

A new food item in the diet of the Egyptian fruit bat (*Rousettus aegyptiacus*) in winter in southern Turkey

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During observations in the December, 2020 in Turkey province Antalya, feeding of the Egyptian fruit bats on leaves of the palm tree *Syagrus romanzoffiana* was revealed. Fruit bats separated narrow strips from the leaves and chewed them thoroughly to extract juices. Thus, *Syagrus* palm, only recently introduced into Turkey, is already included by local fruit bats into their diet.

Key words: *Rousettus aegyptiacus*, Pteropodidae, feeding, palm trees, Turkey

The range of the Egyptian fruit bat (*Rousettus aegyptiacus* (Geoffroy, 1810)) from the north is limited to the island of Cyprus and the southern coast of Turkey, where the nominotypical subspecies *R. a. aegyptiacus* is found (Kwiecinski, Griffiths 1999). In southern Turkey, the northernmost habitats of these animals are in the province of Antalya (Albayrak et al. 2008). It was in Antalya (Lara district) where we had the opportunity to observe a group of Egyptian fruit bats from 5th to 11th December, 2020..

We did not manage to discover the daytime shelter of fruit bats during that period. At night, as a temporary shelter or feed place, fruit bats willingly used the summer bandshell in the hotel courtyard, which was not used that season for its intended purpose. The wooden bandshell up to 8m high was painted black and resembled a natural grotto. About a dozen (we counted 8 – 12 individuals) fruit bats appeared near the bandshell every day, except on December 7, when there was a strong thunderstorm at night. We observed the first animals at 20:30 – 20:45 o'clock, their activity increased after 21 o'clock (provided that the sun went down and darkness fell at about 18 o'clock). The fruit bats flew not far away, quickly returned, attached themselves to the bandshell ceiling and were nibbling something (this was audible). The clean, smooth floor of the bandstand made it possible to find and examine the smallest food residues that fell from above.

Observation of fruit bats in the neighboring park made it possible to establish where they sat, and comparison of food residues with living plants showed that those were the leaves of the queen palm (*Syagrus romanzoffiana*). Several young trees of this species were located at a distance of 40 to 70 m from the bandshell. The fruit bats separated long, narrow (6-12 mm wide) strips from the

leaves and did not eat them in the literal sense, but chewed them thoroughly for a long time, sucking out all the juices. Thus, in addition to the lost leaf strips, tangles of thin rough dry fibers, outwardly resembling a loofah, were dropped on the floor.

It should be noted that in the Mediterranean the Egyptian fruit bat is considered to be an animal that conflicts with the interests of agriculture (del Vaglio et al. 2011), and in Israel it was even declared a pest (Korine et al. 1999), therefore, the nutrition of the Egyptian fruit bat has been well studied in recent years. Many authors indicate leaves as part of the diet of fruit bats, the leaves are usually eaten in winter. In Israel it was established (Korine et al. 1999) that the leaves of *Ficus religiosa* make up 6% of the diet. At the same time, not a single author mentions the possible feeding of fruit bats on *Syagrus romanzoffiana*. This palm is not listed as a food plant for fruit bats, not only in the Mediterranean, but for the entire range (Kwiecinski, Griffiths 1999).

In a recent review of Turkish palm trees (Hazir, Buyukozturk 2013), *Syagrus romanzoffiana* is mentioned as being introduced “in recent years” and currently grown from seeds “in limited quantities”. It means that emergence of trophic connections and application of this palm tree as a food resource by the Egyptian fruit bats is a very recent adaptation.

From the point of view of observers, palm leaves are completely inedible – rough, dry and tasteless (at least not at all sweet). At the same time, the Mansfeld's World Database of Agricultural and Horticultural Crops (<http://mansfeld.ipkatersleben.de/>) contains information that in Brazil and Argentina, leaves of *Syagrus romanzoffiana* are used as feed for cattle, especially during the dry season. Moreover, in some regions, people are reported to eat new buds by pickling or preserving them in oil like vegetables. It means that despite the external impression, leaves of *Syagrus romanzoffiana* have some nutritional value.

It should be noted that there was a small but abundantly fruiting citrus garden in the courtyard; in the vicinity there were common *Melia azedarach* trees, the fruits of which are of particular importance for feeding *Rousettus aegyptiacus* in winter (Albayrak et al 2008). Actually, even all *Syagrus romanzoffiana* trees, where fruit bats were noticed, had clusters of fruit at different stages of ripening. It means that the general situation with fruits, common in the diet of fruit bats, in the surveyed area at the beginning of December cannot be called meager at all. At the same time, we found no traces of any other food residues, except for finely chewed leaves of *Syagrus romanzoffiana*, in the feeding area of fruit bats.

What prompted fruit bats to such an unusual feeding behavior during the period of our observations? It may be worth noting the suggestion (Korine et al. 1999) that leaf-eating in the Mediterranean region may meet the nitrogen demand in winter, during the period of low availability (and low quality) of fruits.

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РЕЗЮМЕ

Ганицкий И.В., Тихомирова А.В. 2021. Новый кормовой объект в рационе нильского крылана (*Rousettus aegyptiacus*) в зимний период в южной Турции. – Plecotus et al. **24**: 67–69.

В южной Турции, в провинции Анталия в период с 5 по 11 декабря 2020 года мы наблюдали группу нильского крылана (*Rousettus aegyptiacus*) примерно из 10 животных, которые появлялись в саду отеля ежедневно после девяти часов вечера. Крыланы активно кормились и использовали летнюю сцену, как кормовую присаду. Сбор пищевых остатков позволил определить, что крыланы употребляли в пищу листья пальмы *Syagrus romanzoffiana*. Крыланы отрывали от листьев длинные узкие (6-12 мм шириной) полоски и подолгу тщательно пережёвывали, высасывая сок. Таким образом, на пол роняли спутанные клубки тонких жестких сухих волокон. За все время наблюдений ничего, кроме этих листьев в пище крыланов не обнаружено. При этом, здесь же, в саду, был выбор из фруктов нескольких видов. Пальма *Syagrus romanzoffiana*, как декоративное растение, появилась в южной Турции недавно, в начале 2000-х гг., и, как мы видим, уже включена крыланами в число кормовых ресурсов.

Ключевые слова: *Rousettus aegyptiacus*, крыланы, питание, пальмы, Турция