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First record of a true katydid *Sathrophyllia rugosa* (Linnaeus, 1758) (Insecta: Orthoptera: Tettigoniidae) from Gujarat state, India

Krutarth RavalDOI: <https://doi.org/10.22271/j.ento.2021.v9.i4c.8768>**Abstract**

The true katydid, *Sathrophyllia rugosa* (Linnaeus, 1758), is a widely distributed species in South Asian nations. The distribution of this species is limited to numbers and is reported from various states of India, including Madhya Pradesh, Maharashtra, Manipur, Uttar Pradesh, Meghalaya, Sikkim, and Tamil Nadu & West Bengal. The presence of *Sathrophyllia rugosa* (Linnaeus, 1758) in Gujarat is reported for the first time in this study.

Keywords: New record, insect, Vadodara, first report, biodiversity, entomofauna

1. Introduction

A total of 6 species, *Sathrophyllia femorata* (Fabricius, 1787), *Sathrophyllia torrida* (Stål, 1874), *Sathrophyllia marmorata* (Stål, 1874), *Sathrophyllia fuliginosa* (Stål, 1874), *Sathrophyllia rugosa* (Linnaeus, 1758) and *Sathrophyllia cornuta* (Thunberg, 1815) of the *Sathrophyllia* Stål, 1874 genus, are majorly characterized by the rugose shape of the tegmina (Kirby, 1906) [5]. They are mostly ash in colour. The first records of *Sathrophyllia femorata* (Fabricius, 1787) and *Sathrophyllia rugosa* (Linnaeus, 1758) were reported from Uttar Pradesh, India (Yadav and Kumar, 2020) [13] and West Bengal, India (Barman, 1993) [1]. In India, the first appearance of *Sathrophyllia rugosa* (Linnaeus, 1758) was reported by Gaikwad *et al.*, (2016) [3] from Pune, Nadkerny (1965) [8] from Andheri & Nashik, Maharashtra; Tiwari and Gupta (2016) [12] from Madhya Pradesh; and Barman (1995) [2] from Meghalaya. Four species, *Sathrophyllia saeedi* sp. n., *Sathrophyllia irshadi* sp. n., *Sathrophyllia nr. rugosa* (Linnaeus, 1758), *Sathrophyllia femorata* (Fabricius, 1787) are reviewed in Pakistan (Sultana R, 2014) [11]. The current study reports the first sighting of *S. rugosa* (Linnaeus, 1758) in Gujarat, India.

Materials and Methods

The specimen investigated in this study was found in a residential area near a jungle in the Vishwamitri region of Vadodara (22°16'01.4"N, 73°10'22.0"E), Gujarat, and India (Fig. 1). The specimen was observed during a random night time survey. The predatory responses and camouflage pattern of the targeted species were examined and monitored for a few days in their natural environment. Photographs of the specimen were taken with the smartphone camera Moto Z Play. The species was identified using the Orthoptera species file website (urn:lsid:Orthoptera.speciesfile.org: Taxon Name: 4319) and A Synonymic Catalogue of Orthoptera by Kirby, (1906) [5].

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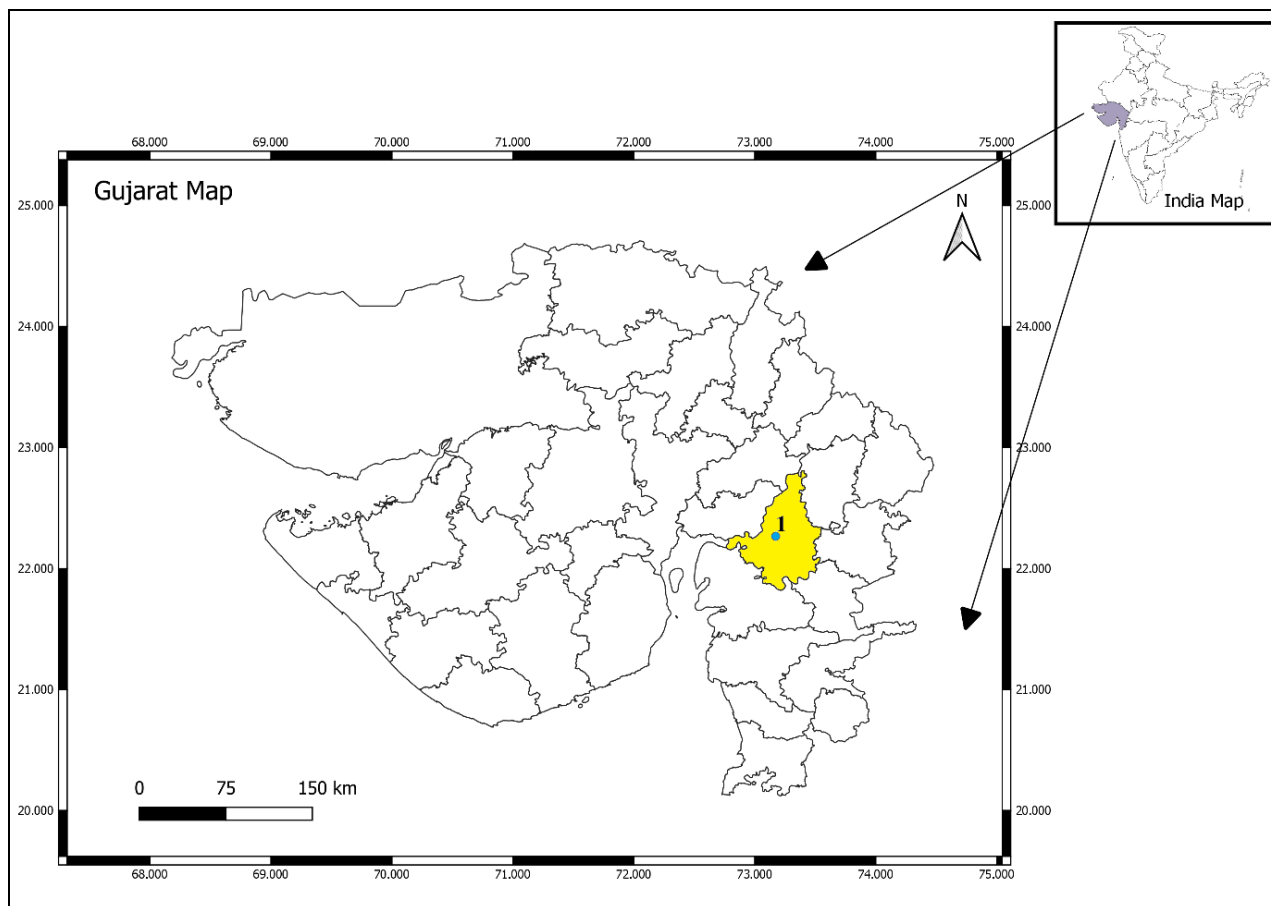


Fig 1: Location of observed *Sathrophyllia rugosa* (Linnaeus, 1758) in Gujarat, India.

Results and Discussion:

Systematics

Order Orthoptera Hebard, 1924

Suborder Ensifera

Infraorder Tettigoniidea

Superfamily Tettigonioidea Krauss, 1902

Family Tettigoniidae Krauss, 1902

Subfamily *Pseudophyllinae* Burmeister, 1838

Tribe *Cymatomerini* Brunner von Wattenwyl, 1895

Genus *Sathrophyllia* Stål, 1874

Species *Sathrophyllia rugosa* (Linnaeus, 1758) (Fig. 2)

(1758) *Gryllus* (*Tettignia*) *rugosa*; Linnaeus, *Systema Naturae per Regna Tria Naturae*, (10th ed.): 430.

(1874) *Sathrophyllia rugosa*; Stål, *Recensio Orthopterorum. Revue critique des Orthoptères décrits par Linné, De Geer et Thunberg* 2:70

(1906) *Sathrophyllia rugosa*; Kirby, *Syn. Cat. Orth.*: 306.

(1993) *Sathrophyllia rugosa*; Barman, *State Fauna Series 3: Fauna of West Bengal, Part 4, Zool. Surv. India*: 284, 285.

(2004) *Sathrophyllia rugosa*; Shishodia & Barman, *State Fauna Series 10: Fauna of Manipur, Zool. Surv. India*: 144.

(2016) *Sathrophyllia rugosa*; Gaikwad *et al.*, *JoTT* 8(2):

8536.

(2020) *Sathrophyllia rugosa*; Yadav, R.S. & D. Kumar. *JoTT* 12(2):15657.

Material examined

1♀, Vadodara (22°16'01.4"N, 73°10'22.0"E), Gujarat State, India, on wall of a Flat – near Jungle, 14. IX. 2017, Coll. K. Raval.

Diagnosis

A large insect with ash-brown coloration, appearance rugose, longer antennae more than its body size. At the basal part of pronotum presence of median, swollen, large crest. At the anterior side of pronotum has one sharp tooth and at posterior side multiple teeth. The tegmina convex and appeared shorter than wings, distinct dots. Two transverse sulci are located in centre. The fore femur is stout with ventral margin and is strongly lamellate and with distinct lobe. The dorsal edge of mid femur is only faintly lamellar and mostly straight. Fore, mid and hind femur with rounded grooves at ventral side, all tibiae spotted. The supra anal plate oval and little cut at apex. Ovipositor observed with bladelike toothed apex.

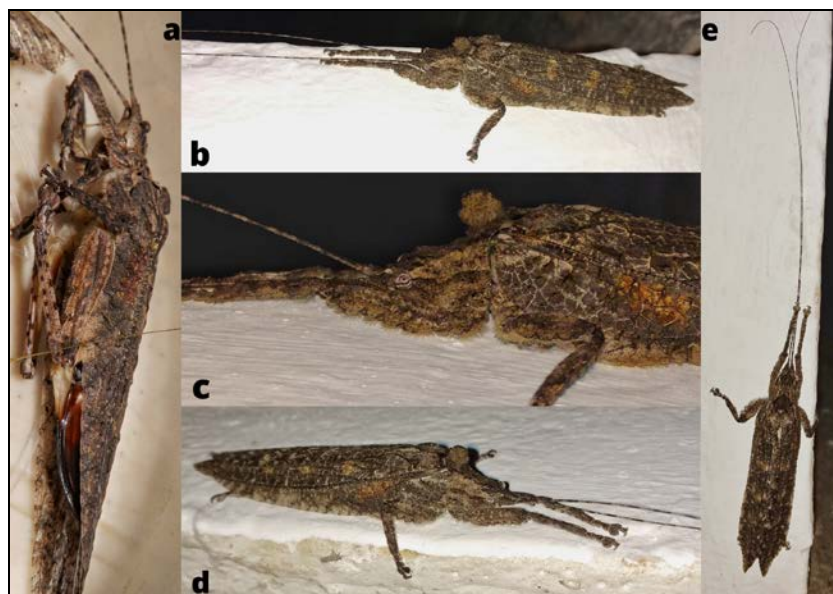


Fig 2: *Sathrophyllia rugosa* (Linnaeus, 1758), female: a. ventral view; b. side view; c. anterior region; d. side view; e. dorsal view

Remarks

The specimen studied in this study fits well with Stål, (1874), Kirby, (1906) [5] and Gaikwad *et al.*, (2016) [3] descriptions and illustrations. The primary recognition character of this species is its crested pronotum, ash coloured body, rugose shape and presence of round shaped dark spots in the cells of elytron (Fig. 2). The represented species *S. rugosa* is being documented for the first time from Vadodara, Gujarat, India, and no such change in morphological characteristics has been observed.

Distribution

India: Karnataka, Madhya Pradesh, Maharashtra, Manipur, Uttar Pradesh, Meghalaya, Sikkim, Tamil Nadu & West Bengal, East Himalaya, Gujarat (Present study); Pakistan, Java, Sri Lanka, Sumatra, Nepal, China Southeast,

Habitat

This species tends to be on non-moving subjects like tall tree branches, shrubs, bushes and walls. Their appearance was noted during the month of September and October.

Conflict of interests

The authors declare that there are no competing interests.

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