

Conjugal transfer of plasmids and antibiotic resistance among *Escherichia coli* isolated from animals in a rural area in Sarawak (Malaysia)

ABSTRACT

Thirty-six strains of *Escherichia coli* isolated from animals in Bario, a remote area in Sarawak, Malaysia, were examined for presence of plasmid DNA and their susceptibility to nine antimicrobial agents. Of the total 36 isolates, five bovine and six canine isolates were found to contain plasmid DNA ranging in sizes from 2.6 to 70 kilobases. All were susceptible to chloramphenicol, erythromycin, gentamicin, nalidixic acid and neomycin but resistance to ampicillin (47%), erythromycin (19%), streptomycin (25%) and tetracycline (11%) was observed. Resistance was associated with carriage of a 47 kb (SC98), 70 kb, (SC133) and 56 and 46 kb (SC119) plasmids which were transmissible to the *Escherichia coli* K12 recipient. It is concluded that animals form a potential reservoir of R plasmids carrying *E. coli* in the study area.

Keyword: *Escherichia coli*; Plasmid; Antibiotic resistance; Sarawak (Malaysia)