

Sex ratios, emergence patterns and aspects of swarming and reproductive behaviour of *Bibio johannis* (L.) (Diptera, Bibionidae).

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Aspects of swarming and reproductive behaviour of *Bibio johannis* (L.) have been studied in South-West Norway. *B. johannis* is univoltine and the imagines fly in April-May. The sex ratio at eclosion was male-biased, approximately 3:2 males:females. Sex ratios in trap catches were very strongly male-biased. Emergence was slightly but significantly protandrous. Imago lifetime was short, mark-recapture experiments suggested a maximum imago lifespan of approximately three days. Imagines did not feed. The total swarming period lasted about two weeks. Males swarmed a few decimetres above the ground on meadows and fields. Swarming took place mainly between 0900-1300 hours on days with sunny weather. No clear connection between weather variables and swarming intensity was found, but this may be due to unusually warm weather during the study period. No positive evidence for pheromone emittance has been found; visual stimuli seem to be decisive in promoting contact between males and females. Selection for large or small male size was not unequivocally demonstrated.

Key words: Bibionidae, behaviour, sex ratio, swarming

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