



**VI Конгрес на микробиолозите на Македонија
со меѓународно учество
VI Congress of Macedonian Microbiologists
with international participation**

FEMS-supported Symposium: "Emerging infections"

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**VI КОНГРЕС НА
МИКРОБИОЛОЗИТЕ
НА МАКЕДОНИЈА СО
МЕЃУНАРОДНО УЧЕСТВО
СИМПОЗИУМ ПОДДРЖАН ОД
FEMS "EMERGING INFECTIONS"**

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MICROBIOLOGISTS
WITH INTERNATIONAL
PARTICIPATION
FEMS SUPPORTED SYMPOSIUM
"EMERGING INFECTIONS"**

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**FEMS-supported Symposium:
"Emerging infections"**

Prof.dr Vaso Taleski, Shtip, R.Macedonia

D-r Vaso Taleski is professor of microbiology at the Faculty of Medical Sciences, University „Goce Delchev” in Shtip, Republic of Macedonia. He is author of about 100 publications and papers. His research activities are related to microbiological diagnosis of human brucellosis. Among other activities D-r.Taleski was secretary of Macedonian Microbiological Society (ZMM) 1991-1993, president of ZMM 1993-1997, delegate of ZMM in FEMS 1997-2002, 2011-2015, member of FEMS Executive Committee (GRANTS Secretary) 2005-2012, member of the FEMS Grants Board 2000-2003, 2012-2017, member of organizing committees of FEMS European congresses of microbiologists (2003, 2006, 2009, 2011, 2013, 2015, 2017), president of congress grants committees of FEMS European microbiology congresses (2009, 2001, 2013, 2015, 2017) and is currently FEMS Director of events and internationalization.

B15 NEW BRUCELLA STRAINS TOWARDS RE-EMERGING TRENDS OF BRUCELLOSIS**V. Taleski**

Faculty of Medical Sciences, University „Goce Delchev”, Shtip, Republic of Macedonia

Introduction

Brucellosis is a worldwide zoonotic disease that has a significant economic, social and public health impact. Significant changes of global ecological map identifying new species, hosts and reservoirs includes brucellosis permanently in-group of re-emerging diseases. Nevertheless, disease have been eradicated successfully in most of developed countries, still remains endemic in Mediterranean region, Middle East, Asia, and Central and South America.

Aim

To emphasize the importance of new, recently identified *Brucella* species, hosts and reservoirs that raise awareness of high potential of brucellosis as a re-emerging disease and further complication to control the spread of the disease in endemic areas and worldwide.

Material and Methods

Presentation of most recent reviews and published data of reported and confirmed potential new (amphibian) *brucella* strains in cold-blooded hosts and reservoirs.

Discussion

Genus *Brucella* until recently, represented a genetically homogeneous and clonal group of bacteria. Numerous new members were reported in recent years. Species genetically highly related to each other (> 99 %) associated with infections of numerous warm-blooded animals and humans, are classified as: 1. Terrestrial mammalian hosts (Classical strains: *B. melitensis*, *B. abortus*, *B. suis*, *B. canis*, *B. ovis*, *B. neotomae*), 2. Marine mammals (*B. ceti* and *B. pinnipedialis*), and 3. „Atypical“, (*B. microti*, *B. inopinata*, *B. papionis* and *B. vulpis*).

In addition, recently isolated *brucellae* from cold-blooded, worldwide-distributed exotic frogs (amphibian *brucellae*) were reported. These new *brucellae* species are capable to cause localized manifestations to generalized infections of frogs. Genetically highly diverse, might represent several new *brucella* species or link between free living soil saprophytes and the pathogenic *brucella*. Therefore, frogs represents new and ecologically significant natural host and reservoir.

Conclusions

Identification of new, amphibian, *brucella* species and new hosts and reservoirs (frogs), have significant contribution to new approach of understanding of evolution of the genus *Brucella* from a soil-associated motile bacterium to a host-adapted pathogens. Frog's isolates to date do not represent a zoonotic treat because, still, there is no evidence for that. Advices for precaution to avoid contacts with amphibians that might be infected are very useful.

In addition, of existing, new amphibian-*brucella* species, new hosts and reservoirs (frogs) increase the concerns for successful control and keeps Brucellosis permanently on the list of re-emerging diseases.

Key words: brucellosis, new *brucella*, re-emerging, trends, reservoirs.