

First record of *Epidius parvati* Benjamin, 2000 (Araneae: Thomisidae) from Pathiramanal Island, India

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Abstract. The thomisid spider *Epidius parvati* Benjamin, 2000, described from Sri Lanka, is newly recorded from India based on the specimens collected from the Pathiramanal Island, Alappuzha District, Kerala State. A short description and illustrations of both male and female are provided.

Key words. Crab spider; distribution; Ramsar site; faunistics

The crab spider family Thomisidae Sundevall, 1833 is one of the largest families within Araneae with 175 genera and 2155 species (WORLD SPIDER CATALOG 2017). In India, this family is composed of 40 genera and 176 species. Among the 175 global thomisid genera, *Epidius*, with *Epidius longipalpis* Thorell, 1877 as the type species (THORELL 1877), is a small Old World genus known from Oriental and African regions. With the addition of five species described by BENJAMIN (2017), the genus is represented by 15 species and one subspecies (WORLD SPIDER CATALOG 2017). Overall, four species of this genus have been recorded from India so far (WORLD SPIDER CATALOG 2017). During our field studies, we were able to collect a *Epidius* species from Pathiramanal Island, a part of Vembanad, a Ramsar site in Alappuzha district, Kerala State, India. This paper documents the first Indian record of *E. parvati* Benjamin, 2000 and maps its global distribution.

Our specimens were preserved in 70% ethanol and studied using a Zeiss Stemi 2000-C stereomicroscope. The epigynum was cleared using 10% KOH in water solution. The digital images were taken by Leica DFC295 digital camera attached to a Leica M205 C stereomicroscope with LAS montage facility. The specimens are deposited in the collection of the Division of Arachnology, Department of Zoology, Sacred Heart College, Thevara, Cochin, Kerala, India (ADSH).

Abbreviations used. CD, copulatory duct; FD, fertilization duct; SP, spermatheca.

Epidius parvati Benjamin, 2000
Figures 1, 2

For detailed description and illustrations, see BENJAMIN (2000).

Material examined. 1♂, 6♀, 8 juveniles, India, Pathiramanal Island (09°37'07.11" N, 076°23'04.95" E; 4 m alt.), collected from foliage by hand, 16-ix-2014, 19-xi-2014, 15-i-2015, 26-v-2015 (J.J. Malamel, M.S. Pradeep & J. Paul).

Description. Male. Live specimen greenish yellow with dorsal folium on the abdomen. No tubercles around eyes. Cheliceral promargin with some fringe of hairs and 3 teeth, retromargin with 2 teeth. Leg formula 1243. Legs with well-developed spines and elongated femur and tibia. Proximal margin of tibia with conspicuous strong ventral bristles. Palpal femur, patella and tibia elongated, tibia with 2 or 3 strong spines. Cymbium longer than wide with hairs and a fine setae apically. Ventral tibial apophysis present but not clearly visible. Conductor massive, sickle shaped and apically pointed. Tutaculum absent. Embolus long, strong, sharp and bifurcated in close observation. Bulbus ovoid. Sperm duct long.

Female. Live specimen greenish yellow in colour. Abdomen oval with white spots. Leg formula 1243. Legs reddish brown with fine spines, especially long and strong ones on the venter of the tibiae, metatarsi and tarsi of legs I and II. Tibia of pedipalp with long macrosetae, tarsus densely covered with short hairs. Epigynum with highly sclerotized margin. SP globular. FD long, close to spermatheca, retro-laterally oriented. CD short, upper portion highly sclerotized and upper lip of copulatory opening extends anteriorly.

Diagnosis. *Epidius parvati* is most similar to *E. longipalpis* but differs by the following combination of characters (Figure 2): (1) the sickle shaped, massive and pointed conductor (in *E. longipalpis*, the tip of the conductor wide and rounded); (2) the embolus is bifurcated, strong and sharp when compared to the simple embolus in *E. longipalpis*; (3) the length and shape of the tegular apophysis also diagnostic in *E. parvati* (BADCOCK 1918; BENJAMIN 2000).

Ecology. Thomisid spiders are best known for their camouflage (OXFORD & GILLESPIE 1998). Live, adult specimens

of the genus *Epidius* are yellowish green in colour and are mostly seen inside folded green leaves, indicating camouflage (Figure 2).

The spider genus *Epidius* is a small, lesser-studied genus of Old World spiders (BENJAMIN 2000). Although the *Epidius* fauna of the Indian subcontinent was studied for many

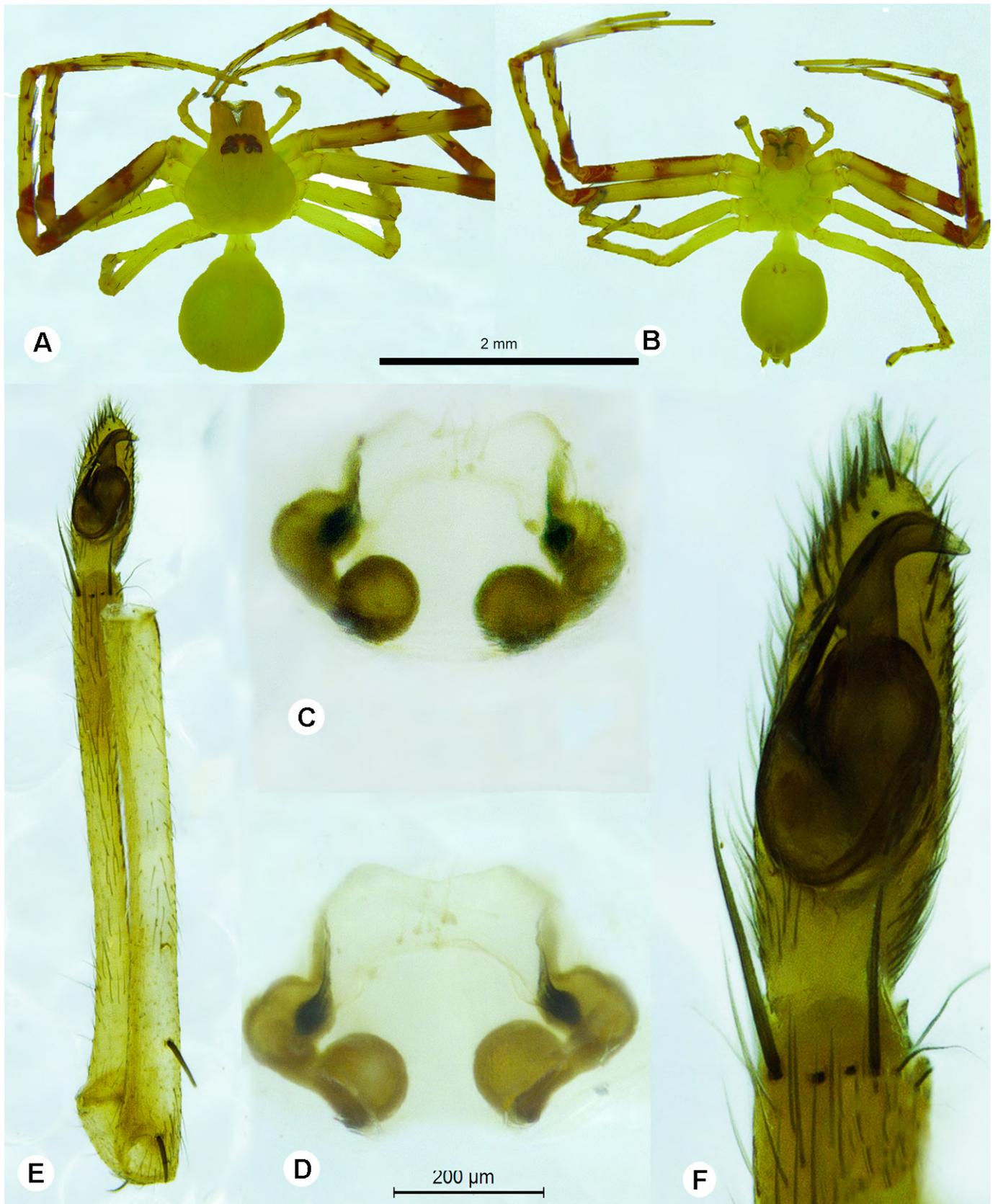


Figure 1. Habitus and reproductive structures of *Epidius parvati* Benjamin, 2000. **A.** Female habitus, dorsal view. **B.** Female habitus, ventral view. **C.** Epigyne, ventral view. **D.** Vulva, dorsal view. **E.** Male palp, entire view. **F.** Male palp, ventral view of the bulb.

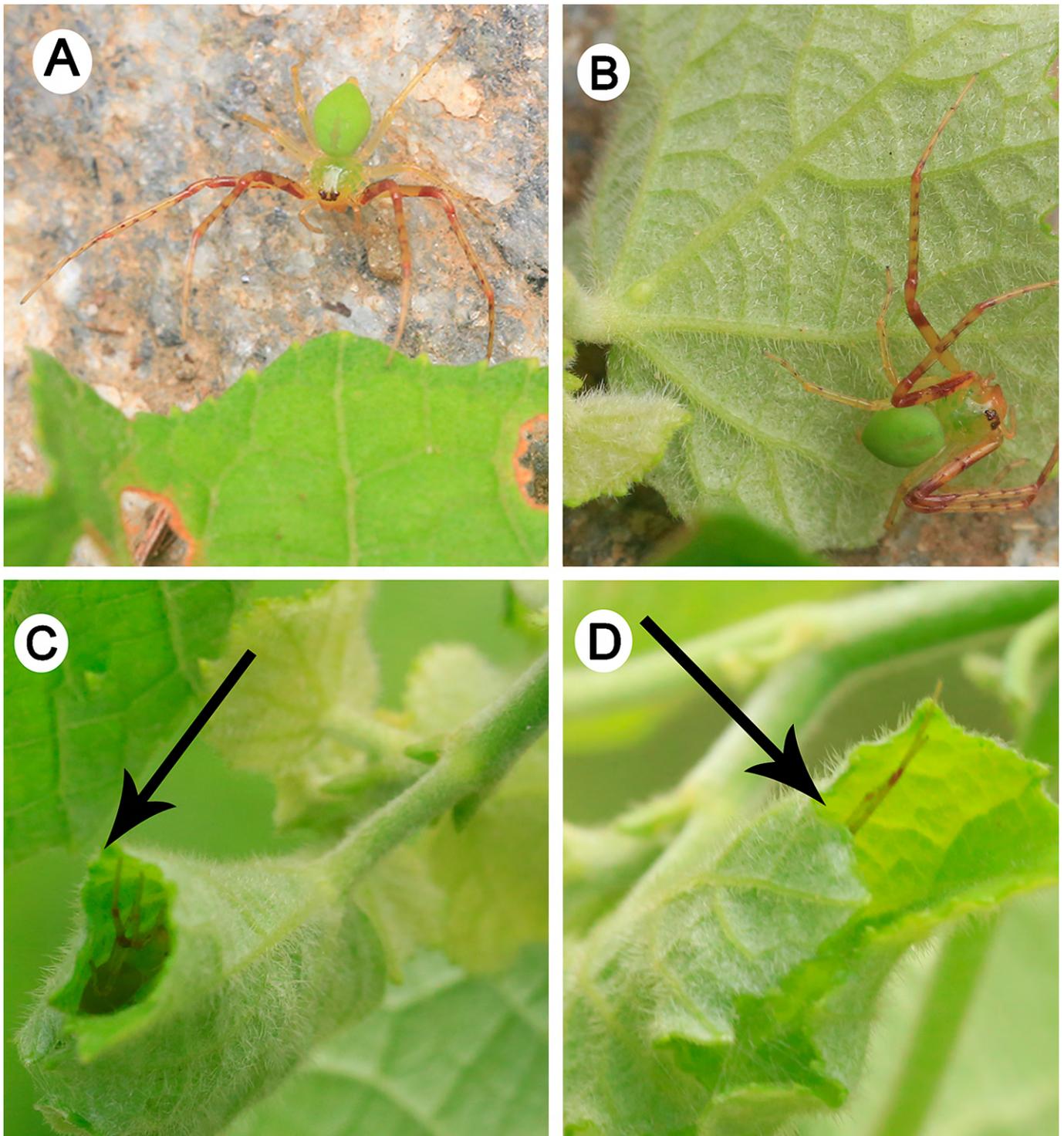


Figure 2. A, B. Live female *Epidius parvati* Benjamin, 2000. C, D. Hiding place of the spiders among foliage.

years (Thorell 1877; TIKADER 1971), and most recently by BENJAMIN (2017), the presence of *E. parvati* in India has been overlooked until now.

Epidius parvati was only known from the type locality at the Bellanwila Attidiya marshes, Colombo, Sri Lanka (BENJAMIN 2017). The new record of *E. parvati* from Pathiramanal Island suggests that this species may also occur in other areas of India (and the Indo-Sri Lankan biodiversity hotspot region), such as the Lakshadweep, Andaman, and Nicobar islands, the Gulf of Kutch, and at Ratnagiri due to the presence of similar habitats. With our new record of

this little-known crab spider species, its known geographical distribution is here extended north by 486 km to India from the west coast of Sri Lanka (Figure 3). We observed that the habitat on Pathiramanal Island for this species is highly disturbed by excessive visitation by tourists and by the grazing of livestock.

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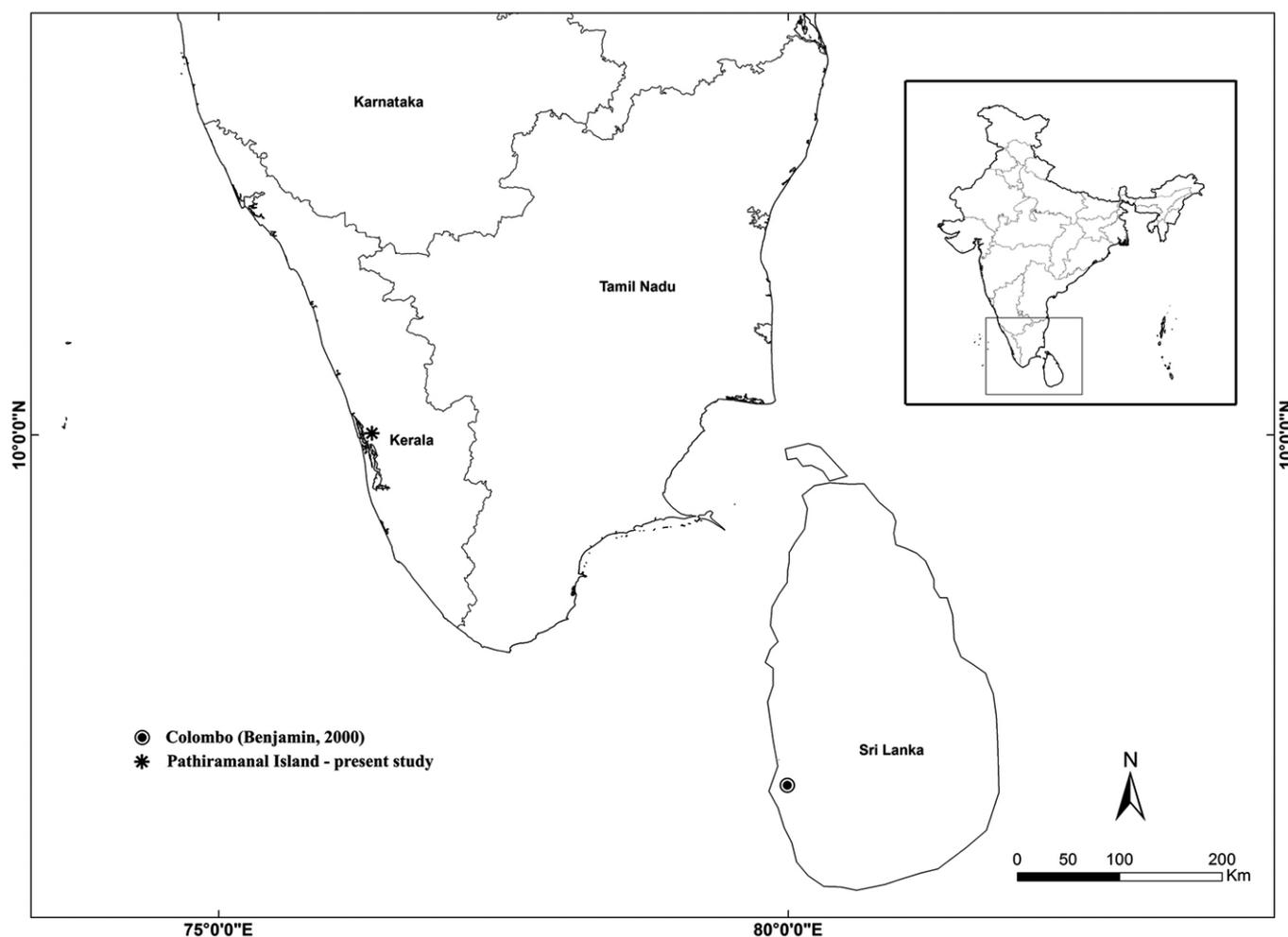


Figure 3. Distribution map of *Epidius parvati* Benjamin, 2000.

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