Malawi, Malawi. PLoS Negl Trop Dis. 2024;18:e0012504. https://doi.org/10.1371/journal.pntd.0012504

- Stothard JR, Webster BL, Weber T, Nyakaana S, Webster JP, Kazibwe F, et al. Molecular epidemiology of *Schistosoma mansoni* in Uganda: DNA barcoding reveals substantial genetic diversity within Lake Albert and Lake Victoria populations. Parasitology. 2009;136:1813–24. https://doi.org/10.1017/S003118200999031X
- Cunningham LJ, Kayuni S, Juhász A, Makaula P, Lally D Jr, Namacha G, et al. A rapid DNA screening method using high-resolution melt analysis to detect putative *Schistosoma haematobium* and *Schistosoma mattheei* hybrids alongside other introgressing schistosomes. Front Trop Dis. 2024;5:1350680. https://doi.org/10.3389/fitd.2024.1350680
- Leger E, Webster JP. Hybridizations within the genus Schistosoma: implications for evolution, epidemiology and control. Parasitology. 2017;144:65–80. https://doi.org/ 10.1017/S0031182016001190

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Emergence of Feline Sporotrichosis near Brazil Border, Argentina, 2023–2024

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We describe a large urban outbreak of feline sporotrichosis caused by *Sporothrix brasiliensis* fungi in Argentina. Over a 7-month period in Puerto Iguazú, which borders Brazil, we identified culture-proven sporotrichosis in 9 cases across 7 households. Public health officials should coordinate cross-border One Health actions and institute context-specific interventions.

Sporotrichosis is an implantation mycosis caused by thermal-dimorphic fungi belonging to the *Sporothrix schenckii* complex (1). Among pathogenic species, *S. brasiliensis* has high virulence, epidemic potential, and zoonotic/enzootic transmission that occurs through bites, scratches, or contact with exudates from infected animals, particularly domestic cats (2–4).

In South America, S. brasiliensis was first identified in Brazil and has since been reported in other Latin America countries (1-8). Over recent decades, sporotrichosis in Brazil has seen a substantial epidemiologic shift, marked by intense, widespread urban zoonotic outbreaks, initially concentrated in Rio de Janeiro, affecting cats, dogs, and humans (2,9). Those outbreaks have spread to several cities in the southern and southeastern states, including Foz do Iguaçu, located on the Triple Frontier (Argentina, Brazil, and Parguay) between Argentina and Paraguay (2,3,5,7,10). Recently, a cat (Felis catus) infection by S. brasiliensis was reported in Ciudad del Este in Paraguay (8). In Argentina, the first human isolation of S. brasiliensis was documented in 1986 in the south of province of Misiones with no identified source of infection (4). Since then, zoonotic sporotrichosis cases have increased, and the central and southern regions of the country report most occurrences (1,4).

This study reports the emergence of urban transmission of feline sporotrichosis in Puerto Iguazú, Misiones, Argentina (25°36'39"S, 54°34'49"W). Located in the extreme northeast of Argentina, on the border of



Figure. Spatial distribution of feline sporotrichosis near Brazil border, Argentina, 2023-2024. A, B) Relative position in South America showing the location of the Triple Frontier (A) and province of Misiones, Argentina (B). C) Puerto Iguazú within Argentina, showing positive confirmed feline sporotrichosis cases (n = 9; pink stars) and ruled-out cases (n = 12; yellow stars). D) Enlarged image of yellow box in panel C. For those areas where multiple cases (positive and negative) overlap in location. the number of individual cases is indicated. *Cases where intrahousehold transmission occurred between 2 cats (FSCMi24-FSCMi25 and FSCMi41-FSCMi43). In the spatial analysis. the distance between households with feline sporotrichosis cases was measured by using nearestneighbor calculation in ArcGIS Pro (https://pro.arcgis.com), which calculates the shortest distance between 2 points.

the Triple Frontier, the city has a population of \approx 54,675 people and is 1,278 km from Buenos Aires. Puerto Iguazú is a major tourist destination because of the Iguazú Falls and is characterized by substantial crossborder dynamics, including high population and commercial movement.

During August 2023-February 2024, we conducted an intensified passive surveillance on 21 domestic cats (F. catus) from 12 households in the urban area of Puerto Iguazú (Figure). We included cats with lesions consistent with feline sporotrichosis (ulcers, scabs, soft nodules, and ulcerated subcutaneous nodules with exudate) and other cats without lesions but in contact with affected cats or living in areas with documented cases. No cats received treatment before sample collection. Pet owners provided written consent, and we recorded clinical, epidemiologic, and demographic data. Veterinarians evaluated all suspected cases and unaffected cats in contact with affected cats, and ongoing prevention and awareness campaigns provided information to owners and the community.

We collected nasal and lesion swab specimens from cats with skin lesions and nasal swabs from cats without lesions. We conducted diagnosis and species identification of *Sporothrix* by using phenotypic (Giemsa stain and culture) and genotypic methods (sequencing internal transcribed spacer region and partial sequencing of the calmodulin gene) (1,4,10).

We studied 21 cases. Nine (42.9%) were suspected cases, and 12 (57.1%) were unaffected cats. We confirmed feline sporotrichosis by culture in 77.8% (7/9) of the suspected cases and 16.7% (2/12) of the unaffected cats (Appendix Figure, https://wwwnc. cdc.gov/EID/article/31/5/24-1882-App1.pdf). We confirmed *S. brasiliensis* in 77.8% (7/9) cases by using molecular analysis. Two samples were inconclusive because of mold and bacterial contamination, which hindered identification of *Sporothrix* species (Table). Among the 2 confirmed cases in unaffected cats, we identified sneezing as the sole symptom in 1 case, and we ruled out 2 suspected cases because of differential diagnosis (dog bite and dermatophytosis) (Table). We reported all cases to health authorities.

We identified feline sporotrichosis cases in 58.3% (7/12) of the households. In 2 households, we detected multiple cases, suggesting intradomestic transmission. However, in 5 households, we found only 1 cat with sporotrichosis. Most of the cats had free access to streets, neighboring properties, and vacant lots. The average distance between the nearest households with feline sporotrichosis cases was 1.84 ± 1.22 km (range 0–4.54 km) (Table; Figure).

no. Cat ID Date Age/sex Altered Habitation† of lesion material DE, culture strain no. 1 FSCMI-011‡ 2023 Aug 1 Adult/M No Feral Multiple dog bites NS, LS, N/N NA 2 FSCMI-017 2023 Nov 13 Adult/M Yes Outdoor NI NS, C N/N NA FSCMI-024 2023 Nov 24 Adult/M Yes Outdoor NI NS ND, Sporthrix S. sp. brasiliensis 247479 FSCMI-025§ 2023 Nov 13 Adult/F Yes Outdoor NI NS N, Sporothrix S. sp. brasiliensis 247478 FSCMI-021 2023 Nov 13 Adult/F Yes Outdoor NI NS N/N NI NS Sporothrix sp. Sp. brasiliensis 247478 4 FSCMI-021 2023 Nov 24 Adult/M Yes Outdoor Multiple, NS, LS ND, Sporothrix sp. Sp. brasiliensis 247480 Sp. brasiliensis	HH			, ,		•	Type, location	Collected		Species,
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9 FSCMi-040 2024 Jan 10 Juvenile/F No Feral Multiple, head NS, LS Yeast, NC and Sporothrix sp.	8	FSCMi-038	2023 Dec 20	Juvenile/F	Yes	Outdoor	NI	NS	N/N	NA
and Sporothrix sp.	9	FSCMi-040	2024 Jan 10	Juvenile/F	No	Feral	Multiple, head	NS, LS	Yeast,	NC
							and		Sporothrix sp.	
extremities							extremities			
10 FSCMi-041 2024 Jan 15 Adult/M Yes Outdoor Multiple, NS, LS Yeast, S.	10	FSCMi-041	2024 Jan 15	Adult/M	Yes	Outdoor	Multiple,	NS, LS	Yeast,	S.
head, Sporothrix sp. brasiliensis							head,		Sporothrix sp.	brasiliensis,
dorsum, and 247599							dorsum, and			247599
extremities							extremities			
FSCMi-043 2024 Jan 22 Adult/M Yes Outdoor Multiple, head NS, LS Yeast, S.		FSCMi-043	2024 Jan 22	Adult/M	Yes	Outdoor	Multiple, head	NS, LS	Yeast,	S.
and Sporothrix sp. brasiliensis							and		Sporothrix sp.	brasiliensis,
extremities 247600							extremities			247600
11 FSCMi-042‡ 2024 Jan 15 Juvenile/F No Outdoor Alopecia NS, LS ND, NA	11	FSCMi-042‡	2024 Jan 15	Juvenile/F	No	Outdoor	Alopecia	NS, LS	ND,	NA
Microsporum									Microsporum	
canis									canis	
12 FSCMi-049 2024 Feb 28 Senior/M Yes Outdoor Multiple, NS, LS Yeast, S.	12	FSCMi-049	2024 Feb 28	Senior/M	Yes	Outdoor	Multiple,	NS, LS	Yeast,	S.
head, Sporothrix sp. brasiliensis							head,		Sporothrix sp.	brasiliensis,
dorsum, and 247735							dorsum, and			247735
extremities							extremities			

Table. Features of domestic cats (Felis catus) suspected of feline sporotrichosis near Brazil Border, Argentina, 2023–2024*

*C, claw; DE, direct examination of the sample with Giemsa staining; HH, household; LS, lesion swab; N, negative; NA, not applicable; NC, inconclusive because of mold and bacterial contamination; ND, not determined; NI, no injuries; NS, nasal swab specimen; ?, unknown. †Habitation: indoor, cats kept exclusively indoors or in enclosed spaces without outdoor access; outdoor, cats with free access to roam outdoors,

including streets, neighboring properties, or vacant lots; feral, cats living in the wild with minimal or no human interaction.

‡Dog bites and diagnosis of dermatophytosis.

§The cat had frequent sneezing.

Our results describe a large outbreak of *S. brasiliensis* in Argentina. We identified 9 proven cases of feline sporotrichosis in 7 months in Puerto Iguazú, in the province of Misiones, which is more than reported for the whole country (1). The outbreak reflects transmission dynamics similar to the epidemic in Brazil. Evidence shows multiple foci of transmission and asymptomatic carriers spreading the *S. brasiliensis* fungus (2,5,7,10). In addition, the nearest epidemic focus is on the Brazil side of the Triple Frontier (7), and to our knowledge, Buenos Aires and Santa Cruz reported the latest cases of feline sporotrichosis in Argentina (1).

Asymptomatic carriers hinder sporotrichosis control efforts by delaying diagnosis and treatment. Screening all contacts of confirmed cases is essential to minimize the risk for transmission (1,10). Addressing those challenges requires mandatory case reporting and public health measures. The detection and control of the expansion of feline sporotrichosis outside Brazil in contiguous countries requires coordinated cross-border One Health actions and context-specific interventions, which will be crucial to safeguard local communities and tourists (1,5).

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This study adhered to established ethical standards for veterinary research, ensuring the welfare and humane treatment of all animals involved. Sample collection was performed by qualified veterinarians using minimally invasive methods to reduce discomfort and stress. Procedures followed veterinary best practices and complied with international guidelines. Informed consent was obtained from all pet owners, who were briefed on the study objectives, methods, and potential benefits. The study protocol was reviewed and approved by the Institutional Ethics Committee and Institutional Commission for the Care and Use of Experimental Animals of the Faculty of Agricultural and Veterinary Sciences, Universidad del Salvador, Pilar, Provincia de Buenos Aires, Argentina (ICCUEA06-2021), with permits for the collection of natural resources and/or genetic material granted by the Instituto Misionero de Biodiversidad, Puerto Iguazú, Misiones, Argentina, and the Ministerio de Ecología y Recursos Naturales (Misiones) Argentina (Expte. 9950-70-2023-1).

The strains were deposited in the culture collection of the Mycology Department at Instituto Nacional de Enfermedades Infecciosas, Administración Nacional de Laboratorios e Institutos de Salud, Buenos Aires, Argentina and in the Biobank of the Instituto Misionero de Biodiversidad, Puerto Iguazú, Misiones, Argentina (https://imibio.misiones.gob.ar/es). The data presented are part of a broader ongoing project, Proyecto SIGEVA-USAL 2022-2025, entitled Estudio eco-epidemiológico y sanitario de *Sporothrix brasiliensis* en localidades correntinas y misioneras del Corredor Jesuítico Guaraní Argentino.

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References

- Etchecopaz A, Toscanini MA, Gisbert A, Mas J, Scarpa M, Iovannitti CA, et al. *Sporothrix brasiliensis*: a review of an emerging South American fungal pathogen, its related disease, presentation and spread in Argentina. J Fungi (Basel). 2021;7:170. https://doi.org/10.3390/jof7030170
- 2. Rodrigues AM, de Hoog GS, de Camargo ZP. *Sporothrix* species causing outbreaks in animals and humans driven by animal-animal transmission. PLoS Pathog. 2016;12:e1005638. https://doi.org/10.1371/journal.ppat.1005638
- Rabello VBS, Almeida MA, Bernardes-Engemann AR, Almeida-Paes R, de Macedo PM, Zancopé-Oliveira RM. The historical burden of sporotrichosis in Brazil: a systematic review of cases reported from 1907 to 2020. Braz J Microbiol. 2022;53:231-44. https://doi.org/10.1007/s42770-021-00658-1
- Córdoba S, Isla G, Szusz W, Vivot W, Hevia A, Davel G, et al. Molecular identification and susceptibility profile of *Sporothrix schenckii* sensu lato isolated in Argentina. Mycoses. 2018;61:441–8. https://doi.org/10.1111/myc.12760
- Rossow JA, Queiroz-Telles F, Caceres DH, Beer KD, Jackson BR, Pereira JG, et al. A One Health approach to combatting *Sporothrix brasiliensis*: narrative review of an emerging zoonotic fungal pathogen in South America. J Fungi (Basel). 2020;6:247. https://doi.org/10.3390/ jof6040247
- Thomson P, González C, Blank O, Ramírez V, Río CD, Santibáñez S, et al. Sporotrichosis outbreak due to Sporothrix brasiliensis in domestic cats in Magallanes, Chile: a One-Health-approach study. J Fungi (Basel). 2023;9:226. https://doi.org/10.3390/jof9020226
- Prado C, Chiyo L, Santi C, Cognialli R, Reis G, Geraldo M, et al. P464 feline sporotrichosis: an emerging disease in the Brazilian side of the Southern Triple Border. Med Mycol. 2022;60(suppl 1):myac072P464.
- do Prado CM, Razzolini E, Santacruz G, Ojeda L, Geraldo MR, Segovia N, et al. First cases of feline sporotrichosis caused by *Sporothrix brasiliensis* in Paraguay. J Fungi (Basel). 2023;9:972. https://doi.org/10.3390/jof9100972
- Ribeiro Dos Santos A, Misas E, Min B, Le N, Bagal UR, Parnell LA, et al. Emergence of zoonotic sporotrichosis in Brazil: a genomic epidemiology study. Lancet Microbe. 2024;5:e282–90. https://doi.org/10.1016/ S2666-5247(23)00364-6
- Cognialli RCR, Cáceres DH, Bastos FAGD, Cavassin FB, Lustosa BPR, Vicente VA, et al. Rising incidence of Sporothrix brasiliensis infections, Curitiba, Brazil, 2011–2022. Emerg Infect Dis. 2023;29:1330–9. https://doi.org/10.3201/ eid2907.230155

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