

**ON A NEW SPECIES OF THE GENUS *BAYADERA* SELYS
(ODONATA : EUPHAEIDAE) FROM INDIA WITH NOTES ON ITS
INDIAN REPRESENTATIVE**

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INTRODUCTION

Fraser (1934) provided a comprehensive account of Indian *Bayadera* species. Cowley (1936) described *B. kali* from Meghalaya. In recent times Indian species of the genus have also been dealt with by Kumar (1973), Singh and Prasad (1974), Lahiri (1975, 1987), Kumar and Prasad (1981), Prasad and Ghosh (1984) and Mitra (1999). Asahina (1978) described a genus closely allied to *Bayadera* Selys, e.g., *Schmidtiphaea* from Manipur. In the present paper a new species *Bayadera chittaranjani* has been described from Manipur together with some additional note on *B. indica* (Selys) and a revised key for identification of the known Indian species of the genus.

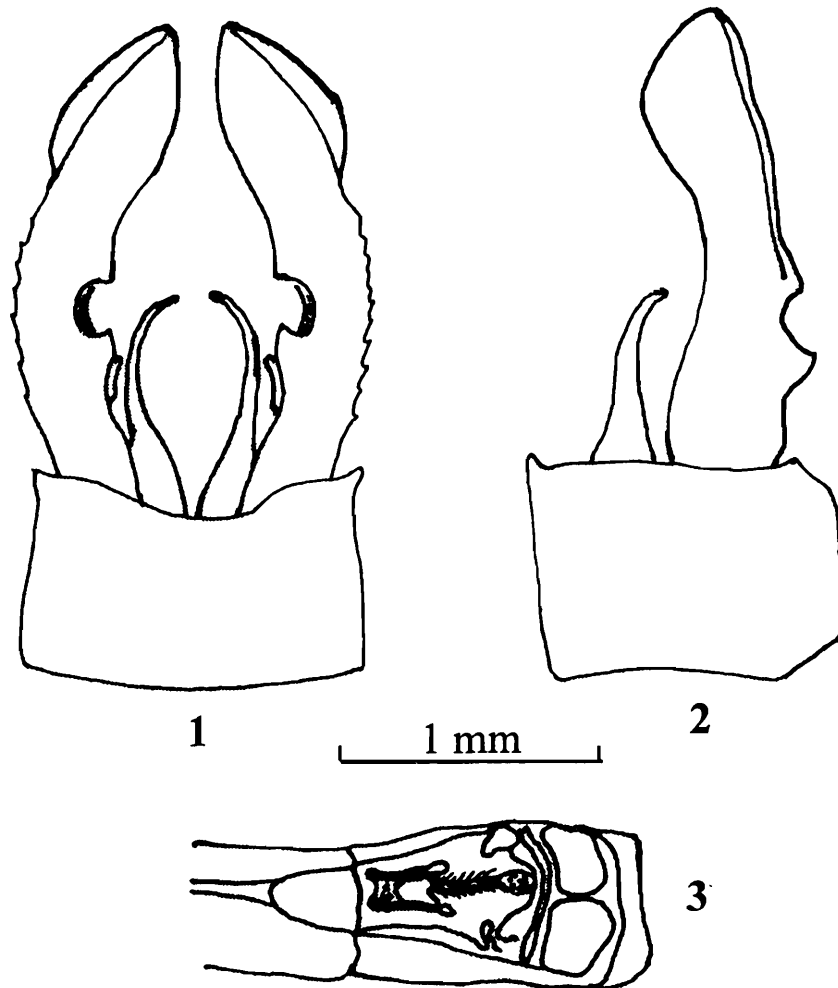
SYSTEMATIC ACCOUNT

Bayadera chittaranjani sp. nov.¹

(Figs. 1-3)

Description : Male : Black, with basal half of labial palpi and dorsum of head anteriorly covering face, frons, genae and vertex upto base of antennae yellow; the yellow colour also extending narrowly along the eyes backward upto ocellar space. Rest of body black unmarked. Wings hyaline; Rs fusing with R₁ at its origin for about six cells in forewing, for four cells in hindwing. Only one cubital nervure. R₃ originates distal to subnode by about 2 cells; pterostigma black and narrow covering 6 cells; 20 antenodal nervures in forewing, 17-19 in hindwing; 25-28 postanodal nervures in forewing, 26-27 in hindwing. Anal appendage (Figs. 1 and 2) black. Superiors about thrice as long as segment 10 of abdomen, in dorsal view broad at base, thereafter gently narrowing and curved inwards but expanding into a fusiform dilatation covering apical third of the length of the organ and ending in a subacutely pointed apex; the inner margin is marked by a deep semirounded excavation just before the middle; base of the excavation is produced as a robust tooth along the upper margin while the lower margin beneath the tooth is also marked by a narrow quadrate expansion that appears as a small ventral spine in semilateral view; the inner margin is also marked by a smaller tooth or tubercle

¹The species is named in memory of my beloved father Chittaranjan.



Figs. 1-3. *Bayadera chittaranjani* sp. nov., male; Figs. 1 and 2, anal appendage in dorsal and lateral view respectively; Fig. 3, genitalia.

at the apex of the excavation before the apical dilatation; the outer margin of superiors minutely serrated from near base to the base of the apical dilatation; in lateral view the superior broad at base and directed straight backwards with the submedian excavation and tooth partially visible and the apical dilatation visible only along lower margin; inferiors about half the length of the superiors, broad at base, gently narrowing upto apex, the apices curled inwards as seen from above, but curled upwards as seen in lateral view. Genitalia as in Fig. 3, penis shaft hairy.

Length : abd. + app. 53.00 mm; hindwing 35.00 mm.

Material studied : Holotype ♂ 15 km south of Chandil, Chandil district, Manipur, 18.2.1992, coll. R. S. Mathew (Z.S.I. Regd. No. 4074/H₁₃), deposited in the National Zoological collection.

Comparison : *Bayadera chittaranjani* sp. nov. differs from allied species of the genus in size, in its restricted (yellow) markings and unique shape of the anal appendages.

It comes close to *B. forcipata* Needham in its large size but differs from the same in the shape of the superior anal appendages and in having thorax and abdomen absolutely devoid of marking.

It is much larger than *B. hyalina* Selys, *B. bidentata* Needham, *B. kali* Cowley, *B. brevicauda* Fraser and *B. longicauda* Fraser (abdomen 53.00 mm vs 40.00 mm. or less) and also differs from them in the shape of the male anal appendage.

It differs from *B. indica* (Selys) in having hyaline wings (vs tipped with black) and the shape of the superior anal appendages (apex fusiform vs spatulate and shallowly notched).

From allied genus *Schmidtphaea* Asahina, also described from Manipur state it differs in having the vein Rs actually fused with R₁ (vs running close but parallel) for a longer distance (6 cells vs 4 cells in forewing, 4 cells vs 2 cells in hindwing).

Distribution : India : Manipur.

***Bayadera indica* (Selys)**

1853. *Epallage indica* Selys, *Syn. Cal.* : 49.

1890. *Bayadera indica* (Selys) : Kirby, *Syn. Cat. Neur. Odon.* : 108.

Material studied : 7 ♂♂, 5 ♀♀ Mon area, Nagaland, 12.6.1999. coll. Y N. P. Sinha.

Remarks : The species is recorded here for the first time from Nagaland. The specimens studied vary from published description of the species in being smaller in size (abdomen : ♂ : 31.00 mm vs 38.00–41.00 mm, ♀ : 33.00 mm vs 37.00 mm). Further, heavily pruinosed synthorax renders antehumeral stripes almost obscured.

Distribution : India : Uttar Pradesh, North Bengal, Sikkim, Meghalaya, Nagaland. Outside India : Bangladesh, Nepal and China.

Revised key for identification of Indian *Bayadera* species (Male)

1. Wings tipped with black *indica* (Selys)
 - Apices of wings hyaline 2
2. Smaller species with hindwing < 27.00 mm in length. *Kali* Cowley
 - Larger species with hindwing > 30.00 mm in length 3
3. Very large species (abdomen > 50.00 mm in length). Superior anal appendage with inner margin deeply excavated medially that is preceded by a robust tooth along upper edge besides ventral expansion *chittaranjani* sp. nov.
 - Moderately large species (abdomen about 40.00 mm or less in length). Superior anal appendage without median excavation and tooth as above 4
4. Ventral spine of superior anal appendage long *hyalina* Selys
 - Ventral spine of superior anal appendage small and shaped like a tubercle
..... *longicauda* Fraser

DISCUSSION

So far known, the genus *Bayadera* is known from five species in India of which *B. indica* (Selys) appears to be most well distributed one, its range of occurrence extending from Western

Himalayas, North Bengal, Sikkim to Meghalaya and Nagaland. Remaining four species of the genus are restricted in distribution, being confined to the states of Manipur (*B. chittaranjani* sp. nov.), Sikkim (*B. longicauda* Fraser) or Meghalaya (*B. kali* Cowley and *B. hyalina* Selys).

SUMMARY

Bayadera chittaranjani sp. nov. is described from Manipur and *B. indica* (Selys) reported from Mon area of the Nagaland state. A revised key for identification of all five species of the genus known from India is provided in the text.

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