MosKeyTool

Identify mosquitoes of the Euro-Mediterranean area

MosKeyTool is an interactive identification key for mosquito species (4th stage larvae and female specimens) of the whole Euro-Mediterranean area. This comprehensive basis covers 128 mosquito species.
This user-friendly tool is freely downloadable and can be easily installed on your computer.

What is MosKeyTool ? ▸ Who is it for ? ▸ How to install it ? ▸ How to use it ?

WHAT IS MOSKEYTOOL ?

> An interactive identification key for mosquitoes of the Euro-Mediterranean area

MosKeyTool is intended to help non-entomologists and expert users for identifying the species of a mosquito specimen.

Taxonomic data

■ For adult female and 4th stage larva

■ A single basis for genus and species identification

■ 128 species of Culicidae belonging to 7 genera:
Aedes, Anopheles, Coquilletidia, Culex, Culiseta, Orthopodomyia, Uranotaenia

■ 143 morphological criteria.
No molecular or genetic criteria are taken into account. Therefore the identification process stops at complex level.

■ Pictures, illustrations and descriptions

■ MosKeyTool is based on the CD-ROM:
The Mosquitoes of Europe, IRD Editions, 2001, and
The Mosquitoes of Mediterranean Africa, IRD Editions, 2000.

Geographical area

■ Western palearctic biogreographic region
including Europe, Atlantic and Mediterranean Islands, Northern Africa, South Caucasus and part of the Middle-East.

■ 66 geographical units
Most of the time, the countries are used as geographical unit. However the main islands or isolated archipelago are also used as geographic unit.

Software

■ Developed with the Xper2 version 2.3.2, a free software dedicated to computer-aided-identification

■ MosKeyTool version V1.1 is available in English since May, 2017.

■ To be used offline

> Authors

Filiz GUNAY,

Hacettepe University, Ankara, Turkey and MediLabSecure, Unit MIVEGEC (224 IRD-5290 CNRS-Montpellier University), France

Vincent ROBERT,

Senior researcher at French National Research Institute for Sustainable Development (IRD), Unit MIVEGEC (224 IRD-5290 CNRS-Montpellier University), France

Suggestion for citation

Gunay F, Picard M, Robert V, 2017. MosKeyTool, an interactive identification key for mosquitoes of Euro-Mediterranean. Version 1.1. in English available at *www.medilabsecure.com/moskeytool*. Last update: 09/05/2017

Who are MosKeyTool end users?

Mosquitoes caused many public health problems around the Mediterranean area:

- transmission of human diseases or animal pathogens;
- proliferation of certain species that indices nuisance;
- medical threat due to the introduction of potential vector exotic species such as *Aedes albopictus* (widespread and abondant in the Mediterranean basin), *Aedes japonicus* (France, Germany, Serbia...), *Anopheles* species in airports…

MosKeyTool facilitates the mosquito species identification and can help research and teaching in medical entomology. This software is required as soon as a precise morphological identification of the species is needed.

This identification interactive tool was developed mainly to **public health professionals –teachers, students, medical entomologists, parasitologists, and all human or veterinary health agents in charge of surveillance and control of mosquitoes**.

> A tool for entomological surveillance

Mosquito surveillance as well as its environmental impact imply a precise knowledge of their ecology and behavior.

## > A tool for teaching medical entomology

This software gives synthetic and up-to-date information on the distribution and medical or veterinary role of mosquito species. It can be used as a supporting material for (self)learning and teaching the morphology and taxonomy of mosquitoes (Diptera: Culicidae).

> A tool for applied research

MosKeyTool is an upgraded synthesis of all the morphologic and taxonomic knowledge in the whole Euro-Mediterranean region. It can helps any actor researching on transmission of pathogens, inventory of species, mosquito ecology, etc.

HOW TO INSTALL MOSKEYTOOL ?
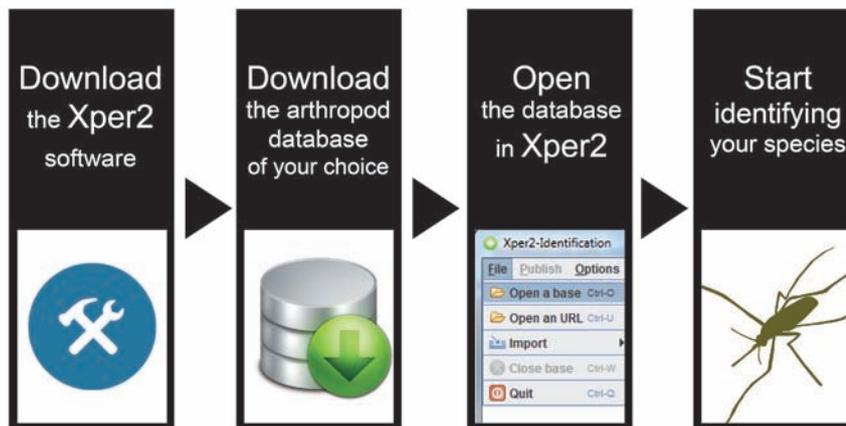
STEP 1: Download and install the Xper2 software

Version 2.3.2 / Xper² identification version

Windows XP/Vista/7	*Xper2-Identification-2.3.2.exe*	5577 Ko	
Linux / MacOS X (>10.10) *	*Xper2-Identification-2.3.2.jar*	5272 Ko	
MacOS X (<10.11) *	*Xper2-Identification-2.3.2.zip*	5030 Ko	

* How to open an app from an unidentified developer with Mac? You can run apps that you've downloaded directly from the internet that aren't registered with Apple. You just have to give the OK, by right-clicking on the app file. *More information*.

STEP 2: Download the MosKeyTool database

Free Download ↓

Extract the zip archive inside a directory, you must have 1 folder and 4 files:
- folder « images» file «moskeytool_V1.1.xpd»
- file «moskeytool_V1.1.xpx»
- file «moskeytool_V1.1.xpw»
- file «moskeytool_V1.1.xpr»

STEP 3: Open the Xper2 software

Go to **File** -> *Open a Database* and select the file «moskeytool_V1.1.xpd»

How to use MosKeyTool ?

> Video tutorial

MosKeyTool is an easy-to-learn and efficient tool which allows users to see the morphological characters, descriptions, images and all taxa in one screen.

A 5-minute online tutorial gives you a visual explanation of all important functions:

- How to install and open MosKeyTool
- General view of the tool (question/answer, description and illustration, possible/eliminated species)
- Which descriptor model to choose (Xper original sort)

- How to reach species
- How to compare species
- How to select several countries
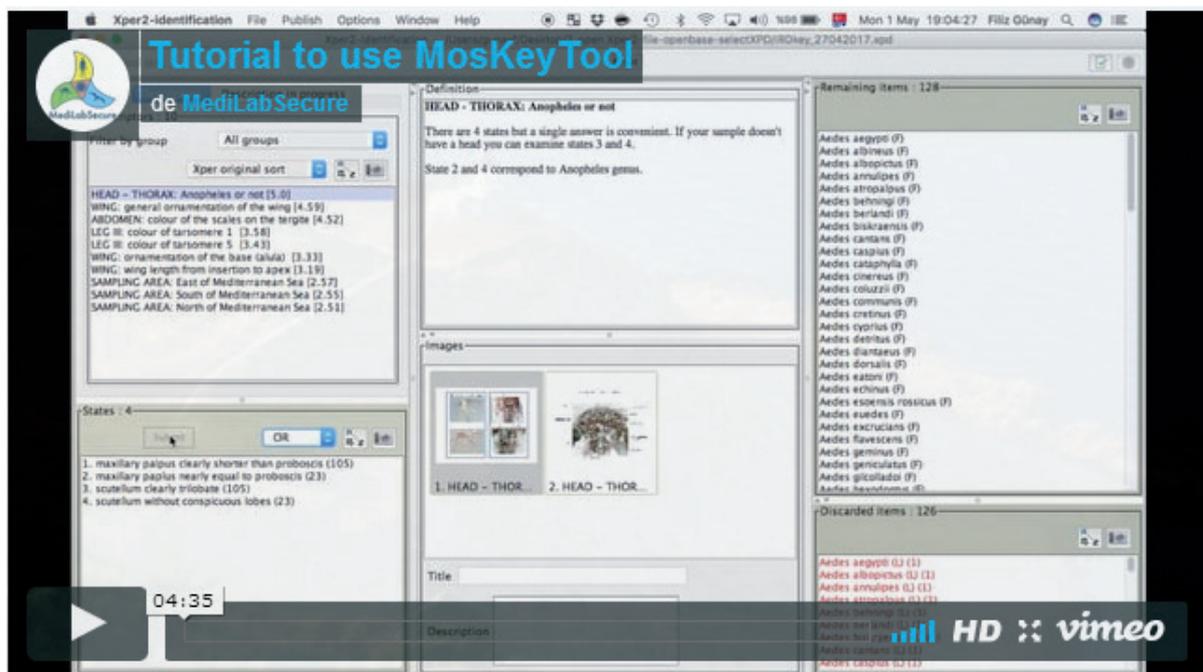
MosKeyTool is an identification tool which has been developed by MediLabSecure.

The MediLabSecure project is supported by the European Commission (DG DevCo: IcSP/21010/23/_194).