

**INSIGHT INTO THE MOLECULAR CHARACTERISTICS OF NEW
MULTIRESISTANT CLONES AND PLASMIDS OF *SALMONELLA*
INFANTIS IN POULTRY AND MAN**

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The lack of the regular monitoring of *Salmonella* *Infantis* together with the effort to reduce prevalence of “top five” serovars lead to a dramatic increase of *S. Infantis* in poultry with reflection in human population. As a background of this study, a clonal change reported previously in Hungarian *S. Infantis* strains is remarkable. Accordingly, in the early 2000s, older pansensitive isolates of *S. Infantis* have been replaced by new tetraresistant clones carrying a large plasmid conferring the multiresistance phenotype. Based on the above finding, our aim is to characterize antimicrobial resistance pheno- and genotypes of recently isolated *S. Infantis* strains, and to provide the first description of the large multiresistance plasmid in a poultry isolate representing the prevalent tetraresistant Hungarian clone. For this purpose ~300 strains of *S. Infantis* were tested, originating mostly from broilers and from human clinical samples. Strains intended to represent the current status of *S. Infantis* infection in poultry and human between 2011-2013. The antimicrobial resistance phenotype, pulsotype and the plasmid content were determined, based on which representative strains were selected for resistance genotyping by PCR microarray. One poultry strain (SI 54/04), representative of the tetraresistant, plasmid containing strains was subjected to genome sequencing (Olasz et al., 2015), giving a basis for the characterization of the large multiresistance plasmid. Resistance phenotyping and PFGE analysis has shown a constant circulation of the former major multiresistant clones and patterns within the newly isolated strains of *S. Infantis* both in poultry and human. Multiresistance phenotypes were associated mostly with the presence of class 1 integrons (*intI1*) and the gene *tetA* for tetracycline resistance, being the prime genetic markers for the carriage of the large multiresistance plasmid. However, the coexistence of the *tetA* and other plasmid related genes for β -lactam and fluoroquinolone resistance such as *bla*TEM-1, *bla*CMY-9 or *qnr* indicate important and divergent plasmid associations in some of the strains. By sequence analysis we provide the characterization of the multiresistance megaplasmid (pSI54/04) of the strain SI 54/04 which can be considered as the first Hungarian reference plasmid of *Salmonella* *Infantis*. The backbone of this IncI type plasmid is a mosaic of resistance (nickel-, mercury resistance), and virulence regions (encoding siderophore Yersiniabactin, fimbriae) potentially promoting survival not only in the vertebrate hosts but also in their environment.

Support: OTKA K101564; János Bolyai stipend of the Hungarian Academy of Sciences to A. Szmolka.

**REMOVAL OF *RICKIA WASMANNII* (LABOULBENIALES,
ASCOMYCETES) INFESTATION FROM
MYRMICA SCABRINORDIS ANTS**

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