**Identification of the potential sites of disease vectors at Kaolack level**

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**Location:** Dakar

**Level:** Undergraduate

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**Badge:** Community

**Protocol:** Mosquito

**Summary**

Senegal, like the African countries, the transmission of vector-borne diseases is mainly related to the rhythm of the rains and is generally carried out during the rainy season and at the beginning of the dry season. Thus the floods favor the proliferation and the maintenance of the breeding sites and consequently, the increase of the density of the vector populations which could lead to a transmission of the diseases such as malaria, the Zika, the dengue, etc .. Longer and more important. We did a recent study of vector collection in the Kaolack area and we were able to identify some potential sites. Thus with the help of Globe Observer, this project will allow us to identify the different cottages in the Kaolack region and identify the different vectors of diseases.

**Research questions:**

Why is it important to identify different larval sites?
How through GLOBE, we can get the geographical coordinates of all the cottages prospected?
Estimate the specific abundance and composition of vectors.
See what control strategies to put in place?

**Research methods:**

Collection and identification protocols are used for this study. To estimate the composition and abundance of the vectors. It is necessary to choose villages, in which the collections of the females at rest, inside the dwellings, were organized in the morning around 7am in 10 rooms chosen beforehand. Each selected piece was prepared by plugging the openings. Then, a white cloth of 16 m2 is spread on the ground serving as landing of slaughtered mosquitoes. A spatial spray of pyrethroids was followed. After 10 minutes, the sheets were carefully removed in each room to collect the mosquitoes killed or killed by the insecticide using soft tweezers. The vectors were morphologically identified and then kept in petri dishes for further studies. For the identification of larvae, a device provided by GLOBE is used and for larval collections pipetting, dipping and an enameled tray or net are used. During these months studies were able to compare the composition and abundance of the different vectors (Annophelinae and Culicinae).

**Results:**

Table (1) shows the composition and abundance of vectors in two different localities located in the Kaolack region. Among the 6625 specimens captured by the technique (residual early morning fauna), Anopheles represent 41% against 59% for culicinae in both localities. There is already a predominance between the two families of species. It would be necessary to consider a particular attention to the family of culicinaes composed mainly of genus Aèdes, followed by culex, etc ...

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| --- | --- | --- | --- | --- | --- | --- |
|  **Périoded'étude** |   |   |   |   |   |   |
| **Locality** | **Especie** | **july** | **August** | **September** | **October** | **November** | **TOTAL** |
| **NIORO** | *Anophelinae* | 300 | 158 | 153 | 450 | 160 | 1221 |
| *Culicinae* | 229 | 409 | 320 | 301 | 231 | 1490 |
|  |   |   |   |   |   |   |
|  |  |   |   |   |   |   |   |
| **Ndoffane** | *Anophelinae* | 224 | 346 | 218 | 307 | 402 | 1497 |
| *Culicinae* | 489 | 503 | 575 | 450 | 400 | 2417 |
| TOTAUX |   |   |   |   |   | 6625 |

**Table (1) represents the composition and abundance of the vectors.**

**Conclusion:**
This study allowed us not only to update the different species present in this area, and allowed us to estimate the abundance of Annopheles per season. Insecticide susceptibility testing was also done to evaluate the resistance of Annopheles in this area. As a logical follow-up it would be necessary to carry out in-depth studies on culicinae and to be able to widen prospection fields of potential breeding sites favoring the proliferation of vectors in the Kaolack region.

Geographic coordinates of the study areas :

Ndoffane : N13°56’00’’W 15°57’00’’

NIORO : N13°45’00’’W15°48’00’’