

Occurrence of Jellyfish *Crambionella orsini* (Vanhöffen, 1888) (Cnidaria: Scyphozoa) along the coast of Pakistan

Shahnawaz Gul

Jamia Millia Government Degree College, Malir, Karachi, Pakistan.

"S. Gul identified the species and wrote the manuscript".

Authors' Contribution	"S. Gul identified the species and wrote the manuscript".
Article History	*Corresponding email address: gulshahnawaz@yahoo.com Received: 26 December 2019 Revised: 23 February 2020, Accepted: 23 February 2020 Published Online: 24 March 2020
ABSTRACT	ABSTRACT

This study reports jellyfish *Crambionella orsini* from the coast of Pakistan for the first time. The species is briefly described and its distribution is given. This is an edible jellyfish in Southeast Asia. Its abundance in the region may benefit fishermen in terms of fishery.

Keywords: *Catostylidae*, *Crambionella*, Arabian Sea, Pakistan, first record, fishery

INTRODUCTION: *Crambionella orsini* (Vanhöffen, 1888) is a scyphozoan jellyfish originally described from Ethiopia, Red Sea and is known to have commercial value as a food delicacy in Southeast Asian countries (Omori and Nakano, 2001). In the Arabian Sea, the species was reported to form a widespread bloom in the Gulf of Oman and the Persian Gulf in 2002-2003, which markedly affected the fishing operations in the area (Daryanabard and Dawson, 2008). Pollution, eutrophication, overfishing, and climate changes are considered the main causes of such blooms (Purcell, 2005). Despite nuisance, such aggregations of large jellyfishes also draw fishermen's attention in favor of economic benefits. Currently, two species of scyphozoan jellyfish, *Catostylus perezi* Ranson, 1945, and *Rhopilema hispidum* (Vanhöffen, 1888) are being commercially exploited in Pakistan (Gul et al., 2015).

OBJECTIVES: The aim of this study is to document first record of a jellyfish species identified as *Crambionella orsini* (Vanhöffen, 1888) from the coast of Pakistan.

MATERIALS AND METHODS: On 11th February, 2020, a local seafood company which deals with harvesting, processing and export of jellyfish provided eight specimens of a jellyfish to the author on voluntary basis as a contribution to the knowledge of jellyfish in Pakistan. The company collected some samples on the mentioned date for the first time for preliminary inspection regarding its fishery. The samples were collected from Char Dhoro along east of the Pakistani coast near to Indian coastline, where, according to fishermen this brown jellyfish were in abundance. Eight specimens were examined; morphological features were studied, measurements were noted and photographs were made before preservation in formaldehyde solution. One specimen was deposited in the Museum of Department of Zoology, Jamia Millia Government Degree College, Malir, Karachi.

RESULT AND DISCUSSION: Following Nishikawa et al. (2015), the jellyfish specimens were identified as *Crambionella orsini* (Vanhöffen, 1888). The genus *Crambionella* Stiasny, 1921, belongs to the family Catostylidae Stiasny, 1921, in the order Rhizostomeae Cuvier (1800). To date, four species: *Crambionella annandalei* Rao, 1931, *C. helmbiru* Nishikawa, Mulyadi & Ohtsuka, 2015, *C. orsini* (Vanhöffen, 1888) and *C. stuhlmanni* (Chun, 1896) are recognized in the genus based upon few characters which include coloration, presence of tubercles on marginal lappets, the presence of foliaceous

appendages among mouth openings and size of terminal club in relation to the total length of oral arm. The given specimens had bell diameter ranging from 170 mm to 200 mm with uniform dark brown umbrella and whitish oral arms; umbrella smooth, shiny and without any tubercles on marginal area; number of velar lappets in the largest specimen 16 per octant; three winged oral arms bearing short terminal clubs not more than one-fourth of the length of oral arm; four crescent-shaped subgenital ostia, and intracircular network of canals connecting only to the ring canal (Figure 1). Portion of the oral arm dyed with red stain was examined under stereomicroscope but no foliaceous appendages were noticed. *C. orsini* was reported in different color varieties with or without a dark band on the umbrella margin. The species has a distribution range from Red Sea to western Indian Ocean: Arabian Sea to east of Indian coast and along east African coast to South Africa. In Pakistan, however, no information is available about the presence of this species in the scientific literature so far, except for a news report published very recently indicating its abundance off shore along the Pakistani coast. To date, ten species of scyphozoan jellyfish have been reported plus, three species were recorded based upon damaged specimens from FAO collections (Morandini and Gul, 2016; Gul and Osmany, 2017). Jellyfish *C. orsini* presented here is the first record from Pakistani coast.

CONCLUSION: The species reported here is the first record for the coast of Pakistan thus, an addition to the scyphozoan fauna of the region. The abundance of this jellyfish along the coast may generate its fishery.

CONFLICT OF INTEREST: Author has no conflict of interest.

ACKNOWLEDGEMENTS: Thanks to Nasir Rahimmon (Dua Sea Foods) for providing the specimens and necessary information, and André C. Morandini (Universidade De São Paulo, Brazil) for comments upon species identification and corrections/suggestions in the manuscript.

REFERENCES: Daryanabard, R. and M. N. Dawson, 2008. Jellyfish blooms: *Crambionella orsini* (Scyphozoa: Rhizostomeae) in the gulf of Oman, Iran, 2002-2003. *Journal of the marine biological association of the United Kingdom*, 88(3): 477-483.

Gul, S., S. Jahangir and A. Schiariti, 2015. Jellyfish fishery in Pakistan. *Plankton benthos research*, 10(4): 220-224.

Gul, S. and H. B. Osmany, 2017. Additions to the scyphomedusae

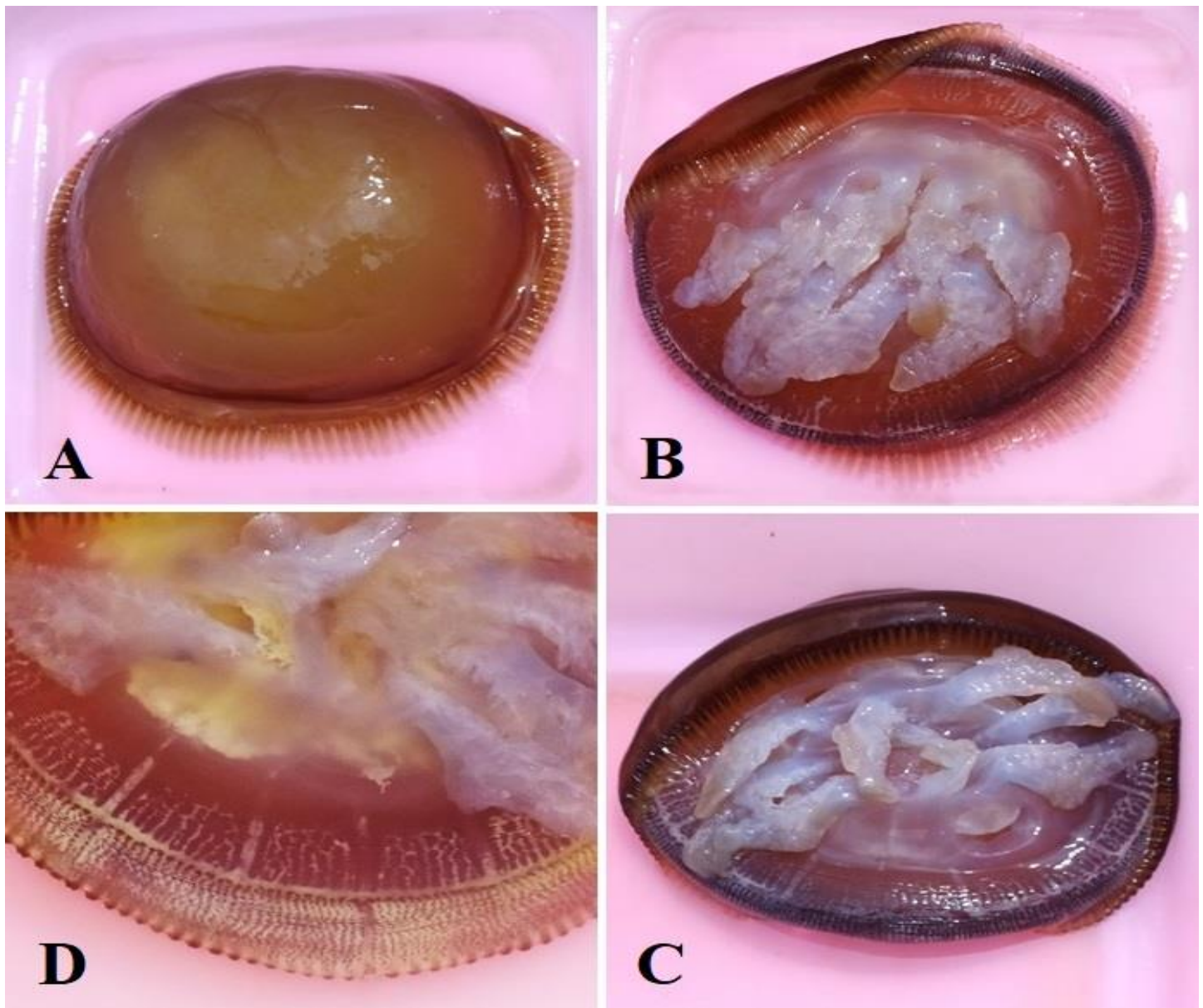


Figure 1. Jellyfish *Crambionella orsini* (Vanhöffen, 1888) from the coast of Pakistan. A, B) aboral and oral views of a specimen; C) aboral view of another specimen, note the crescent-shaped subgenital ostia; D) details of canal system.

(Cnidaria: Scyphozoa) of Pakistan. International journal of biology and biotechnology, 14(4): 665-667.

Morandini, A. C. and S. Gul, 2016. Rediscovery of *Sanderia malayensis* and remarks on *Rhopilema nomadica* record in Pakistan (Cnidaria: Scyphozoa). Papéis avulsos de zoologia, 56(15): 171-175.

Nishikawa, J., S. Ohtsuka, N. Mujiono, D. J. Lindsay, H. Miyamoto and S. Nishida, 2015. A new species of the commercially harvested jellyfish *Crambionella* (Scyphozoa) from Central

Java, Indonesia with remarks on the fisheries. Journal of the marine biological association of the United Kingdom, 95(3): 471-481.

Omori, M. and E. Nakano, 2001. Jellyfish fisheries in Southeast Asia. Hydrobiologia, 451(1-3): 19-26.

Purcell, J. E., 2005. Climate effects on formation of jellyfish and ctenophore blooms: A review. Journal of the marine biological association of the United Kingdom, 85(3): 461-476.



Except where otherwise noted, this item's licence is described as © The Author(s) 2020. Open Access. This item is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the [Creative Commons license](https://creativecommons.org/licenses/by/4.0/), and indicate if changes were made. The images or other third party material in this it is included in the article's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.