

CANINE DIROFILARIASIS IN CATALONIA.

EPIDEMIOLOGICAL RISC EVALUATION OF THE INTRODUCTION

OF Aedes albopictus.

INTRODUCTION

Aedes albopictus, the “tiger mosquito”, is an aggressive daytime biting nuisance mosquito species, but receives attention over all for its possible role as a vector for parasites and because it is a highly adaptable species. In fact, in temperate areas *Aedes albopictus* activity period is limited to summer, surviving during the winter in egg-stage, a fact not observed in the mosquito colonies from tropical areas.



AEDES ALBOPICTUS AS A VECTOR

The vectorial capacity of *Aedes albopictus* has been proved in the transmission of Dengue fever and Yellow fever, is a potential vector of several arbovirus. Its vectorial capacity to transmit infective larvae of *Dirofilaria immitis* has been confirmed in Asia, Italy and some areas of North America.

ZOONOSES

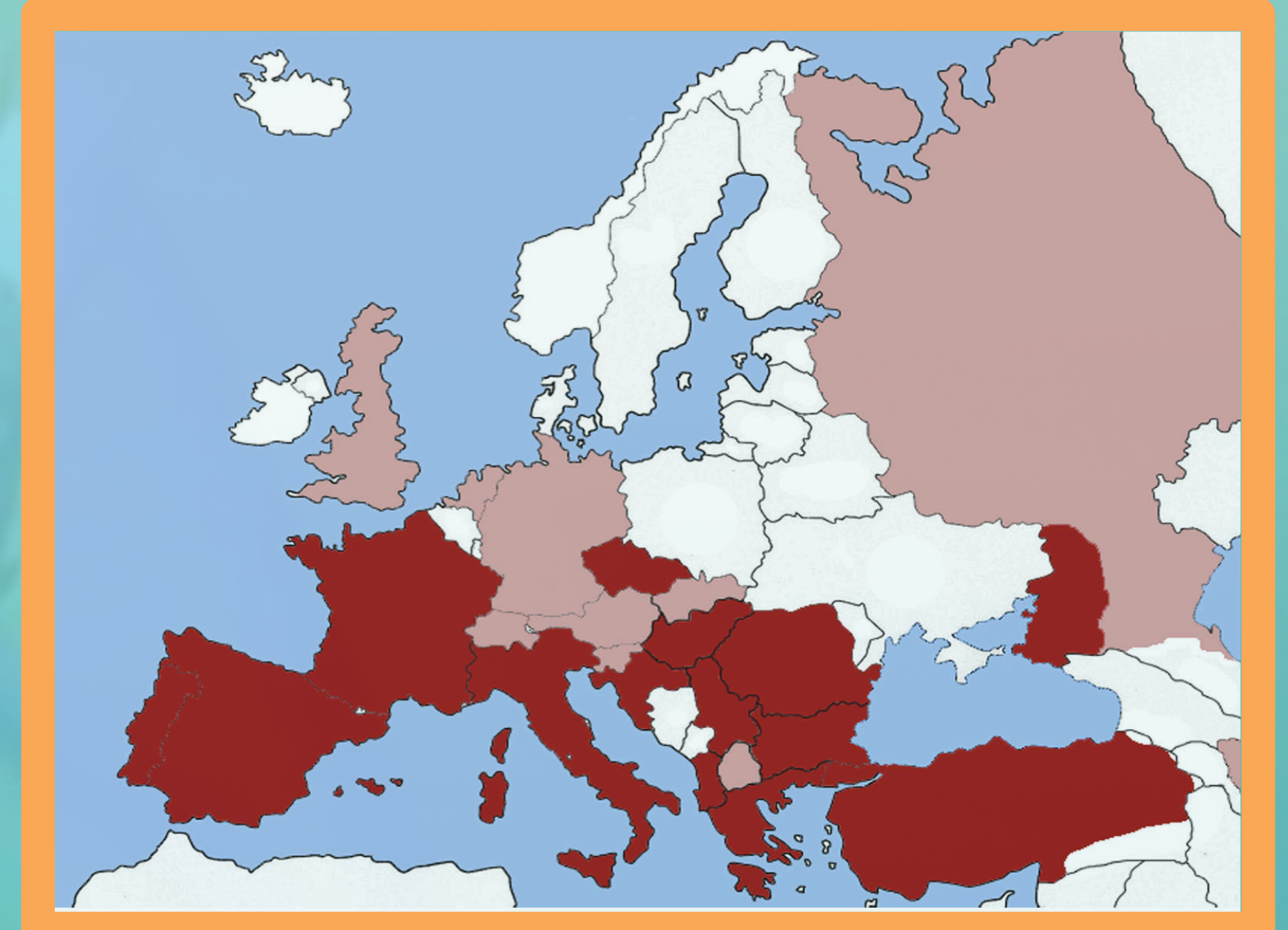
Dirofilaria species are zoonotic, and the human infections are increasing in Europe. Usually, the parasites do not develop adult stages in humans. However, at least three cases of microfilaraemic zoonotic infections have been reported in Europe and one in Iran.

Aedes albopictus was considered mainly a problem of serious biting nuisance for humans at the beginning of its introduction in Italy. Currently, the mosquito's changing behavioral patterns, its feeding-behavior, the involvement in the recent outbreak of Chikungunya virus in Italy and its urbanization all increase the probability of transmission of canine, feline and human dirofilariosis in the urban environment, thus changing the epidemiological patterns of *Dirofilaria* infections.

CANINE DIROFILARIASIS IN EUROPE

In 2011, canine cardiopulmonary dirofilariosis remains endemic and spreading out the southern European countries; this disease has spread to countries in Eastern and Center of Europe where its presence and distribution were only reported by sporadic cases or not reported at all.

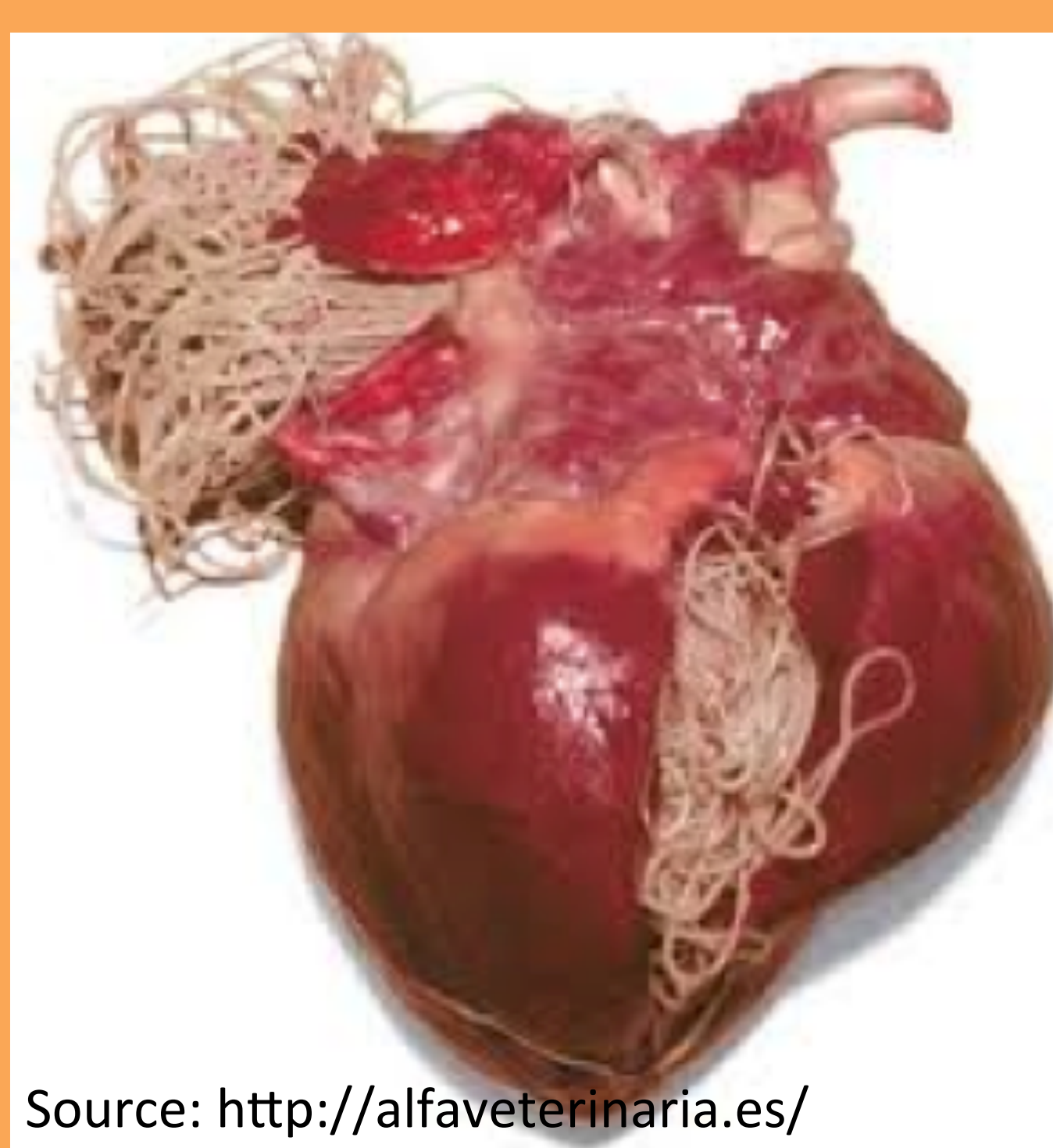
In general, the increased movement of infected dogs across Europe, a greater attention toward the disease, the climate change, the emergence of new species of vectors and changes in ecosystem due to human activity, are the possible causes of the increase of canine dirofilariosis.



AEDES ALBOPICTUS IN SPAIN

Aedes albopictus was identified for the first time in Spain during August 2004 in Sant Cugat del Vallés, Catalonia. A male and a larva were collected in the backyard of a house and in a tree hole, respectively. Dense populations of adults and larva were found in subsequent surveys, confirming the establishment of the species in the area.

Since then it has widely spread across the Mediterranean area of Catalonia and currently affects all municipalities in this region. In 2005 the mosquito was isolated for the first time in Alicante. Moreover, in 2010 they found *Aedes albopictus* in the province of Castellón. Finally it was detected in Murcia and Majorca in 2011 and 2012, respectively.



Source: <http://alfaveterinaria.es/>



Source: <http://es.paperblog.com/>

CONCLUSIONS

The monitoring of *Aedes albopictus* shows a rapid and wide expansion of this vector along Mediterranean coast, in Catalonia is widely established.

Although *Dirofilaria immitis* has never been isolated in *Aedes albopictus* in Catalonia, it may be an important new vector that it is increasing canine dirofilariosis in the region.

Aedes albopictus is also a vector of several arbovirus which is a human health problem.