A-25: Identification of sibling species of *Anopheles culicifacies* and *An. subpictus* complex and their distribution in Sri Lanka

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Ovarian polytene chromosomes of *Anopheles culicifacies*, the main malaria vector, and *An.subpictus* an identified/possible vector in certain areas, collected from different climatic and eco- epidemiological localities were examined to study the existence and distribution of sibling species in Sri Lanka.

Ovaries developed up to Christopher's stage III were removed and fixed in a solution of glacial acetic acid and methanol (1:3 v/v) and then stained with 2% lacto-aceto orcein. Polytene chromosomes were examined under the magnification of 10 x 100 of a compound light microscope.

During the study period 4,328 ovaries of *An.culicifacies* were prepared for examination, of which 1,937 collected from 31 health areas were suitable for the reading of polytene chromosomes. Among those, 458 specimens were identified as belonging to Group B, based on X-chromosome and 1,479 definitively identified as sibling species B on chromosome arm 2. Other sibling species of *An.culicifacies* were not encountered. Thus, the occurrence of sibling species B of *An.culicifacies* in Sri Lanka is confirmed. There was no evidence for the existence of other sibling species (A, C or D) in Sri Lanka.

From 3,095 ovarian preparations of *An.subpictus*, 946 *yielded* chromosomes suitable for identification, of which 896 specimens from 33 health areas were identified as sibling species A and 77 specimens from 3 health areas (Batticaloa, Puttalam and Tissamaharamaya) as species B based on X-chromosome. Species B was found only in coastal localities and species A mainly in the inland areas.

This is the first demonstration of the occurrence of both the sibling species of *An.subpictus* in Sri Lanka.

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