

## Epidemiological update: Malaria in Greece, October 2011

28 Oct 2011

According to the available epidemiological and entomological information, and the arriving winter season, the intensity of malaria transmission in Evrotas, Lakonia in Greece is believed to be very low and is expected to cease shortly. For this reason, chemoprophylaxis for malaria is not recommended for visitors to the area. The use of standard mosquito biting prevention measures continues to be encouraged.

Between 21 May and 26 October, 2011, 61 cases of *Plasmodium vivax* infection have been reported in Greece. Thirty-three of these cases were Greek citizens without travel history to an endemic country. Twenty seven cases are reported from the area of Evrotas, a 20 km<sup>2</sup> river delta area, located in the district of Lakonia in Peloponese, southern Greece (see map). The remaining six cases are from the municipalities of Attiki (n=2), Evoia (n=2), Viotia (n=1) and Larissa (n=1). In addition, 28 cases of *P. vivax* infection in migrant workers have been reported from the area of Evrotas. Of the 28 malaria cases identified in immigrants in Evrotas, Lakonia, the majority (n=21) originated from malaria endemic countries even though a clear importation status could not be determined; 19 originated from Pakistan and two from Afghanistan. For the remaining seven immigrant cases, five were from Romania (two were diagnosed in Romania), one from Morocco, and one from Poland. It should be noted that all reported cases in immigrants (including the two cases diagnosed in Romania) are in persons that work in the agricultural areas in this part of Greece.

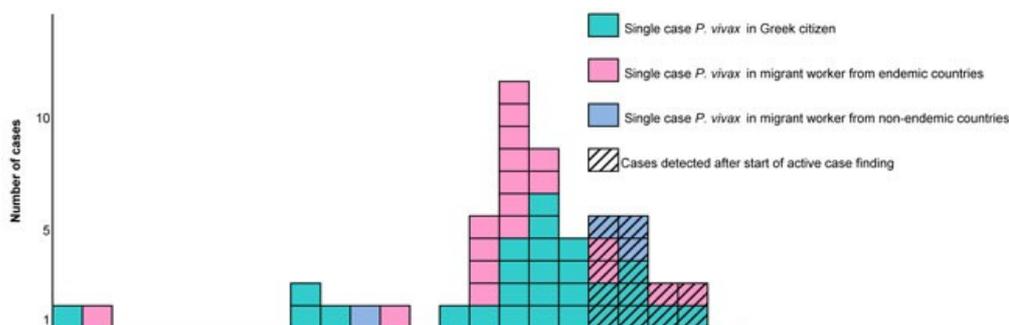
**Map: Municipality of residence of *Plasmodium vivax* malaria cases, Greece, as of 17 October, 2011 (n=61)**



The first reported cases in Evrotas had symptom onsets in epidemiological week 21 (23-29 May) and the last two cases had reported symptom onset during week 42 (17 – 23 October). A peak in reported symptom onset occurred during weeks 36 and 37 (5 – 18 September). Since then a steady decline in reported cases has been observed despite the ongoing active case finding in the area. All cases reported from other areas in Greece report symptom onset before September 2011. Cases reported in the last two weeks would have likely been infected during September or early October. All cases are confirmed *P. vivax* infections and all were mild, apart from one fatal case in a male aged over 70 years who had pulmonary co-infection and underlying medical conditions.

Data from entomological surveillance indicates that there have been very low larval densities detected in mosquito breeding sites and an absence of adult *Anopheles* mosquitoes captured in carbon dioxide light traps in Evrotas, Lakonia in recent weeks. Since early October, temperatures in the area have dropped below 20°C and the vector population is rapidly waning as expected for autumn and winter months.

**Figure: Distribution of reported cases of *P. vivax* infection by date of onset and citizenship status, Lakonia, Greece, week 21-43, 2011 (n=53).**



**Note:** An additional three cases in migrants from Pakistan were asymptomatic and are not included in the epi-curve. Two malaria cases in Romanian farm workers were diagnosed after their return to Romania are also not included. The last reported case was a migrant from Afghanistan who arrived in Greece during the previous 20 days.

**Control measures implemented include enhancing surveillance** in the affected areas to rapidly identify cases; active case finding in Evrotas, Lakonia (house to house visits since 1 October 2011) followed by microscopy diagnosis for malaria and supervised treatment according to the national protocol (chloroquine and primaquine for uncomplicated *P. vivax* infection); informing health care professionals on early malaria diagnosis and treatment; raising public awareness, and strengthening blood safety. A decree was issued by the Greek MOH to facilitate prompt diagnosis and treatment. Intensified mosquito control measures have also been carried out by local authorities. All *P. vivax* infections were sensitive to chloroquine.

Malaria is an infectious disease caused by the *Plasmodium* parasite, and transmitted by *Anopheles* mosquitoes. The incubation period varies between 7 and 15 days, but long incubation periods of several months (and years) have been observed for *P. vivax* malaria. Malaria is characterised by fever and influenza-like symptoms, including chills, headache, myalgia, and malaise; these symptoms can occur at intervals. More information can be found on the [ECDC factsheet](#).

Following the two visits of ECDC and WHO experts to the affected areas, ECDC has not changed its risk assessment of this event since October 11, 2011, and considers the current risk for malaria infection in Greece to be to persons residing and/or working in the affected areas of Greece, particularly that of Evrotas, Lakonia. This is a geographically delimited area, having a small population and is not a touristic destination. According to the available epidemiological and entomological information, and the arriving winter season, the intensity of malaria transmission in Evrotas, Lakonia is believed to be very low and is expected to cease shortly. For this reason, chemoprophylaxis for malaria is not recommended for visitors to the area. The use of standard mosquito biting prevention measures continues to be encouraged.

**Read more:**

[ECDC Rapid Risk Assessment malaria Greece 2011.](#)

[Eurosurveillance article describing the outbreak](#)

[More information is available on KEELPNO website](#)

[ECDC factsheet](#)

