study revealed the presence of sexually dimorphic luminescent system. The details are presented here.

Fresh specimens of L. bindus were obtained from the commercial catches landed at the fish landing centre, Porto Novo (Lat. 11° 29' N and Long. 79° 46'E) between October 1975 and September 1978 and utilized for dissecting out the luminescent system.

The luminescent system in L. bindus is similar to that of other species of leiothrichids and consists of a light organ to harbour the symbiotic luminescent bacteria, an airbladder reflector, translucent muscular lenses and other accessory structures to produce, transmit and diffuse the luminescence of regulated intensity through the ventral surface of the fish.

The light organ is situated at the distal end of the esophagus and completely encircles it as a short ring made of several layers of tissues. The size and morphology of the organ differ greatly between the two sexes exhibiting sexual dimorphism. The light organ is relatively larger in male than in female of the same length (figure 1). Three regions, an anterior transparent, a middle opaque and a posterior dark, can be distinguished on the outer most layer in the dorsal (figure 2a) and ventral (figure 2b) sides of the light organ in males; however, laterally (figure 2c), the transparent region is absent. Embedded in the transparent and opaque regions of the dorsal and ventral sides of the organ are a few pigment granules of melanophore guanophore complexes. The light organ is devoid of these granules laterally. The light organ of the female resembles that in male in its features on the dorsal side (figure 2d); however, the prominent dark region found ventrally in the male is absent in female (figure 2e). The lateral (figure 2f) sides of the light organ in female are transparent anteriorly and opaque posteriorly. The pigment granules are seen on the dorsal opaque, and ventral opaque and transparent regions. The lateral sides of the organ lack pigment granules in females also.

The display of ventral luminescence of leiothrichids is helpful for the fish to match the downwelling ambient light so as to conceal their silhouette from predators coming from below1-4. Since, a considerable fraction of weight of light organ is due to symbiotic luminescent bacteria5,6, variation in the size of the sexually dimorphic light organ may evidently alter the symbiotic bacterial load and as a result the quantum of light emitted by either sex. This suggests a probable additional function to the ventral luminescence. The pattern and extent of sex specific luminescence of L. bindus may help to recognize the sex of the possessor and attract the opposite sex for mating. The occurrence of sexually dimorphic luminescent system has also been reported in two more species viz L. elongatus and L. rivulatus1.

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KARYOTYPIC CHARACTERISTICS OF THE TOMB BAT TAPHOZOUS SACCOALAIMUS

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Of the 14 species of tomb bats known in the genus Taphozous, 5 occur in the Indian subcontinent1-2. Of these, details of unbanded chromosome complements were earlier reported for T. melanopogon and T. longimanus collected from Maharashtra and Uttar Pradesh respectively3. The present account describes the diploid number, karyomorphology and linear differentiation of chromosomes in terms of G- and C-bands of another species of this genus namely T. saccoalaimus.

Eight males and eight females were collected from Kadakola, a village located 12 km off Mysore, Karnataka State, India. Somatic metaphase plates were obtained from the bone marrow of humeri and G- and C-bands were induced in the chromosomes following conventional procedures4-6. Utilising karyometric data, unbanded, G- and C-banded karyotypes were constructed according to norms prescribed earlier7.

Scrutiny of several metaphase plates with well spread-out chromosomes revealed that the diploid number of chromosomes is 44 in both sexes (figures 1, 2). The karyotype is constituted by 7 pairs of metacentric, 4 pairs of submetacentric and 10 pairs of telocentric autosomes, a large metacentric X chromosome and a very small telocentric Y chromosome (figure 3). The FN is 64. The first 2 pairs of autosomes are easily recognizable by their large size.

The number of G-bands varies from 5 to 1 in different autosomes (figure 4). The first and third autosomal pairs have 5 bands while the second pair has 3 prominent bands. The latter also has a faintly stained distal band in the short arm. The banding pattern is characteristic in the X chromosome. Of the three bands present, the middle is ring-like. The C-banded karyotype (figure 5) and its idiogram (figure 6) indicate that all members of the complement except 4 pairs of autosomes carry prominent centromeric and pericentromeric C-positive regions. The last pair of autosomes and the Y are C-positive along their entire length.

The karyotype of *T. saccolaimus* differs from its congeneric species *T. melanopogon* and *T. longimanus* whose karyotypes are reported earlier by possessing 44 instead of 42 chromosomes. The former species has 11 pairs of biarmed and 10 pairs of uniarmed autosomes, while the latter two species have 12 pairs of biarmed and eight pairs of uniarmed autosomes. However, the FN remains the same (=64) in all the three species. Thus the higher diploid count without a concomitant change in FN of *T. saccolaimus* indicates that two of its telocentric autosomes were involved in centric fusion giving rise to a metacentric element in
colaimus is karyologically more primitive than its congeneric species.

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STUDIES ON TRYpanosoma Seenghali var Nov Sophorae FROM Puntius Sophore (Ham)

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During our study on the protozoan parasites of fishes, specimens of Puntius sophorae (Ham) were found infected with Trypanosoma, the haemoflagellate parasite. This forms the subject matter of the present communication. Lingard 1 had reported trypanosomes from the blood of Indian freshwater fish Ophiocephalus striatus. Subsequently several trypanosomes have been described from various freshwater teleosts of Indian subcontinent. 2-18 The present study is the first report that P. sophorae found infected with Trypanosoma in the Indian subcontinent.

P. sophorae (Ham), the host fish, were obtained from the pond of Mangalana (Nagore, Rajasthan). The blood smears were drawn on clean slides and air-dried and subsequently fixed in acetone free methyl alcohol and stained with Giemsa's stain. Observations were made under oil immersion lens. Figures of blood parasites

one of the karyotypes of the other two species. In the absence of G-banding data for T. melanopogon and T. longimanus, it is difficult to trace the chromosomes of T. saccolaimus involved in centric fusion. Under these conditions, it can only be concluded that T. sac-