Journal of the American Mosquito Control Association, 23(4):471–472, 2007
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SCIENTIFIC NOTE

FIRST RECORD OF *AEDES ALBOPICTUS* IN GABON

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ABSTRACT. *Aedes albopictus* were collected in the French military camp of Libreville, Estuaire Province, Gabon, from January to March 2007 by human landing catches during an entomological evaluation of malaria transmission. Inspection of potential larval habitats within and outside the camp showed that *Ae. albopictus* was found only in artificial containers (discarded tires and small water containers). Associated species of mosquito larvae were *Ae. aegypti* (L.) and *Culex quinquefasciatus*. At the same time, *Ae. albopictus* adults and larvae were also collected from discarded tires in Tcheungue near Port Gentil, Ogoue Maritime Province. *Ae. albopictus* seems to be established in this part of Gabon's littoral. Further studies are necessary to investigate the extension of *Ae. albopictus* establishment throughout the country.

KEY WORDS *Aedes albopictus*, Gabon, invasive species

Aedes albopictus Skuze is an efficient vector for dengue and chikungunya viruses and is a potential vector for a number of other viruses based on experimental studies (West Nile, yellow fever, etc.) (Gratz 2004). Originally from Asia, *Ae. albopictus* is a spreading vector that has invaded many parts of the Americas and Europe (Pagès et al. 2006). This species is an opportunistic container breeder, using either natural or artificial containers, and has the ability to survive in small collections of water in tires, plastic buckets, and plastic cups. In tropical Africa it has established in two countries on the Gulf of Guinea: Cameroon and Equatorial Guinea (Toto and Fontenille 2001, Toto et al. 2003).

In November 2006 an entomological survey was carried out in Tcheungue, close to Port-Gentil (0°40′S, 8°49′E) and on the seashore, where a company prepares containers to send different equipment and furniture to an off-shore platform used for deep-sea pipe implementation. It was feared that these containers could bring disease vectors on board and transmit malaria or arboviruses, which would be of great concern in these situations far from the coast. A small village is located near the site where some of the company workers live in wooden houses. There we collected adult mosquitoes with the CDC (Centers for Disease Control and Prevention) light traps (1 night) in 3 houses of the village, residual resting fauna using the classical morning spray technique in houses of the village, and larvae in various breeding sites in the village and the camp. With CDC light traps, we caught 23 *Anopheles melas* Giles (with 2 of 22 tested that appeared positive for circumsporozooite protein by classical enzyme-linked immunosorbent assay (ELISA) tests, 80 *Culex quinquefasciatus* Say, 3 *Ae. aegypti* L., 3 *Ae. Albopictus*, and 1 *Mansonia* sp.

Using the morning indoor spray collection method, 66 mosquitoes were collected, including *An. melas* (4.5%) and *Cx. quinquefasciatus* (95.5%). Immature stages of mosquitoes were also collected from a wide range of breeding sites, such as plastic tanks, discarded cans, old pirogue, etc. Near old tires we were aggressively bitten by *Ae. albopictus* while collecting larvae. Of the 174 larvae collected from discarded tires and maintained until emergence, we obtained 43 adult *Ae. albopictus* and 61 adult *Ae. aegypti*.

In December 2006 an entomological survey of malaria transmission was implemented in the French military camp of Libreville (0°26′S, 0.09°25′E), with human landing collections performed twice a week from 6 p.m. to 7 a.m. in seven camp points, both indoors and outdoors. The camp is situated at the north of town near the international airport. It is surrounded by a forested swamp on its north, with habitations and garden markets on the other sides. From January to March, 15 catches were made and 14 *Ae. albopictus* females were collected (1 indoor and 13 outdoor; 7 at dusk, 5 at dawn, and 2 during the first part of the night) from 5 of the 7 sampled

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points. At the same time, 39 *Ae. aegypti* were also caught.

Therefore, an investigation was conducted to characterize the distribution and container preferences of *Ae. albopictus* within and outside of the camp. All potential breeding sites (natural and artificial) were inspected in the camp and neighboring areas. During larval collection, 10 *Ae. albopictus* females were caught landing on collectors. All larvae and pupae collected have been reared, obtaining 128 adults: 55 *Ae. albopictus* and 73 *Ae. aegypti*. *Aedes albopictus* larvae and pupae were found only in small artificial breeding sites, such as the camp (tires, discarded cars), in a forested area between the camp and the international airport (tires, plastic tanks, discarded cans), and in garden markets (tires). *Aedes aegypti* and *Ae. albopictus* were often found in the same container (tires, discarded cans). Human landing collections were made during 2 nights (from 6 p.m. to 7 a.m.) in March in the military part of the international airport. No *Ae. albopictus* were caught although we were able to collect 12 *Ae. aegypti* females.

Here we report the first detection of *Ae. albopictus* in Gabon. The discovery of this spreading mosquito is not a surprise because they have colonized two neighboring countries in recent years. As in Cameroon and Equatorial Guinea, *Ae. albopictus* and *Ae. aegypti* larvae often have been found coexisting in the same artificial breeding sites (Simard et al. 2005).

Detection in two distant places of the Gabonese littoral could mean that *Ae. albopictus* is already well established in Gabon. More investigations are necessary to assess the spread of *Ae. albopictus* inland and along the littoral. The occurrence of *Ae. albopictus* in urban areas of the African rainforest is also of concern because yellow fever and other arboviruses are endemic to central Africa.

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