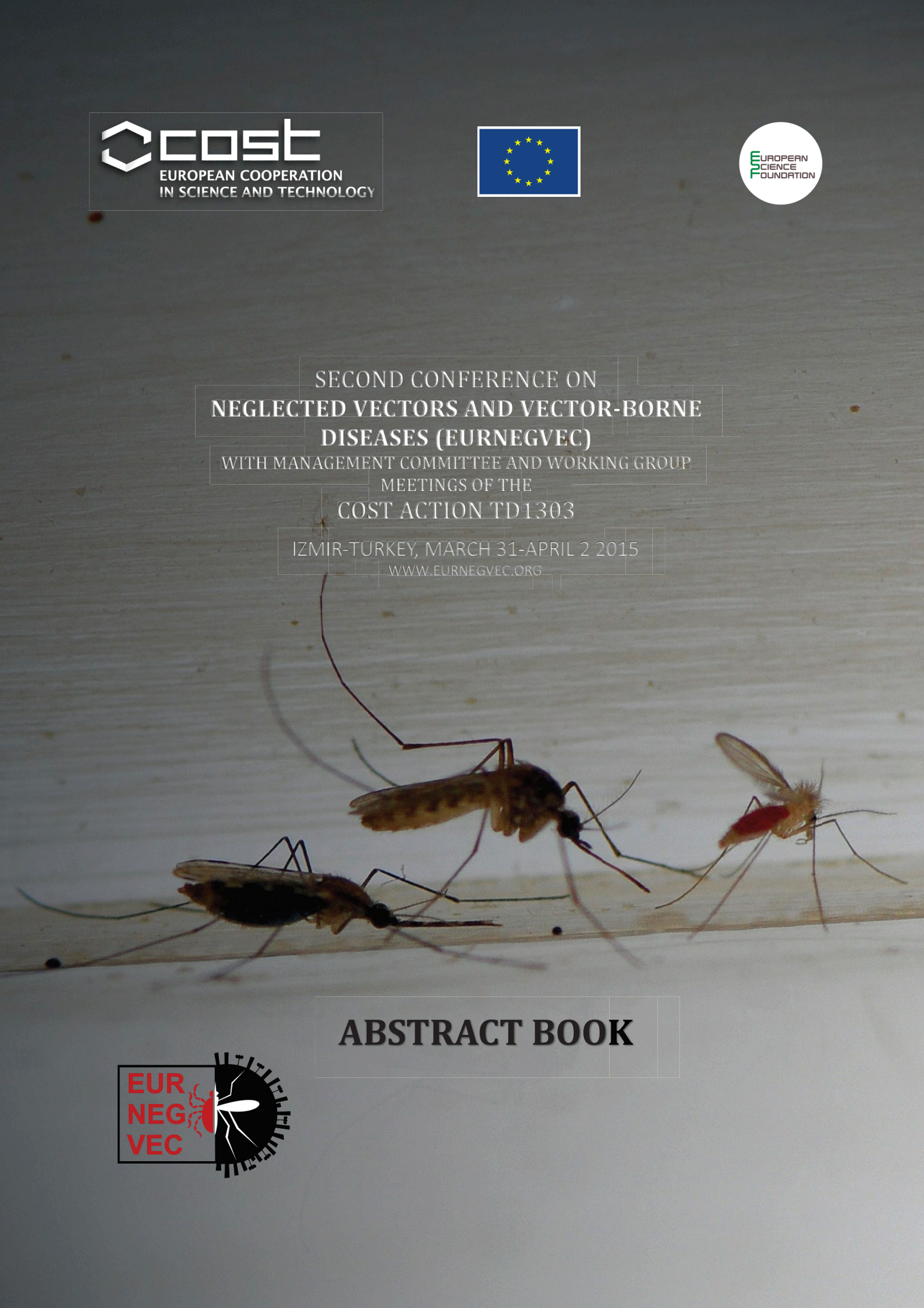

SECOND CONFERENCE ON

NEGLECTED VECTORS AND VECTOR-BORNE DISEASES (EURNEGVEC)

WITH MANAGEMENT COMMITTEE AND WORKING GROUP MEETINGS OF THE

COST ACTION TD1303

IZMIR-TURKEY, MARCH 31-APRIL 2 2015

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ABSTRACT BOOK

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ORAL PRESENTATIONS

WG1: The "One Health" concept in the ecology of vector-borne diseases

OP-E06. REVIVE, A SURVEILLANCE PROGRAM ON VECTORS AND VECTOR-BORNE PATHOGENS IN PORTUGAL – FOUR YEAR EXPERIENCE ON TICKS

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REVIVE is a national wide surveillance program on vector and vector-borne agents implement and coordinate by the National Institute of Health (CEVDI/INSA) in collaboration with other institutions of the Health Ministry. The programme started in 2008 with the surveillance of mosquitoes and later in 2011 was extended to ticks. The main goals of this project are to collect and identify vectors, updating our knowledge in the distribution, host-associations, seasonality and abundance of the Portuguese species. Additionally this project contributes for monitoring the introduction of exotic vector species. This work regards the 4-year REVIVE studies on ticks and *Borrelia/Rickettsia* surveillance, among other tick-borne agents, discussing the established circuits, obtained results and practical interventions.

Over 29.000 ticks were collected on hosts or by flagging vegetation from 168 (60.4%) municipalities of mainland Portugal. Collection in humans reached the 583 specimens. In total, 13 autochthonous tick species were identified, including *Dermacentor marginatus; D. reticulatus; Haemaphysalis punctata; Hyalomma lusitanicum; H. marginatum; Ixodes canisuga; I. hexagonus; I. ricinus; I. ventalloi; Rhipicephalus annulatus; R. bursa; R. pusillus; R. sanguineus*. Of note is the identification of an exotic species, *Amblyomma* sp., attached to a Portuguese emigrant arriving from USA. The top three species collected during this surveillance program were *R. sanguineus* (69%), followed by *R. pusillus* (16.4%) and *H. marginatum* (9.7%). However regarding antropofilic behaviour, from the 11 species found in humans the most prevalent were *I. ricinus* (35%), followed by *R. sanguineus* (34%), and *H. marginatum* (14%). The abundance, distribution, host association and other relevant patterns are compared with previous existing records. Regarding the tick-borne agents, all ticks collected from humans and about 10% of the questing/host-attached ticks were tested for *Borrelia* and *Rickettsia* spp., among other agents. Ten bacteria were identified so far in single or multiple infection, including *Borrelia afzelii, B. garinii*, *B. lusitaniae*, *Rickettsia aeschlimannii, R. conorii*, *R. helvetica*, *R. massiliae*, *R. monacensis*, *R. raoulti*, and *R. slovaca*. The importance of including other tick-borne agents in routine screening is also discussed.

The presented data reinforces the importance of the REVIVE. The program has contributed to call attention to tick-borne diseases not only among healthcare providers but also in the populations. The workflow established, has also enabled timely screeningof ticks removed from humans, animals or in a given environment, allowing the implementation of informed prevention/control strategies and directly contributing to improve Public Health in Portugal.

Additional funding: *Coxiella* and *Anaplasma* testing was performed on behalf of the FCT project PTDC/SAU-SAP/115266/2009