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Résumé en anglais	Buruli ulcer is a skin infection caused by a mycobacterium occurring in the environment, Mycobacterium ulcerans. Ranked third in terms of number of mycobacterial infections after leprosy and tuberculosis, its epidemiology is the most poorly understood of the three. Humans are infected through the skin while performing daily living activities (e.g. rice cultivation, fish farming, fishing, laundry, fetching water, agricultural work) or leisure activities (e.g. bathing) in endemic areas. The disease is particularly prevalent in West Africa, where the number of cases is increasing annually (2442 cases in 2008). Côte d'Ivoire is the most severely affected country in the world with more than 25 000 cases since 1978. The numerous endemic foci for Buruli ulcer are scattered throughout the country. Over the past four years impressive progress has been made in researching the mode of transmission of M. ulcerans infection. Yet despite this, many questions remain unanswered. In Central and West Africa aquatic insects of the order Hemiptera appear to be involved in the transmission of Buruli ulcer. It is likely that aquatic Hemiptera play a role. Studies of the salivary glands of insects that have been experimentally infected and allowed to bite white mice demonstrate the probable role of water bugs as hosts or possible vectors of M. ulcerans. In addition, at least 10% of environmental biological specimens tested positive using PCR in Cameroon and Côte d'Ivoire. These pterygot insects are also able to fly from one body of water to another over varying distances, attracted by lights in houses near marshy areas. This method of displacement could account for the current progression of the disease in West Africa and particularly in Côte d'Ivoire, where it is spreading northwards from the south, west, east and centre of the country. Buruli ulcer is not a contagious disease. It is, however, terrifying and severely disabling. Patients must spend long periods in hospital, treatment is costly and burdensome, and can lead to social marginalization or even total exclusion; above all, the mode of transmission is still poorly understood. Local people must therefore be familiarized with preventive measures focusing on identification of the probable vectors of the disease in order to break the chain of transmission of M. ulcerans. This presupposes a sound knowledge of the biology, ecology and behaviour of these potential vectors. Accordingly, we have proceeded to laboratory farm the bug most commonly encountered in the environment that shows the highest rates of infection by M. ulcerans (more than 10%), namely Diplonychus sp of the family Belostomatidae. Adult specimens were collected in the vicinity of fishponds at an experimental station situated between Abidjan and Dabou (a non-endemic site) and subsequently farmed in the laboratory at the Côte d'Ivoire National Institute of Public Health. The parameters used to farm this water bug were standardized in the laboratory (water quality, depth, turbidity, pH, temperature, luminosity, suitable vegetable environment). The insects were fed regularly with mosquito larvae. The embryonic lifespan, the hatching time, the larval period and the number of larval stages prior to adulthood were studied. The adult lifespan was also estimated. Five successive generations of Diplonychus sp were obtained. From egg to adulthood, the larval lifespan is 41 days on average, with deviations from the mean of 29 to 54 days. Hatching generally took place 7 days after egg laying. Five larval stages are distinguishable, separated by five metamorphoses. The lifespan of certain adults obtained in the laboratory varied between 16 and 150 days. The last original parental specimens survived for 11 months. Proficiency in the laboratory farming of Diplonychus sp could enable us to decode its genome and collect saliva samples, while also allowing us to perform experimental infections using human strains of M. ulcerans in order to confirm or rule out the involvement of this insect in the transmission of Buruli ulcer in Central and West Africa.
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