

stain (Gurr R66) diluted in phosphate buffer (pH 6.8) for 10 min (Giemsa stain: buffer = 1:10).

Conventional staining by Giemsa stain without HCl-trypsin pretreatment revealed neither any satellite nor any satellite-stalk in any of the chromosomes of this species (figure 1a). The diploid number of the species is 22 with no cytologically identifiable sex chromosome heteromorphism in any sex. But metaphases subjected to HCl and trypsin treatment revealed the existence of one or two distinct satellite and satellite-stalk bearing chromosomes (figures 1b, 1c). At least 10 well-spread mitotic metaphases were scanned from each of the 40 different specimens of either sex collected from different populations. The existence of satellite-bearing chromosomes has clearly been documented in all metaphases including those in which chromosomes were much condensed. An increase in HCl exposure time up to 30 min and/or trypsin treatment time up to 25 min also exposed satellite stalk but the best result was obtained at 15 min of trypsin exposure and 10 min of HCl treatment at room temperature. Curiously enough, of 6 different populations of *B. melanostictus* studied all showed intra- and inter-population polymorphism in sat-chromosomes. Some of them displayed 2 satellite-bearing chromosomes while others possessed only one such chromosome, and the difference was not sex-specific.

It is known that treatment with 0.2N HCl helps to remove some acid soluble proteins from chromosome arms. Since neither any satellite nor any satellite-stalk were seen after 0.2 N HCl treatment, it seems plausible that some insoluble proteins deposited at the satellite region shield the satellite-stalk, and subsequent trypsinization made the stalk visible by removing the deposited proteins still present. Since an excess digestion with HCl and/or trypsin damages or distorts the morphology of the chromosomes we found that a 10 min HCl and 15 min trypsin treatment is ideal to find the satellite and satellite-stalk in this species.

Our study with other four species of amphibia viz *Bufo himalayanus*, *B. stomaticus* (Bufonidae), *Rana tigrina* (Ranidae) and *Rhacophorus maculatus* (Rhacophoridae) also showed an identical result with this technique.

17 July 1986

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3. Schmid, M., *Chromosoma*, 1978, 68, 131.
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#### DESCRIPTION OF A NEW GENUS, *CRESCENTALEYRODES* FOR *ALEUROLOBUS SEMILUNARIS* (CORBETT) (ALEYRODIDAE: HOMOPTERA) AND TWO NEW COMBINATIONS

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IN 1926, Corbett<sup>1</sup> described *Tetraleurodes semilunaris* from *Cymbopogon* sp which was shifted to the genus *Aleurolobus* by Bink<sup>2</sup> in 1983. The present authors collected this species from *Cymbopogon* sp from Burliar (The Nilgiris) in Tamil Nadu in June 1985 although in 1978, Abraham and Joy<sup>3</sup> reported its occurrence on *Cymbopogon flexuosus* for the first time from Kerala in India. A detailed study of the structural features of the pupal case indicated that the species under study did not fit into the generic description of either *Tetraleurodes* or *Aleurolobus* or to any known genera of Aleyrodidae. Hence, a new genus *Crescentaleyrodes* has been proposed to accommodate this species. A study of the available literature also indicated *Aleurolobus monodi* Cohic<sup>4</sup> and *Aleurolobus paulianae* Cohic<sup>4</sup> to be assigned to *Crescentaleyrodes*.

*Crescentaleyrodes* gen nov

*Pupal case:* Elongately oval; anterior and posterior marginal setae present, margin irregularly crenate. thoracic and caudal tracheal pore regions may or may not be differentiated; submargin demarcated by an oblong distinct suture from dorsal disc and possesses minute setae and distinct crescent shaped pores arranged at equidistance in submargin; dorsal setae discernible; longitudinal moulting suture reaching submargin transverse moulting suture bends posteriorly and later runs anteriorly meeting submargin; thoracic and abdominal segment sutures marked by paired lateral depressions, abdominal segment 7 shorter than 8; vasiform orifice not

elevated, subcordate; operculum subtrapezoidal filling two third of orifice, lingula setose.

*Type species: Tetraleurodes semilunaris* Corbett, 1926.

*Crescentaleyrodes semilunaris* (Corbett) (figures 1-4)

*Tetraleurodes semilunaris* Corbett, 1926, *Bull. ent. Res.* 16, 282.

*Aleurolobus semilunaris* (Corbett) Bink 1983, *Monografieën van de Nederlandse Entomologische vereniging* 10, 50.

*Pupal case:* Brown case, with powdery wax around margin, found on undersurface of leaves, broadest in the third abdominal segment area; 1.591-1.652 mm long and 1.040-1.132 mm wide.

*Margin:* Irregularly crenate, 9 crenations in 0.1 mm, anterior and posterior marginal setae present, 22.5  $\mu$  long; thoracic and caudal tracheal pore regions not differentiated.

*Dorsal surface:* Submargin demarcated from dorsal disc by an oblong distinct suture, 0.155 mm wide

suture like lines, possesses 60 pairs of semilunate pores each with almost 12 transverse lines placed at equidistant intervals, a pair of minute pores at base of each semilunate pore; 16 pairs of minute submarginal setae; 7 in the cephalothorax and 9 in the abdominal region. Longitudinal and transverse moulting sutures reaching submargin, transverse moulting suture runs posteriorly for a short distance and later runs upward meeting the submarginal suture. Pro-mesothoracic and meso-metathoracic sutures running up to the submarginal suture.

Paired cephalic, first abdominal and eight abdominal setae minute, measuring 15, 12.5-15, and 20  $\mu$  respectively. Eight abdominal setae evident laterad in the submedian area to vasiform orifice.

Abdominal segment sutures distinct and abdominal segment sutures 3 to 7 nearly reaching submarginal suture. Paired lateral depressions evident on the thoracic segment sutures, transverse moulting suture and on abdominal segment sutures 1 to 7. Dorsal disc with broken markings. Paired pores and porettes evident in the median and subdorsal regions. Seventh abdominal segment shorter than eighth.

Vasiform orifice subcordate, wider than long, 82.5  $\mu$  long and 90  $\mu$  wide; operculum subtrapezoidal, wider than long, 65  $\mu$  long and 75  $\mu$  wide; lingula exposed, setose armed with a pair of long hairs at its distal end.

*Ventral surface:* Paired legs, antennae and spiracles discernible while the thoracic and caudal tracheal folds not discernible; floor region of operculum with distinct hexagonal pattern.

*Host: Cymbopogon* sp

*Material examined:* 20 pupal cases on slides, on *Cymbopogon* sp, Burliar, 20.6.1986, Coll. B. V. David. Pupal cases on leaves in the collections of Dr. B. V. David.

The new genus *Crescentaleyrodes* is distinct from the genus *Tetraleurodes* in the pupal case being not elevated from leaf surface by vertical submargin, margin being crenate, by the presence of first abdominal setae and absence of eye spots, vasiform orifice being not elevated and lingula setose, exposed. It also differs from the genus *Aleurolobus* in the absence of trilobed eighth abdominal segment and thoracic tracheal comb and in the shape of vasiform orifice.

*Crescentaleyrodes monodi* (Cohic) comb nov  
*Aleurolobus monodi* Cohic, 1969, *Annls. Univ. Abudjan* (E) 2, 46.

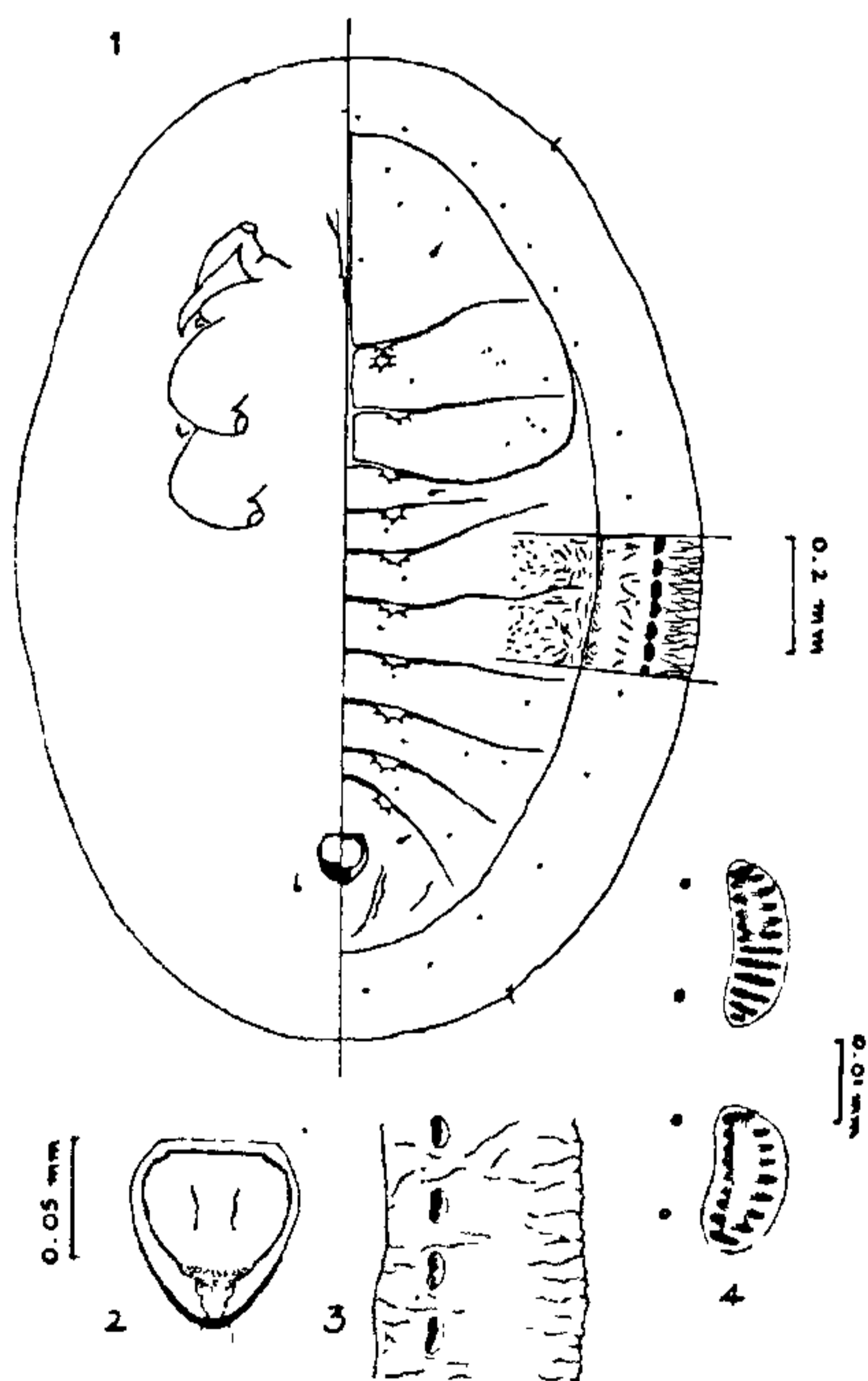


Figure 1-4. *Crescentaleyrodes semilunaris* (Corbett)  
1. Pupal Case. 2. Margin and submargin.  
3. Vasiform orifice. 4. Enlarged semilunate pore.

*Host* *Cymbopogon schoenanthus* (Cohic, 1969)  
*Distribution*. Tchad (Cohic, 1969)  
*Crescentaleyrodes paulinae* (Cohic) comb nov  
*Aleurolobus paulinae* Cohic, 1969, *Annls. Univ. Abidjan (E)* 2, 51.  
*Host*: *Beckeropsis univeta*, *Andropogon (Hyparrhenia) diplandra*, *Sorghastrum* sp (Cohic, 1969).  
*Distribution* Ivory Coast (Cohic, 1969).

30 August 1986; Revised 4 September 1986

1. Corbett, G. H., *Bull. Ent. Res.*, 1926, **16**, 282.
2. Bink-Moenen, *Monografieen van de Nederlandse Entomologische vereniging*, 1983, **10**, 50.
3. Abraham, C. C and Joy, P. J., *Entomon*, 1978, **3**, 313.
4. Cohic, F., *Annls. Univ. Abidjan (E)*, 1969, **2**, 46.

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## ANNOUNCEMENT

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### SECOND INTERNATIONAL CONFERENCE ON PHYSIOLOGICAL FLUID DYNAMICS

The Second International Conference on Physiological Fluid Dynamics will be held at the Indian Institute of Technology, Madras, from August 10 to 12, 1987.

Papers are invited on any aspects of the following areas: Microcirculation, Biorheology, Arterial hemodynamics, Tissue-drug interaction, Red cell deformability and aggregation, Aviation physiology,

Atherosclerosis, Measurement techniques, Clinical hemodynamics, High altitude and deep-sea hemodynamics and Biotransport (Kidney, Pulmonary, C. S. F.)

Further particulars may be had from: Dr Megha Singh, Organizing Secretary, ICPED, Biomedical Engineering Division, Indian Institute of Technology, Madras 600 036.

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## NEWS

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### NOBEL PRIZE FOR PHYSICS

The 1986 Nobel Prize for Physics has been awarded jointly to Ernst Ruska of West Germany for his fundamental work in electron optics and the design of the first electron microscope; and to the

two Swiss Scientists Gerd Binnig and Heinrich Rohrer for their work on the design of the scanning tunnelling microscope.

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### NOBEL PRIZE FOR CHEMISTRY

The 1986 Nobel Prize for Chemistry has been awarded jointly to three US Scientists viz Dudley R. Herschbach of Harvard University, Yuan T. Lee of the University of California, and John C. Polanyi of

the University of Toronto. They were awarded the Prize for their contributions in the dynamics of chemical elementary processes.

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