

Crow (*Corvus* spp.) meat: research possibilities to determine nutritional quality and health risks

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ABSTRACT

There is very limited (if any) literature on the potential use of corvids, specifically crows, as game meat. Despite the worldwide presence of corvids (including crows), especially in urban and other anthropogenic settings, a negative perception of this proposal might arise due to their scavenging of carcasses and waste. In some cases, diseases are present in crow meat, but assessments are still not widespread. This perspective proposes crow meat as a future research topic that merits closer examination, including whether diseases and pathogens infect meat and its nutritional status.

CORVIDS AND SOCIETY

Corvids, which include the family of synanthropic bird species commonly known as crows, are known to feed not only on natural sources of nutrition, such as small mammals, other birds¹, and rodents, either living or dead, but also on the waste produced by human societies. Crows are thus considered an opportunist bird species that adapt well to a range of environments, so it is not uncommon to see them in urban environments, where they are generally not perturbed by humans. However, their noise does disturb humans, and they are known to attack humans for food. In the latter scenarios, crows, such as house crows (*Corvus splendens*), may be perceived as globally invasive pests in need of management and culling²⁻⁴. However, their use as a form of city waste management might conflict with the need or desire to cull these birds⁵.

KEYWORDS

CORVIDS

FOOD SAFETY

HYGIENE

WILD GAME

CROW MEAT AND DISEASES

Only a little (if any) research pertaining to the nutritious nature of crow meat has been conducted. One possible reason is that crows, such as the hooded crow (*Corvus cornix*), are known carriers of protozoan parasites, such as *Neospora caninum* and *Toxoplasma gondii*, derived from dog and cat hosts, respectively⁶. In that latter study, both parasites were detected in Iran using molecular methods (PCR-RFLP). Still, the authors also noted a number of earlier studies from around the world (e.g., in the US, the Czech Republic, Spain, and Israel) where either or both parasites had been detected in other corvids, such as the Eurasian magpie (*Pica pica*), common raven (*Corvus corax*), rook (*Corvus frugilegus*), jackdaw (*Corvus monedula*), house crow, Alala (*Corvus hawaiiensis*), and American crow (*Corvus brachyrhynchos*). Since *T. gondii* causes toxoplasmosis – a zoonotic disease – via transmission from a wide range of hosts, including birds⁷⁻¹⁰, avian scavengers¹¹, and corvids (in Italy)¹², a possible concern regarding the consumption of crow meat is that diseases might be transmissible to humans.

CROW CONSUMPTION: PEST CONTROL AND QUALITY CONTROL

If one considers crows an urban pest, one possible control method would be to consume them, either as game meat, or commercially, not unlike domesticated fowl (e.g., chickens). However, these options need to be supported by hygienic practices¹³ and food safety¹⁴ during the preparation of crow meat, to avoid the risk of the transmission of diseases, such as toxoplasmosis. Those practices also need to be legalized through appropriate licensing (e.g., to hunt) and certification (e.g., to certify the disease-free nature of meat)^{15,16}. The transmission of avian viruses is known to occur in crows, such as the H5N1 virus in large-billed crows (*Corvus macrorhynchos*) in Japan¹⁷, the West Nile virus in carrion crows (*Corvus corone*) in France¹⁸, coronaviruses in a wide range of birds that are consumed¹⁹, or other diseases²⁰⁻²², so stringent detection and elimination of food-borne pathogens and other diseases from crow meat, in both eviscerated and non-eviscerated states²³, would be necessary to make it “safe” for human consumption, using methodologies that are routinely performed for other domestic and game fowl, like pigeons (*Columba livia*)²⁴. The possibility of antibiotic resistance by some pathogens^{25,26} also needs to be considered and tested, and appropriate protocols devised. Any study on the nutritious value of crow meat should also test for the presence of heavy metals, like ammunition-derived lead, which may be present if crows have been shot²⁷. There is also a need to appreciate whether an investment in commercial crow meat carries any other ancillary risks or costs²⁸. If meat is found to be nutritious and safe for human consumption, a negative consumer perception barrier needs to be overcome^{29,30} while any commercial endeavor needs sustainable management³¹.

CONCLUSIONS

Future research could focus on non-nutritional aspects (e.g., physicochemical, textural, rheological, etc.) of the meat, as has been performed for carrier and King pigeons³², as well as nutritional analyses. A second focal point is the need to test meat for diseases and pathogens. Even if the ultimate conclusion is that crows have poor physico-chemical and nutritional qualities, or have high levels of pathogens or diseases, such basic research is still required.

Conflicts of interest

The author declares no conflicts of interest of relevance to this topic.

Author's contributions

The author contributed to the intellectual discussion underlying this paper, literature exploration, writing, reviews and editing, and accepts responsibility for the content and interpretations therein.

Ethical approval

Not applicable.

Funding

No funding was received by the author, or for this paper.

Data availability

No data was used for this research.

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