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Shared *Salmonella* serovars between wild boars (*Sus scrofa*) and humans in Italy

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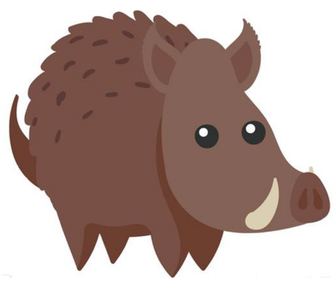

Background

Wild boars can carry *Salmonella* and transmit it to consumers

Salmonella recovered with wild boars compared with isolates from humans in the same region of Italy may elucidate their potential role in human salmonellosis

Methods

- 305 wild boars hunted during 2017-2019 in Emilia-Romagna region, northern Italy
- *Salmonella* ISO 6579 testing of mesenteric lymph nodes (MLNs) and faeces (F)

- 4,151 human *Salmonella* isolates collected during 2015-2019 in Emilia-Romagna region, northern Italy

Results

Salmonella in wild boars

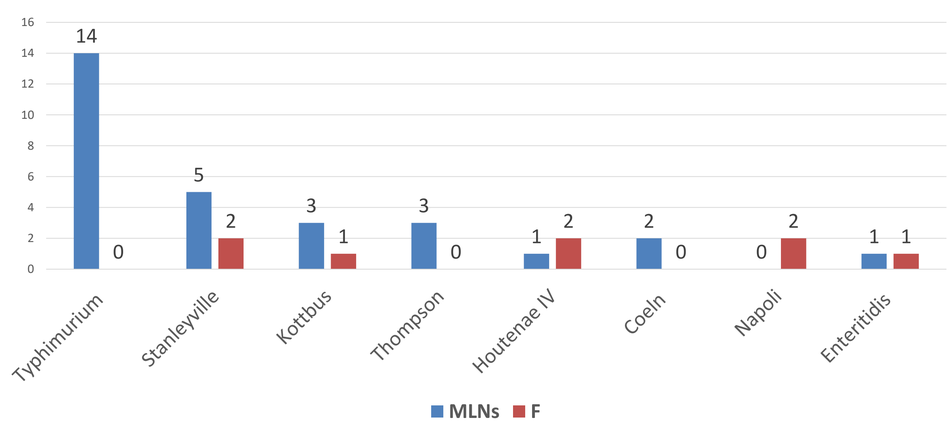

Figure 1: Most common *Salmonella* serovars from MLNs and F of wild boars

Salmonella in humans

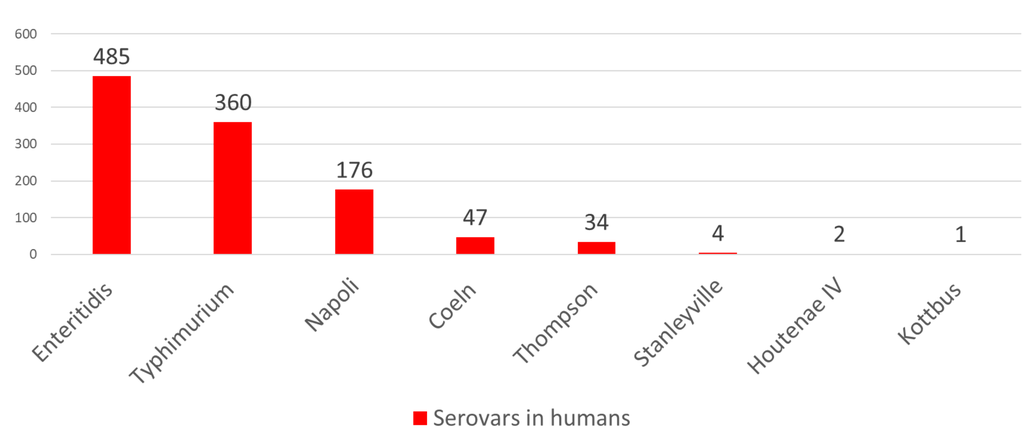

Figure 2: Number of human isolates corresponding to the most common wild boar serovars

Salmonella prevalence in wild boars was higher in MLNs (11.5% - 95% CI: 8.4 –15.5) than in F samples (3.0%; 95% CI 1.6 – 5.5). Forty-four isolates belonging to 14 serovars were identified, *i.e.* Bovismorbificans, Brandenburg, Coeln, Derby, Enteritidis, Gaminara, Hessarek, Houtenae IV O:40, Kottbus, Napoli, Stanleyville, Thompson, Typhimurium, Veneziana.

All the serovars detected in wild boars were also found in humans, but large difference in distribution was observed. Specifically, *S.* Enteritidis ranked second among the human isolates (11.7% of the 4,151) but represented only 4.5% of the animal ones. Among the most common *Salmonella* serovars in wild boars, only *S.* Typhimurium could be frequently isolated from patients, ranking third (380 isolates/4,151) in the same region of the country. On the contrary, *S.* Stanleyville, *S.* Kottbus and *S.* Houtenae IV were very rarely responsible for human salmonellosis, accounting for 4, 2 and 1/4,151 of the isolates, respectively.

S. Napoli detection in wild boars is of concern, because it ranked fourth (176/4,151) among the serovars responsible for human cases.

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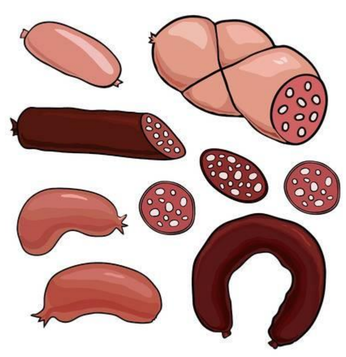

Conclusions

Our study shows that most wild boar serovars were rarely found in humans with the exception of *S.* Typhimurium and *S.* Napoli. Interestingly, *S.* Napoli has no identified reservoir in the food-chain of our human population, so that wild boar meat and contact with wildlife cannot be excluded as source for human cases.