Abnormality in *Phlebotomus argentipes* (Diptera: Psychodidae)

Visceral leishmaniasis is a major health problem in India caused by a protozoan parasite, *Leishmania donovani* and transmitted by the established vector, *Phlebotomus argentipes* (Diptera: Psychodidae)[1,2]. Clinical variations in *P. argentipes* are evident in morphological, geographical and behavioural characteristics[3,4]. It is also considered as a species complex. *P. argentipes* is both anthropophagic and zoophilic in nature. It rests and breeds in human dwellings as well as inside cattlesheds. Clinical variations in *P. argentipes* were not only reported in India, but also in other countries of the Indian subcontinent. The distribution and length of thin-walled receptor ascoids on the antennal segments has considerable taxonomic importance in sandflies. Zoophilic nature of *P. argentipes* having longer ascoid was reported from Sri Lanka. The relative length of ascoid and antennal segment four was found to be 0.75 (0.68–0.86)[4]. The South Indian *P. argentipes* has longer ascoids in nonendemic regions, whereas shorter ascoids were found in the endemic zones of Kala-azar in South India[5]. Two morphospecies (A & B) have been observed from Pondicherry[6]. The shorter ascoid was considered as an anthroponotic characteristic in Bihar and West Bengal. The relative length of ascoid and antennal segment four was found to be 0.44 (0.22–0.55). Peculiar variations were reported only in populations of the Patna strain, as bifurcate and trifurcate ascoids in 30% population of *P. argentipes*[7]. In the present study, the sandflies were collected from endemic zones of Kala-azar in India like Bihar, West Bengal and Uttar Pradesh. Indoor collection was made from resting places of human dwellings and cattlesheds. The temperature and humidity recorded from the collecting sites varied from 26 to 30°C and relative humidity varied from 65 to 100% during different months of collection. More sandflies were found in mud houses or houses made of mud and brick, or from thatched houses plastered with mud. The number of sandflies was found to be more in cattlesheds than in human dwellings. The density of sandflies has also shown higher having vegetation surrounding the houses and the house having moisture on wall. The number of *P. argentipes* studied was only 225. The peculiar characteristics in a single specimen of *P. argentipes*, like the presence of two pairs of bifurcate ascoids in antennal segment three with partial demarcation of separation on the tip was observed (Figure 1 *a* and *b*), instead of one pair without demarcation. Other taxonomic characteristics in spermathecae and pharyngeal armature confirm the standard description of *P. argentipes*[8]. The possibility of getting more such *P. argentipes* in the population cannot be ignored. This can be achieved by considering larger population size. It will be of immense help in scrutinizing the real transmitting vector within *P. argentipes* population.

Since the infectivity rate in sandflies for *L. donovani* is low, it is a matter of investigation for establishing the correlation in the transmission of Kala-azar in Bihar.

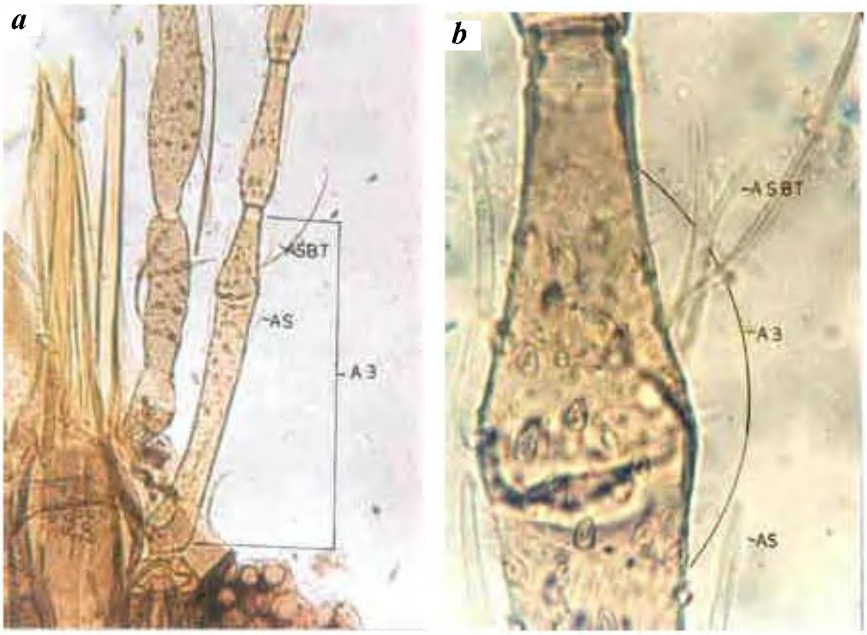

Figure 1. Third antennal segment showing partial division and bifurcate ascoid (***a***; magnification, 12142×, and with two pair of ascoids (***b***; magnification = 4857×). A3, third antennal segment; AS, Ascoid; ASBT, Ascoid with bifurcate tip.

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