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Information about the Environment and for travellers in Crete:

Mount Etna 2005

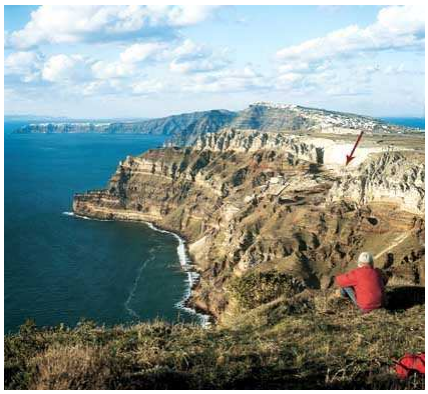
Santorin volcano exploded 100 years earlier!

Crimson-speckled footman, *Utetheisa pulchella*

The island Thera (as Santorin was called in former times) sank (to a large extent) based on the textbooks in 16th Century before Christ after a volcanic eruption in the sea. A charred branch of an Olive tree, rescued from loose bright pumice stone on Santorin and in every detail dated, is now a time witness for it, that the outbreak must have taken place around nearly 100 years carried back. The worst natural catastrophe in the Mediterranean was so far obviously wrongly dated.

In the SPIEGEL ONLINE (department science) appeared a contribution with the introduction: "A Tsunami [1)] (released by an earthquake) is swept over the coasts of Crete. Corpses and ship wrecks lie on the beach in the thriving harbour town Akrotíri (on Santorin). Thus a bronze-temporal artist recorded the natural catastrophe in a mural painting (see fig. #1) - it is probably the oldest Tsunami picture of mankind "; a uncompleted work in the rubble of Akrotíri - buried under meter-thick ash layers. "Short after the eastern Mediterranean had been afflicted by a giant wave, the island Santorin exploded". It was one of the most enormous volcanic eruptions of the past 5000 years.

Fig. #1: The picture shows a mural painting from Akrotíri at Santorin, which was buried briefly after the Tsunami by the ash of the volcanic eruption.



In a steep face, perpendicularly 150m to the sea (see fig. #2) the charred branch of an Olive tree (see fig. #3) was found which stuck in a loose rock layer, which represents a direct product of the volcano outbreak. The pumice stone, which is lighter than water, develops, if volcanic gases up-foam the lava with the outbreak. This blazing hot "rock foam" had buried the Olive tree at that time under. Soon after his finding it was certain that the black wood originates from the 2nd Millennium before our time calculation - and that the tree, at which the branch grew therefore is a quiet witness of the time for the disaster from Thera. Detail examined in Heidelberg (**C14-Methode** [2)]), the result of the investigation of the wood remainder refers to the years **1630 to 1600** before our time calculation

Fig. #2: View over the crater edge of Santorin; the arrow marks the place of discovery.
Fig. #3: The piece of the found olive tree branch; a time witness for the about 100 years earlier outbreak of the volcano of Santorin. Sources of picture: www.spiegel.de/wissenschaft/erde

For quite some time the professional world doubted the eruption time between 1500 and 1520 BC, registered so far in the text books and the opinion, the Minoan culture was razed by the volcanic eruption of Thera. It is possible that the disaster, which buried Akrotíri and destroyed Thera, introduced only the fall of an epoch - it however did not terminate at a single blow. A question mark of 100 years difference between historical and archaeological dating is probably clarified thereby.

[1)] Therefore see also our leaflets No.: 131-05/E (Tsunami), 123-05/E (Earthquake) and 032-04/E (History of Crete)

[2)] **C14-Methode:** Radio carbon dating (actually ^{14}C-Ageing) or radio carbon method is a method for the age determination of carbon-containing organic materials with an age up to 50,000 years. It is based on the radioactive decay of the carbon isotope ^{14}C and is used in particular in the archaeology, Archaeo botany and quart acre research. The radio carbon dating was developed by Willard Frank Libby (1908-1980), for which he received the Nobel Prize in Chemistry in 1960.
The C14-Aeging is based on the fact that by the primal-particles of the cosmic radiation neutrons are formed in the atmosphere, which form C14 radioactive carbon from the nitrogen of air after N14 (n, p), which changes with a radioactive half-life of 5730 years under sending of ß-rays of small energy again into N14. The freshly formed C14-Atoms in the atmosphere are oxidized rapidly to carbon dioxide, which mixes itself evenly with the atmospheric CO2 and enters together with this carbon-circulation. However, the metabolism stops after death, and because a dead organism cannot absorb radioactive C14 anymore, the part of at the time of death existing C14-protion moulders; the radioactive decay can be computed thereby and be used as “geological clock”.

Crimson-speckled footman, *Utetheisa pulchella*

The crimson-speckled footman (also known as crimson-speckled flunkey or moth) is a moth from the family of the tiger moths (Arctiidae), subfamily Arctiinae, which is to be seen on Crete pretty often. The subfamily covers world far over 3.000 kinds, of these approximately 2,000 live in central and South America. However, from the Palaearctic region are only some hundred kinds well-known. The range of crimson-speckled footman extends from North Africa to Southern Europe; they rarely migrate from the Mediterranean area to Central Europe and prefer grass steppes as habitat. The Arctiidae eggs are usually put down in form of larger mirrors. The caterpillars have numerous warts, on which are big and partially very long hair bundles. The main food plants of the caterpillars are usually species-specific, for the crimson-speckled footman e.g. the blueweed (*Echium vulgare*).

A specific differentiation of Arctiidea nymphs is hardly possible; they are designed as so-called mummy nymphs. The (unmistakable) crimson-speckled footman (see fig. [1)]) ranks among the migratory butterflies and reaches a size of 3.5 to 4.2 cm.

[1)] Das picture (left) has been made by *B. Bellmann* in 2000 at Crete.