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Letter

Anopheles deaneorum: a new potential malaria vector in State of Santa Catarina, Brazil (Diptera: Culicidae)

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Dear Editor,

Although the vast majority of malaria cases in Brazil occur at Amazonian region, imported and autochthonous cases also occur at the State of Santa Catarina[1]. The healthcare professionals of this state are probably not prepared to diagnose and treat malarial cases[2], and this could even be life-threatening[3].

Even after the malaria control program, several Anopheline species are being reported for the state[4], and *Anopheles cruzii*, well adapted to primary and secondary forests, is the greatest potential vector. The previous report of *Anopheles deaneorum* at eight municipalities of Santa Catarina[4] has a great significance, but was poorly detailed and probably has not received enough attention though. Mosquitoes belonging to this species, of *Anopheles albitarsis* complex, are highly anthropophilic[5] and as susceptible to experimental infection with *Plasmodium vivax*[6] and *Plasmodium falciparum*[7] as *Anopheles darlingi*, being found naturally infected with both *Plasmodium* species at the State of Rondônia, Brazil[8].

At October 8th, 2012, a gathering was performed in the twilight near the headquarters of the *Parque Estadual da Serra do Tabuleiro* (headquarters' coordinates: 27°50'35.70"S, 48°37'35.76"W), at the locality of *Baixada do Maciambu* (Palhoça Municipality). The gathering was accomplished using a lamp with the *Shannon Trap* and a device to suck mosquitoes and blow them into plastic boxes[9] (coordinates: 27°50'42.60"S, 48°37'38.76"W). In just half an hour, among the hundreds of mosquitoes flying under the trap's flaps, we captured 55 specimens of *A. deaneorum*, which were either landing in the trap's cloth or trying to bite the gatherers. Several of them bit those gatherers at the laboratory, in the following days, for the obtainment of eggs.

The area of collection has arboreal and bushy vegetation typical of the *Restinga* (Southern Brazilian Coastal Sandy Vegetation) areas, having well cared trails for the visitors and also wetlands, being located 40km from the downtown of Florianópolis (Capital of State of Santa Catarina) and 8.5km from the Pinheira Beach, which is a heavily inhabited area, especially at the summer. Although the period of collection was short, the collected quantity indicates a great population of this mosquito in the area and a risk of bites and transmission of malaria parasites to be evaluated.

Anopheles deaneorum was previously reported in Brazil in the Amazonian region and Central-West regions, at the western area the States of Paraná and São Paulo, apart from reports at Paraguay, Bolivia and at the north of Argentina. Therefore this report and the one from Portes et al.[4], in which six of the studied municipalities are at the east area of the state, extend considerably the known geographic distribution of the species.

Aside from *Anopheles deaneorum*, there were gathered specimens of *Anopheles rondoni*, *Anopheles rachoui*, *Coquillettidia shannoni*, *Psorophora ciliata* and *Ochlerotatus* '*Scapularis* Group', amounting 136 mosquito specimens.

Since the *Restinga* (Southern Brazilian Coastal Sandy Vegetation) areas are widely distributed along the coastal area of the state, there is greater potential for the contact of human populations with the mosquitoes in those areas than at forest areas, and the plentiful presence of this potential vector represents a great risk of malaria transmission. This mosquito is associated with great collections of water and can be very common at households in Rondônia[10]. The development of studies on the biology and geographic distribution of this mosquito at the east of Santa Catarina is urgent, to better evaluate the potential risk, besides being of fundamental importance to improve and maintain the epidemiological vigilance in that part of the state. The susceptibility of the mosquitoes from the state to samples of human *Plasmodium* species shall be tested.

The finding of this mosquito at the Indaial municipality[4], where *Plasmodium*-infected howler monkeys have been reported, should be emphasized. Since the vertical distribution of *A. deaneorum* is not known, *Anopheles cruzii*, which moves easily between soil and canopy[11], continues to be the prime suspect as the responsible for *Plasmodium* transmission between monkeys and to humans at Santa Catarina[12].

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