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## Poster Session 2 – Taxonomy Genetics

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### **84 The traits of contact zones between different chromosomal races of *Mus musculus domesticus* (Rodentia: Muridae) in two Robertsonian (Rb) systems of Greece**

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The otherwise conservative acrocentric karyotype of the house mouse, *Mus musculus domesticus* (Rodentia, Muridae), demonstrates in various Euro-Mediterranean locations extreme chromosomal evolution, through the accumulation of Robertsonian (Rb) fusions: non-homologous uni-armed chromosomes fuse at their centromere, creating bi-armed chromosomes ( $2n=40-22$ ). Homozygous populations for specific sets of Rb fusions, termed Rb races, that share a common origin form Rb systems. In Greece, three Rb systems have been described, namely, in Peloponnese, E Sterea Ellada and Ipiros. In most Rb systems, the characteristics of the contact (hybrid) zones between different chromosomal races have been the object of intensive research. We targeted specific contact zones at the Rb systems of E Sterea Ellada and Peloponnese, based on the karyological analysis of 50 house mice from 18 localities. Regarding the Rb system of E Sterea Ellada, we focused on areas of Attiki, where it was shown that the Rb population, ranging from  $2n=39$  to as low as  $2n=27$  (GRT2xGRT1 Rb races) is placed peripherally of Athens, in positions N and E of Mt Imittos. Overall, the whole study area behaved like a contact zone possibly between GRT2 with  $2n=28$  and the acrocentric population, the most interesting trait of which was the abrupt transition (ca. 6 km wide) from  $2n=37$ . On the other hand, in the Rb system of Peloponnese, we examined an area, where two well-known Rb races, GROL with  $2n=24$  and GRKA with  $2n=28$ , characterized by monobrachial homology, were expected to come very close but form no hybrids. Indeed, our study revealed no hybrids between them; instead, the acrocentric population had entered between them, forming hybrids ( $2n=33-39$ ) with either of them. Surprisingly, Rb(4.16) and Rb(8.17), were sporadically found in the study area, which have not been described before in Peloponnese and could have resulted from type 'b' whole arm reciprocal translocations.

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6<sup>th</sup> International Conference of Rodent  
Biology and Management  
and  
16<sup>th</sup> Rodens et Spatium

Potsdam, Germany, 3-7 September 2018

Book of Abstracts



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