

SHORT COMMUNICATION

Reappearance of *Aedes aegypti* (Diptera: Culicidae) in Lima, Peru

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We report here the reappearance of Aedes aegypti in the Rimac district, and summarize the history of this mosquito species in Peru since its first detection in 1852.

On March 17 2000 were found Ae. aegypti and Culex quinquefasciatus in Mariscal Castilla town, Flor de Amancaes, San Juan de Amancaes, El Altillo and Santa Rosa in the Rimac district, Lima Province.

Key words: *Aedes aegypti* - Culicidae - Diptera - Lima - Peru

Aedes aegypti was first detected in Peru in 1852. It is believed that it was introduced into Peru through its northern border, from the neighboring region of Guayaquil, Ecuador. *Ae. aegypti* became progressively established along the northern and central Peruvian coast, extending its distribution to Tacna, in the southern region of Peru (Griffitts 1934). In 1905, Barton reported the occurrence of *Ae. aegypti* in the harbor of Callao, Department of Lima. These findings set in motion the first *Ae. aegypti* control campaign in Peru (Roe 1924).

In 1938, the results of a nationwide survey showed that *Ae. aegypti* was established in 191 localities, spread over 11 Departments. It was estimated that *Ae. aegypti* had expanded its range over an area of 638,000 km² (Oficina Sanitaria Panamericana 1948, Neyra & Sipán 1983). As a result of the *Ae. aegypti* control program, the Peruvian Ministry of Health, under the advisement of the Pan-American Health Office (PAHO), announced that *Ae. aegypti* had been eradicated from the country in 1958 (Severo 1958). The control campaigns were replaced by local surveillance programs until 1964 when they were discontinued. Based on PAHO recommendations, surveillance programs were re-established in 1972. Unfortu-

nately, these programs were progressively less organized.

Ae. aegypti was again detected in Peru in 1984, when personnel of the National Control Program for Malaria and other Metaxenic Diseases (Ministry of Health) reported the capture of *Ae. aegypti* in the Department of Loreto. Based on the 1984 surveillance, it had become widely established in the towns of Iquitos and Yurimaguas (Department of Loreto) and Pucallpa (Department of Ucayali) suggesting, that although it went unnoticed, the re-establishment of *Ae. aegypti* in the region must have occurred a few years earlier. In 1985, this mosquito was found in Nauta and Contamana (Department of Loreto) and by 1986, had expanded its range to the Departments of San Martín (Tarapoto) and Huanuco (Tingo María). Thereafter, the occurrence of *Ae. aegypti* was reported in some Provinces from Junín, Pasco, Tumbes, Piura, Lambayeque, La Libertad, Amazonas, Cajamarca and Madre de Dios.

During the two first weeks of March 2000, residents of Flor de Amancaes and San Juan de Amancaes (Rimac district, Lima) complained about being bitten by mosquitoes during day and night. On March 17, larvae and pupae were collected from water containers in a house of San Juan de Amancaes, located 180 m above sea level, 12°00'43.2''S, 77°01'30.33''W. The immatures were kept in the Parasitology Laboratory, Instituto de Medicina Tropical "Daniel A. Carrión", Universidad Nacional Mayor de San Marcos (UNMSM), Lima, until adults started to emerged. Some larvae were preserved in 70% ethanol and

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Received 10 October 2000
Accepted 22 March 2001

mounted on microscope slides for identification. Both larvae and the four merged adults (two males and two females) were all identified as *Ae. aegypti*. The Ministry of Public Health was promptly informed of these findings.

On March 21, *Ae. aegypti* was found in 16 out of 20 inspected houses in San Juan de Amancaes. During this survey, an entomology team from the UNMSM collected a total of 83 *Ae. aegypti* (55 larvae, 20 pupae and 8 adults). Larval habitats included buckets, glass and plastic containers, flower vases, stoups located close to the houses, that contained relatively clean water, drawn from the local water supply, and often stored for domestic use for periods of five to ten days. In addition to *Ae. aegypti*, *Culex quinquefasciatus* larvae (48) and adults (3) were collected. On March 23 and 28, the survey was extended to Mariscal Castilla, Flor de Amancaes, El Altillio, Santa Rosa, Cerro Palomares, Villa Fatima, at two other sites (Club de Tiro and Club Revolver). All of these localities are part of the district of Rimac. We found 102 larvae, 67 pupae, and 14 adults of *Ae. aegypti* in houses located between 140 and 340 m above sea level. *Ae. aegypti* mosquitos were only found in the first four localities. Including the results obtained in San Juan de Amancaes the house index was 46.5% (85/183). Again *Cx. quinquefasciatus* was also collected.

To date, *Ae. aegypti* have been collected from at least in 15 of the 24 Peruvian Departments. Given the potential risk for public health associated with pathogens (e.g. yellow fever, dengue viruses) transmitted by this mosquito, we recommend that

Ae. aegypti surveillance programs be expanded to determine the range of its distribution. Comprehensive vector and/or disease control programs with community participation, should be established to reduce the transmission risk and distribution of yellow fever and dengue present in other parts of Peru.

ACKNOWLEDGMENTS

To Nicolas Degallier (IDR, Paris, France), José Neyra R and Hugo Vizcarra F (Univ. Nac. Major de San Marcos, Lima, Perú), Julio Llancari (Ministerio de Salud de Perú) and Almeiro de Castro Gómez (Universidade de São Paulo, São Paulo, Brasil), for support with bibliographic material and for verifying the specimens of *Aedes aegypti*. To Lorenza Beati (Yale University, Connecticut, USA) by the suggestions and criticisms of the manuscript.

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