Epidemiology

PO - (8418) - NEW MALARIA EPIDEMIOLOGY IN COASTAL LAGOON OF BENIN: PLASMODIUM INFECTION IN ANOPHELES MELAS.

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**Introduction:** Malaria is a worldwide disease affecting many people particularly in the tropical and sub-tropical areas. It is caused by *Plasmodium* parasites and essentially transmitted by female mosquitoes belonging to *Anopheles* genus. Our understanding of the infectivity of these vectors to *Plasmodium* is necessary design sustainable strategies for their control. This aspect remains unknown in the coastal and lagoon area of Benin where *Anopheles melas* and *Anopheles coluzzii* are sympatric. This study aims to investigate the infectivity of these two vectors to *Plasmodium* in order to understand their role in malaria transmission in Southern Benin.

**Methods:** Insecticides spray catches technique was used to collect females in 80 houses randomly selected in our study site. Three hundred and twenty females were identified using PCR–species technique, *Plasmodium* infection was determined by the TaqMan method during the dry season. This assay detects all four malaria-causing species and discriminates *Plasmodium falciparum* from *Plasmodium ovale, Plasmodium vivax* and *Plasmodium malariae* (OVM).

**Results:** During the dry season, the sporozoite rates were 0.2% and 0.3% for *Anopheles melas* and *Anopheles coluzzii*, respectively. However, we observed that positivity to the OVM (one of *Plasmodium ovale, Plasmodium vivax* and *Plasmodium malariae* species) was significantly higher in *Anopheles melas* (95 %) than in *Anopheles coluzzii* (33.33 %) (Chi-sq = 15 857, df = 1, p <0.001). These results indicated that *Anopheles melas* is more infected by one of the species *Plasmodium ovale, Plasmodium vivax* and *Plasmodium malariae* than by *Plasmodium falciparum*, contrarily to *Anopheles coluzzii*.

**Conclusion:** These findings reinforce the debate on the role of *Anopheles melas* in malaria transmission in coastal lagoon areas of Benin.

**Keywords:** *Anopheles melas*, Infectivity, Malaria.