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Prevalence of Bovine Fasciolosis in the Comoe River Basin, Southwestern Burkina Faso

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ABSTRACT

Fasciolosis is considered a rising zoonotic infection and remains one of the main neglected tropical diseases. The present study aimed to determine the prevalence of bovine fasciolosis in the Comoé province of southwest Burkina Faso. A cross-sectional study was conducted in three villages of the Comoé River in the Cascades region of Burkina Faso. A total of 100 zebu cattle (*Bos indicus*), aged between 6 and 24 months and of both sexes (excluding pregnant animals), from nine farms across three villages were randomly selected and sampled. The presence or absence of *Fasciola* spp. eggs in relation to the animals' sex and origin were evaluated in the selected samples. Fecal samples were collected from each bovine rectum in a tight plastic bag, kept at +4°C, and transferred to the laboratory of the International Research and Development Center on Livestock Farming in Sub-humid Areas (CIRDES) based in Bobo-Dioulasso, Burkina Faso, for subsequent analysis. *Fasciola* spp. eggs were detected in fecal samples using the Malan and Visser fecal egg counting method. The present study was conducted through a systematic examination of 4,992 bovine livers (including zebu and crossbred animals, both sexes, aged 2-4 years) collected over one year at the abattoir in Banfora, the capital of Comoé Province, Burkina Faso. At the slaughterhouse, the liver flukes were identified by size and morphology. According to the results, 40% of the fecal samples were positive for *Fasciola* spp. infection. There was no statistically significant difference between males and females. *Fasciola gigantica* was detected in only 3.43% of the examined livers. Fasciolosis was found to be affected by season and sex, with higher rates in the rainy season and among females at the abattoir, Burkina Faso. The current findings confirmed the endemic presence of bovine fasciolosis in Comoé Province, characterized by a high prevalence in farms (40%) and a low rate of adult *Fasciola gigantica* infection in slaughtered cattle livers (3.43%).

Keywords: Bovine, Egg, *Fasciola*, Fecal sample, Fluke, Liver

INTRODUCTION

Ruminant farming provides a significant source of income in rural Burkina Faso (Adakal et al., 2012). However, diseases such as cattle fascioliasis pose significant barriers to the development of livestock production. The disease stems from two trematode species within the *Fasciola* (*F.*) genus, namely *F. hepatica* and *F. gigantica*. (Periago et al., 2006; Mas-Coma et al., 2009; Girma et al., 2024). In cattle, fascioliasis presents as hepatobiliary helminthiasis, with migration of immature forms into the liver parenchyma and localization of adult *Fasciola* spp. in the bile ducts. Regarded as an emerging zoonotic infection, cattle fasciolosis is one of the main neglected tropical diseases, especially in developing countries (Mas-Coma et al., 2022; Martins et al., 2024; Girma et al., 2025). Cattle fasciolosis prevalence differs widely worldwide. In Africa, its prevalence ranges from 1.2 to 91%, while in the Americas it ranges from 24.5 to 100%. The prevalence values fluctuate from 0.71 to 69.2% and 0.12 to 86% in Asian and European countries, respectively (Rizwan et al., 2022). Globally, at least 2.4 million people across more than 70 countries are infected, and several million people are exposed to fascioliasis, particularly in areas where sheep or cattle are raised (WHO, 2021). The intermediate hosts are aquatic snails of the *Lymnaeidae* family, especially *Lymnaea natalensis* and *Lymnaea truncatula*, for the transmission of *F. gigantica* and *F. hepatica*, respectively. Humans and animals are infected through food and water contaminated with the metacercariae, the infective stage of *Fasciola* spp. (Mas-Coma et al., 2022).

In addition, bovine fasciolosis is a significant economic issue, causing growth retardation, decreased meat and milk production, reduced fertility, liver contamination at slaughterhouses, and even death in infected animals (Garcia-Corredor et al., 2023; Oehm et al., 2023; Girma et al., 2024). In fact, the global production losses due to fasciolosis alone exceed 3 billion USD annually (Elelu et al., 2018). Typically, the treatment involves administering anthelmintic medications such as albendazole and ivermectin (Fairweather et al., 2020). However, several recent studies have recommended using triclabendazole, which has been found to be more effective against ovine fasciolosis than tetraclozan, the combination of tetramizole, oxyclozanide, and albendazole (Gedefaw et al., 2025).

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In Burkina Faso, a recent study conducted at the Dedougou abattoir, located in the North-West of the country, confirmed the presence of *Fasciola* spp. in the livers of slaughtered cattle (Séré, 2021). However, data on the prevalence of fasciolosis in southwest Burkina Faso is limited, whether in live animals or slaughtered cattle. Indeed, this region of the country is a critical agricultural zone with forestry and pastoral potential (Traore et al., 2011). Therefore, the present study aimed to collect data on the epidemiology of bovine fasciolosis in the Comoé province of southwestern Burkina Faso.

MATERIALS AND METHODS

Ethical approval

The current study was conducted in accordance with animal welfare guidelines and approved by the Ethical Committee of the International Research and Development Center on Livestock Farming in Sub-humid Areas (004-05/2019/CE-CIRDES), Burkina Faso. All procedures involving animals were carried out under the supervision of licensed veterinarians, and informed consent was obtained from all bovine owners before sample collection.

Study area

The study was carried out in 2019 in four villages along the Comoé River, including Moussodougou, Kirbina, Toumousseni, and Banfora, in the Cascades region of Burkina Faso (Figure 1). Indeed, this river, one of the most important in the country, provides a humid environment favorable to the development and maintenance of *Lymnaea natalensis* and *Lymnaea truncatula* snails, which are responsible for transmitting *F. gigantica* and *F. hepatica*, respectively. Moreover, the Cascades region, located between isohyets of 1,000 and 1,200 mm, is part of the most well-watered area of the country. This region is characterized by two main seasons, including a rainy season from April to October and a dry season from November to March, with an average annual rainfall of 1071.09 mm. The average annual temperatures range from 17°C to 36°C. Savannah, forest galleries, and open forests are commonly found in this region, providing suitable conditions for agriculture and wildlife breeding. Indeed, the Cascades region is one of the greenest regions in Burkina Faso, with diverse plant species, including shea, néré, baobab, and bamboo, as well as food and cash crops such as cotton, maize, rice, and sugarcane (Traore et al., 2011).

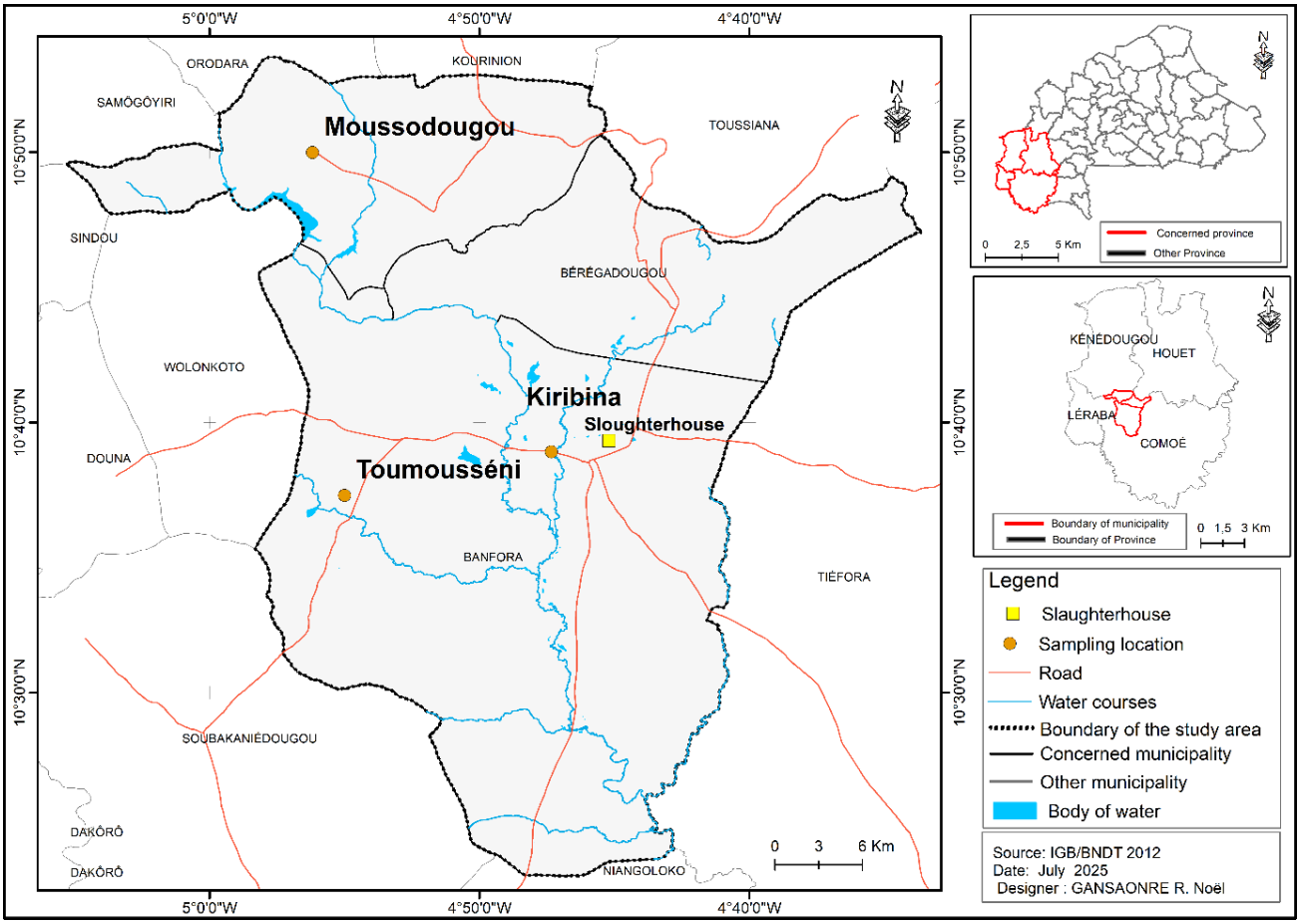

Figure 1. Study location in Burkina Faso

Study design and sampling size

A cross-sectional study was carried out in three villages, Kirbina, Tomousseni, and Moussodougou, in the Comoé province, as well as at the Banfora abattoir in Burkina Faso. The first step of the study was to evaluate the prevalence of bovine fasciolosis in the field using the fecal egg count (FEC) technique (Malan and Visser, 1993), which detected the presence or absence of *Fasciola* spp. eggs in the fecal samples collected from farms (Figure 2). Cattle fecal samples were randomly collected from nine farms across the three villages, and the sex and origin of the selected animals were recorded at the same time. The inclusion criteria included the breed (zebu) and species (*Bos indicus*), age (6 to 24 months), sex (both males and females, excluding pregnant animals), and not excessively fractious. All animals that did not meet these criteria were excluded from the study. The second step of the study was conducted over a year during routine meat inspection at the Banfora abattoir. During ante-mortem inspection, the animals were identified as male or female based on the appearance of the external genitalia (testes and udder). After slaughtering, their livers were macroscopically inspected for the detection of *Fasciola* spp. adult flukes in the bile ducts.

Figure 2. Collection of bovine fecal samples **(A)** and identification of *Fasciola* spp. eggs in field samples at the laboratory **(B)**

Regarding the sampling size for fecal samples, the last study conducted in the field using the sedimentation technique found zero prevalence of bovine fasciolosis (Zagare, 1992). Therefore, the sample size was determined based on the expected prevalence (5%) of bovine fasciolosis, the 5% absolute desired precision, and 95% confidence interval, using the following formula (Thrusfield, 2005; Pearl, 2006).

$N = 1.96^2 \times P_{exp} (1 - P_{exp}) / d^2$

where N is the required sample size, P_{exp} is the expected prevalence = 5% = 0.05, d is the desired absolute precision = 5% = 0.05, and 1.96 is the constant for 95% confidence interval.

$N = ((1.96)^2 \times 0.05 (1 - 0.05)) / (0.05)^2 = 73$

A total of 73 cattle were required, while 100 were sampled to maximize the precision.

For post-mortem liver inspection (Figure 3), a recent study involving 820 cattle over five months at the Dedougou slaughterhouse in the Boucle du Mouhoun region of Burkina Faso reported a 2.07% infestation prevalence (Séré, 2021). In contrast, the current study was conducted over a more extended period in the most humid area of Burkina Faso. Therefore, based on an expected prevalence of 50% for bovine fasciolosis, with a 5% absolute desired precision, and a 95% confidence interval, the required number of cattle livers to inspect was 384 (Thrusfield, 2005), while 4992 were finally examined. Indeed, all the cattle brought for slaughter at the Banfora abattoir during the period of study were included.

$N = (1.96)^2 \times 0.05 (1 - 0.05) / (0.05)^2 = 384$

Cattle fecal sample collection and examination

The study involved 100 cattle randomly selected from nine farms located in the villages of Moussodougou, Kirbina, and others Toumousseni. The selected animals were of both sexes (female and male) and the zebu breed (*Bos indicus*), with ages ranging from 6 to 24 months. In the evenings, the animals were fed dry straw in their pens. During the mornings, they frequently grazed and drank along the Comoé River throughout the entire day. Early in the morning, a sufficient feces sample was collected directly from the rectum of each bovine with gloved hands. The samples were put

in labeled (date, number code identification of animal, sex, origin) tightly closed plastic bags and stored between 2°C and 4°C in a cooler container (Figure 2). A total of 100 samples were collected from cattle across the three villages, Moussodougou (n = 34), Kirbina (n = 26), and Toumousseni (n = 40). The container was transported to the International Research and Development Center on Livestock Farming in Sub-humid Areas (CIRDES) laboratory in Burkina Faso, and the samples were stored in a refrigerator at +4°C for subsequent examination.

The Malan and Visser method was used to identify eggs of *Fasciola* spp. A 2 g of fecal sample, previously collected from each cattle, was successively sieved via a Visser filter with 110 µm and 75 µm pores (Malan and Visser, 1993). The remains were emptied into a container, placed in a Petri dish, and then observed under a microscope at 10x magnification (LABOMED, USA) to assess the presence or absence of *Fasciola* spp. eggs.

Cattle liver inspection

In 2019, every cow brought to the Banfora abattoir for slaughter was recorded, and their livers were examined post-slaughter (Figure 3). The liver, gallbladder, bile ducts, and other related organs were thoroughly examined during the inspection using visualization, palpation, and a knife incision to observe the presence or absence of the liver flukes (Kusumarini et al., 2020). The ventral side of the liver was cut transversely with a knife to expose the bile ducts in several directions. The flukes were obtained by manually pressing the liver. Based on the size and morphological considerations, *Fasciola* spp. adult flukes were identified (Pandya, 2015). Additionally, livers were checked for signs of capsular perforation, subcapsular hemorrhage, and damaged parenchyma tissue.

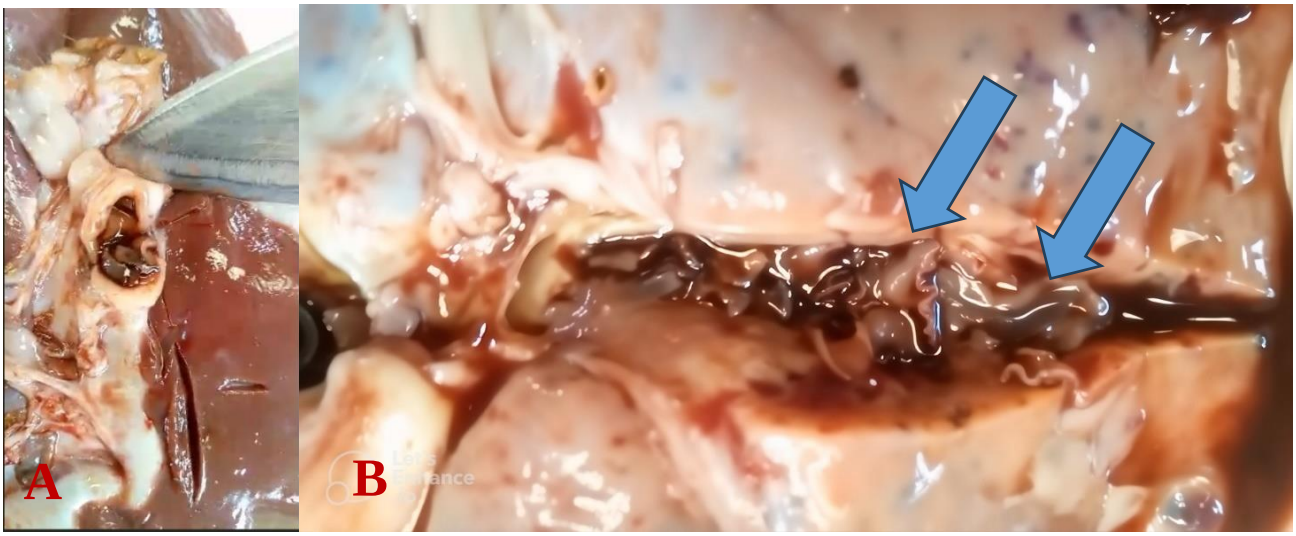

Figure 3. Post-mortem findings after inspection of cattle liver at the abattoir of Banfora: *Fasciola* spp. in the bile duct **(A)** and in the incised liver **(B)**

Data analysis

All statistical analyses were performed using R version 4.1.3 (R Core Team, 2022). Qualitative variables, including sex, sampling village, and sampling month, were expressed in percentages. Prevalence was defined as the proportion of positive cows for fasciolosis by coprological or liver examination among all animals examined, expressed as a percentage (Kipyegen et al., 2022). Two logistic regression models using the logit function were fitted to study the association between the binary variable (*Fasciola* spp. infestation, present or absent) and explanatory variables (sex, sampling village, or sampling month). Z multiple comparison test was performed to compare the *Fasciola* spp. infestation by month or village. The chi-square test was used to assess the effect of the sampling season on disease prevalence. A p-value less than 0.05 was considered significant ($p < 0.05$).

RESULTS AND DISCUSSION

Prevalence in farms

The prevalence of bovine fasciolosis in samples obtained from farms was 40%. In the present study, cattle spent entire days grazing and drinking along the Comoé River, potentially increasing their contact with the intermediate hosts of *Fasciola* spp., *Lymnaea natalensis* and *Lymnaea truncatula* snails. The high prevalence of bovine fasciolosis observed on farms might be due to the humid climate, which provided a favorable environment for the breeding and survival of these snails (Atanga et al., 2024). The privatization and liberalization of veterinary services in West Africa since the

1990s have led to veterinary medicines being distributed through unofficial channels and administered by farmers or untrained workers (Coulibaly, 2004; Grace et al., 2009). This resulted in a high rate of noncompliance with veterinary drugs (Bengaly et al., 2018). A study in Burkina Faso revealed that 53% of antiparasitic veterinary medicines, including anthelmintics, endectocides, and trypanocides, sold in official and unofficial markets, did not meet the quality standards (Tchamdja et al., 2016). The improper use of anthelmintic medicines, associated with poor quality, might be linked to the high prevalence of fasciolosis observed in cattle on farms during the present study. Consistent with the present findings, a high prevalence of bovine fasciolosis (47.7%) was reported in cattle from the Imbo Region of Burundi using the same diagnostic method (Nkurunziza et al., 2023). Additionally, several studies that collected cattle fecal samples to assess bovine fasciolosis have reported prevalence rates of 36.9% in Taiping, Malaysia (Che-Kamaruddin et al., 2024), 33.6% in three counties in Kenya (Kipyegen et al., 2022), 26% in Uganda (Ogwal et al., 2025), 25.4% in cattle pre-slaughter at the Kombolcha industrial abattoir in Ethiopia (Mequaninit, 2021), and 19.75% in the Western Highlands of Cameroon (Atanga et al., 2024), all lower than the rate reported in the current study. These differences might be linked to the different agro-ecological zones.

Regarding the sampling sites, cattle in Kirbina had higher infection rates (88.46%) than those in Toumousséni (29.41%) and Moussodougou pastures (17.5%; Table 1). Precisely, the risk of *Fasciola* spp. infection in cattle of Kirbina was found to be 19 times higher than that of Moussodougou (OR = 19.10). Kirbina is geographically closer to the Comoé River than Moussodougou and Toumousséni, even though these regions belong to the same agro-ecological area. This geographical factor, along with inadequate sanitary control, irregular cattle deworming, and farmers' poor awareness and limited access to veterinary care in Kirbina, likely indicated the marked prevalence of fasciolosis in this region (Atanga et al., 2024). The effect of geographical location on the prevalence of bovine fasciolosis has been documented in multiple studies across Africa. In Kenya, cattle from Perkera and Ahero were nearly twice as likely to be infected with *Fasciola* spp. compared to those from Narok (OR = 1.771 and 1.846, respectively; Kipyegen et al., 2022). Similarly, a study conducted in Ethiopia confirmed a significant association between infection rates and agro-ecological zones, reporting prevalence of 33.6% in Dega, 33.8% in Woyna Dega, and 11.7% in Kola (Mequaninit, 2021). Comparable variation was observed in the Niger River valley in Benin, where prevalence ranged from 7.5% to 52.4%, influenced by season and sampling site (Youssao, 2002).

Considering sex, fecal samples collected from males were more frequently infected with *Fasciola* spp. (42.42%) than females (38.81%). This difference could be due to female cows being kept longer on farms for reproduction and milk production, unlike bulls, thereby decreasing their exposure to parasitic infections such as fasciolosis (Nkurunziza et al., 2023). However, no statistically significant difference was observed in bovine prevalence between males and females ($p > 0.05$). Recent coprological studies conducted on cattle in Kenya and Ethiopia align with the current findings, indicating no statistically significant difference in fasciolosis prevalence between sexes (Mequaninit, 2021; Kipyegen et al., 2022). Nevertheless, cows were found to be more susceptible to *Fasciola* spp. infection in China (Lan et al., 2025).

Table 1. Prevalence of cattle fasciolosis in farms of the Comoé province in Burkina Faso in 2019

Variable	Category	Number of examined cattle	Number of positive cattle and prevalence (%)	P-value
Sex	Female	67	26 (38.81)	0.624
	Male	33	14 (42.42)	
Villages	Kirbina	26	23 (88.46)	< 0.001
	Toumousseni	34	10 (29.41)	
	Moussodougou	40	07 (17.5)	

Prevalence of fasiolosis at the abattoir

The overall prevalence of *Fasciola* spp. infection was 3.43% after the post-mortem examination of 4992 livers (Table 2). This low rate could be attributed to the routine treatment of ruminants with anthelmintic medicines or medicinal plants before slaughter (Kaboré, 2008; Tianhoun et al., 2023). A lower infestation prevalence (2.07%) was observed at the slaughterhouse in Dedougou, in the Boucle du Mouhoun region of Burkina Faso (Séré, 2021). Banfora is a more humid (Sudanese climate) area with an average rainfall of 1000 mm per year than Dedougou, located in the Sudano-Sahelian area of Burkina Faso (Conedera, 2010). Aside from agro-ecological factors, limited access to veterinary services, educational campaigns, and the source of animals slaughtered at each abattoir may explain the observed difference in prevalence (Cama et al., 2025). However, several recent studies on fasciolosis in cattle slaughtered at abattoirs demonstrated higher prevalence, with an estimate of 4.14% in Algeria (Fennouh et al., 2025), 18.64% in Cameroon (Atanga et al., 2024), 33.2% in Burundi (Nkurunziza et al., 2023), between 18% (> 5 years old) and 38% (1-3

years old) in Uganda (Ogwal et al., 2025), 35% in Ethiopia (Mequaninit, 2021), and up to 57% in Malang district, East Java, Indonesia (Kusumarini et al., 2020).

Table 2. Prevalence of fasciolosis in cattle slaughtered in 2019 at the abattoir of Banfora in Burkina Faso

Variable	Category	Number of examined cattle	Number of positive cattle and prevalence (%)	P-value
Sex	Female	2388	104 (4.36)	< 0.001
	Male	2604	67 (2.57)	
Month	January	423	3 (0.71)	< 0.001
	February	382	5 (1.30)	
	March	421	6 (1.43)	
	April	415	4 (0.96)	
	May	426	22 (5.16)	
	June	410	29 (7.07)	
	July	429	28 (6.53)	
	August	416	27 (6.49)	
	September	419	20 (4.77)	
	October	421	13 (3.09)	
	November	406	4 (0.1)	
	December	424	7 (1.65)	

Concerning animal sex, a slightly higher percentage of males (52%) were slaughtered compared to females (48%). Bulls generate higher income for cattle sellers than cows, while the latter are usually kept longer in the farms for reproduction and milk production (Atanga et al., 2024). Surprisingly, the current results indicated a statistically significant difference with *Fasciola* spp. infection rate of 4.36 for females than in males (2.57; $p < 0.05$). This difference may be related to females being more exposed than males due to weaker physiological and immune conditions, with some studies suggesting that susceptibility to fasciolosis could vary between sexes (Phiri et al., 2005; Nkurunziza et al., 2023). Consistent with the present findings, cattle slaughtered at the Bamenda and Bafoussam abattoirs, Cameroun, demonstrated a higher prevalence of adult *Fasciola* spp. flukes in females (33.9%) than in males (13.1%; Atanga et al., 2024). Similarly, in Burundi, bovine fasciolosis was more prevalent in females (51.6%) than in males (28.8%; Nkurunziza et al., 2023). In contrast, no statistically significant difference in the occurrence of bovine fasciolosis by animal sex was observed in cattle slaughtered at the Kombolcha industrial abattoir in Ethiopia (Mequaninit, 2021). This indicated that environmental factors and management practices are likely the main factors influencing *Fasciola* spp. infection (Nkurunziza et al., 2023).

The highest infection rates were observed from May (5.16%) to October (3.09%), which coincided with the rainy season in Burkina Faso (Traore et al., 2011). The present results indicated a statistically significant difference in the prevalence of bovine fasciolosis between the dry season (1.17%) and the rainy season (5.51%; $p < 0.05$). During the rainy season, vegetation and water are abundant, enabling cattle to graze freely. However, this period also promotes the growth of snails' intermediate hosts (*Lymnea* spp.), which emerge from hibernation and release infective forms, metacercaria. The metacercaria were consumed by cattle while grazing, which explained the high prevalence during the rainy season. The seasonal impact on bovine fasciolosis distribution was observed in the Western highlands of Cameroon, with a prevalence of 23.48% during the rainy season compared to 16% in the dry season (Atanga et al., 2024). The same distribution was observed in Algeria, with the highest infection rate in autumn and winter (2.1%), compared to 1.5% in spring (Fennouh et al., 2025). However, the effect of season was not statistically significant in cattle slaughtered at the abattoir of Dedougou in Burkina Faso (Séré, 2021) and in the Niger river valley in Benin (Youssao, 2002). This may be attributable to the practice that well-informed farmers traditionally deworm their animals twice a year, at the onset of the rainy season and at the beginning of the dry season (Soma et al., 2025). Farmers used to combine commercial anthelmintics with local plant-based remedies, especially when access to veterinary medicines was limited or too costly (Hilou et al., 2014). All post-mortem infestations observed in Dedougou's abattoir were caused by *F. gigantica* (Séré, 2021). Indeed, *F. gigantica* is more common in Africa than *F. hepatica* (Mas-Coma et al., 2022).

Only 3.43% of the livers that were inspected at the abattoir were infected, while 40% of the field samples tested positive using coprological analysis. Similar results were observed in cattle from the Imbo Region of Burundi, with a prevalence rate of 47.7% in fecal samples, compared to 33.2% in livers infected with *Fasciola* spp. (Nkurunziza et al., 2023). In Cameroon, the prevalence of bovine fasciolosis was 19.75% according to sedimentation tests, while post-mortem liver examinations indicated infestation rates ranging from 1.10% to 18.64% (Atanga et al., 2024). To increase revenue, butchers traditionally purchased sturdier, well-maintained cattle from farmers, which were treated with anti-parasitic medications and/or medicinal plants to prevent liver contamination and carcass seizure at the slaughterhouse (Tianhoun et al., 2023; Atanga et al., 2024). This practice might explain the lower prevalence of cattle fasciolosis

observed in abattoirs in Burkina Faso, Burundi and Cameroon. In Uganda, more cases of fasciolosis were observed in livers examined after slaughter, with 48% infected livers compared to 26% of fecal samples testing positive (Ogwal et al., 2025). Similarly, in Ethiopia, 35% of adult *Fasciola* spp. flukes were found in livers, compared to a 25.4% infection rate in fecal samples (Mequaninit, 2021). Following cattle infection, it typically takes three to four months for mature adult *Fasciola* spp. to appear in the bile ducts and start laying eggs (Lalor et al., 2021). The lower prevalence of cattle fasciolosis observed across countries using coprological analysis could be due to the limited sensitivity of this method, as eggs were expelled intermittently in feces (Mequaninit, 2021).

The sedimentation method is simple to use in low-resource labs and in the field, even though it requires a large number of personnel. In addition, this approach is more accurate in identifying chronic fasciolosis in household animals (Rojas-Moncada et al., 2024). In fact, the low sensitivity of this technique, coupled with the fluctuating elimination and a limited number of eggs, renders it challenging to diagnose the acute phase of the disease using fecal samples (Kahl et al., 2023). Moreover, some studies have reported that cattle are more affected by chronic fasciolosis than small ruminants (Martins et al., 2024). Consequently, there is a great demand for more accurate and sensitive diagnostic methodologies, such as ELISA (Drescher et al., 2024) or PCR (Martínez-Pérez et al., 2012; Carnevale et al., 2015; Arifin et al., 2016), for the screening of cattle fasciolosis within the study region, and consequently for its control.

The control of bovine fasciolosis is essential due to its hematobiochemical changes and pathological lesions (Temesgen et al., 2025) and its socioeconomic consequences (Odeniran et al., 2020). The treatment is based on anthelmintic medicines such as albendazole and ivermectin (Fairweather et al., 2020). Unfortunately, reports of resistance against *Fasciola* spp. have increased (Brennan et al., 2007; Fairweather et al., 2020; Lamb et al., 2021), associated with the current unavailability of an efficient, cost-effective vaccine against liver fluke (Toet et al., 2014; Zhang et al., 2021; Flores-Velazquez et al., 2023). This emphasized the importance of continuous monitoring and exploring alternative treatments to control this parasitic infection effectively. The integrated control strategy should include coprological surveys, seasonal cattle deworming, the elimination of the *Lymnaea* population using molluscicides, and necessary awareness-raising campaigns on cattle fasciolosis (Hammami et al., 2024; Ogwal et al., 2025). This disease has substantial effects on food security and raised concerns regarding finances and public health (Soosaraei et al., 2020). It appeared essential to persist in educating livestock owners on control strategies to improve the income sources for small-scale livestock farmers.

CONCLUSION

The present study confirmed that cattle fasciolosis was endemic in the Southwestern part of the country, the Comoé province of Burkina Faso. Indeed, 40% of the fecal samples were positive, and 3.43% of the livers examined at the Banfora slaughterhouse were infected with *Fasciola* spp. Fasciolosis was present throughout the year, with peaks during the rainy season, confirming the climate's effect on the occurrence of bovine fasciolosis. Given its zoonotic nature, it appears important to introduce measures to reduce animals' exposure to *Fasciola* spp. infection. Thus, further awareness of *Fasciola* spp. infection control strategies among small-scale livestock farmers should contribute to improving their livelihood.

DECLARATIONS

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Availability of data and materials
The data to support the present study's findings are available upon reasonable request to the corresponding author.

Authors' contributions
Séna Hervé VITOULEY designed and implemented the study and wrote the manuscript; André ZONGO contributed to data collection and the write-up of the manuscript; Martin Bienvenu SOMDA analyzed the data and reviewed the manuscript; and Adrien Marie Gaston BELEM supervised the entire study. All authors read and approved the final edition of the manuscript for publication.

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Competing interests

The authors have not declared any conflict of interest.

Ethical considerations

Ethical issues, including plagiarism, consent to publish, misconduct, data fabrication and/or falsification, double publication and/or submission, and redundancy, have been checked by all the authors. The authors did not use AI tools to prepare or write this article.

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