



Published by
www.researchtrend.net

Gongylus gongylodes (Linnaeus) (Insecta: Mantodea): a new record for Tamilnadu State, India

Selvaraj Selvamurugan

Institute of Forest Genetics and Tree breeding, Coimbatore, Tamilnadu, India- 642002

*Corresponding author: selva199420@yahoo.in

| Received: 14 June 2021 | Accepted: 25 August 2021 | Published Online: 11 September 2021 |

How to cite: Selvamurugan S. 2021. *Gongylus gongylodes* (Linnaeus) (Insecta: Mantodea): a new record for Tamilnadu State, India. J New Biol Rep 10 (2): 72 – 75.

ABSTRACT

Mantises are distributed worldwide in temperate and tropical habitats. The praying mantis, because of its appearance and attitudes, is a fascinating insect and a worthwhile subject for nature study. Furthermore, its habit of feeding on other insects tends to clothe it with a certain degree of respectability. In the present paper, record of *Gongylus gongylodes* (Linnaeus) (Insecta:Mantodea) from Andakudi village, PapanasamTaluk, Thanjavur district, Tamilnadu state,india. The species based on the photography rarely found in Tamilnadu. This note discusses about distribution and conservation status.

Key words: *Gongylus gongylodes*, Praying Mantids, Paddy ecosystem, Thanjavur district.

INTRODUCTION

The mantises or mantes are among the mostcharismatic carnivorous insects. There are 15 families of mantises found worldwide, (Ehrmann,2002). Mantids (Insecta: Mantodea), usually known as Praying Mantis, hold significant place in the ecosystem as predators, mainly feed on grasshoppers, moths, butterflies, flies, beetles and they are well adapted in camouflage and mimicry, (Sureshan et al. 2009). Mantids have attained their common popular name from the way they raise their two fore legs in a posture of prayer. They are often found waiting still for hours together for their prey with their heads rotating 180^o (Sureshan 2009). They are diurnal and are attracted to lights at night (Dutta et al. 2012). They are weak flies and are generally seen sitting on herbs, shrubs and trees, (Sathe et al. 2014). There are around 2300 species of mantids under 434 genera all over the world, (Ehrmanm 2002). From India 162 species of mantids under 68 genera belonging to six families were reported (Mukherjee et al. 1995). Research on mantids in India was further propelled by several researchers in India. So far 4 species and 4 genera of mantids have been recorded from all over Gujarat, (Mukherjee et al.1995).

Mantids are considered to be of economic value to farmers as they play valuable role in pest management by consuming large number of prey in the

agriculture fields. Therefore, there is a great need to know their ecosystem wise diversity which will gives us exact picture of the most important group of Insect.

MATERIALS AND METHODS

Study Area

The Andakudi (10°56'52.7"N 79°18'06.6"E) village is situated in Kumbakonam to Thiruvaiyaru route, at the distance of 10 km from Kumbakonam, placed near by Cauvery River. Major agriculture crops cultivated are rice, sugar cane, cotton and banana Photos of mantid was taken from the Paddy ecosystems in andakudi village (Umaiyalpuram panjayath), Papanasam Taluka, Thanjavur district, Tamilnadu State, India. The species photo was clicked-at after noon on 7th January 2021. Close up photographs of species were captured with the help of a Mobile camera (Redmi note 5 digital camera). Live specimens from the field conditions were photographed. Identification of Mantid species was done with the help of these authentic literature, (Patel et al. 2018).

Locality: Thanjavur district, Tamilnadu (new record) on 07/01/2021.

Distribution: India: Andhra Pradesh, Kerala, Maharashtra, Odisha, Tamil Nadu, Uttar Pradesh, West Bengal; Java; Malaysia; Myanmar; Nepal; Sri Lanka;Thailand.

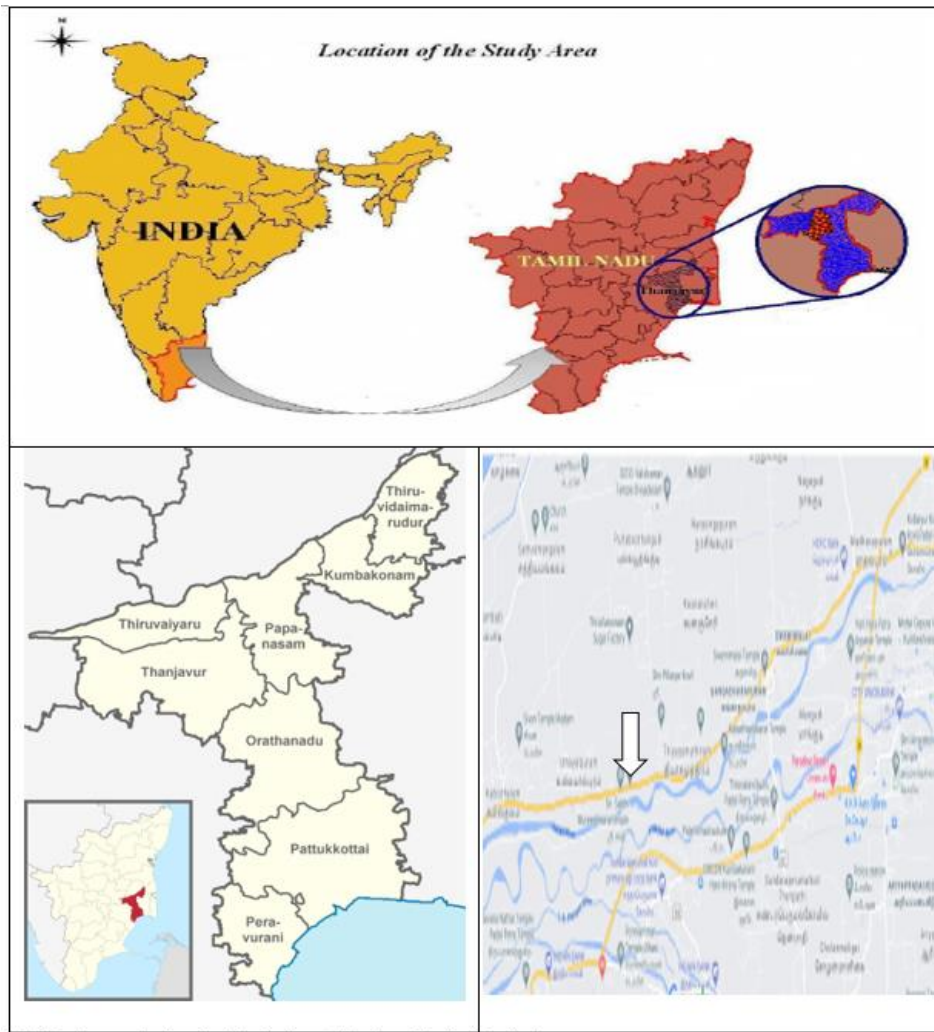


Fig.1. A map showing Andakudi village, Thanjavur district, Tamilnadu



Fig. 2. *Gongylus gongyloides* species

RESULTS AND DISCUSSION

Gongylus gongylodes comes in different color variants ranging from light brown to dark brown. Its body has all kinds of appendages that resemble dried leaves. This serves as camouflage for the mantis. Young nymphs have less pronounced camouflage than the older nymphs and adults. Females will reach a body length of 10 centimeters; males will reach a length of around 9 cm (3 inches). When the nymphs are born they already resemble the parents in body shape. Their color is light brown. They should be kept at 28- 40°C (82-104°F) at day time, not below 23°C (73°F) at night time. They need very little humidity, but if one prefers 40- 50% is fine too. They should be misted with water every 3- 4 days, so that they can drink the droplets off their spines. The *G. gongylodes* are specialists at catching flying insects. Nymphs should be misted every 2 days. Nymphs accept food one day after hatching. Females always have shorter and thinner antennae.

A small halogen spotlight is very good illumination during day time, which will make temperature at approximately 40°C (104°F). Each ootheca contains 15- 35 eggs. Oothecas needs to be lightly misted every day with warmed water, but this moisture must evaporate completely 1-2 hours later. Keep the air as dry as possible for the rest of the day.

Females: live 8-12 month after maturity. It takes 6 molts for the female to become an adult. They become sexually mature 2 weeks after their last molt. The female should be fed a lot before introduction of a male to mate, otherwise the female may be too active, so if that is the case the male will not mate with her. They will start laying oothecas approximately 19 days after mating. Each female will lay about 8 oothecas in her life.

Males: live 3-6 month after maturity. It takes 5 molts for the male to become an adult.

Diet: Drosophila, houseflies, crickets, flour worms. To the newly hatched larvae must be promptly offered Drosophila flies.

Mukherjee et al. (1995) reported 17 species of praying mantids belongs to 14 genera from Maharashtra. Chaturvedi & Hegde (2000) reported 11 species of mantids from the Sanjay Gandhi National park, Mumbai, Maharashtra. (Ghate & Ranade 2002) recorded 29 species of mantids from Pune (Western Ghats) out of these 29 species, 12 species of mantids first recorded for Maharashtra. (Sureshan et al. 2004) studied on mantid diversity from Pench National Park, Maharashtra and reported 9 species. (Rao et al. 2005) have been recorded 26 species of mantids belonging to 23 genera from Andhra Pradesh. (Jadhav et al. 2006) have been reported 5 species of mantids from Pench National Park. Vyjayandi (2007) recorded 66 species of mantids from various geographical regions of

Kerala. (Sureshan 2009) recorded 27 species belonging to 18 genera, 10 subfamilies and 4 families from Orissa. Sureshan & Sambath (2009) studied on the mantid fauna of old Bihar and reported 25 species belonging to 21 genera, 16 subfamilies and 8 families. (Koli et al. 2011) studied on the mantid fauna of the Chandoli National Park and reported 11 species belonging to 11 genera, 7 subfamilies and 3 families. (Raut & Gaikwad 2017) reported a *Tenoderafasciata* from western India. (Mukherjee et al. 2017) have been reported 23 new records of mantodea from some states of India. Recently, recorded species of *Gongylus gongylodes* Thanjavur district in Tamilnadu.

CONCLUSION

The present research paper reveals that the study area is a rich diversity of order Mantodea, because there is a variety of insect species as a food of carnivorous insects and appropriate environmental conditions. Due to important ecosystem services of mantids and rapid habitat degradation, further investigation is very important to study about the mantids diversity of this district along with their distribution and abundance.

ACKNOWLEDGEMENTS

Author is thankful to those who conducted field work and captured Photos, Charumathi, Charulatha Kulothungan, Nature enthusiast and Team Members.

REFERENCES

- Chaturvedi N, Hegde V. 2000. Mantid fauna of Sanjay Gandhi National Park, Mumbai with some new records for Maharashtra state. *J Bombay Nat His Soc* 97(2): 295-97.
- Chandra. K Sharma, R.M, D.K 2011. Harshey, *Gongylus gongylodes* (Linnaeus) (Insecta: Mantodea): A new Record for Madhya Pradesh, India. *Bugs R All No.* 17: 21.
- Ehrmann R. 2002. Mantodea: Gottesanbeterinnen der Welt. *Naturund Tier-Veriag GombH (NTV), Munster, Germany* 519p.
- Dutta W, Sur D. 2012. Praying Mantis: A threatened group of insect from Purulia, West Bengal. *Biodiversity Conservation: Fundamentals and Applications* 262-263.
- Ghate HV, Rane N, Ranade S. 2000. Recent records of *Creobroter apicalis* Saussure (Insecta: Mantodea) from Pune, Maharashtra and Kumta, Karnataka. *J Bombay Nat Hist Soc* 97(2):297-298.
- Jadhav SS, Sureshan PM, Ghate HV. 2006. Addition to the mantid fauna (Insecta: Mantodea) of Pench National Park, Maharashtra, India. *Zoos print J* 21(5):2261-2262.
- Koli YJ, Bhawane GP 2011. Mantid Fauna of Chandoli National Park, Maharashtra, India. *The Bioscan* 6(1): 77-80.

- Nikam KN, More S.V. 2016. Diversity of Insects from Jangamhatti area, Chandgad, Kolhapur district of Maharashtra. *Biolife* 4(1):209-212.
- Kavya MK, Raghunandan KS, Padmanabha B, Channaveerappa H. 2018. Comparative Scanning Electron Microscopic Study of Antennae and Hearing Organ of Two Indian Mantids *Mantis religiosa* and *Gongylusgongylodes*. *Int J Zool Investi* 4(1): 73-80.
- Mukherjee TK, Hazra AK, Ghosh AK 1995. The mantid fauna of India (Insecta: Mantodea). *Oriental Insects.*; 29:185-358.
- Patel, H.N Shukla,A.G. Patel,A.H and Prajapati J.N 2018. Mantids (Mantodea) of Navsari Agricultural University campus (Gujarat): An Inventory. *Int J Curr Microbiol App Sci* 7(6): 3594-3599.
- Patel HN, Shukla A, Gurjar TS 2018. Photographic catalogue of mantids of south Gujarat. *J Entomol Zool Stud* 6(4): 170-174.
- Patel Hiral, Shukla A, Pratik S. 2018. Biodiversity of praying mantids (Insecta: Mantodea) in Gujarat, India. *J Entomol Zool Stud* 6(4): 455-459.
- Patel HN, Shukla A, Prajapati JN 2018. Diversity of praying Mantids (Insecta: Mantodea) from various ecosystems of south Gujarat, India. *J Entomol Zool Stud* 6(4): 167-169.
- Raut GA, Gaikwad SM. 2017. A new record of *Tenodera fasciata* Olivier, 1792 Insecta: Mantodea: Mantidae: Mantinae for western India. *J Threat Taxa* 9(6): 10351–10354.
- Sureshan PM, Jafer P, Radhakrishnan C. 2004. New additions to the mantid fauna (Insecta: Mantodea) of Andaman & Nicobar Islands, India. *Zoos' Print J* 19(7):1544.
- Sathe TV, Vaishali PJ. 2014. Report on nine new species of mantids (Insecta: Mantodea) and their insect pest predatory potential from agroecosystems of Kolhapur region. *J Entomol Zool Stud* 2(5):304-307.
- More SV, Prashant MS. 2018. Diversity of praying mantids from Tilari forest, Chandgad, Kolhapur district of Maharashtra India. *Int J Entomol Res* 3(2): 57-64.
- Mukherjee TK, Iyer G, Chatterjee P. 2017. Twenty-three new records of mantodea (Insecta) from some states of India. 9(2): 9829–9839 10.11609/jott.1936.9.2.9829-9839.
- Vyjayandi MC. 2007. Mantid fauna of Kerala, Zoological Survey of India, Occ. Paper No. 267: 1-169. (Ed. By DZSI, Kolkata).