Aedes albopictus

Taxon	Family / Order / Class / Phylum
Aedes (Stegomyia) albopictus (Skuse, 1894)	Culicidae / Diptera / Insecta / Arthropoda

COMMON NAMES (English only)
Asian tiger mosquito

SYNONYMS
Aedes nigritia Ludlow, 1910
Aedes quasinigritia Ludlow, 1911
Aedes samarensis Ludlow, 1903
Culex albopictus Skuse, 1895

SHORT DESCRIPTION
Mosquito with a black adult body with conspicuous white stripes. Females are active during the day and are blood-feeders on vertebrates, biting primarily humans and other mammals, but also birds, batracians and reptiles.

***Aedes albopictus* adult biting**
Photo: www.lucianabartolini.net

BIOLOGY/ECOLOGY

Dispersal mechanisms
Adult flight range is very limited (200- 400m). Long-distance dispersal (eggs, larvae) mediated by human activity.

Reproduction
Average fecundity of 150- 250 (up to 350 in laboratory) eggs per female. It has a maximum of 5 generations per year, partially overlapping, depending on local weather conditions. Eggs are laid above the surface of water in tree holes and domestic containers, hatching when overflowing with rainfall. Breeding populations are present from March to November; overwinters at egg stage.

Known predators/herbivores
Protozoan gregarine parasites (*Ascogregarina taiwanensis*). Larvae are predated by dipterans (*Toxorhynchites rutilus* and *Corethrella appendiculata*), dragonfly larvae and fish.

Resistant stages (seeds, spores etc.)
Eggs are desiccation-resistant and cold-resistant (capable of winter diapause). Larvae are capable of surviving in very small collections of water, requiring only 0.6cm of depth to complete its life cycle.

HABITAT

Native (EUNIS code)
G: Woodland and forest habitats and other wooded land, J6: Waste deposits. Typically breeds in tree holes and others small, restricted and shaded water collections surrounded by vegetation but also in peridomestic containers filled with water.

Habitat occupied in invaded range (EUNIS code)
J6: Waste deposits. Mostly anthropophilic; opportunistic container breeder capable of using any type of artificial water container, especially discarded tyres, but also saucers under flower pots, vases, bird baths, tin cans, plastic buckets and other abandoned recipients; can however establish and survive in non-urbanized areas lacking artificial containers.

Habitat requirements
Adults are active during daytime. Areas at risk have mean winter temperatures higher than 0°C, at least 500mm precipitation and a warm-month mean temperature higher than 20°C. In the native Asian range the January

isotherm at -5°C corresponds to the upper limit for survival and the winter diapause is necessary northwards of the +10°C January isotherm.

DISTRIBUTION

Native Range

Southeast Asia, islands of the Western Pacific Ocean and Indian Ocean

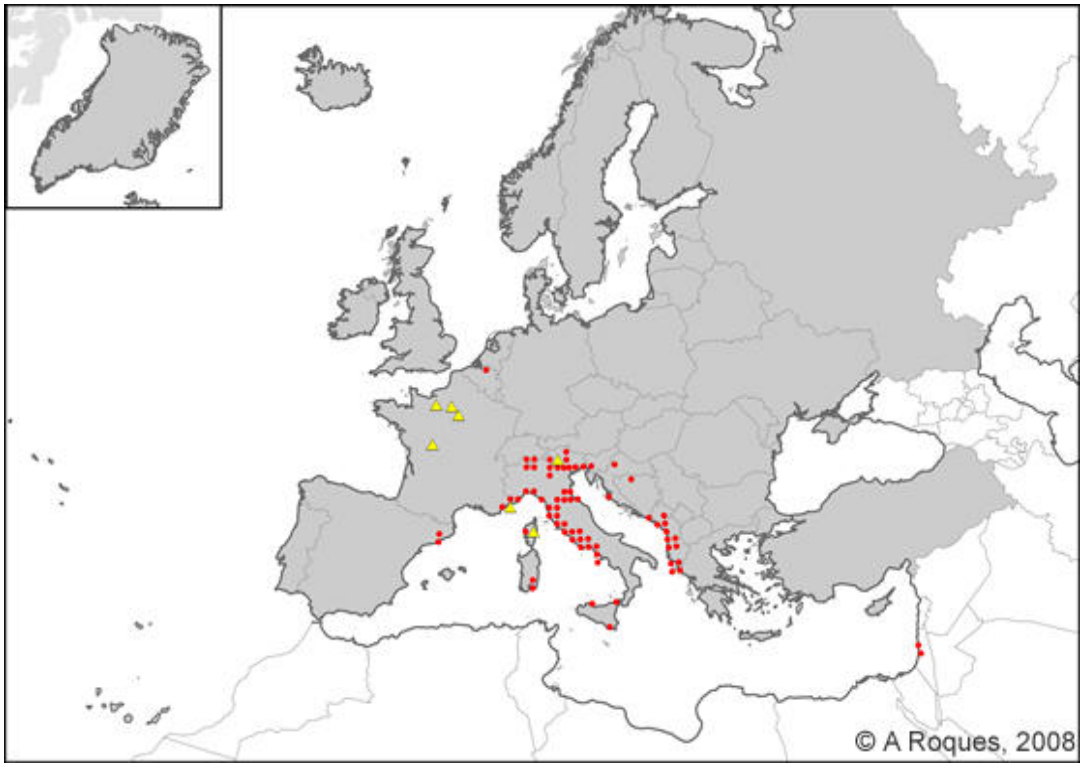
Known Introduced Range

Western and Southern Europe, Middle East, Africa, North and South America, the Caribbean

Trend

Continuous spread all over the world since the late 1970's; acceleration of the expansion in western and southern Europe since 2000, with both short distance transport from infested European countries and long-distance introductions of a large number of individuals from USA, Asia and Africa.

MAP (European distribution)



Legend

	Known in country		Known in CGRS square		Known in sea
	Eradicated		Eradicated		Extinct

INTRODUCTION PATHWAY

Passive transport by aircrafts, boats and terrestrial vehicles as dormant eggs in goods (used tyres) and as larvae in Lucky bamboo (*Draceana* spp.) and other Phytotelmata shipped in standing water.

IMPACT

Ecosystem Impact

Interspecific larval competition results in displacement of native mosquito species (*Culex pipiens*) and other invasive mosquito species (*Aedes aegypti*).

Health and Social Impact

Biting nuisance (diurnal biter); potential vector for at least 22 arboviruses (including dengue, Chikungunya, Ross River, West Nile virus, Japanese Encephalitis, Eastern equine Encephalitis), avian plasmodia and dog heartworm filariasis (*Dirofilaria* nematodes).

Economic Impact

Related to health nuisance and treatment costs.

MANAGEMENT

Prevention

For monitoring, ovitraps are used - artificial breeding containers (e.g., tyres) baited with frozen CO_2 from dry ice.

Mechanical

Removal of discarded tires represents the soundest management technique; whenever possible, all sources of standing water (any container that can hold rainwater) should be emptied every three days in areas at risk; other water reserves that cannot be dumped can be treated with a spoonful of vegetable oil to suffocate mosquito larvae.

Chemical

To control larvae, spray water with derivates of *Bacillus thuringiensis israelensis* or larval growth inhibitors (diflubenzuron). To control adults, spray with pyrethrinoids (deltamethrine).

Biological

Cyclopid copepod predators (*Macrocyplos*, *Mesocyclops*) could be used for container-breeding larvae, and fishes and dragonflies in other situations.

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Author: Alain Roques

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