

Morg<sup>1-3</sup>. This is the first report of *Cal. theae* and its anamorph *Cylindrocladium theae* from India on *Eucalyptus grandis*. The anamorph was initially described as *Cercospora theae*<sup>4</sup> Petch, and changed to *Candelospora theae*<sup>5</sup> (Petch) Wakefield ex Gaad, and finally to *Cylindrocladium theae*<sup>6</sup>. Even though, earlier the teleomorph, *Calonectria theae* was reported on dead tea leaves<sup>7</sup> as well as on artificial culture media<sup>8</sup>, the full description of the fungus was only given by Loos<sup>9</sup>.

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### KARYOTYPE OF *RHINOLOPHUS LUCTUS* (ORD: CHIROPTERA)

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THE genus *Rhinolophus* is represented by about 50 species. Of these, karyotypic data are available for 10 species. They are remarkable for their high diploid numbers and large number of telocentric chromosomes<sup>2-9</sup>. The present communication describes for the first time the karyotype of *Rhinolophus luctus* which is the largest rhinolophid bat occurring in India.

A single male individual was captured by a mist net from Halepalya village, Karnataka, India. Metaphase chromosomes were prepared and subsequently karyotyped according to conventional procedures<sup>1,10</sup>.

The diploid number of chromosome complement was found to be 32 (figures 1 and 2). Of the 15 pairs of autosomes, 10 pairs were metacentrics and 5 pairs were submetacentrics (figure 3). The fundamental number was 60. While the X chromosome was a medium sized metacentric, the Y was the smallest telocentric.

The karyotypes in various species of *Rhinolophus* have remained relatively conservative having a diploid number ranging from 56-62 but possessing the same FN = 60. The existing variations in the rhinolophid bats reported thus far, arise from centric fusions and

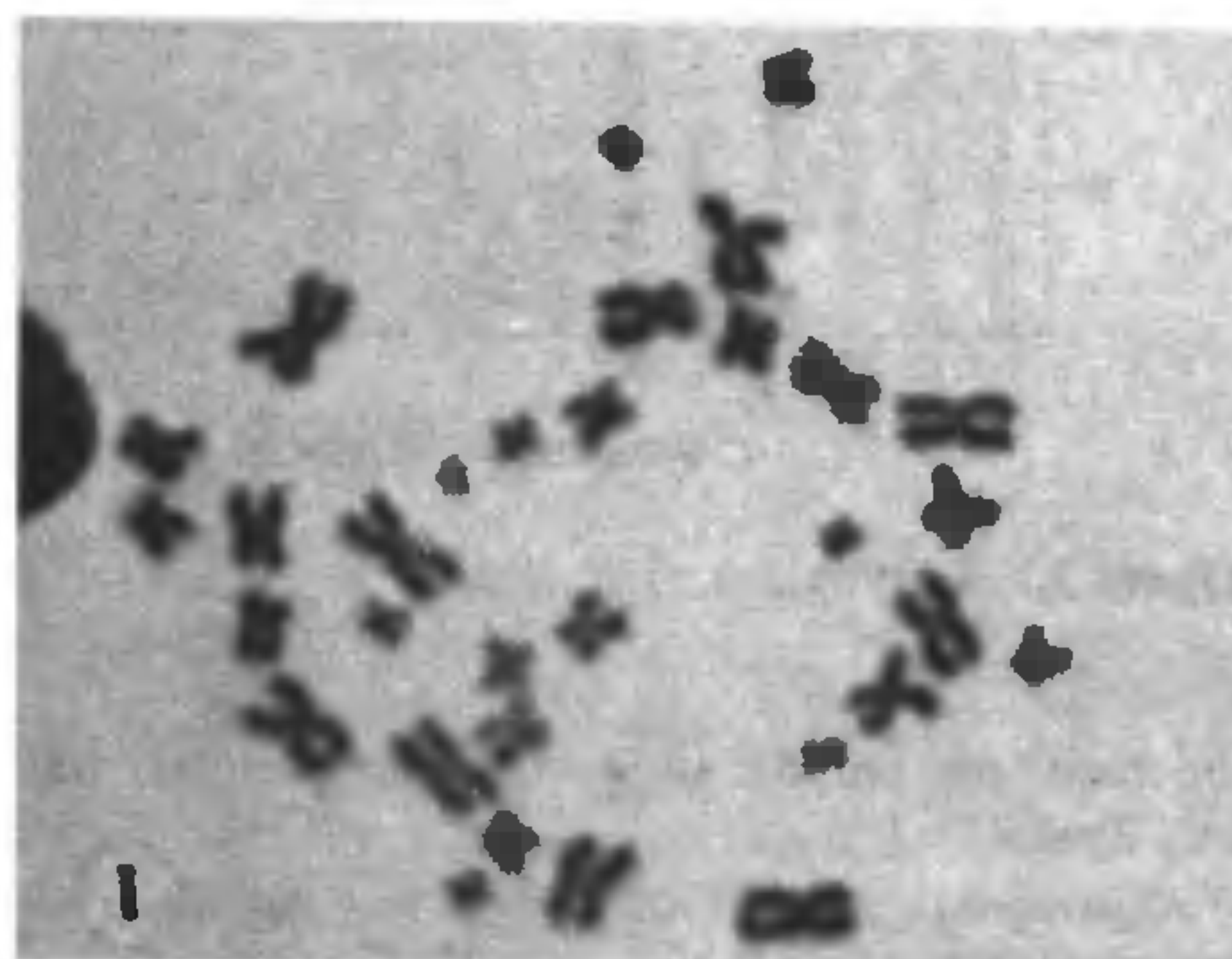


Figure 1. Metaphase plate of male *R. luctus*

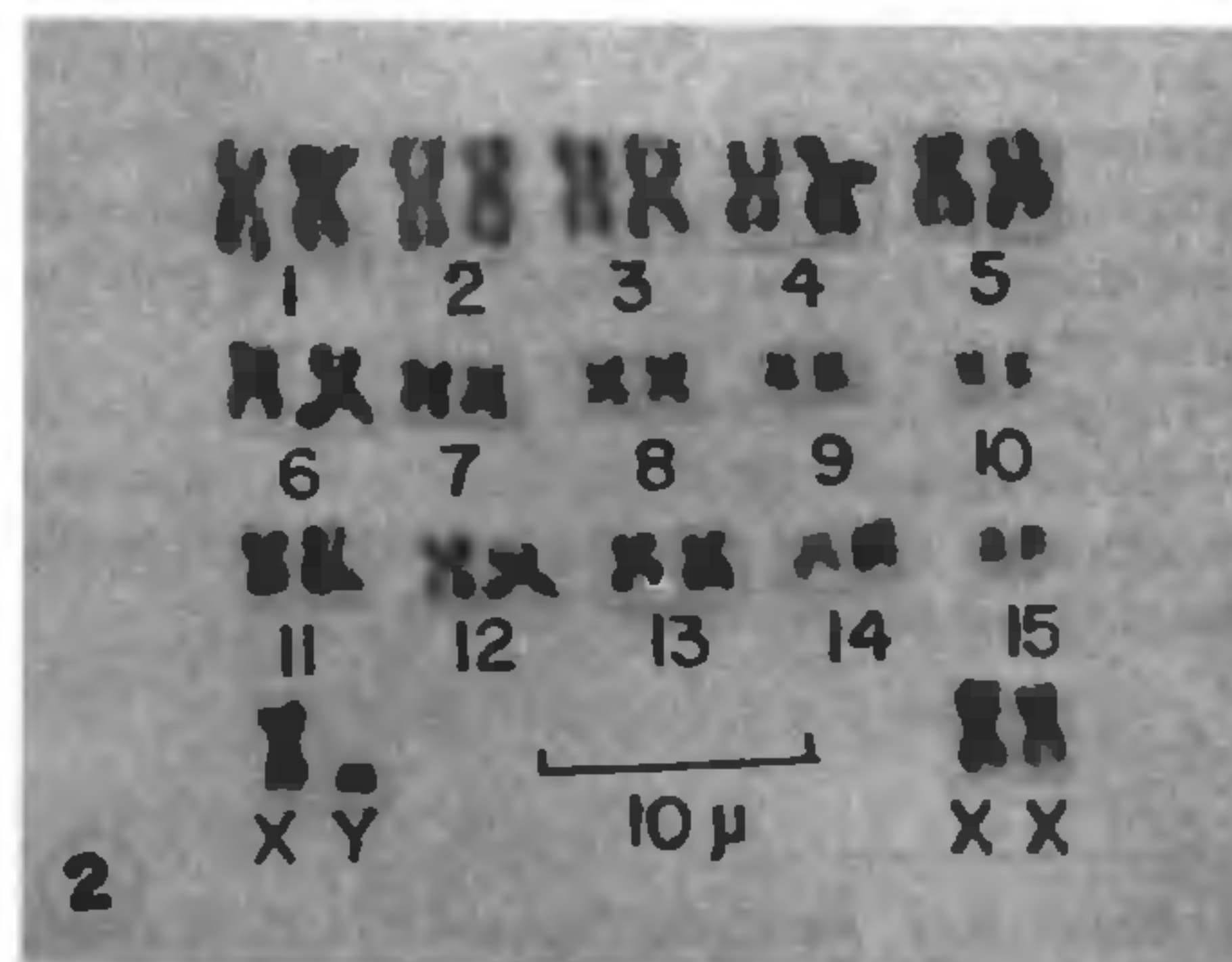


Figure 2. Karyotype of *R. luctus*

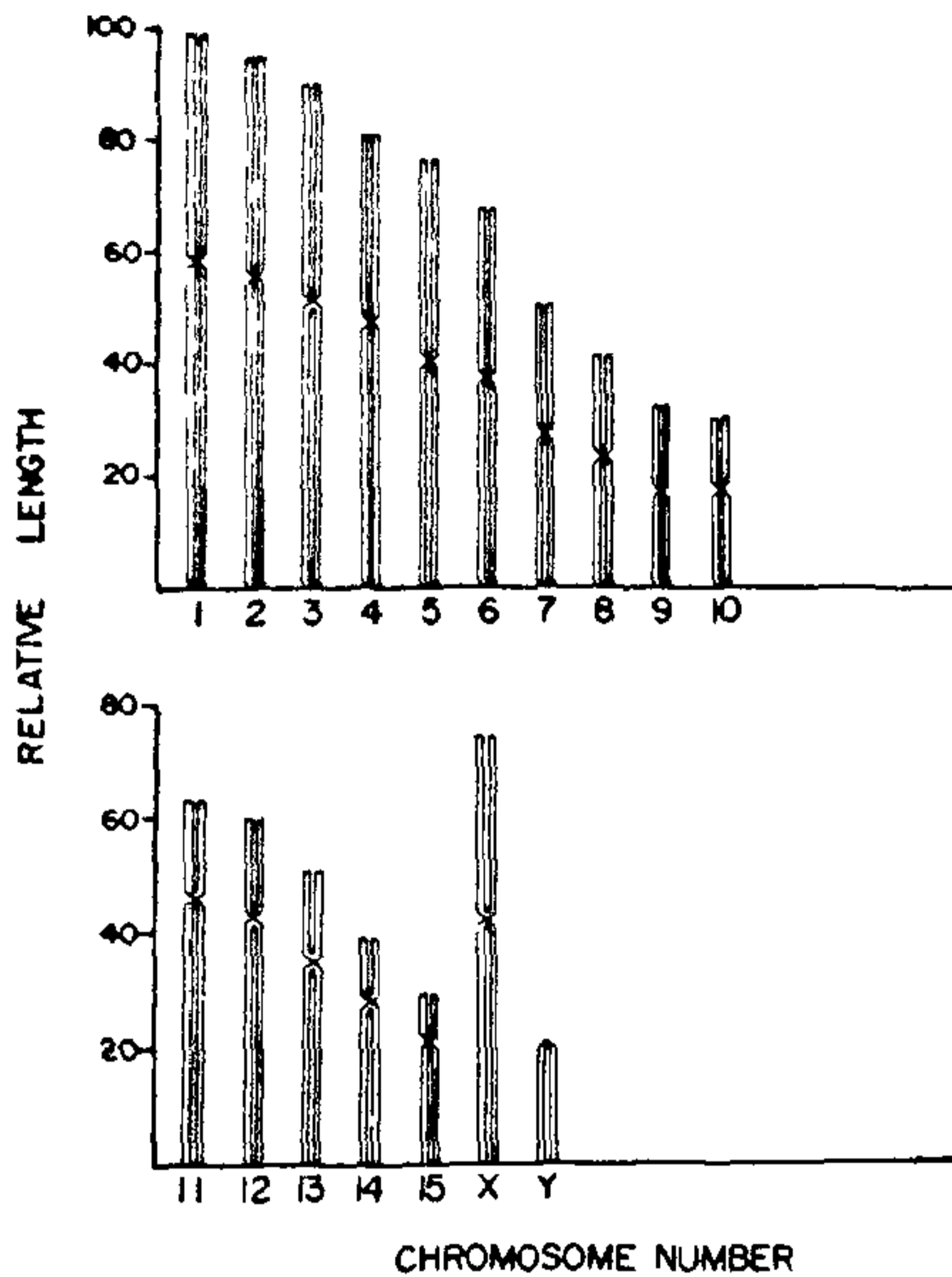


Figure 3. Karyogram of *R. luctus*

the maximum number of resultant metacentrics was only 3 pairs<sup>2,3</sup>. *R. luctus*, in contrast to all other species of *Rhinolophus*, shows a low diploid number where all the members of the chromosome complement except Y are biarmed. However, the FN remains unaltered at 60 as in other species. Therefore it can be assumed that extensive centric fusions, probably fifteen, have taken place involving all the autosomes which might have been telocentric in the primitive condition. Additionally, the X chromosome also has the common submetacentric condition. Thus *R. luctus* enjoys a unique position among all the species of this genus in terms of its chromosome morphology.

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3 April 1984

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### EFFECT OF A PLANT JUVENOID ON THE VITELLOGENIN SYNTHESIS IN THE BUG, *DYSDERCUS KOENIGII* FABR.

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ALTHOUGH juvenile hormone<sup>1-5</sup> and its analogues (juvenoids)<sup>6-11</sup> including plant juvenoids<sup>12-14</sup> have been shown to possess gonadotropic property, there is as yet no report to show that plant juvenoids specifically regulated vitellogenin (VG) synthesis. In this note, we report such a property in the essential oil extracted from the Australian bottle brush, *Callistemon lanceolatus*.

The haemolymph samples of the adult male and female and allatectomised females topically treated with 200  $\mu$ g oil of *C. lanceolatus* in 1  $\mu$ l acetone (experimentals) and with 1  $\mu$ l acetone alone (controls) were electrophoresed by the method of Bhola<sup>5</sup> at 1 day intervals for 6-7 days (equivalent to the first ovarian cycle of the female).

Electropherograms of the haemolymph proteins of the male (figure 1A) and female (figure 1B) of *D. koenigii* show that the latter have 2 additional protein bands (nos. 7 and 8) compared to the former. On the basis of the absence of these bands and other criteria<sup>5</sup>, these fractions have been regarded as VG or female specific proteins in this insect. They appear on day 2, become concentrated on day 3, decline on day 4 and are reduced to traces on the remaining two days of the ovarian cycle. Allatectomy blocked the synthesis of VG