



## The first record of *Omphalotus olearius* poisoning in Turkey

Hayrūnisa BAŞ SERMENLİ \*<sup>1</sup>, Mustafa İŞİLOĞLU<sup>1</sup>

<sup>1</sup> Department of Biology, Faculty of Science, Muğla Sıtkı Koçman University, Kötekli, Muğla, Turkey.

### Abstract

In this study, three cases of poisoning by wild mushrooms collected and consumed from Bodrum district (Muğla) are reported. The specimens have been identified as *Omphalotus olearius* (DC.) Singer by using macroscopic and microscopic characters. A description of the taxon and poisoning cases are presented.

**Key words:** mushroom poisoning, *Omphalotus olearius*, Turkey

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## Türkiye’de ilk *Omphalotus olearius* (Deli Mantar) zehirlenmesi

### Özet

Bu çalışmada doğadan toplayarak tükettikleri mantar nedeniyle zehirlenen üç vaka rapor edilmiştir. Tüketilen mantar türü makroskobik ve mikroskobik incelemelerin ardından *Omphalotus olearius* (DC.) Singer olarak teşhis edilmiştir. Türün deskripsiyonu ve zehirlenme vakaları verilmektedir.

**Anahtar kelimeler:** mantar zehirlenmesi, *Omphalotus olearius*, Türkiye

### 1. Introduction

A large variety of macrofungi grow naturally during spring and autumn in Turkey. Turkish people use unreliable identification methods learned from their grandparents. Poisonings and deaths usually have been recorded by confusion of edible and poisonous specimens (Kaygusuz et al., 2013). This is the first record of poisoning by this fungus in Turkey.

### 2. Case study

Two male and one female friends between the ages 26 and 39 were admitted to the Bodrum state hospital with complaints of nausea, vomiting, abdominal cramping and weakness approximately 1.5 hours after eating wild mushrooms collected from olive orchard in November 2011. The mushrooms were thought to be *Lactarius deliciosus*. A field trip was organised by mycologists to the area where the poisonous mushrooms had been collected by the patients. The specimens were confirmed as the same species they had consumed. These specimens were examined in the laboratory of the Department of Biology at Muğla Sıtkı Koçman University and identified as *Omphalotus olearius*. In all patients, hemograms and routine biochemical tests were normal. Physical examinations were normal except mild abdominal tenderness. The patients received conservative treatment including intravenous fluid infusions and activated charcoal ingestion. Clinical symptoms disappeared in one night in all patients..

\* Corresponding author / Haberleşmeden sorumlu yazar: Tel.: +902522111490; Fax.: +902522111472; E-mail: hayba2000@gmail.com

#### 4. Conclusions

*Omphalotus olearius* has pileus 5-11 cm, strongly depressed to funnel-shaped, bright orange, lamellae decurrent, orange to golden, stipe 5-13 cm wavy and tapering towards the base, paler than pileus (Figure 1), spores 5-7 × 4.5- 6.5 µm, hyaline and subglobose.

Material examined: Turkey, Muğla, Bodrum, Islamhaneleri Village, olive orchard, 20.Nov.2011, H.Bas 3001.



Figure 1. *Omphalotus olearius* (DC.) Singer

*Omphalotus olearius* is known as jack o'lantern mushroom because of its bright orange like the pumpkins used to make jack o'lanterns. It has bioluminescent activity (Özkan and Tezer 2001). The luminescence of *Omphalotus olearius* is associated with some sesquiterpenes called illudins. These compounds have been reported to have anticancer, antiviral, antibacterial activity (Virginia et al., 2003). It is one of the best known taxa of the Mediterranean area and Southern Europe, where it always grows in bush-like clusters, as well as on the trunks of olive, chestnut and oak trees. *Omphalotus olearius* caused some accidents due to its similarity in appearance to some edible mushrooms. Although it is first record in Turkey, some cases of poisoning by this mushroom have been reported before (Maretić, 1967; French and Garrettson, 1988; Vanden Hoek, 1991). Most of cases have been the result of confusion with the *Cantharellus cibarius*. But in these cases the patients had mistaken the mushroom for *Lactarius deliciosus* which is very famous edible mushroom and is known as ‘‘Çıntar’’ in the area..

#### References

- French, A., Garrettson, L.K. 1988. Poisoning with the north american jack o'lantern mushroom, *Omphalotus illudens*. *Clinical Toxicology*. 26. 81-88.
- Kaygusuz, O., Gezer, K., Çelik, A., Dursun, B. 2013. Mushroom poisoning of death cap (*Amanita phalloides*) from Denizli (Turkey). *Biological Diversity and Conservation*. 6/2. 22-25
- Lehmann, V.K., Huang, A., Ibanez-Calero, S., Wilson, G.R., Rinehart, K.L. 2003. Illudins, the sole antiviral compound in mature fruiting bodies of *Omphalotus illudens*. *Journal of Natural Products*. 66/9. 1257-1258.
- Maretić, Z. 1967. Poisoning by the mushroom *Clitocybe olearia* Maire. *Toxicon*. 4. 263–264.
- Özkan, R., Tezer, N. 2001. Structure–activity relationship studies on aza analogues of illudins. *Journal of Molecular Structure: Theochem*. 572. 15-24.
- Vanden Hoek, T.L., Erickson, T., Hryhorczuk, D., Narasimhan, K. 1991. Jack o'lantern mushroom poisoning. *Annals of Emergency Medicine*. 20/5. 559–561.

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