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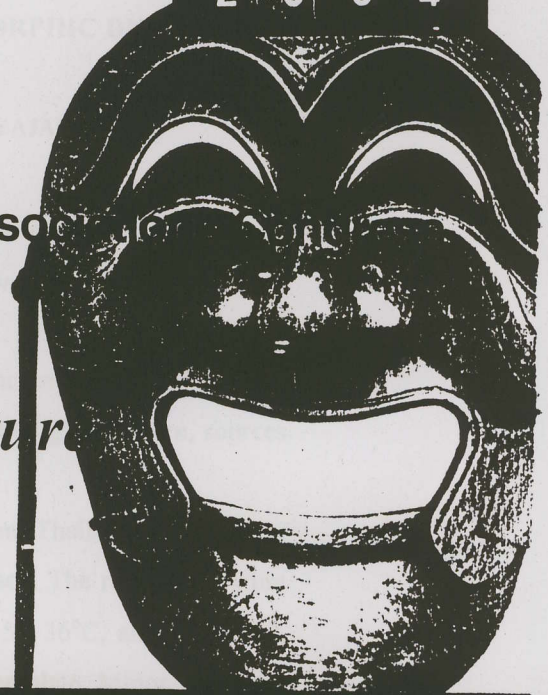
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CLONAL RELATIONSHIPS AMONG AVIAN *Escherichia coli* ISOLATES BASED ON RANDOM AMPLIFIED POLYMORPHIC DNA

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Background: *Escherichia coli* (*E. coli*) poses significant concern to all avian species. The clonal relationship of *E. coli* can help finding the epidemiological pattern, sources of infection and disease transmission.

Methods: Twenty-five avian *E. coli* strains were isolated from Thailand and Sweden. The DNA was extracted and purified. The RAPD kit was used. The reaction mixture was heated in a thermocycler for 45 cycles at 30s, 94°C, 15s, 36°C, and 30s, 72°C. Control reactions were used sterile water instead of DNA template. Minor variations observed for the same major profile were indicated by different numbers. The results were analyzed using the Simpson's index of diversity. The RAPD patterns of individual strains were scored according to the presence of RAPD bands. The index of similarity between samples and the genetic distance were calculated.

Results: All 6 different primers gave the higher degree of discriminatory indices. Similar RAPD patterns were recognized among the majority of strains examined in this study. The five couples of strains number 12 and 13, 16 and 17, 18 and 19, 21 and 22 and 24 and 25 showed very close clonal relationships at the 0.99, 0.98, 0.97, 0.95 and 0.94 of similarity coefficients, respectively. All couples were isolated from the same province except the first couple isolated from Sweden that we have no provincial information. The couple number 1 and 21 that isolated from an ostrich (Sweden) and a broiler (Thailand), respectively, has the least similarity coefficient (0.42).

Conclusions: *E. coli* isolated from the same flock tended to show greater similarities as compared to *E. coli* isolated from the different flocks. *E. coli* isolated from the different organs of the infected chickens in the same farm exhibited very close index of similarity. The more primers produce more RAPD patterns. The results of RAPD analysis showed that the avian *E. coli* from Sweden and Thailand could be grouped into a large number of RAPD types by using 6 different primers.

