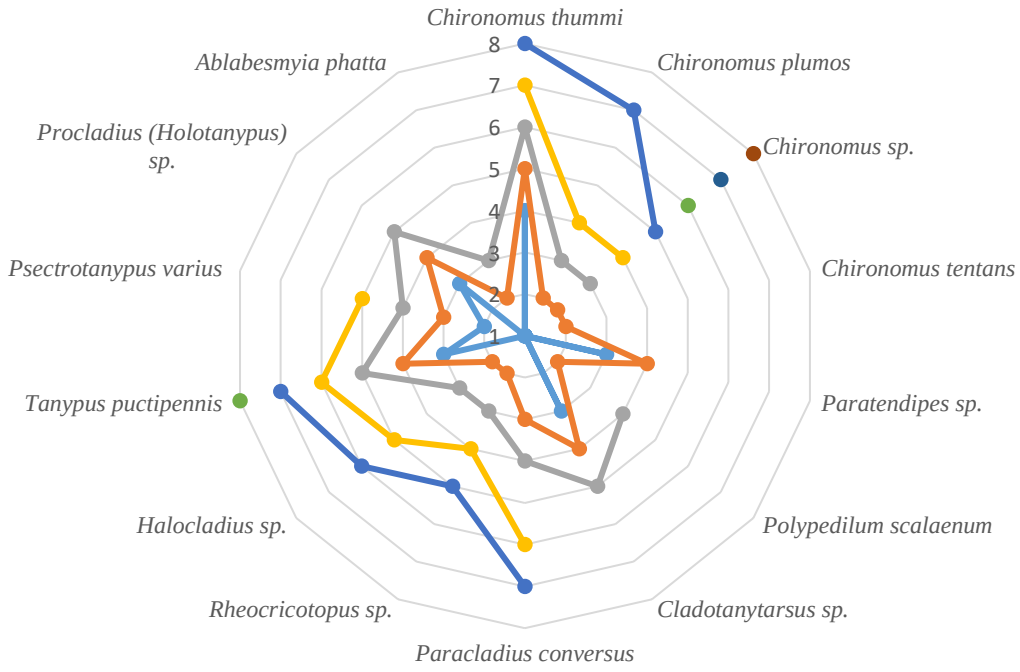

Figure 2. *Graphical representation of the distribution of taxa by stations*

Chironomidae species are the most common benthic invertebrate group in almost all freshwater ecosystems.

The most dominant subfamily appears to be Chironominae. When we look at the physiology of Chironominae species, we see that they tolerate living in high-temperature and low-oxygen environments [10].

Subfamily: Chironominae

The head capsule is usually round and there are always 2 pairs of eyes on the sides. Premandibles are highly developed. Most have antenna bases. Paralabial plates are well-developed and grooved. It is divided into two tribuses.

Tribus: Chironomini

Antennae arise directly from the head capsule or from short antennae bases that are less high than their width. Paralabial plates are broad, fan-shaped, and radially ribbed.

Tribus: Tanytarsini

Antennas protrude from antenna bases whose height is greater than their width. Paralabial plates are narrow, long, and longitudinally grooved.

Subfamily: Orthocladiinae

The eyes on the side of the head are usually single. When paired, the anterior eye is located ventrally and the posterior eye is located dorsal. With this feature, it differs from Chironominae. On the other hand, it is distinguished from other subfamilies by the

paralabium plate, which is often absent and not grooved when found. The third antennal segment is annular. Hairs are usually found near the abdominal segments.

Subfamily: Tanypodinae

There is one eye on each side of the head. Antennae are retractile and do not carry Lauterborn organs (LO). The antenna index is always large. Their color is green or yellow. The presence of other Chironomidae larvae and various body parts of other aquatic animals in their intestinal contents proved that they were carnivorous, often cannibals. The fact that they remain very active for a while after being taken out of the water and move quickly makes them recognized at first glance by an experienced researcher.

When we examine the path followed by the stream bed topographically, it is seen that the elevation decreases from 98 meters to 82 meters, but the circumferential height increases in between (Figure 3).

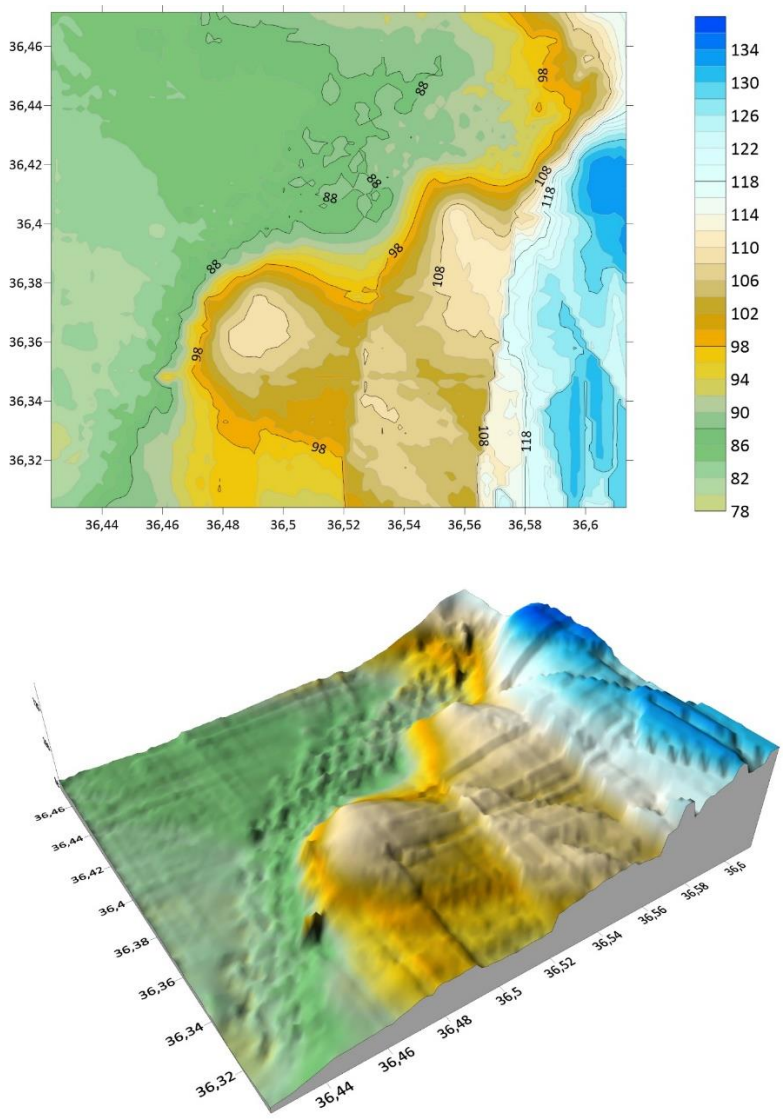

Fig. 3. *2 and 3 dimensional topographic views of Karasu Stream, above sea level.*

CONCLUSION

Since there was no previous study on Chironomidae larvae in the Karasu Stream, all of the identified species are new records for the Karasu Stream.

In addition to other external effects, the topographic structure of the land is thought to have a direct effect on the distribution of the species. When we look at the path followed by the stream bed, it is seen that the elevation decreases from 98 meters to 82 meters, but the circumferential height increases from time to time (Figure 3). Although this situation does not pose a great obstacle, it still affects the species.

In addition, unconscious irrigation of agricultural areas in the surrounding area. From time to time, benthic invertebrates are also adversely affected by the deterioration of the bottom as a result of drawing water directly from the stream with large pumps. In some cases, unconscious spraying also affects benthic invertebrates.

Despite all these, Chironomidae species, which spent the longest period of their life cycle in the larval stage, were able to survive due to their high tolerance. They are highly resistant to effects such as high temperatures, chemical pollutants, and low oxygen [11].

These features made them an important group of invertebrates in determining water quality by bringing them to the fore [10].

Many of the Chironomidae species can tolerate high pollution and oxygen deficiency. However, it is thought that the agricultural activities on the Karasu Stream will adversely affect the species diversity and population. Therefore, the scope of the research area should be increased and seasonal sampling should be done. In this way, the distributions and population densities of the species can be revealed more comprehensively.

This study contributed to the benthic invertebrates of our country and the Karasu Stream and it is thought that it will shed light on future studies.

Acknowledgment. I would like to thank the biology teacher Tuncay Öntürk who helped with the collection of the samples.

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