



Contribution ID: 246

Type: **Poster presentation**

Thermotolerant *Campylobacter* spp. in wild boar and deer in Germany in hunting winter seasons 2018/19-2023/24

Monday, October 13, 2025 6:38 PM (1 minute)

Thermotolerant *Campylobacter* spp. are the leading cause of foodborne bacterial diarrhoea in Europe. Here we analysed caecal and faecal samples (n=672) from 564 freshly hunted wild animals for *Campylobacter* spp.. A mean prevalence of *C. spp.* of 77.4% in wild boar (*Sus scrofa*) and 9.4% in roe deer (*Capreolus capreolus*) was detected, while *C. spp.* were absent in red deer (*Cervus elaphus*, n=52) and fallow deer (*Dama dama*, n=36). In wild boar, the most prominent identified species was *C. lanienae* (n=155), followed by *C. coli* (n=11), *C. jejuni* (n=3) and *C. hyointestinalis* (n=2). Among the 24 isolates from roe deer, 11 were identified as *C. vicugnae* and 8 *C. lanienae*, 2 *C. hyointestinalis*, 1 *C. jejuni* and 2 yet unknown *C. spp.* were found. Whole genome sequencing and core genome (cgMLST) analysis, revealed that *C. jejuni* and *C. coli* from wild animals had a very broad phylogenetic distribution. Besides distinct lineages for wild animal isolates, some isolates were found in the same genetic lineages as those from food producing animals. A novel ad-hoc cgMLST scheme for *C. lanienae* was developed but no shared cluster was observed among wild and food producing animals. However, the number of *C. lanienae* isolates from the latter was limited. In conclusion, wild boar and roe deer mainly carry distinct thermotolerant *C. spp.* that differ from isolates of food producing animals. However, rare exchange of *C. spp.* strains between wild and food animal populations may occur.

Keywords

Campylobacter spp.
zoonosis
wild animals
wild boar
deer
whole genome sequencing
cgMLST

Registration ID

23

Professional Status of the Speaker

Postdoc

Junior Scientist Status

No, I am not a Junior Scientist.

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Session Classification: Snacks & Poster Viewing I

Track Classification: One Health in Public Health