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Quarantine health screening procedures for avian, ungulate, and carnivorous species at Dubai safari park

Abstract

Maintaining the wellbeing of a variety of species in zoological parks, particularly in environments such as Dubai Safari Park, requires effective wildlife health management. In this study, health screening procedures for recently arriving carnivorous, avian, and ungulate species are assessed and improved with an emphasis on incorporating cutting-edge techniques. The study intends to increase data accuracy, facilitate health monitoring during the quarantine period, and promote early disease detection. This study demonstrates notable advancements in the early detection of health problems in a rigorous screening process, enabling prompt interventions that are crucial for the welfare of animals. The study also addresses the biosecurity implications of these screening techniques, highlighting their function in reducing the likelihood of disease transmission among local wildlife populations.

Keywords: quarantine, health screening, technology, protocol

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Introduction

Wildlife health management within zoological facilities is essential for ensuring the well-being of diverse species, particularly in biodiverse environments such as Dubai Safari Park which houses around 2,300 animals from over 220 species and is supported by a team of more than 140 animal keepers, 7 veterinarians, 3 curators, a dedicated nurses team and a nutrition team including a nutritionist. The introduction of new animals into such settings necessitates the establishment of robust health screening protocols to prevent the introduction and spread of infectious diseases, which can negatively impact on individual animals as well as entire populations. Dubai Safari Park hosts a wide array of wildlife, representing diverse species across several taxonomic groups, including avian species, ungulates, and carnivores.

These animals are carefully housed in exhibits that replicate their natural habitats, and isolation and welfare management practices are essential to ensure the health and safety of newly arrived animals, minimizing the risk of disease transmission and protecting existing populations. The park maintains a diverse collection of vertebrate species, representing a wide range of ecological niches and habitats. Among avian taxa, notable examples include the Greater Flamingo (*Phoenicopterus roseus*), Blue-and-Gold Macaw (*Ara ararauna*), Indian Peafowl (*Pavo cristatus*), Nicobar Pigeon (*Caloenas nicobarica*), Pharaoh's Eagle Owl (*Bubo ascalaphus*), Yellow-Billed Kite (*Milvus aegyptius*), Yellow-Billed Stork (*Mycteria ibis*), Grey Crowned Crane (*Balearica regulorum*), Umbrella Cockatoo (*Cacatua alba*), and Gyrfalcon (*Falco rusticolus*), collectively exemplifying a broad spectrum of ecosystems from tropical forests to arid deserts. The ungulate assemblage, including the Common Hippopotamus (*Hippopotamus amphibius*), Plains Zebra (*Equus quagga*), Addax (*Addax nasomaculatus*), Blue Wildebeest (*Connochaetes taurinus*), Holstein Friesian (*Bos taurus taurus*), Mountain Gazelle (*Gazella gazella*), and Bannur Sheep (*Ovis aries*), occupies habitats ranging from wetlands and savannas to grasslands and mountainous regions, demonstrating morphological and behavioral adaptations suited to their environments. Carnivorous species, including the African Lion (*Panthera leo*), African Wild Dog (*Lycaon pictus*), Bengal Tiger (*Panthera tigris tigris*), Binturong (*Arctictis binturong*), and Raccoon (*Procyon lotor*), serve as apex and mesopredators, playing critical roles in regulating prey populations and maintaining ecological balance.

Monitoring the health of these species is essential, as carnivores and other taxa are susceptible to infectious diseases such as canine distemper virus (CDV) and rabies. While CDV is non-zoonotic, it poses a critical threat to animal populations due to rapid transmission and high mortality, whereas rabies is both fatal and zoonotic, endangering animals and humans alike. Checking the wellbeing of these species through PCR testing for viral pathogens and serological screening for antibodies is fundamental, as they may carry diseases without overt clinical signs, potentially transmitting them to other animals and humans. Moreover, carnivores may harbor external parasites such as ticks and lice, detectable through skin scrapings, which can contribute to secondary infections. Other pathogens of concern in both avian and mammalian species include *Salmonella* spp., *Leptospira* spp., *Toxoplasma gondii*, *Chlamydia psittaci*, *Eimeria* spp. (coccidia), and foot-and-mouth disease virus, all of which may impact animal health, public safety, and biodiversity conservation. The objectives of this study are to assess wildlife health management practices for new animal arrivals at Dubai Safari Park and to examine the challenges posed by emerging infectious diseases across avian, ungulate, and carnivore populations. It evaluates the effectiveness of quarantine and health screening protocols in preventing the spread of zoonotic and non-zoonotic pathogens and investigates the links between animal health management, disease transmission, and biodiversity conservation. The study aims to support the development of practical strategies for disease surveillance, prevention, and control in zoo environments while emphasizing continuous monitoring of emerging diseases to safeguard animal health, public safety, and ecosystem balance.

Focus of the study

The objectives of this study are to assess wildlife health management practices for new animal arrivals at Dubai Safari Park and to examine the challenges posed by emerging infectious diseases across avian, ungulate, and carnivore populations. The study evaluates the effectiveness of quarantine and health screening protocols in preventing the spread of both zoonotic pathogens, including rabies, Salmonella spp., Leptospira spp., Toxoplasma gondii (from carnivores), and Chlamydia psittaci (from birds), as well as non-zoonotic but high-impact pathogens such as Eimeria spp. (coccidia), canine distemper virus (CDV), and foot-and-mouth disease (FMD). Additionally, it investigates the links between animal health management, disease transmission, and biodiversity conservation, supporting the development of practical strategies for disease surveillance, prevention, and control in zoo environments, while emphasizing continuous monitoring of emerging diseases to safeguard animal health, public safety, and ecosystem balance.

Material and methods

Objective

This study evaluates wildlife health management practices for newly arrived animals at Dubai Safari Park, with a focus on mitigating risks associated with emerging infectious diseases in avian, ungulate, and carnivore populations. It assesses the effectiveness of quarantine and health screening protocols in preventing the introduction and transmission of zoonotic diseases, including avian influenza, foot-and-mouth disease, and rabies. Comprehensive health assessments incorporate behavioral observation, physical examination, and advanced diagnostics such as PCR testing and imaging techniques (X-ray, ultrasonography, laparoscopy, and endoscopy) where indicated. These measures aim to detect subclinical infections and ensure that asymptomatic carriers are identified prior to integration into established populations. The findings contribute to the development of evidence-based strategies for disease prevention and control in zoological settings, emphasizing the importance of continuous surveillance to safeguard animal health, public health, and biodiversity conservation.

Analysis

All the animals received in Dubai safari park undergo quarantine screening, we will discuss about avian species, ungulates, and carnivores in detail. The diagnostic approach was tailored to the specific health risks associated with each group.

Avian

Birds underwent a comprehensive health screening during a 30 day quarantine period. This included detailed physical examinations, fecal analysis, and radiological imaging. Diagnostic testing covered a wide range of bacterial, viral, and parasitic diseases, including PCR testing for avian influenza and Newcastle disease. Blood smears were examined for hemoparasites. Species specific tests, such as psittacosis screening in parrots, were performed based on clinical signs and medical history.

Ungulate

Ungulates received thorough health evaluations during quarantine, including physical examinations, fecal testing, and radiological imaging using X-ray and ultrasound. Blood samples were analyzed to screen for diseases such as brucellosis, tuberculosis, and foot-and-mouth disease. PCR testing was used to detect viral infections including bluetongue and PPR. Assessments for parasitic infections, including gastrointestinal parasites.

Carnivore

Carnivores underwent comprehensive health screening during a 30 day quarantine period. This involved physical examinations, fecal analysis, and radiological imaging. Key diagnostic tests included PCR screening for canine distemper, rabies, and parvovirus. Blood smears were checked for blood parasites, and skin scrapings were collected to identify any ectoparasite infestations. Tests were conducted for felids (FIV, FeLV, FIP, Toxoplasmosis) in conjunction with parasitic and bacterial societies when demonstrated by clinical indications.

Results

Avian species

Health screening of the avian population revealed no evidence of avian influenza, Chlamydia, or Newcastle disease. Cloacal swab analyses, routinely used to detect enteric bacterial pathogens such as Salmonella spp. and Campylobacter spp., returned negative results across all sampled individuals, with no detection of bacterial or significant secondary viral infections. Fecal examinations revealed no evidence of endoparasites or other gastrointestinal abnormalities. Comprehensive screening was conducted for a broad range of agents commonly assessed in avian species, including helminths (nematodes, cestodes, and trematodes), coccidian parasites, protozoa, and fungal elements. No signs of parasitic infection, abnormal microbial overgrowth, or indicators of gastrointestinal pathology were detected. Screening for Mycobacterium avium infection was also negative, confirming the absence of major infectious diseases within the avian group. All birds successfully completed the quarantine period and were deemed clinically healthy and fit for integration into the park population (Table 1).

Ungulate species

A total of 35 ungulates, including equine species, were evaluated in the quarantine facility at Dubai Safari Park. Hematological and biochemical parameters were within normal limits, and blood smear examinations were unremarkable. Screening for major infectious agents, including rotavirus, coronavirus, Bluetongue, paratuberculosis, bovine viral diarrhea, Pasteurella spp., Mycobacterium spp., Brucella spp., foot-and-mouth disease, bovine tuberculosis, Cryptosporidium spp., Escherichia coli, and Clostridium perfringens returned negative results across all individuals. Equine-specific testing, including dourine, equine viral arteritis, glanders, equine infectious anemia, tuberculosis, equine herpesvirus infection, piroplasmosis, surra, equine influenza, African horse sickness, strangles, and equine coronavirus were also negative.

Fecal examinations revealed no evidence of endoparasites or other gastrointestinal abnormalities. Comprehensive analysis screened for a broad range of parasitic and microbial agents commonly assessed in ungulates, including helminths (nematodes, cestodes, and trematodes), coccidian parasites, protozoa, and fungal elements. No parasitic infection, abnormal microbial overgrowth, or indicators of gastrointestinal pathology were detected. Skin examinations and scrapings showed no evidence of ectoparasites, and radiological imaging revealed no abnormalities. All animals successfully completed the quarantine period and were deemed clinically healthy and fit for integration into the park population (Table 2).

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Carnivore species

A total of 15 carnivore samples were evaluated through diagnostic testing. Hematology and biochemistry results were within normal limits. Screening for infectious diseases, including parvovirus, canine distemper virus, hepatitis, leptospirosis, panleukopenia, rabies, Chlamydia spp., Salmonella spp., Campylobacter spp., Toxoplasma gondii, parainfluenza, feline immunodeficiency virus (FIV), feline leukemia virus (FeLV), feline infectious peritonitis (FIP), and other relevant pathogens, returned negative results. Fecal examinations were also negative for parasitic infections. Skin scrapings showed no evidence of ectoparasite infestations. Clinical examinations and diagnostic imaging, including radiography and ultrasonography, revealed no abnormalities. Blood smear analysis and screening for hemoparasites showed no significant findings. Consequently, all carnivores were confirmed to be free of infectious diseases and were cleared for release from quarantine (Table 3).

Discussion

Emerging infectious diseases in wildlife pose significant threats to animal health, public health, and biodiversity, emphasizing the interconnectedness of human, animal, and environmental health.[1] Effective quarantine and comprehensive health screening are essential to prevent disease introduction and ensure the safe integration of newly acquired animals into captive populations.[2] In this study, diagnostic screening of avian, ungulate, and carnivore species at Dubai Safari Park revealed no evidence of major infectious or zoonotic diseases. All animals were clinically healthy, and routine hematology, biochemistry, and blood smear examinations were within normal limits. Avian species showed no signs of avian influenza, Newcastle disease, or Chlamydia. Cloacal swabs for enteric bacterial pathogens, including Salmonella spp. and Campylobacter spp., were negative. Fecal and parasitological examinations detected no helminths, protozoa, coccidia, or fungal elements, and screening for Mycobacterium avium infection was negative. These findings confirm the effectiveness of quarantine protocols in maintaining the health and biosecurity of newly introduced avian populations.

Among ungulates, including equine species, hematological and biochemical parameters were within normal limits. Screening for major infectious agents—such as rotavirus, coronavirus, Bluetongue, paratuberculosis, bovine viral diarrhea, Pasteurella spp., Mycobacterium spp., Brucella spp., foot-and-mouth disease, bovine tuberculosis, Cryptosporidium spp., Escherichia coli, and Clostridium perfringens—was negative across all individuals. Equine-specific screening, including tests for dourine, equine viral arteritis, glanders, equine infectious anemia, equine herpesvirus, piroplasmosis, surra, equine influenza, African horse sickness, strangles, and equine coronavirus, was also negative. Fecal examinations revealed no endoparasites, and skin examinations showed no ectoparasites, consistent with good gastrointestinal and integumentary health.

Carnivore species underwent comprehensive hematology, biochemistry, fecal, and parasitological examinations, as well as screening for viral, bacterial, and protozoal pathogens, including parvovirus, canine distemper virus, hepatitis, leptospirosis, panleukopenia, rabies, Chlamydia spp., Salmonella spp., Campylobacter spp., Toxoplasma gondii, parainfluenza, FIV, FeLV, and FIP. All tests returned negative results, and skin scrapings showed no evidence of ectoparasite infestation. Diagnostic imaging, including radiography and ultrasonography, revealed no abnormalities, confirming that all carnivores were clinically healthy and fit for release from quarantine.

Overall, the absence of infectious, parasitic, or ectoparasitic diseases across avian, ungulate, and carnivore species highlights the effectiveness of quarantine and health screening protocols at Dubai Safari Park. These findings underscore the importance of systematic diagnostic evaluations in preventing disease introduction, supporting biosecurity, and maintaining animal health in zoological settings. Continuous surveillance and adherence to quarantine protocols are essential to mitigate emerging infectious disease risks in wildlife populations.[1]

In quarantine, all animals, including avian species, ungulates, and carnivores, will undergo the following tests:

Fecal analysis

Fecal analysis is an essential tool for detecting parasitic infections across various species, including carnivores, avian species, and ungulates. In carnivores, common parasites include *Toxocara*, *Toxoplasma*, and *Giardia*, while in avian species, *Eimeria* and *Ascaridia* are often detected, and ungulates may show infections by *Strongylus* and *Trichuris*. Methods such as fecal flotation and smear techniques are used to identify eggs, cysts, and trophozoites. As gastrointestinal infections can lead to severe health issues in captive or domestic animals, regular fecal screening is crucial in quarantine settings.

Physical examination

A thorough physical examination is essential for assessing an animals overall health and identifying signs of systemic illness, infection, or injury. This involves evaluating vital parameters such as body temperature, heart rate, along with palpation of lymph nodes and major organs. While these assessments apply to all species, certain groups require additional focus. Avian species need careful examination of the beak, feathers, and skin, whereas ungulates are closely evaluated for hoof conditions and signs of gastrointestinal disorders (Figure 1).

Figure 1 physical examination of the Cheetah (A) and African lion (white) (B)

Oral cavity examination is also essential, particularly for new animal arrivals, to identify dental diseases, malocclusions, or signs of infections that could indicate systemic health problems. **Dental scaling** should be included in the health screening to ensure proper oral hygiene and prevent periodontal disease, which can affect the overall health of the animal (Figure 2).

Furthermore, **Identification and implantation** of microchips or other forms of permanent identification are necessary during the intake of new animals, ensuring traceability, proper records, and the prevention of loss or theft. This practice is crucial for both regulatory compliance and the safety of the animals in the facility. Physical

exams are particularly important during quarantine to detect early signs of disease or stress that could compromise an animal's health (Figure 3).

Figure 2 Dental examination of African Lion (white) (A) and dental scaling African lion (white) (B)

Figure 3 ID identification in a falcon (A), Implanted microchip in a Bengal tiger (B), Implanted microchip in a parakeet (C)

Radiology

Radiological imaging is a valuable diagnostic tool for detecting skeletal abnormalities, respiratory infections, and organ pathologies such as lung disease or tumors. In carnivores, thoracic and abdominal radiographs are useful for identifying pneumonia, gastrointestinal obstructions, and neoplasia. For avian species, radiographs are essential for detecting fractures, air sac infections, and respiratory conditions, while ungulates require imaging to detect joint, bone, and abdominal issues. Radiology is critical in assessing an animals health during quarantine (Figure 4).

Figure 4 Xray procedure in African lion (White)

In addition to radiography, **ultrasound** is a non-invasive imaging method frequently used across species. In **carnivores**, abdominal ultrasound is especially valuable for evaluating soft tissue structures such as the liver, spleen, kidneys, and reproductive organs, and is frequently employed to assess suspected cases of pyometra, renal disease, or abdominal masses.[3] In **ungulates**, ultrasound assists in diagnosing reproductive conditions, gastrointestinal motility disorders, and soft tissue injuries.[4] For **avian species**, ultrasonography can provide insights into cardiac function, coelomic masses, and egg retention (Figure 5).

Figure 5 The ultrasound procedure in the Bengal tiger (A) and African lion (White) (B)

Endoscopy allows for internal examination and sample collection with minimal trauma. In **carnivores**, it is employed to evaluate the respiratory and gastrointestinal tracts, helping diagnose conditions like chronic vomiting or upper airway diseases.[5] In **ungulates**, endoscopy is often used to inspect the upper respiratory tract and to assist with reproductive assessments.[6] For **birds**, endoscopy enables visualization of the coelomic cavity and is useful for evaluating air sacs, liver, and reproductive organs (Figure 6).[7]

Figure 6 Endoscopy procedure in falcon

Laparoscopy serves as both a diagnostic and therapeutic tool. In **carnivores**, it is used for procedures such as liver biopsies, organ inspection, and minimally invasive spaying. Among **ungulates**, laparoscopy is increasingly used for reproductive evaluations and guided biopsies.[8] In **avian species**, laparoscopy is particularly important for **gender determination**, which is often difficult in monomorphic species; this method allows direct visualization of

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gonads and is considered a reliable approach for sex identification (Figure 7).[9]

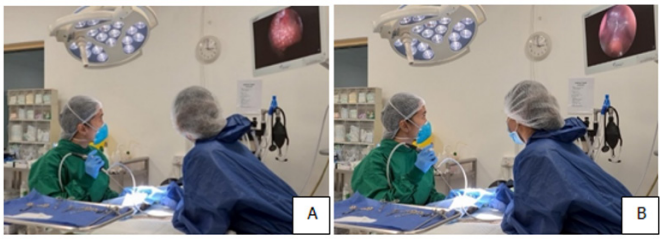

Figure 7 Laparoscopy in falcon for gender determination

Hematology

Hematological testing provides insights into an animal's immune system status, including indicators of inflammation, infection, anemia, or clotting disorders. Complete blood count (CBC) results can help assess organ function and inflammatory responses, which is particularly useful in monitoring the health of quarantined animals. In addition to common tests for carnivores, avian species may require specialized testing to monitor blood cell counts, and ungulates are often assessed for signs of anemia, infections, or parasitic infestations. Blood was collected from the common dorsal metatarsal artery of the bird, as shown in the photo (Figure 8).

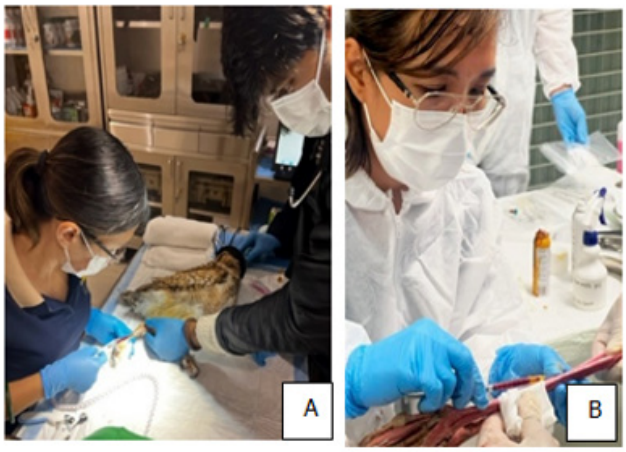

Figure 8 Blood sample collection in falcon (A) and flamingo (B) common dorsal metatarsal artery

Biochemistry

Biochemical tests assess organ function, metabolic status, and electrolyte balance. Liver enzymes, kidney function markers, and glucose levels help detMarra ect conditions such as hepatic disease, kidney failure. In avian species, liver enzymes, electrolytes, and uric acid levels are particularly important, while in ungulates, blood urea nitrogen (BUN) and creatinine are frequently monitored. Biochemistry is an important part of routine health monitoring in quarantine to ensure that animals are in good health before introduction to new environments (Figure 8).

Quarantine procedures for avian species

Avian species, especially those kept in captivity, are highly susceptible to viral infections such as avian influenza and Newcastle disease. These pathogens can spread rapidly and pose serious risks to wildlife conservation. Diagnostic tools such as PCR testing and serological assays like ELISA are therefore essential for early detection, particularly because these infections are often asymptomatic in their early stages. Timely identification of such diseases can prevent outbreaks (Table 4).[10]

Figure 8 Blood sample collection in Speke's gazelle (A) and Mongoose (B)

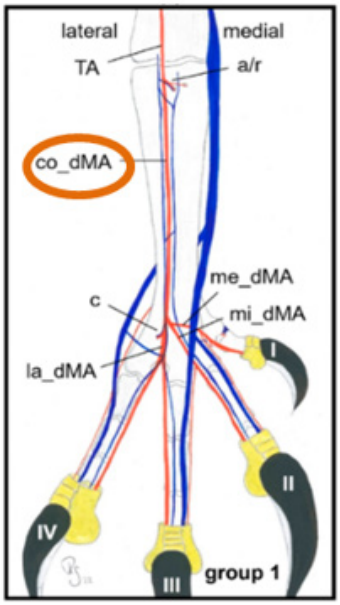

Figure 9 Blood vessel topography (Schwehn, Rebekka, et al. 2024)

Table 4 Avian screening test in Dubai Safari Park Quarantine

No	Avian screening test
Quarantine period is 30 days	
1	Physical examination
2	Fecal analysis or gastrointestinal parasite screening
3	Radiology and endoscopy based on clinical symptoms
4	Skin scrapping for ectoparasite based on clinical symptoms
5	Exploratory endoscopy
6	Complete blood count, complete blood biochemistry and blood smear examination for blood parasite
7	TB Avium test, Chlamydia, M. ornithogaster diagnosis.
8	Viral Isolation, Circovirus Test, Avian Influenza, Newcastle Diseases.
9	Bacteria culture and sensitivity are based on clinical symptoms.
10	Fungal culture and identification based on clinical symptoms.
11	Psittacosis test for psittacine birds
12	Additional disease screening may be required based on the animals medical history at its previous location

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Quarantine procedures for ungulates (hoofed mammals)

Ungulates can act as reservoirs for zoonotic diseases like brucellosis and tuberculosis, both of which have the potential to infect humans as well as other animals. Screening methods such as blood tests, PCR, and skin swabs are vital for identifying these diseases in ungulates, as they may be asymptomatic in the early stages, posing significant risks to other animals and public health. Early detection of diseases like foot-and-mouth disease (FMD) through PCR testing is essential for preventing large-scale outbreaks that could devastate agricultural economies (OIE, 2021) (Table 5).

Table 5 Ungulate screening test in Dubai Safari Park Quarantine

No	**Ungulate screening test**
	Quarantine period is 30 days
1	Physical examination
2	Fecal analysis or gastrointestinal parasite screening
3	Abdominal and thoracic imaging includes X-ray, ultrasound.
4	Skin scrapping for ectoparasite based on clinical symptoms
5	Complete blood count, complete blood biochemistry and blood smear examination.
6	Bovine TB test, Brucellosis, Clostridium, Paratuberculosis
7	Viral Isolation, Bovine Virus Diarrhea, PPR, FMD, Bluetongue
8	Bacteria culture and sensitivity are based on clinical symptoms.
9	Fungal culture and identification based on clinical symptoms.
10	Pasteurellosis, Leptospirosis.
11	Additional disease screening may be required based on the animals medical history at its previous location

Quarantine procedures for carnivorous species

For carnivorous species, quarantine procedures address diseases such as rabies, canine distemper, and tuberculosis. Diagnostic methods include PCR testing for rabies and serological assays for distemper, while physical and behavioral screenings help identify signs of neurological disorders, aggression, or lethargy. The complexity of managing wild versus domesticated carnivores requires nuanced approaches to disease detection and management. Behavioral assessments are also critical, as stress-induced changes in behavior can contribute to the spread of disease (Table 6).

Table 6 Carnivore screening test in Dubai Safari Park Quarantin

No	Carnivore screening test
	Quarantine period is 30 days
1	Physical examination
2	Fecal analysis or gastrointestinal parasite screening
3	Radiology including X-ray, ultrasound, laparoscopy and endoscopy based on clinical symptoms
4	Skin scrapping for ectoparasite based on clinical symptoms
5	Heartworm test
6	Complete blood count, complete blood biochemistry and blood smear examination for blood parasite
7	TB complex.
8	Viral rhinotracheitis, Corona virus, Feline corona virus, Canine Parvo virus, Feline parvovirus, Canine distemper virus, Rabies Ag, FIV, FeLV, FIP
9	Bacteria culture and sensitivity based on the clinical symptoms.
10	Fungal culture and identification based on clinical symptoms.
11	Cryptosporidium, Leptospirosis, Giardia Ag, Toxoplasma
12	Additional disease screening may be required based on the animals medical history at its previous location
13	Test specification in felid: **Felids** FIV, FeLV, Panleukopenia, rhinotracheitis virus, FIP, Amyloidosis (Cheetah) **Canids** parvovirus, distemper, canine hepatitis, leptospirosis. **Procyonidae (coati and red panda), Herpestidae (meerkats, mongooses), Mustelidae (OSC otters and Giant otters).** Chlamydia, Salmonella, Campylobacter, Enteric parasites, parvovirus, distemper, hepatitis, leptospirosis, Panleukopenia, rabies, Kidney uroliths, parvo virus, distemper, hepatitis, leptospirosis, Panleukopenia **Ursids (bears):** Toxoplasmosis, Enteric parasites (esp Ascarids). Dental disease. Canine distemper, leptospirosis, Dermatopathies (fungal and parasitic).
14	Additional disease screening may be indicated depending on the history of the disease at the animals previous place.

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Cross-species contamination remains a critical concern when multiple species are housed in proximity during quarantine. Effective biosecurity measures, including physical separation, dedicated equipment, use of personal protective equipment (PPE), and strict sanitation protocols, are essential to minimize disease transmission.[1] In addition, appropriate facility design, personnel training, and adherence to species-specific quarantine procedures further enhance disease control. A sufficiently long quarantine period is also necessary to allow for clinical observation and completion of diagnostic testing, particularly when the health history of incoming animals is unknown. Furthermore, rapid response measures, including isolation, treatment, and reporting of infectious diseases, are essential components of effective quarantine management. These practices, aligned with a One Health approach, play a vital role in preventing disease emergence and ensuring animal welfare, public health, and ecosystem stability.[11]

Conclusion

Quarantine health screening is a critical component of wildlife management at Dubai Safari Park. Comprehensive diagnostic testing of avian, ungulate, and carnivore species including hematology, biochemistry, PCR, serology, fecal analysis, and imaging revealed no evidence of infectious, parasitic, or ectoparasitic diseases. All animals were clinically healthy and successfully completed quarantine, confirming the effectiveness of rigorous screening protocols and biosecurity measures. These findings highlight the importance of systematic and accurate diagnostics, and strict quarantine procedures in preventing disease introduction, supporting animal welfare, and maintaining ecosystem and biodiversity health in conservation-focused zoological facilities.[12]

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Conflicts of interest

The authors declare that there are no conflicts of interest.

References

1. World Organisation for Animal Health (WOAH). *Guidelines for wildlife disease risk analysis and management*. 2021.
2. Miller RE, Frye FL. Health and disease in captive wildlife. 4th edn. In ME Fowler, ZA Mikota, editors. *Zoo and wild animal medicine*. WB Saunders Company. 2000:34–45.
3. Penninck D, d'Anjou MA. *Atlas of Small Animal Ultrasonography*. 2nd edn. Wiley-Blackwell; 2015.
4. Braun U. Ultrasonography in gastrointestinal disease in cattle. *Veterinary Journal*. 2003;166(2): 112–124.
5. Tams TR, Rawlings CA. *Small Animal Endoscopy*. 3rd edn. Elsevier; 2010.
6. Smith BP. *Large Animal Internal Medicine*. 3rd edn. Mosby; 2002.
7. Samour J. *Avian Medicine*. Mosby-Year Book Inc. 2000.
8. Gonzalez-Bulnes A. Use of laparoscopy in farm animals. *Reproduction in Domestic Animals*. 2010;45(Suppl 2):37–42.
9. Degernes LA. Laparoscopy in Avian Species. *Seminars in Avian and Exotic Pet Medicine*. 1994;3(2):52–59.
10. Alexander DJ. A Review of Avian Influenza in Different Bird Species. *Veterinary Microbiology*. 2000;74:3–13.
11. World Organisation for Animal Health (WOAH). *Terrestrial Animal Health Code*. 2019.
12. Brown C, Zinn A, Marra PP. The Impact of Radiology on Wildlife Health Surveillance. *Journal of Wildlife Diseases.* 2015;51(4):985–993.