



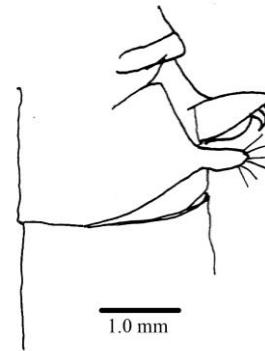
### ***Lyriothemis acigastra*: a new addition to the odonata fauna of Peninsular India**

The exclusively old world genus *Lyriothemis* Brauer, 1868 (Anisoptera: Libellulidae), with 15 species (Schorr *et al.*, 2012), is widespread across Asian countries occurring in Bangladesh, Tibet, North East India, Myanmar, Thailand, Nepal, Laos, Vietnam, Hong Kong, etc. Of these, *L. acigastra* (Selys, 1878), *L. bivittata* (Rambur, 1842), *L. cleis* (Brauer, 1868) and *L. tricolor* Ris, 1919 are so far known from India (Subramanian, 2009) of which all are restricted to Assam and West Bengal, the northeastern part of the country. Here we report this species from South India (Kerala). Based on a photograph of this species taken by the junior co-author, we conducted surveys to locate the specimens in the midland laterite hill areas of North Kerala. We found individuals (Fig. 1A, B) in Aravanchal and Madayipara areas in Kannur District of North Kerala during July to September, 2010.



**Figure 1:** *Lyriothemis acigastra*, A, male; B, female (ZSI/WGRC/IR–I/od–302 and –303 respectively).

Specimens from north Kerala agree with those given by Fraser (1936) for this species. The secondary genitalia (Fig. 2) agree with Fraser's (1936) figure of *L. acigastra*.



**Figure 2:** Secondary genitalia of *L. acigastra*.

Recent discovery of *Lyriothemis defonsekai* from Sri Lanka (Van der Poorten, 2009) points out a lack of knowledge of the distribution of this genus in the southern part of Indian subcontinent. It is unfortunate that Van der Poorten (2009) did not provide comparative illustrations of *L. acigastra* in her paper describing *L. defonsekai*. Van der Poorten (2009) compares *L. defonsekai* with *L. acigastra* mentioning a more pronounced anterior lamina for *L. defonsekai* which unfortunately, is not shown in her Figure – 2, and has differently shaped hamules. However, her illustration of the hamules of *L. defonsekai*, approximates that of *L. acigastra* given by Fraser (1936: 266, Fig. 81a) closely. One wonders if the arcuate line immediately posterior to the hamule she gives for *L. defonsekai*, might represent the outline of the base of the vesica spermalis. The present report of *L. acigastra* from north Kerala is therefore intriguing.

**Specimens examined:** Aravanchalkavu, Kannur District: ZSI/WGRC/IR–I/od–302; male (Abdomen: 20.0mm; hindwing: 25.0mm), Madayipara, Kannur district: ZSI/WGRC/IR–I/od–303; female (Abdomen: 21.0mm; hindwing: 27.0 mm); Muhamed Jafer Palot.

Our specimen varies from Fraser's (1936) description by the following characters: Male: Labrum yellow with shining black border; border of anterior lobe of prothorax yellow; underside of thorax black with yellow stripe at the middle; all coxae and trochanters of legs yellow. Wings: in one specimen, subtrigone in right forewing entire, that of left forewing traversed; in second specimen, right discoidal cell and subtrigone in forewing entire, whereas the left discoidal cell traversed; Fw antenodals 9–11, postnodals 7–8; Hw antenodals 8–10, postnodals 6–8. Abdomen: underside black with irregular yellow blotches from segments 1 to 8. Female: Thorax yellow, black markings as in male, yellow colour brighter than in male. Fw antenodals 12, postnodals 8; Hw antenodals 9–10, postnodals 8–9.

Even though the species is reported from other areas of the world, there is no information available on its ecology and habitat. This may be due to its secretive nature and rare occurrence. The general habitat of the species includes bushes associated with freshwater streams and marshes. Most of the males were collected from the marshy area adjoining the Aravanchal sacred grove, frequenting the shades of bushes, whereas the females were seen mainly near the fast flowing stream. The perennial rocky stream at Aravanchal is entirely covered with aquatic plants like *Eriocaulon setacea* and *Crinum coromandelicum*. The stream edges are lined with *Syzigium caryophyllifolium*, *Leea indica*, *Memecylon grandis*, etc. We had observed a small population of about 2–12 numbers during our visits. A freshly emerged female was also sighted on 19 September 2010. A total of 10 males and two females were sighted during a single day on 8 August 2010 from Aravanchalkavu. The dragonflies were active mainly during evening and morning hours. Most of the males were seen resting at a height of 8–10m from the ground and also predated on the small moths and hesperiid butterflies.

A female was collected from Madayipara on 9 September 2010, on the southwestern slopes of the hill from a thicket dominated by *Acacia instia* and *Ziziphus rugosa*. Subsequently two more females were also sighted on the hill slopes on 21 September 2010.

During our subsequent visits in October and early November, no *Lyriothemis* was noticed at Madayipara and Aravanchalkavu. Though the Madayipara site has been monitored for last ten years for entomofauna, we had never encountered this species from the locality in the past indicating that, the species is probably a breeding visitor during the southwest monsoon in July–September or a recent colonist from elsewhere. Both these sites are located on the midland laterite hillocks associated with freshwater perennial streams or marshes nearby.

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