Introduction

Environment and climate change, current and future, could favor the (re)emergence of vector-borne diseases, by inducing changes on Culicidae populations. This study aims to determine the potential importance of the livestock farms, especially equestrian, to welcome and favor the proliferation of certain species of mosquito responsible for transmission of arboviruses.

Results

The morphotaxonomic and molecular study of larvae and genitalia, have allowed to identify eleven species:

- **Anopheles**: An. claviger s.s Meigen, 1804; An. maculipennis s.s. Meigen, 1818; An. messeae Falleroni, 1926
- **Coquillettia**: Cq. richardi Ficalbi 1889
- **Culex**: Cx. torrentium Martini, 1925; Cx. territans Walker, 1856; Cx. pipiens pipiens L., 1758; Cx. pipiens molestus L., 1758; Cx. hortensis Ficalbi, 1889
- **Culiseta**: Cs. annulata Schrank, 1776; Cs. morsitans Theobald, 1901

Materials & methods

A taxonomic inventory was conducted in 2011 (from June to October) in six equestrian farms located in Belgium. Mosquito larvae were sampled in 124 various aquatic breeding sites using the method of Dipper. The CO2 baited trap Mosquito Magnet Liberty Plus was used for adult mosquito sampling. The analysis of the morphotaxonomy of larvae (L4) and genitalia (♂) were based on the use of identification keys (1) and (2). For the molecular identification, three fragments interest for DNA were amplified by PCR : ITS2 (An. maculipennis s.l. & An. claviger s.l.) (3,4), COQ11(Cx. pipiens s.l.) (5) & ACE-2 (Cx. torrentium) (6).

Discussion & Conclusion

- Among the 24893 individuals examined in 2011, Cx. pipiens l.s and Cx. torrentium represent 68.00% & 22.38% respectively of total harvest;
- At the horse farms, water troughs and ponds are the most favorable habitats for larval development of Culicidae;
- The species potentially vectors of arboviruses and who can cause an epidemiological problems in livestock & equestrian farms are Cx. pipiens l.s (West Nile Virus & Rift Valley Virus), Cx. torrentium ( Sindbis virus) & Cs. annulata (Equine infectious anemia).

References