

CAMPYLOBACTER INFECTIONS

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Campylobacter spp. are Gram-negative, thin, curved rods. Their cells (0.2–0.5 µm in width) form characteristic seagull-shaped and sometimes long spiral forms and are motile by a single flagellum. Most of the species are micro-aerophilic. *Campylobacter* were once placed in the genus *Vibrio*, and some of the diseases are still occasionally referred to as 'vibriosis'⁽¹⁾. The following species have been isolated from wild animals: *Campylobacter coli* (synonyms *C. hyoilei*, *Vibrio coli*), *C. hyointestinalis*, *C. jejuni* (synonyms *C. fetus* subsp. *jejuni*), and *C. lari* (synonyms *C. laridis*).

The species of the genus *Campylobacter* are distributed worldwide among domestic and wild animals and birds, but in most cases they live as commensals on the mucosa of the oral cavity and intestinal tract. The most important domestic animal pathogens are *C. fetus* subsp. *fetus*, *C. fetus* subsp. *venerealis*, *C. jejuni* and possibly *C. hyointestinalis* and *C. mucosalis*. Many *Campylobacter* spp. are transmitted via the faecal-oral route, whereas *C. fetus* subsp. *venerealis* is transmitted by infected bulls or artificial insemination with contaminated semen. Wild birds and wild mammal populations are regarded as reservoirs of *Campylobacter*. In a large study, 1,794 birds, representing 107 species from 26 families, were examined. An overall *Campylobacter* prevalence of 21.6% was found, but it varied from 0 to 100%. Certain bird taxa had high prevalences (e.g. shorebirds, wagtails, pipits, starlings and thrushes), whereas

others did not⁽²⁾. The prevalence of *Campylobacter* spp. was highly influenced by feeding habits and ecosystem, an observation that had been previously described in another study⁽³⁾. In this study 540 wild birds were examined and the overall prevalence was 28.6%. By contrast, an overall prevalence of 1.4% was reported from a study performed on wild bird samples from Northern England. The latter study revealed that wild birds carry livestock-associated strains of *C. jejuni*, but owing to the apparent absence of wild bird strains in livestock the authors suggested that the route of infection is predominantly from livestock to wild birds⁽⁴⁾. Others reported that different host species largely carry their own *Campylobacter* spp., indicating that cross-species transmission is rare^(5,6). Table 32.1 gives an overview of the occurrence of *Campylobacter* spp. in wildlife.

Campylobacter jejuni and *C. coli* can be found in large amounts in the faeces of food-producing and companion animals. Diarrhoea in dogs has been associated with the presence of *C. jejuni*, and mild disease clinical signs such as soft-to-watery faeces are seen in livestock. Extra-intestinal infections in livestock include abortion (sheep, goat, pigs) and mastitis (cattle). *Campylobacter hyointestinalis* was recovered from pigs with enteritis and *C. mucosalis* was identified in pigs suffering from proliferative enteritis. Although the mechanisms of pathogenesis in *C. jejuni* and *C. coli* infection have received substantial inves-

Incidents with an association between passerine birds, in particular small crows and blue tits (*Parus caeruleus*), and *Campylobacter* sp. contamination of milk for human consumption by pecking open the bottle tops appear now to be less frequently recorded⁽¹⁴⁾. *Campylobacter jejuni* sequence types isolated from geese correspond to those sampled from cases of human disease; hence, the possibility that such strains could cause human disease or water-borne outbreaks on rare occasions cannot be completely dismissed⁽⁶⁾.

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