

10.11609/jott.2026.18.1.28151-28262

www.threatenedtaxa.org

26 January 2026 (Online & Print)

18(1): 28151-28262

ISSN 0974-7907 (Online)

ISSN 0974-7893 (Print)



Building evidence for conservation globally
**Journal of
Threatened
Taxa**



Open Access



ISSN 0974-7907 (Online); ISSN 0974-7893 (Print)

Publisher
Wildlife Information Liaison Development Society
www.wild.zooreach.org

Host
Zoo Outreach Organization
www.zooreach.org

Srivari Illam, No. 61, Karthik Nagar, 10th Street, Saravanampatti, Coimbatore, Tamil Nadu 641035, India
Registered Office: 3A2 Varadarajulu Nagar, FCI Road, Ganapathy, Coimbatore, Tamil Nadu 641006, India
Ph: +91 9385339863 | www.threatenedtaxa.org
Email: sanjay@threatenedtaxa.org

EDITORS

Founder & Chief Editor

Dr. Sanjay Molur

Wildlife Information Liaison Development (WILD) Society & Zoo Outreach Organization (ZOO),
Coimbatore, Tamil Nadu 641006, India

Assistant Editor

Dr. Chaithra Shree J., WILD/ZOO, Coimbatore, Tamil Nadu 641006, India

Managing Editor

Mr. B. Ravichandran, WILD/ZOO, Coimbatore, Tamil Nadu 641006, India

Associate Editors

Dr. Mandar Paingankar, Government Science College Gadchiroli, Maharashtra 442605, India

Dr. Ulrike Streicher, Wildlife Veterinarian, Eugene, Oregon, USA

Ms. Priyanka Iyer, ZOO/WILD, Coimbatore, Tamil Nadu 641006, India

Board of Editors

Dr. Russel Mittermeier

Executive Vice Chair, Conservation International, Arlington, Virginia 22202, USA

Prof. Mewa Singh Ph.D., FASc, FNA, FNAsc, FNAPsy

Ramanna Fellow and Life-Long Distinguished Professor, Biopsychology Laboratory, and
Institute of Excellence, University of Mysore, Mysuru, Karnataka 570006, India; Honorary
Professor, Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore; and Adjunct
Professor, National Institute of Advanced Studies, Bangalore

Stephen D. Nash

Scientific Illustrator, Conservation International, Dept. of Anatomical Sciences, Health Sciences
Center, T-8, Room 045, Stony Brook University, Stony Brook, NY 11794-8081, USA

Dr. Fred Pluthero

Toronto, Canada

Dr. Priya Davidar

Sigur Nature Trust, Chadapatti, Mavinhalla PO, Nilgiris, Tamil Nadu 643223, India

Dr. John Fellowes

Honorary Assistant Professor, The Kadoorie Institute, 8/F, T.T. Tsui Building, The University of
Hong Kong, Pokfulam Road, Hong Kong

Prof. Dr. Mirco Solé

Universidade Estadual de Santa Cruz, Departamento de Ciências Biológicas, Vice-coordenador
do Programa de Pós-Graduação em Zoologia, Rodovia Ilhéus/Itabuna, Km 16 (45662-000)
Salobrinho, Ilhéus - Bahia - Brasil

Dr. Rajeev Raghavan

Professor of Taxonomy, Kerala University of Fisheries & Ocean Studies, Kochi, Kerala, India

English Editors

Mrs. Mira Bhojwani, Pune, India

Dr. Fred Pluthero, Toronto, Canada

Copy Editors

Ms. Usha Madgunaki, Zooreach, Coimbatore, India

Ms. Trisa Bhattacharjee, Zooreach, Coimbatore, India

Ms. Paloma Noronha, Daman & Diu, India

Web Development

Mrs. Latha G. Ravikumar, ZOO/WILD, Coimbatore, India

Typesetting

Mrs. Radhika, Zooreach, Coimbatore, India

Mrs. Geetha, Zooreach, Coimbatore, India

Fundraising/Communications

Mrs. Payal B. Molur, Coimbatore, India

Subject Editors 2021–2023

Fungi

Dr. B. Shivaraju, Bengaluru, Karnataka, India

Dr. R.K. Verma, Tropical Forest Research Institute, Jabalpur, India

Dr. Vatsavaya S. Raju, Kakatiya University, Warangal, Andhra Pradesh, India

Dr. M. Krishnappa, Jnana Sahyadri, Kuvempu University, Shimoga, Karnataka, India

Dr. K.R. Sridhar, Mangalore University, Mangalagangothri, Mangalore, Karnataka, India

Dr. Gunjan Biswas, Vidyasagar University, Midnapore, West Bengal, India

Dr. Kiran Ramchandra Ranadive, Annasaheb Magar Mahavidyalaya, Maharashtra, India

Plants

Dr. G.P. Sinha, Botanical Survey of India, Allahabad, India

Dr. N.P. Balakrishnan, Ret. Joint Director, BSI, Coimbatore, India

Dr. Shonil Bhagwat, Open University and University of Oxford, UK

Prof. D.J. Bhat, Retd. Professor, Goa University, Goa, India

Dr. Ferdinando Boero, Università del Salento, Lecce, Italy

Dr. Dale R. Calder, Royal Ontario Museum, Toronto, Ontario, Canada

Dr. Cleofas Cervancia, Univ. of Philippines Los Baños College Laguna, Philippines

Dr. F.B. Vincent Florens, University of Mauritius, Mauritius

Dr. Merlin Franco, Curtin University, Malaysia

Dr. V. Irudayaraj, St. Xavier's College, Palayamkottai, Tamil Nadu, India

Dr. B.S. Kholia, Botanical Survey of India, Gangtok, Sikkim, India

Dr. Pankaj Kumar, Department of Plant and Soil Science, Texas Tech University, Lubbock, Texas, USA.

Dr. V. Sampath Kumar, Botanical Survey of India, Howrah, West Bengal, India

Dr. A.J. Solomon Raju, Andhra University, Visakhapatnam, India

Dr. Vijayasankar Raman, University of Mississippi, USA

Dr. B. Ravi Prasad Rao, Sri Krishnadevaraya University, Anantpur, India

Dr. K. Ravikumar, FRLHT, Bengaluru, Karnataka, India

Dr. Aparna Watve, Pune, Maharashtra, India

Dr. Qiang Liu, Xishuangbanna Tropical Botanical Garden, Yunnan, China

Dr. Noor Azhar Mohamed Shazili, Universiti Malaysia Terengganu, Kuala Terengganu, Malaysia

Dr. M.K. Vasudeva Rao, Shiv Ranjani Housing Society, Pune, Maharashtra, India

Prof. A.J. Solomon Raju, Andhra University, Visakhapatnam, India

Dr. Mandar Datar, Agharkar Research Institute, Pune, Maharashtra, India

Dr. M.K. Janarthanam, Goa University, Goa, India

Dr. K. Karthigeyan, Botanical Survey of India, India

Dr. Errol Vela, University of Montpellier, Montpellier, France

Dr. P. Lakshminarasimhan, Botanical Survey of India, Howrah, India

Dr. Larry R. Noblick, Montgomery Botanical Center, Miami, USA

Dr. K. Haridasan, Pallavur, Palakkad District, Kerala, India

Dr. Analinda Manila-Fajard, University of the Philippines Los Baños, Laguna, Philippines

Dr. P.A. Sinu, Central University of Kerala, Kasaragod, Kerala, India

Dr. Afroz Alam, Banasthali Vidyapith (accredited A grade by NAAC), Rajasthan, India

Dr. K.P. Rajesh, Zamorin's Guruvayurappan College, GA College PO, Kozhikode, Kerala, India

Dr. David E. Boufford, Harvard University Herbaria, Cambridge, MA 02138-2020, USA

Dr. Ritesh Kumar Choudhary, Agharkar Research Institute, Pune, Maharashtra, India

Dr. A.G. Pandurangan, Thiruvananthapuram, Kerala, India

Dr. Navendu Page, Wildlife Institute of India, Chandrabani, Dehradun, Uttarakhand, India

Dr. Kannan C.S. Warriar, Institute of Forest Genetics and Tree Breeding, Tamil Nadu, India

Invertebrates

Dr. R.K. Avasthi, Rohtak University, Haryana, India

Dr. D.B. Bastawade, Maharashtra, India

Dr. Partha Pratim Bhattacharjee, Tripura University, Suryamaninagar, India

Dr. Kailash Chandra, Zoological Survey of India, Jabalpur, Madhya Pradesh, India

Dr. Ansie Dippenaar-Schoeman, University of Pretoria, Queenswood, South Africa

Dr. Rory Dow, National Museum of Natural History Naturalis, The Netherlands

Dr. Brian Fisher, California Academy of Sciences, USA

Dr. Richard Gallon, Llandudno, North Wales, LL30 1UP

Dr. Hemant V. Ghate, Modern College, Pune, India

Dr. M. Monwar Hossain, Jahangirnagar University, Dhaka, Bangladesh

continued on the back inside cover

For Focus, Scope, Aims, and Policies, visit https://threatenedtaxa.org/index.php/JoTT/aims_scope
For Article Submission Guidelines, visit <https://threatenedtaxa.org/index.php/JoTT/about/submissions>
For Policies against Scientific Misconduct, visit https://threatenedtaxa.org/index.php/JoTT/policies_various

Cover: Golden-headed Lion Tamarin *Leontopithecus chrysomelas*. Watercolor and acrylics by P. Kritika.



INTRODUCTION

The Jaguar *Panthera onca* is the largest felid in the Americas and the third largest in the world (Seymour 1989). As a top predator, it plays a key ecological role in maintaining ecosystem balance by regulating prey populations (Dalerum et al. 2008). Despite its ecological importance and cultural relevance, it faces persistent conservation challenges, largely driven by conflicts with humans (Hofstatter & Oliveira 2020).

Over the last century, the Jaguar has disappeared from extensive portions of its historical range (Sanderson et al. 2002). Historically distributed from the southern United States to northern Argentina, it now occurs in roughly half of its original range, having undergone an estimated 49% population decline over the past 50 years (Seymour 1989; Sanderson et al. 2002; Zeller 2007). The Jaguar is extinct in El Salvador, the United States, and Uruguay, with remaining populations occurring from northern Mexico to northern Argentina (Quigley et al. 2017). It is currently listed as 'Near Threatened' on the IUCN Red List (Quigley et al. 2017) and as Vulnerable in the Brazilian Red List (Ministério do Meio Ambiente 2022).

In Brazil, the Jaguar occurs across all major biomes except the Pampas, where the last known individual was killed in 1952, resulting in the species' extirpation in that region (Peters et al. 2016; Morato et al. 2018). The most viable Brazilian populations today persist in the Pantanal and the Amazon (Silveira & Crawshaw 2008; Cavalcanti et al. 2012; Oliveira et al. 2012). In contrast, the Atlantic Forest, one of the world's most threatened biomes, retains approximately 11% of its original cover (Ribeiro et al. 2009). And only 10.32% of its landscape is considered to provide suitable habitat for the Jaguar. In this biome, it is classified as Endangered, with an effective population size estimated at fewer than 250 individuals (Ferraz et al. 2012; Morato et al. 2013).

Multiple anthropogenic pressures have contributed to the Jaguar's decline in Brazil since the early 1900s, including habitat loss caused by logging, agricultural expansion, and urbanisation (Morato et al. 2016), poaching, retaliatory killing following livestock predation (Hoogesteijn et al. 1993; Nowell & Jackson 1996), reductions in prey availability (Foster et al. 2016), and broader human-wildlife negative interactions (Murray et al. 1999; Zimmermann et al. 2005; Zeller 2007). These stressors, combined with ecological disruption and increased exposure to pathogens, pose additional risks to already vulnerable populations (Murray et al. 1999; Furtado & Filoni 2008).

In the state of Santa Catarina, historical records of the Jaguar are scarce. Cherem et al. (2004) documented records in Brusque, Blumenau, Urubici, Campo Alegre, and Joinville. The last known records from the southernmost portion of the Atlantic Forest date between the 1960s and the 1990s (Mazzolli 2008). More recently, Fusco-Costa et al. (2022), based on extensive surveys in the Serra do Mar region of southern Brazil, expanded the modelled Jaguar range in the Atlantic Forest by 9% and suggested that forested areas in Santa Catarina may represent potential habitat. Nevertheless, its actual presence in the state remains uncertain, relying primarily on sporadic, unconfirmed observations in forest remnants of the Upper Itajaí Valley and Araucárias National Park. Many of these assumptions stem from records near the Paraná and Rio Grande do Sul borders, reinforcing the hypothesis that the Jaguar may have become extinct in Santa Catarina due to habitat loss and intensive hunting. The most recent threatened species list for Santa Catarina categorizes the Jaguar as Critically Endangered in the state (FATMA 2011).

Understanding Jaguar occurrence in Santa Catarina requires a comprehensive evaluation of historical evidence. Therefore, the objective of this study is to compile and review historical photographic records of the Jaguar to clarify its past distribution and assess factors that may have contributed to its decline and possible extirpation in the state.

Study area

The state of Santa Catarina in southern Brazil (Figure 1) has an approximate area of 95,730 km² (IBGE 2024). Santa Catarina's topography is characterized by a diversified relief, with elevated plateaus in the inland and a narrow coastal plain in the east. The western region is marked by hilly terrains and the presence of the Serra Geral Mountain Range, which influences the state's climatic dynamics. These mountainous formations act as natural barriers, regulating airflow distribution and affecting precipitation patterns (Vibrans et al. 2010, 2012). Thus, the most elevated areas register the lowest temperatures and frequent rainfall, whereas the coast, influenced by the Atlantic Ocean humidity, presents a mild and humid climate throughout the year (Alvares et al. 2013). The elevation gradient also reflects in the vegetation, with tropical and subtropical forests in the lowlands, and *Araucaria* formations in the plateaus and highlands (Klein 1978; Vibrans et al. 2010, 2012).



All historical records were georeferenced based on the localities described in the primary sources, i.e. photographs, newspapers, and personal accounts. For rural sites or historical place names, we used current administrative boundaries and toponyms to approximate locations. Coordinates were obtained using Google Earth Pro. Because many sources lack precise spatial detail, we estimated an uncertainty range of 1–20 km for each coordinate. These uncertainty levels were considered when interpreting spatial patterns, avoiding over-interpretation of fine-scale distribution.

RESULTS

In total, we documented 16 photographic records of the Jaguar in the state of Santa Catarina between 1866 and 1984 (Table 1, Images 1–6), most of which have not been published in scientific journals. The historical records available indicate that the Jaguar was widely distributed across the state, with documented evidence throughout the 20th Century.

In the extreme west and west of Santa Catarina, nine occurrences were registered (56.25% of all). In the Itajaí Valley and northern plateau, four records were documented (25%). In the north-east, two records were identified (12.5%), and in the highlands, there was only one confirmed record (6.25%).

Of the 16 documented photographic records, 13 (81.25% of all) refer to hunted animals, while only three (18.75%) present captured individuals. Our dataset indicates for the first time that a Jaguar was shot in 1984 in the town Campo Erê (Image 6), located in the extreme west, close to the border with Paraná State. This record represents the most recent documentation in the state, updating the previously available data.

DISCUSSION

Reliability and limitations of historical records

Historical records have long been used to describe

the distribution of mammals, especially in regions where contemporary ecological data are scarce or absent (Tyler & Anderson 1990; Timm et al. 1997; Aubry et al. 2007; Díaz 2010; Babb et al. 2022). In Santa Catarina, however, determining these records presents substantial challenges due to the lack of consistent historical documentation. Similar difficulties were highlighted by Babb et al. (2022) in Arizona, where the absence of systematic registers and inconsistencies in sources compromised the reconstruction of temporal distribution patterns.

This challenge is exacerbated by the fact that much of the information concerning the Jaguar in Santa Catarina is dispersed across non-indexed documents, oral accounts, and journalistic records. These limitations reinforce the relevance of integrating different types of historical evidence to improve understanding of the species' past distribution in the state.

Despite these difficulties, the data gathered suggest that the Jaguar once had a broad distribution in Santa Catarina. However, estimating its actual area of occupation with precision remains difficult not only because of gaps and inconsistencies in the documentation (Babb et al. 2022), but also due to intrinsic biological characteristics that hinder detection. The Jaguar is a solitary animal with large home ranges and a naturally low population density (Sanderson et al. 2002; Silver et al. 2004), making both historical and contemporary assessments of distribution inherently challenging.

Table 1. Confirmed historical records of the Jaguar *Panthera onca* in the state of Santa Catarina, Brazil, between 1866 and 1984.

Year	Locality	Approximate coordinates	Type of record	Primary source of photograph
1866	Joinville	–26.304760, –48.845871	Killed	Fundação Biblioteca Nacional
1905	Corupá	–26.426010, –49.243450	Killed	Ligmar Raeder
1916	Blumenau	–26.916578, –49.071732	Captured	Museu Frei Miguel
1930	Itapiranga	–27.167940, –53.712952	Killed	Museu Almiro Theobaldo Müller
1938	Fraiburgo	–27.023319, –50.921928	Killed	Walter Neves
1944	Taió	–27.115748, –49.994181	Killed	Maria Vizentainer
1952	Sul Brasil	–26.741123, –52.969914	Killed	Ross family
1953	Blumenau	–26.916578, –49.071732	Killed	Alfredo Kath
1954	Guaraciaba	–26.597978, –53.521480	Captured	Lauro Steffen
1955	Paraíso	–26.619028, –53.673220	Killed	Biazzi family
1960	Anchieta	–26.536889, –53.331465	Killed	Piccoli family
1960	Itapiranga	–27.167940, –53.712952	Captured	Museu Almiro Theobaldo Müller
1960	Cunha Porã	–26.892682, –53.171931	Killed	Fundação e Casa da Cultura
1970	Joinville	–26.304760, –48.845871	Killed	Newspaper <i>A Notícia</i>
1972	Urubici	–28.006726, –49.591561	Killed	Orquiso Rei de Oliveira
1984	Campo Erê	–26.395318, –53.079029	Killed	Goelzer family



Image 1. Historical photographs of Jaguars in Santa Catarina: A—Joinville (1866) © Fundação Biblioteca Nacional | B—Corupá (1905) © Ligmar Raeder | C—Blumenau (1916) © Museu Frei Miguel.

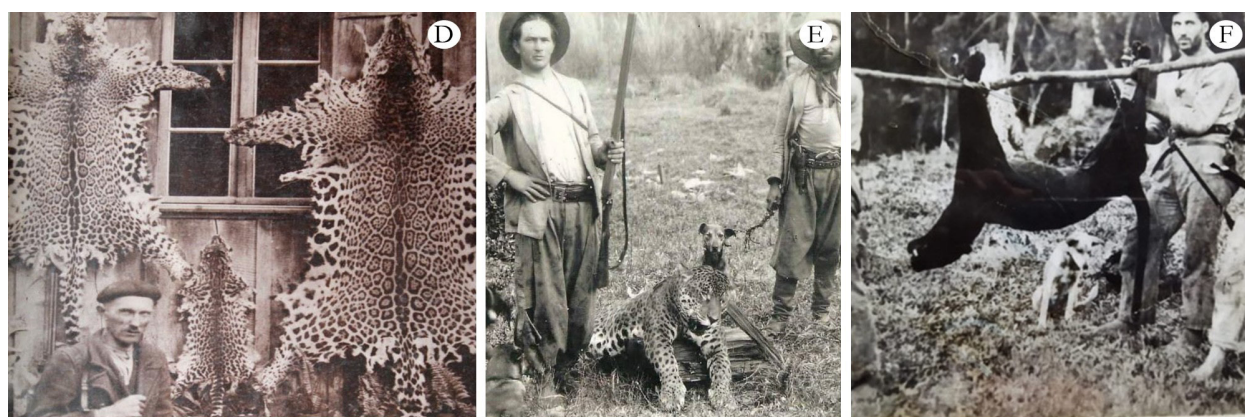


Image 2. Historical photographs of Jaguars in Santa Catarina: D—Itapiranga (1930) © Museu Almiro Theobaldo Müller | E—Fraiburgo (1938) © Walter Neves | F—Taió (1944) © Maria Vizentainer.

Historical patterns of hunting and human persecution

The relatively high number of Jaguars shot in Santa Catarina over the decades demonstrates that hunting has been a recurrent practice in the state. This pattern converges with global evidence indicating that direct persecution is one of the main factors responsible for the decline of large carnivore populations (Ripple et al. 2014). Although the state of Santa Catarina lacks quantitative historical datasets on hunting pressure or prey abundance, the predominance of hunted specimens among the available photographic records strongly suggests that direct persecution played a central role in the Jaguar's decline. This qualitative pattern is consistent with trends documented, where hunting intensity has been identified as a major predictor of local extirpations (Gittleman et al. 2001; Mazzolli 2008; Nyhus 2016; Paviolo et al. 2016; Franco et al. 2018; Teixeira et al. 2023; Thompson et al. 2023). The combined effects of predatory hunting, retaliatory killing, and recreational hunting for trophies (Franco et al. 2018; Thompson et al.

2023) likely accelerated the disappearance of the Jaguar in Santa Catarina.

Beyond commercial and recreational motivations, human-wildlife negative interactions also played a substantial role. Competition for prey, aggravated by ecological imbalance and resource scarcity, often forced Jaguars into anthropogenic areas, resulting in predation on livestock and consequent retaliatory killing by farmers (Peters et al. 2016; Romero-Muñoz et al. 2019). Even though Jaguar meat is not traditionally consumed and is considered “disgusting” by some traditional communities (Fonseca et al. 2006), retaliatory hunting is widely documented in response to livestock depredation (Marchini & Macdonald 2012).

Cultural perceptions additionally contributed to the Jaguar's decline. Since early colonisation, the Jaguar has occupied a symbolic place of fear in the popular imagination, associated with risks to human life (Adams 2012). Although attacks on humans are rare, they amplify fear and negative attitudes (Dickman 2010; Kelly



Image 3. Historical photographs of Jaguars in Santa Catarina: G—Sul Brasil (1952) © Ross family | H—Blumenau (1953) © Alfredo Kath | I—Guaraciaba (1954) © Lauro Steffen.



Image 4. Historical photographs of Jaguars in Santa Catarina: J—Paraíso (1955) © Biazzi family | K—Anchieta (1960) © Piccoli Family | L—Itapiranga (1960) © Museu Almiro Theobaldo Müller.

2019), often justifying preemptive killing (Neto et al. 2011; Iserson & Francis 2015; Jędrzejewski et al. 2017). Fear-driven persecution is considered one of the major threats to large carnivore populations in Brazil (Inskip & Zimmermann 2009; ICMBio 2013), and has historically contributed to the decline of the Jaguar in Santa Catarina.

Habitat loss, prey decline, regional context, and extinction dynamics

Habitat loss and fragmentation represent critical factors in the decline of Jaguar populations. The species depends on large, well-connected forest remnants and abundant prey to persist (Cullen et al. 2005; De Angelo et al. 2011). Fragmentation reduces connectivity between habitat patches (Sanderson et al. 2002; Zeller 2007; Galetti et al. 2013; Knox et al. 2019; Romero-Muñoz et al. 2019), leading to rapid reductions in Jaguar occupancy.

In Santa Catarina, historical forest loss and extensive habitat fragmentation (Astete et al. 2008; Rocha et al. 2023) likely undermined the ecological conditions

required to sustain viable Jaguar populations, contributing to the marked depletion of key native prey species such as White-lipped Peccary *Tayassu pecari*, Collared Peccary *Dicotyles tajacu*, and Lowland Tapir *Tapirus terrestris*. The disappearance of these taxa, primarily due to poaching (Mazzolli 2008; Keuroghlian et al. 2012; Whitworth et al. 2022), may have played a decisive role in the Jaguar's extirpation. Reduced prey availability is known to elevate extinction risk for large predators, particularly in fragmented landscapes where recolonisation is limited (Karanth & Chellam 2009; Foster et al. 2016). In contrast, Jaguar populations persisting elsewhere in Brazil and Central America occur in regions with substantially greater prey abundance, reflected in markedly higher population densities, e.g., 6.7 individuals per 100 km² in the Pantanal (Soisalo & Cavalcanti 2006), 17.9 individuals per 100 km² in the Amazon (Ramalho 2012), and 4.6–8.8 individuals per 100 km² in Mexico and Belize (Silver et al. 2004; Torre & Medellín 2011). Even within the Atlantic Forest, regions such as Vale Natural Reserve support



Image 5. Historical photographs of Jaguars in Santa Catarina: M—Cunha Porã (1960) © Fundação e Casa da Cultura | N—Joinville (1970) © Newspaper A Notícia | O—Urubici (1972) © Orquiso Rei de Oliveira.

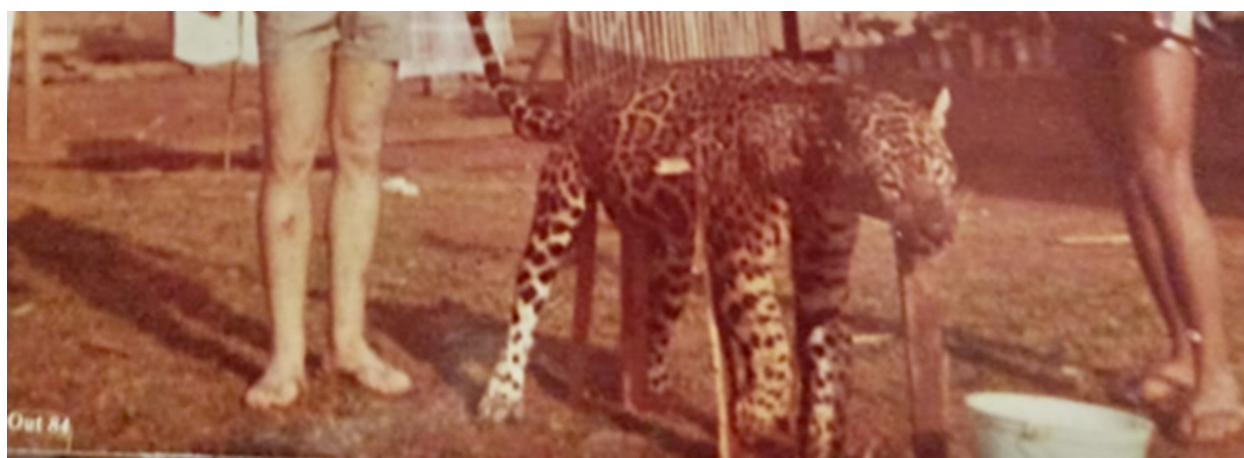


Image 6. Historical photograph of a Jaguar in Campo Erê, Santa Catarina (1984) © Goelzer family.

Jaguars largely because native prey assemblages remain relatively intact (Facure & Giaretta 1996; Galetti et al. 2009; Srbek-Araujo & Chiarello 2016).

Understanding the Jaguar's disappearance also requires considering the broader regional context of the Atlantic Forest. Across this biome, fewer than 300 Jaguars remain, distributed in small, isolated, and highly vulnerable subpopulations (Paviolo et al. 2016). Within this already precarious scenario, the southern portion of the Atlantic Forest stands out for exhibiting the most severe levels of contraction of the Jaguar range.

When compared with its neighbouring southern states, Santa Catarina presents the scarcest confirmed records of Jaguar occurrence. While Paraná and Rio Grande do Sul still retain recent or occasional confirmations of the species (Kasper et al. 2015; ICMBio 2020; Morato et al. 2023; Marcuzzo et al. 2025), the last verified record in Santa Catarina dates to 1984, with no subsequent evidence of persistence. Since that record, no confirmed occurrences have been documented despite increasing research effort in the region. More recently,

the surroundings of the 1984 record in Campo Erê have been the focus of some ongoing and unpublished wildlife monitoring initiatives, including camera trap surveys conducted by the first author, as well as informal surveys based on transect walks and interviews with forestry professionals, long-term residents, and biologists working in the area (forest engineer Rafael Link pers. comm. 10.xii.2024; biologist Augusto Finco pers. comm. 14.vi.2025; local residents Vilmar Tonatto pers. comm. 11.vi.2025, and Benhur Tonatto pers. comm. 16.xii.2025). These combined sources have not yielded any verifiable evidence of Jaguar presence to date. This temporal and evidential contrast suggests that Jaguar populations declined earlier and more abruptly in Santa Catarina, culminating in local extirpation, whereas remnant populations persisted in adjacent states. This pattern likely reflects a combination of accelerated habitat conversion, collapse of prey populations, and intense persecution throughout the 20th Century.

In Paraná, although the Jaguar is classified as Critically Endangered, it persists in two forested nuclei: the Serra

do Mar region and the Upper Paraná-Misiones Green Corridor, both of which have yielded confirmed records since 2016 (Casanova & Bernardo 2017; Nagy-Reis et al. 2020; Subirá et al. 2024). Recent population estimates derived from the 2020 Jaguar Census indicate that the broader bi-national Green Corridor supports an average of 93 individuals with a range of 73–122, representing the largest remaining Jaguar subpopulation in the Atlantic Forest (Paviolo et al. 2008; Subirá et al. 2024). Within the Brazilian portion, 19–33 Jaguars are estimated to be present in an area of 1,852.6 km² in Iguaçu National Park and surroundings (ICMBio 2020; Freitas 2021). The situation is even more critical in Rio Grande do Sul, where fewer than five individuals are thought to remain, all of them restricted to Turvo State Park, the last known area of its occurrence in the northeastern portion of the state (Paviolo et al. 2006; Kasper 2007; Kasper et al. 2015; Marcuzzo et al. 2025).

In contrast, Santa Catarina shows a complete absence of confirmed records for over four decades, reinforcing the interpretation that the Jaguar disappeared in the state earlier than in Paraná and Rio Grande do Sul. The 1984 record in Campo Erê updates previous knowledge, surpassing the last record cited by Mazzoli (2008) in Urubici in 1972, and reveals a pattern in which the final occurrences were concentrated near state borders and in regions with a lower human population density. Such spatial clustering suggests that human expansion and fragmentation may have accelerated range contraction, a trend consistent with broader patterns described for the Jaguar across South America (Chávez et al. 2016; Pereira-Garbero 2016).

Finally, distribution models indicate that parts of Santa Catarina retain potential connectivity with ecological corridors extending to Argentina (Rabinowitz & Zeller 2010). This reinforces the hypothesis proposed by Fusco-Costa et al. (2022), according to which certain forest remnants in the state may function as occasional passage zones or receive sporadic dispersers from neighbouring regions. Whether such movements still occur needs to be figured out in dedicated surveys.

Although the lack of recent confirmed records strongly supports the hypothesis of local extirpation, the absence of detection does not necessarily imply true absence. Modern survey techniques, such as large-scale camera trapping, environmental DNA, could reveal whether individuals still disperse into Santa Catarina from neighbouring areas. Integrating such approaches in future research may help clarify whether the Jaguar is definitively extinct or simply undetected at extremely low densities.

REFERENCES

- Adams, S.W. (2012). On the trail of the devil cat: hunting for the jaguar in the United States and Mexico, pp. 81–98. In: Kalof, L. & G. Montgomery (eds.). *Making Animal Meaning*. Michigan State University Press, East Lansing, 312 pp.
- Alvares, C.A., J.L. Stape, P.C. Sentelhas, J.L.M. Gonçalves & G. Sparovek (2013). Köppen's climate classification map for Brazil. *Meteorologische Zeitschrift* 22(6): 711–728. <https://doi.org/10.1127/0941-2948/2013/0507>
- Astete, S., R. Sollmann & L. Silveira (2008). Comparative ecology of Jaguars in Brazil. *Cat News Special Issue* 4: 9–14.
- Aubry, K.B., K.S. McKelvey & J.P. Copeland (2007). Distribution and broad scale habitat relations of the Wolverine in the contiguous United States. *Journal of Wildlife Management* 71(7): 2147–2158. <https://doi.org/10.2193/2006-548>
- Babb, R.D., D.E. Brown, M. Culver, R. Thompson & T.J. Taylor (2022). Updates of historic and contemporary records of Jaguars (*Panthera onca*) from Arizona. *Journal of the Arizona-Nevada Academy of Science* 49(2): 65–91. <https://doi.org/10.2181/036.049.0205>
- Casanova, D.C. & R. Bernardo (2017). New record of the Jaguar, *Panthera onca* (Linnaeus, 1758) (Felidae), from a mosaic of Atlantic Forest in the Paraná state, Brazil. *Check List* 13(2): 207–210. <https://doi.org/10.15560/13.2.2075>
- Cavalcanti, S.M.C., F.C.C. Azevedo, W.M. Tomás, R.L.P. Boulhosa & P.G. Crawshaw Jr. (2012). The status of the Jaguar in the Pantanal. *Cat News Special Issue* 7: 29–34.
- Chávez, C., H. Zarza, J.A. De la Torre, R.A. Medellín & G. Ceballos (2016). Distribución y estado de conservación del Jaguar en México, pp. 47–92. In: Medellín, R.A., J.A. De la Torre, H. Zarza, C. Chávez & G. Ceballos (eds.). *El Jaguar en el siglo XXI: la perspectiva continental*. Universidad Nacional Autónoma de México, Ciudad de México, 546 pp.
- Cherem, J.J., P.C. Simões Lopes, S.L. Althoff & M.E. Graipel (2004). Lista dos mamíferos do estado de Santa Catarina, sul do Brasil. *Mastozoologia Neotropical* 11(2): 151–184.
- Cullen Jr, L., K.C. Abreu, D.A. Sana & A.F.D. Nava (2005). Jaguars as landscape detectives for the Upper Paraná River corridor, Brazil. *Natureza & Conservação* 3(1): 43–58.
- Dalerum, F., M.J. Somers, K.E. Kunkel & E.Z. Cameron (2008). The potential for large carnivores to act as biodiversity surrogates in southern Africa. *Biodiversity and Conservation* 17(12): 2939–2949. <https://doi.org/10.1007/s10531-008-9406-4>
- De Angelo, C., A. Paviolo & M. Di Bitetti (2011). Differential impact of landscape transformation on Pumas (*Puma concolor*) and Jaguars (*Panthera onca*) in the Upper Paraná Atlantic Forest. *Diversity and Distributions* 17(3): 422–436. <https://doi.org/10.1111/j.1472-4642.2011.00746.x>
- Díaz, N.I. (2010). New historical records of the Jaguar (*Panthera onca*) in Patagonia. *Revista Mexicana de Mastozoología* 14(1): 23–35.
- Dickman, A.J. (2010). Complexities of conflict: the importance of considering social factors for effectively resolving human–wildlife conflict. *Animal Conservation* 13(5): 458–466. <https://doi.org/10.1111/j.1469-1795.2010.00368.x>
- Facure, K.G. & A.A. Giaretta (1996). Food habits of carnivores in a coastal Atlantic forest of southeastern Brazil. *Mammalia* 60(3): 499–502. <https://doi.org/10.1515/mamm-1996-0319>
- FATMA (2011). *Lista de espécies da fauna ameaçada de extinção em Santa Catarina*. Governo do Estado de Santa Catarina, Florianópolis, 58 pp.
- Ferraz, K.M.P.M.B., B.M. Beisiegel, R.C. De Paula, D.A. Sana, C.B. Campos, T.G. De Oliveira & A.L.J. Desbiez (2012). How species distribution models can improve cat conservation – Jaguars in Brazil. *Cat News Special Issue* 7: 38–42.
- Fonseca, M., S.T. Medeiros & L. Garcia (2006). O consumo e as estratégias de caça utilizadas pelas populações tradicionais da Reserva Extrativista Chico Mendes. *Interações - Revista Internacional de Desenvolvimento Local* 7(12): 121–134.

- Foster, R.J., B.J. Harmsen, D.W. Macdonald, J. Collins, Y. Urbina, R. Garcia & C.P. Doncaster (2016). Wild meat: a shared resource amongst people and predators. *Oryx* 50(1): 63–75. <https://doi.org/10.1017/S003060531400060X>
- Franco, J.L.A., J.A.L. Drummond & F.P.M. Nora (2018). History of science and conservation of the Jaguar (*Panthera onca*) in Brazil. *Historia Ambiental Latinoamericana y Caribeña (HALAC)* 8(2): 42–72.
- Freitas, F. (2021). Hunters, rangers, cougars, and jaguars: human and nonhuman territories at the Argentine-Brazilian border, 1960s–1990s. *História, Ciências, Saúde-manguinhos* 28(1): 59–79. <https://doi.org/10.1590/S0104-59702021000500004>
- Furtado, M.M. & C. Filoni (2008). Diseases and their role for Jaguar conservation. *Cat News Special Issue* 4: 35–40.
- Fusco-Costa, R., B. Ingberman, G.S. Magezi & E.L.M.F. De Araujo (2022). Present but not detected: new records increase the Jaguar's area of occupancy in the coastal Atlantic Forest. *Oryx* 57(1): 72–75. <https://doi.org/10.1017/S0030605322000151>
- Galetti, M., H.C. Giacomini, R.S. Bueno, C.S.S. Bernardo, R.M. Marques, R.S. Bovendorp, C.E. Steffler, P. Rubim, S.K. Gobbo, C.I. Donatti, R.A. Begotti, F. Meirelles, R.A. Nobre, A.G. Chiarello & C.A. Peres (2009). Priority areas for the conservation of Atlantic Forest large mammals. *Biological Conservation* 142(6): 1229–1241. <https://doi.org/10.1016/j.biocon.2009.01.023>
- Galetti, M., E. Eizirik, B. Beisiegel, K. Ferraz, S. Cavalcanti, A.C. Srebek-Araujo, P. Crawshaw, A. Paviolo, P.M. Galetti Jr, M.L. Jorge, J. Marinho Filho, U. Vercillo & R. Morato (2013). Atlantic rainforest's Jaguars in decline. *Science* 342(6161): 930. <https://doi.org/10.1126/science.342.6161.930-a>
- Gittleman, J.L., S.M. Funk, D.W. Macdonald & R.K. Wayne (eds.) (2001). *Carnivore Conservation*. Cambridge University Press, Cambridge, 692 pp.
- Hofstatter, L.J.V. & H.T. Oliveira (2020). Caminhos educativos para um melhor convívio entre humanos e onças. *Ensaio Pesquisa em Educação em Ciências* 22: e12048. <https://doi.org/10.1590/21172020210104>
- Hoogesteijn, R., A. Hoogesteijn & E. Mondolfi (1993). Jaguar predation and conservation: cattle mortality caused by felines on three ranches in the Venezuelan Llanos, pp. 391–407. In: Dunstone, N. & M.L. Gorman (eds.). *Mammals as predators*. Clarendon Press, Oxford, 512 pp.
- IBGE (2024). Santa Catarina. <https://www.ibge.gov.br/cidades-e-estados/sc.html>. Electronic version accessed on 5.xii.2025.
- ICMBio (2013). *Plano de ação nacional para a conservação da onça-pintada*. Série Espécies Ameaçadas, nº 19. Instituto Chico Mendes de Conservação da Biodiversidade, Brasília, 384 pp.
- ICMBio (2020). *Projeto Onças do Iguçu - Relatório Anual de Atividades*. Instituto Chico Mendes de Conservação da Biodiversidade, Brasília, 238 pp.
- Inskip, C. & A. Zimmermann (2009). Human-felid conflict: a review of patterns and priorities worldwide. *Oryx* 43(1): 18–34. <https://doi.org/10.1017/S003060530899030X>
- Iserson, K.V. & A.M. Francis (2015). Jaguar attack on a child: case report and literature review. *Western Journal of Emergency Medicine* 16(2): 303–309. <https://doi.org/10.5811/westjem.2015.1.24043>
- Jędrzejewski, W., E.O. Boede, M. Abarca, A. Sánchez-Mercado, J.R. Ferrer-Paris, M. Lampo, G. Velásquez, R. Carreño, A.L. Viloria, R. Hoogesteijn, H.S. Robinson, I. Stachowicz, H. Cerda, M.M. Weisz, T.R. Barros, G.A. Rivas, G. Borges, J. Molinari, D. Lew, H. Takiff & K. Schmidt (2017). Predicting carnivore distribution and extirpation rate based on human impacts and productivity factors: assessment of the state of Jaguar (*Panthera onca*) in Venezuela. *Biological Conservation* 206: 132–142. <https://doi.org/10.1016/j.biocon.2016.09.027>
- Karanth, K.U. & R. Chellam (2009). Carnivore conservation at the crossroads. *Oryx* 43(1): 1–2. <https://doi.org/10.1017/S003060530843106X>
- Kasper, C.B., F. Mazim, J.B. Soares, T.G. De Oliveira & M.E. Fabián (2007). Composição e abundância relativa dos mamíferos de médio e grande porte no Parque Estadual do Turvo, Rio Grande do Sul, Brasil. *Revista Brasileira de Zoologia* 24(4): 1087–1100.
- Kasper, C.B., F.D. Mazim, J.B.G. Soares & T.G. de Oliveira (2015). Density estimates and conservation of *Leopardus pardalis*: southernmost population of the Atlantic Forest. *Iheringia, Série Zoologia* 105: 367–371. <https://doi.org/10.1590/1678-476620151053367371>
- Kelly, J.R. (2019). A sociocultural perspective: human conflict with Jaguars and pumas in Costa Rica. *Conservation & Society* 17(4): 355–365. https://doi.org/10.4103/cs.cs.17_141
- Keuroghlian, A., A.L.J. Desbiez, B.M. Beisiegel, E.P. Medici, A. Gatti, A.R. Mendes Pontes, C.B. Campos, C.F. Tófoli, E.A. Moraes Jr., F.C. Azevedo, G.M. Pinho, L.P. Cordeiro, T.S. Santos Jr., A.A. Moraes, P.R. Mangini, K. Fleisher, L.F. Rodrigues & L.B. Almeida (2012). Avaliação do Risco de Extinção do queixada, *Tayassu pecari* Link, 1795, no Brasil. *Biodiversidade Brasileira* 2(1): 84–102.
- Klein, R.M. (1978). Mapa fitogeográfico do estado de Santa Catarina. Herbário Barbosa Rodrigues, Itajaí, 24 pp.
- Knox, J., N. Negrões, S. Marchini, K. Barboza, G. Guanacoma, P. Balhau, M.W. Tobler & J.A. Glikman (2019). Jaguar persecution without 'cowflict': insights from protected territories in the Bolivian Amazon. *Frontiers in Ecology and Evolution* 7: 494. <https://doi.org/10.3389/fevo.2019.00494>
- Marchini, S. & D.W. Macdonald (2012). Predicting ranchers' intention to kill Jaguars: case studies in Amazonia and Pantanal. *Biological Conservation* 147(1): 213–221. <https://doi.org/10.1016/j.biocon.2012.01.002>
- Mazzolli, M. (2008). Loss of historical range of Jaguars in southern Brazil. *Biodiversity and Conservation* 18(6): 1715–1717. <https://doi.org/10.1007/s10531-008-9552-8>
- Marcuzzo, S.B., C.C. Barbieri & F.M. Imperatori (2025). Interpretação ambiental e governança participativa no Parque Estadual do Turvo: o programa "Onde a onça bebe água?". *Revista Brasileira de Ecoturismo* 18(5): 263–282. <https://doi.org/10.34024/1pwp4473>
- Ministério do Meio Ambiente (2022). Portaria nº 300, de 13 de Dezembro de 2022. *Reconhece a Lista Nacional de Espécies Ameaçadas de Extinção*. Diário Oficial da União 14 dez. 2022, seção 1:75.
- Morato, R.G., B.D.M. Beisiegel, E.E. Ramalho, C.B. Campos & R.L.P. Boulhosa (2013). Avaliação do risco de extinção da Onça-pintada (*Panthera onca*) no Brasil. *Biodiversidade Brasileira* 1(1): 122–132. <https://doi.org/10.37002/biodiversidadebrasil.v3i1.378>
- Morato, R.G., B.M. Beisiegel, E.E. Ramalho, C.B. Campos & R.L.P. Boulhosa (2018). *Panthera onca* (Linnaeus, 1758), pp. 353–357 in: Instituto Chico Mendes de Conservação da Biodiversidade (ICMBio) (ed.). *Livro vermelho da fauna brasileira ameaçada de extinção. Volume II – Mamíferos*. Ministério do Meio Ambiente, Brasília, 495 pp.
- Morato, R.G., J.A. Stabach, C.H. Fleming, J.M. Calabrese, R.C. De Paula & K.M.P.M. Ferraz (2016). *Space use and movement of a neotropical top predator: the endangered Jaguar*. *PLoS One* 11(12): e0168176. <https://doi.org/10.1371/journal.pone.0168176>
- Morato, R.G., B.H. Saranholi, C.B. Campos, D.M. Dias, E. Eizirik, C.E. Fragoso, F.C. Azevedo, F.G. Lemos, M.B.F. Guilherme, T.G. Oliveira & F.P. Tirelli (2023). *Panthera onca*. Sistema de Avaliação do Risco de Extinção da Biodiversidade – SALVE, Instituto Chico Mendes de Conservação da Biodiversidade, Brasil, 45 pp. <https://doi.org/10.37002/salve.ficha.14015.2>
- Murray, D.L., K. Bulte & C.L. Chapman (1999). Infectious disease and the conservation of free ranging large carnivores. *Animal Conservation* 2(4): 241–254. <https://doi.org/10.1111/j.1469-1795.1999.tb00070.x>
- Nagy-Reis, M.B., J.E.F. Oshima, C.Z. Kanda, F.B.L. Palmeira, F.R. Melo, R.G. Morato, L. Bonjorne, M. Magioli, C. Leuchtenberger, F. Rohe, F.G. Lemos, F. Martello, M.A.E. Eigenheer, R.A. Silva, J.S. Santos, C.F. Priante, R. Bernardo, P. Rogeri, J.C. Assis, L.P. Gaspar, V.R. Tonetti, C.T. Trinca, A.S. Ribeiro, A. Bocchiglieri, A. Hass, A. Canteri, A.G. Chiarello, A.P. Paglia, A.A. Pereira, A.C. Souza, A. Gatica, A.Z. Medeiros, A. Eriksson, A.N. Costa, A. González-Gallina, A.A. Yanosky, A.J. Cruz, A. Bertassoni, A. Bager, A.A.A. Bovo, A.C. Mol, A.M.R. Bezerra, A. Percequillo, A. Vogliotti, A.M.C. Lopes, A. Keuroghlian, A.C.Z. Hartley, A.L. Devlin, A. Paula, A. García-Olaechea, A. Sánchez, A.C.M.M. Aquino, A.C.S.-Araujo, A.C. Ochoa, A.C. Tomazzoni, A.C.R. Lacerda, A.E.F. Bacellar, A.K.N. Campelo, A.M.H. Victoria, A.M.O.

- Paschoal, A.P. Potrich, A.P.N. Gomes, A.P.M. Olímpio, A.R.C. Costa, A.T.A. Jácomo, A.M. Calaça, A.S. Jesus, A.B. Barban, A. Feijó, A. Pagoto, A.C. Rolim, A.P. Hermann, A.S.M.C. Souza, A.C. Alonso, A. Monteiro, A.F. Mendonça, A.L. Luza, A.L.B. Moura, A.L.F. Silva, A.M. Lanna, A.P. Antunes, A.V. Nunes, A. Dechner, A.S. Carvalho, A.J. Novaro, A.B. Scabin, A. Gatti, A.B. Nobre, A. Montanarin, A.C. Deffaci, A.C.F. Albuquerque, A.M. Mangione, A.M.S. Pinto, A.R.M. Pontes, A.T. Bertoldi, A.M. Calouro, A. Fernandes, A.N. Ferreira, A.C. Ferregueti, A.L.M. Rosa, A. Banhos, B.S.S. Francisco, B.A. Cezila, B.M. Beisiegel, B. Thoisy, B. Ingberman, B.S. Neves, B. Pereira-Silva, B.B. Camargo, B.S. Andrade, B.S. Santos, B. Leles, B.A.T.P. Campos, B.B. Kubiak, B.R.A.F. França, B.H. Saranholi, C.P. Mendes, C.C. Devids, C. Pianca, C. Rodrigues, C.A. Islas, C.A.L. Lima, C.R. Lima, C.C. Gestich, C.D. Tedesco, C. Angelo, C. Fonseca, C. Hass, C.A. Peres, C.B. Kasper, C.C. Durigan, C.E. Fragoso, C.E. Verona, C.F.D. Rocha, C.H. Salvador, C.L. Vieira, C.E.B. Ruiz, C.C. Cheida, C.C. Sartor, C.C. Espinosa, C.Z. Fieker, C. Braga, C.S.-Lalinde, C.I.C. Machado, C. Cronemberger, C.L. Luna, C.D. Vecchio, C.S.S. Bernardo, C.M. Hurtado, C.M. Lopes, C.A. Rosa, C.C. Cinta, C.G. Costa, C.P. Zárate-Castañeda, C.L. Novaes, C.N. Jenkins, C.S. Seixas, C. Martin, C.P. Zaniratto, C.F. López-Fuerte, C.J. Cunha, C.B. De-Carvalho, C. Chávez, C.C. Santos, D.J. Polli, D. Buscariol, D.C. Carreira, D. Galiano, D. Thornton, D.S. Ferraz, D. Lamattina, D.J. Moreno, D.O. Moreira, D.A. Farias, D.M. Barros-Battesti, D.C. Tavares, D.C. Braga, D.A. Gaspar, D. Friedeberg, D. Astúa, D.A. Silva, D.C. Viana, D.J. Lizcano, D.M. Varela, D. Loretto, D.M. Gräbin, D.P. Eaton, D.M. Silva, D.M. Dias, E.M.V.C. Camara, E. Barbier, E. Chávez-González, E.C. Rocha, E.S. Lima, E. Carrano, E. Eizirik, E. Nakano-Oliveira, E.D. Rigacci, E.M. Santos, E.M. Venticinque, E.R. Alexandrino, E.A. Ribeiro, E. Setz, E.C.L.D. Rocha, E.A.R. Carvalho Jr., E. Rechenberg, E.C. Fraga, E.N. Mendonça, E. D'Bastiani, E. Isasi-Catalá, E. Guíjosa-Guadarrama, E.E. Ramalho, E. González, É. Hasui, E.N. Saito, E. Fischer, E.F. Aguiar, E.S. Rocha, E.D.M. Nambo, E.P. Peña-Cuellar, É.P. Castro, E.B. Freitas, E. Pedó, F.L. Rocha, F. Girardi, F.A. Pereira, F.A.M. Soares, F.O. Roque, F.G. Diaz-Santos, F.M. Patiu, F.O. Nascimento, F.K. Ferreira, F. Diaz-Santos, F.M. Fantacini, F. Pedrosa, F.P. Silva, F.V.-García, F.B.R. Gomes, F.G. Silva, F. Michalski, F.C. Azevedo, F.C. Barros, F.S. Santos, F.D. Abra, F.P. Ramalho, F.M. Hatano, F.A.-Yancha, F. Gonçalves, F. Pedroni, F.C. Passos, F.C. Jacinavicius, F.C.G. Bonfim, F.H. Puertas, F.M.C.-Moreno, F.R. Tortato, F.M. Santos, F.G. Chaves, F.P. Tirelli, F.E.V. Boas, F.H.G. Rodrigues, F.K. Ubaid, F. Grotta-Neto, F. Palomares, F.L. Souza, F.E. Costa, F.G.R. França, F.R. Pinto, G.L. Aguiar, G.S. Hofmann, G. Heliodoro, G.T. Duarte, G.R. Andrade, G. Beca, G. Zapata-Ríos, G.A.F. Giné, G.V.N. Powell, G.W. Fernandes, G. Forero-Medina, G.L. Melo, G.G. Santana, G. Ciocheti, G.B. Alves, G.H.B.O. Souto, G.J. Villarroel, G.E.O. Porfirio, G.O. Batista, G.M. Behling, G.M.A. Crespo, G.M. Mourão, G.Z. Rezende, G.A.C. Toledo, H.M. Herrera, H.A. Prado, H.G. Bergallo, H. Secco, H. Rajão, H.L. Roig, H.V.B. Concone, H. Duarte, H. Ermenegildo, H.F.P. Neto, H. Quigley, H.M. Lemos, H. Cabral, H.F. Ferreira, H.F. Castillo, I.K. Ribeiro, I.P. Coelho, I.C. Franceschi, I. Melo, I.O.-Bevan, I. Mourthe, I. Bernardi, J.A. Torre, J.M. Filho, J. Martinez, J.X.P. Perez, J. Pérez-Torres, J. Bubadué, J.R. Silveira, J.B. Seibert, J.F. Oliveira, J.R. Assis, J. Maza, J. Hinojosa, J.P. Metzger, J.J. Thompson, J.C. Svenning, J.A. Gouvea, J.R.D. Souza, J. Pincheira-Ulbrich, J.Z. Nodari, J. Miranda, J.C.Z. Gebin, J.G.R. Giovanelli, J.L.R. Junior, J.P.P. Favoretti, J.P. Villani, J.P.G. Just, J.P. Souza-Alves, J.F. Costa, J. Rocha, J. Polisar, J. Sponchiado, J.J. Cherem, J.R. Marinho, J. Ziegler, J. Cordeiro, J.S. Silva Júnior, J.A. Rodriguez-Pulido, J.C.C. Santos, J.C.R. Júnior, J.E. Mantovani, J.F.M. Ramirez, J.H. Sarasola, J.L. Cartes, J.M.B. Duarte, J.M. Longo, J.O. Dantas, J.O. Venancio, J.R. Matos, J.S.R. Pires, J.E. Hawes, J.G. Santos, J. Ruiz-Esparza, J.A.M. Lanfranco, J.C. Rudolf, J.F.C. Medellin, J.I.Z. Martínez, J.L. Peña-Mondragón, J.M.C. Krauer, J.P. Arrabal, J. Beduschi, J. Ilha, J.C. Mata, J. Bonanomi, J. Jordao, J.M.A. Rocha, J.P. Ribeiro, J.B. Zanoni, J.A. Bogoni, J.J.C. Pacheco, K.M.C. Palma, K.B. Strier, K.G.R. Castro, K. Didier, K.L. Schuchmann, K.C. Congrains, K. Burs, K.M.P.M.B. Ferraz, K.M. Juarez, K. Flesher, K.D.R. Moraes, L. Lautenschlager, L.A. Grossel, L.C. Dahmer, L.R. Almeida, L. Fornitano, L.N.B. Barbosa, L.L. Bailey, L.N. Barreto, L.M. Villalba, L.M. Magalhães, L. Cullen Jr., L. Marques, L.M. Costa, L. Silveira, L.S. Moreira, L. Sartorello, L.C. Oliveira, L.P. Gomes, L.S. Aguiar, L.H. Silva, L.S. Mendonça, L.A. Valenzuela, L. Benavalli, L.C.S. Dias, L.P. Munhoes, L. Catenacci, L.E. Rampim, L.M. Paula, L.A. Nascimento, L.G. Silva, L. Quintilham, L.R. Segura, L.N. Perillo, L.R. Rezende, L.M. Retta, L.N.S. Rojas, L.N. Guimarães, L. Araújo, L.Z. Silva, L.C.A. Querido, L.M. Verdade, L.E. Perera-Romero, L.J.C. Leite, L. Hufnagel, L.R.R. Bernardo, L.F. Oliveira, L.G.R.O. Santos, L.H. Lyra, L.H.M. Borges, M.M. Severo, M. Benchimol, M.G. Quatroocchi, M.Z.A. Martins, M.R. Rodrigues, M.J.F. Penteadó, M.F.D. Moraes, M.A. Oliveira, M.G.M. Lima, M.C. Pônzio, M. Cervini, M. Silva, M. Passamani, M.A. Villegas, M.A.S. Junior, M.H. Yamane, M.M.A. Jardim, M.L. Oliveira, M. Silveira, M.A. Tortato, M.S.L. Figueiredo, M.V. Vieira, M.L. Sekiama, M.A.A. Silva, M.B. Nuñez, M.B. Siviero, M.C. Carrizo, M.C. Barros, M.A.S. Barros, M.C.F. Rosário, M.C. Mora, M.C.F. Jover, M.E.F. Morandi, M.E. Huerta, M.E.A. Fernandes, M.E.V. Siñani, M.E. Iezzi, M.J.R. Pereira, M.L.G. Vinassa, M.L. Lorini, M.L.S.P. Jorge, M.S. Morini, M. Guenther, M.B. Landis, M.M. Vale, M.S. Xavier, M.S. Tavares, M. Kaizer, M. Velilla, M.M. Bergel, M.T. Hartmann, M.L. Silva, M. Rivero, M.S. Munerato, M.X. Silva, M. Zanin, M.I. Marques, M. Habersfeld, M.S. Di Bitetti, M. Bowler, M. Galliez, M.L.O. Moreno, M. Buschiazzi, M.A. Montes, M.R. Alvarez, M. Melo-Dias, M.G. Reis, M.R.J. Corrêa, M.W. Tobler, M.E. Gompper, M.N.-Regueiro, M.B. Vecchi, M.E. Graipel, M.N. Godoi, M.O. Moura, M.Q. Konzen, M.V. Pardo, M.G. Beltrão, M. Mongelli, M.O. Almeida, M.P. Gilmore, M. Schutte, M.B. Faria, M.R. Luiz, M. Paula, M.G.H.-Mihart, M.L.L. Perilli, M.C. Freitas-Junior, M.P. Silva, N.M. Denkwicz, N.M. Torres, N. Olifiers, N.D.S.D. Lima, N.M. Albuquerque, N.F. Canassa, N.H.A. Curi, N.P. Prestes, N. Falconi, N.M. Gurgel-Filho, N. Pasqualotto, N.C. Cáceres, N. Peroni, N.U.S. Sancha, N. Zanella, O. Monroy-Vilchis, O. Pays, O.A. Arimoro, O.S. Ribeiro, P. Villalva, P.R. Gonçalves, P.M. Santos, P. Brennand, P. Rocha, P. Akkawi, P. Cruz, P.M. Ferreira, P.R. Prist, P.S. Martin, P.A.-Gerala, P. Auricchio, P.A. Hartmann, P.T.Z. Antas, P.H.S.A. Camargo, P.H. Marinho, P.H.P. Ruffino, P.I. Prado, P.M. Martins, P. Cordeiro-Estrela, P. Luna, P. Sarmento, P.H.F. Peres, P.M. Galetti Jr., P.V. Castilho, P.-C. Renaud, P.O. Scarascia, P.D.P.A. Cobra, P.M. Lombardi, R. Bessa, R.R.-Hurtado, R.C.C. Souza, R.J. Hoogesteijn, R.S.C. Alves, R.S. Romagna, R.L. Silva, R. Oliveira, R. Beltrão-Mendes, R.M.A. Alencar, R. Coutinho, R.C. Silva, R.L.S.C.C. Grand, R.G. Matos, R.S. Araujo, R.F. Pedrosa, R.M.N. Durães, R.L.A. Ribeiro, R. Chagas, R. Miotto, R.T.R. Bonikowski, R.L. Muiyler, R.V. Pagotto, R.R. Hilário, R.T. Faria, R.B.-Silva, R. Sampaio, R. Sartorello, R.A. Pires, R. Hatakeyama, R.C.B. Bianchi, R. Buitenwerf, R. Wallace, R.M. Paolino, R.F. Costa, R.G. Trovati, R.J. Tomasi, R.O.E. Hack, R.A. Magalhães, R.A.A. Nobrega, R.A. Nobre, R.L. Massara, R.M. Fróes, R.P.C. Araújo, R.R.L. Pérez, R.S.P. Jorge, R.C. Paula, R. Martins, R.G.T. Cunha, R. Costa, R.R.N. Alves, R.G.-Anleu, R.P.S. Almeida, R.D.C. Loachamín, R.S. Andrade, R. Juárez, S.U. Bordallo, S.A. Guaragni, S.E.C. Percastegui, S. Seber, S. Astete, S.M. Hartz, S. Espinosa, S. Álvarez Solas, S.R. Lima, S.M. Silvestre, S.A.S. Machado, S.K. Eaton, S. Albanesi, S.A. Costa, S. Bazilio, S.L. Mendes, S.L. Althoff, S.D. Pinheiro, S.J. Napiwoski, S.F. Ramirez, S.A. Talamoni, S.G. Age, T.C. Pereira, T.C. Moreira, T.C. Trigo, T.M.S. Gondim, T.C. Karlovic, T. Cavalcante, T. Maccarini, T.F. Rodrigues, T.P.C. Timo, T.C. Monterrubio, U. Piovezan, V. Cavarzere, V. Towns, V.C. Onofrio, V.B. Oliveira, V.C. Araújo, V.L. Melo, V.T. Kanaan, V. Iwakami, V. Vale, V.P. Filho, V. Alberici, V.A.G. Bastazini, V.S. Orsini, V.S. Braz, V.B.R. Bonzi, V.M.G. Layme, V.T.R. Gaboardi, V.J. Rocha, W.P. Martins, W.M. Tomas, W. Hannibal, W. Dáttilo, W.R. Silva, W. Endo, W. Bercê, Y.B. Cruz, Y.G.G. Ribeiro, M. Galetti & M.C. Ribeiro (2020). Neotropical carnivores: a data set on carnivore distribution in the Neotropics. *Ecology* 101(9): e03128. <https://doi.org/10.1002/ecy.3128>
- Neto, M.F.C., D.G. Neto & V. Haddad Jr. (2011). Attacks by Jaguars (*Panthera onca*) on humans in central Brazil: report of three cases, with observation of a death. *Wilderness & Environmental Medicine* 22(2): 130–135. <https://doi.org/10.1016/j.wem.2011.01.007>
- Nowell, K. & P. Jackson (eds.) (1996). *Wild Cats: Status Survey and Conservation Action Plan*. Gland, Switzerland: IUCN/SSC Cat Specialist

- Group, Gland, 382 pp.
- Nyhus, P.J. (2016). Human–wildlife conflict and coexistence. *Annual Review of Environment and Resources* 41: 143–171. <https://doi.org/10.1146/annurev-environ-110615-085634>
- Oliveira, T.G., E.E. Ramalho & R.C. De Paula (2012). Red List assessment of the Jaguar in Brazilian Amazonia. *Cat News Special Issue* 7: 8–13.
- Paviolo, A., C. De Angelo, Y. Di Blanco, C. Ferrari, M.S. Di Bitetti, C.B. Kasper, F.D. Mazim, J.B.G. Soares & T.G. Oliveira (2006). The need of transboundary efforts to preserve the southernmost Jaguar population in the world. *Cat News* 45: 12–14.
- Paviolo, A., C.D. De Angelo, Y.E. Di Blanco & M.S. Di Bitetti (2008). Jaguar (*Panthera onca*) population decline in the Upper Paraná Atlantic Forest of Argentina and Brazil. *Oryx* 42(4): 554–561. <https://doi.org/10.1017/S0030605308000641>
- Paviolo, A.C. De A., K.M.P.M. Ferraz de B., R.G. Morato, J.M. Pardo, A.C. Srbek-Araujo, B. de M. Beisiegel, F. Lima, D. Sana, M.X. da Silva, M.C. Velázquez, L. Cullen Jr, P. Crawshaw Jr, M.L.S.P. Jorge, P.M. Galetti, M.S. Di Bitetti, R.C. De Paula, E. Eizirik, T.M. Aide, P. Cruz, M.L.L. Perilli, A.S.M.C. Souza, V. Quiroga, E. Nakano, F.R. Pinto, S. Fernández, S. Costa, E.A. Moraes Jr. & F. Azevedo (2016). A biodiversity hotspot losing its top predator: the challenge of Jaguar conservation in the Atlantic Forest of South America. *Scientific Reports* 6: 37147. <https://doi.org/10.1038/srep37147>
- Pereira-Garbero, R. & Á. Sappa (2016). Historia del Jaguar en Uruguay y la Banda Oriental, pp. 482–497. In: Medellín, R.A., J.A. De la Torre, H. Zarza, C. Chávez & G. Ceballos (eds.). *El Jaguar en el siglo XXI: la perspectiva continental*. Universidad Nacional Autónoma de México, Ciudad de México, 546 pp.
- Peters, F.B., C.C. Uribe, C.A. Lasso, R.H. Teijn, A.D. Pulido & E. Payán (2016). Caça preventiva ou retaliativa de felinos por humanos no extremo sul do Brasil, pp. 311–326. In: Uribe, C.C., C.A. Lasso, R.H. Teijn, A.D. Pulido & E. Payán (eds.). *Conflictos entre felinos y humanos en América Latina*. Instituto Humboldt, Bogotá, 486 pp.
- Quigley, H., R. Foster, R. Petracca, E. Payán, R. Salom & B. Harmsen (2017). *Panthera onca*. The IUCN Red List of Threatened Species 2017: e.T15953A50658693. Downloaded on 08.xi.2025. <https://doi.org/10.2305/2FIUCN.UK.2017-3.RLTS.T15953A50658693.en>
- Rabinowitz, A. & K.A. Zeller (2010). A range wide model of landscape connectivity and conservation for the Jaguar, *Panthera onca*. *Biological Conservation* 143(4): 939–945. <https://doi.org/10.1016/j.biocon.2010.01.002>
- Ramalho, E.E. (2012). Jaguar (*Panthera onca*) population dynamics, feeding ecology, human-induced mortality, and conservation in the Várzea Floodplain Forests of Amazonia. PhD Thesis. University of Florida, Gainesville, 195 pp.
- Ribeiro, M.C., J.P. Metzger, A.C. Martensen, F.J. Ponzoni & M.M. Hirota (2009). The Brazilian Atlantic Forest: how much is left, and how is the remaining forest distributed? Implications for conservation. *Biological Conservation* 142(6): 1141–1153. <https://doi.org/10.1016/j.biocon.2009.02.021>
- Ripple, W.J., J.A. Estes, R.L. Beschta, C.C. Wilmers, E.G. Ritchie, M. Hebblewhite, J. Berger, B. Elmhagen, M. Letnic, M.P. Nelson, O.J. Schmitz, D.W. Smith, A.D. Wallach & A.J. Wirsing (2014). Status and ecological effects of the world's largest carnivores. *Science* 343(6167): 1241484. <https://doi.org/10.1126/science.1241484>
- Rocha, Y.G.R., S.M. Gaxiola, C. Chávez, G. Ceballos, C. Bojorquez & D. Díaz (2023). Jaguar (*Panthera onca*) food resource use and its interaction with humans: scoping review. *Veterinaria México* OA 10: e202310. <https://doi.org/10.22201/fmvz.24486760e.2023.1107>
- Romero-Muñoz, A., R. Torres, A.J. Noss, A.J. Giordano, V. Quiroga, J.J. Thompson, M. Baumann, M. Altrichter, R. McBride Jr, M. Velilla, R. Arispe & T. Kuemmerle (2019). Habitat loss and overhunting synergistically drive the extirpation of Jaguars from the Gran Chaco. *Diversity and Distributions* 25(2): 176–190. <https://doi.org/10.1111/ddi.12843>
- Sanderson, E.W., K.H. Redford, C.B. Chetkiewicz, R.A. Medellín, A.R. Rabinowitz, J.G. Robinson & A.B. Taber (2002). Planning to save a species: the Jaguar as a model. *Conservation Biology* 16(1): 58–72. <https://doi.org/10.1046/j.1523-1739.2002.00352.x>
- Srbek-Araujo, A.C. & A.G. Chiarello (2016). Population status of the Jaguar *Panthera onca* in one of its last strongholds in the Atlantic Forest. *Oryx* 51(2): 246–253. <https://doi.org/10.1017/S0030605315001222>
- Seymour, K.L. (1989). *Panthera onca*. *Mammalian Species* 340: 1–9.
- Silveira, L. & P. Crawshaw Jr (2008). *Panthera onca* Linnaeus, 1758, pp. 793–794 in: Machado, A.B.M., G.M. Drummond & A.P. Paglia (eds.). *Livro Vermelho da Fauna Brasileira Ameaçada de Extinção*. Vol. 2. Ministério do Meio Ambiente & Fundação Biodiversitas, Brasília, 1,420 pp.
- Silver, S.C., L.E.T. Ostro, L.K. Marsh, L. Maffei, A.J. Noss, M.J. Kelly, R.B. Wallace, H. Gomez & G.A. Crespo (2004). The use of camera traps for estimating Jaguar (*Panthera onca*) abundance and density using capture/recapture analysis. *Oryx* 38(2): 148–154. <https://doi.org/10.1017/S0030605304000286>
- Soisalo, M.K. & S.M.C. Cavalcanti (2006). Estimating the density of a Jaguar population in the Brazilian Pantanal using camera traps and capture–recapture sampling in combination with GPS radio-telemetry. *Biological Conservation* 129: 487–496. <https://doi.org/10.1016/j.biocon.2005.11.023>
- Subirá, R.J., F.C. de Azevedo, D. Seibel & B.C. Sávio (2024). *Plano de Ação Estadual para a Conservação de Grandes Felinos do Estado do Paraná. Relatório Técnico*. Secretaria de Estado do Desenvolvimento Sustentável do Paraná, Foz do Iguaçu, 39 pp.
- Teixeira, R.H.F., M.G. Caiaffa, L.S. Santos, R.C. Silva, R.V. Mateus, M.A. Almeida, R. Bernhardt, L.L. Trujillo & B.M. Beisiegel (2023). Abate de Onça-pintada (*Panthera onca* Linnaeus, 1758) por arma de fogo no Estado de São Paulo, Brasil. *Revista Brasileira de Ciência* 12(4): 7–12. <https://doi.org/10.15260/rbc.v12i4.617>
- Thompson, J.J., V. Quiroga, R.B. Wallace, M.M. Abreu, J.M.C. Silveira & C.S.R. Neto (2023). Jaguar status, distribution, and conservation in south eastern South America. *Cat News Special Issue*: 1–120.
- Timm, R.M., R.M. Salazar & A.T. Peterson (1997). Historical distribution of the extinct tropical seal, *Monachus tropicalis* (Carnivora: Phocidae). *Conservation Biology* 11(2): 549–551. <https://doi.org/10.1046/j.1523-1739.1997.96035.x>
- Torre, J.A. & R.A. Medellín (2011). Jaguars *Panthera onca* in the Greater Lacandona Ecosystem, Chiapas, Mexico: population estimates and future prospects. *Oryx* 45(4): 546–553. <https://doi.org/10.1017/S0030605310001511>
- Tyler, J.D. & W.J. Anderson (1990). Historical accounts of several large mammals in Oklahoma. *Proceedings of the Oklahoma Academy of Science* 70: 51–55.
- Vibrans, A.C., L. Sevegnani, D.V. Lingner, A.L. de Gasper & S. Sabbagh (2010). Inventário florístico florestal de Santa Catarina (IFFSC): aspectos metodológicos e operacionais. *Pesquisa Florestal Brasileira* 30(64): 291–302.
- Vibrans, A.C., P. Moser, D.V. Lingner & A.L. De Gasper (2012). Metodologia do Inventário Florístico Florestal de Santa Catarina, pp. 311–322. In: Vibrans, A.C., L. Sevegnani, A.L. Gasper & D.V. Lingner (eds.). *Inventário florístico florestal de Santa Catarina*. Vol. 1. Edifurb, Blumenau, 352 pp.
- Whitworth, A., C. Beirne, A. Basto, E. Flatt, M. Tobler, G. Powell, J. Terborgh & A. Forsyth (2022). Disappearance of an ecosystem engineer, the White Lipped Peccary (*Tayassu pecari*), leads to density compensation and ecological release. *Oecologia* 199(4): 937–949. <https://doi.org/10.1007/s00442-022-05233-5>
- Zeller, K.A. (2007). *Jaguars in the new millennium database update: the state of the Jaguar in 2006*. Wildlife Conservation Society – Jaguar Conservation Program, New York, 77 pp.
- Zimmermann, A., M.J. Walpole & N.L. Williams (2005). Cattle ranchers' attitudes to conflicts with Jaguar *Panthera onca* in the Pantanal of Brazil. *Oryx* 39(4): 406–412. <https://doi.org/10.1017/S0030605305000992>

Author details: DR. JACKSON FÁBIO PREUSS is a biologist, professor, and researcher at the Universidade do Oeste de Santa Catarina (UNOESC), Brazil. He holds a bachelor's degree in Biological Sciences, a master's degree in environmental sciences with emphasis on biodiversity and sustainability, and a PhD in biology with specialization in wildlife diversity and management. His research focuses on wildlife conservation, biodiversity, and ecosystem health in tropical environments. He leads the Wildlife Studies Center (Núcleo de Estudos em Vida Selvagem - NEVS) at UNOESC, has served as an ad hoc expert for the Environmental Military Police of Santa Catarina since 2010, and is actively involved in environmental advisory boards and science communication initiatives related to biodiversity conservation. PEDRO HENRIQUE AMANCIO PADILHA is a veterinary medicine student at the Universidade Sociedade Educacional de Santa Catarina (UNISOCIESC), Brazil. Presently, he is the vice-president of the Wild Animal Studies Group (Grupo de Estudos de Animais Silvestres - GEAS) at UNISOCIESC university, having worked with exotic pets and wild animals at clinics and rehabilitation centers.

Author contributions: JFP: conception of the study; collection and analysis of historical records; photographic survey; preparation of maps and figures; drafting and final revision of the manuscript. PHAP: collection and organization of historical records; photographic survey; preparation of maps and figures; contribution to the drafting and revision of the manuscript.



Mr. Jatishwor Singh Irungbam, Biology Centre CAS, Branišovská, Czech Republic.
Dr. Ian J. Kitching, Natural History Museum, Cromwell Road, UK
Dr. George Mathew, Kerala Forest Research Institute, Peechi, India
Dr. John Noyes, Natural History Museum, London, UK
Dr. Albert G. Orr, Griffith University, Nathan, Australia
Dr. Sameer Padhye, Katholieke Universiteit Leuven, Belgium
Dr. Nancy van der Poorten, Toronto, Canada
Dr. Kareen Schnabel, NIWA, Wellington, New Zealand
Dr. R.M. Sharma, (Retd.) Scientist, Zoological Survey of India, Pune, India
Dr. Manju Siliwal, WILD, Coimbatore, Tamil Nadu, India
Dr. G.P. Sinha, Botanical Survey of India, Allahabad, India
Dr. K.A. Subramanian, Zoological Survey of India, New Alipore, Kolkata, India
Dr. P.M. Sureshan, Zoological Survey of India, Kozhikode, Kerala, India
Dr. R. Varatharajan, Manipur University, Imphal, Manipur, India
Dr. Eduard Vives, Museu de Ciències Naturals de Barcelona, Terrassa, Spain
Dr. James Young, Hong Kong Lepidopterists' Society, Hong Kong
Dr. R. Sundararaj, Institute of Wood Science & Technology, Bengaluru, India
Dr. M. Nithyanandan, Environmental Department, La Ala Al Kuwait Real Estate. Co. K.S.C., Kuwait
Dr. Himender Bharti, Punjabi University, Punjab, India
Mr. Purnendu Roy, London, UK
Mr. Saito Motoki, The Butterfly Society of Japan, Tokyo, Japan
Dr. Sanjay Sondhi, TITLI TRUST, Kalpavriksh, Dehradun, India
Dr. Nguyen Thi Phuong Lien, Vietnam Academy of Science and Technology, Hanoi, Vietnam
Dr. Nitin Kulkarni, Tropical Research Institute, Jabalpur, India
Dr. Robin Wen Jiang Ngiam, National Parks Board, Singapore
Dr. Lionel Monod, Natural History Museum of Geneva, Genève, Switzerland.
Dr. Asheesh Shivam, Nehru Gram Bharti University, Allahabad, India
Dr. Rosana Moreira da Rocha, Universidade Federal do Paraná, Curitiba, Brasil
Dr. Kurt R. Arnold, North Dakota State University, Saxony, Germany
Dr. James M. Carpenter, American Museum of Natural History, New York, USA
Dr. David M. Claborn, Missouri State University, Springfield, USA
Dr. Kareen Schnabel, Marine Biologist, Wellington, New Zealand
Dr. Amazonas Chagas Júnior, Universidade Federal de Mato Grosso, Cuiabá, Brasil
Mr. Monsoon Jyoti Gogoi, Assam University, Silchar, Assam, India
Dr. Heo Chong Chin, Universiti Teknologi MARA (UiTM), Selangor, Malaysia
Dr. R.J. Shiel, University of Adelaide, SA 5005, Australia
Dr. Siddharth Kulkarni, The George Washington University, Washington, USA
Dr. Priyadarsanan Dharma Rajan, ATREE, Bengaluru, India
Dr. Phil Alderslade, CSIRO Marine And Atmospheric Research, Hobart, Australia
Dr. John E.N. Veron, Coral Reef Research, Townsville, Australia
Dr. Daniel Whitmore, State Museum of Natural History Stuttgart, Rosenstein, Germany.
Dr. Yu-Feng Hsu, National Taiwan Normal University, Taipei City, Taiwan
Dr. Keith V. Wolfe, Antioch, California, USA
Dr. Siddharth Kulkarni, The Hormiga Lab, The George Washington University, Washington, D.C., USA
Dr. Tomas Ditrich, Faculty of Education, University of South Bohemia in Ceske Budejovice, Czech Republic
Dr. Mihaly Foldvari, Natural History Museum, University of Oslo, Norway
Dr. V.P. Uniyal, Wildlife Institute of India, Dehradun, Uttarakhand 248001, India
Dr. John T.D. Caleb, Zoological Survey of India, Kolkata, West Bengal, India
Dr. Priyadarsanan Dharma Rajan, Ashoka Trust for Research in Ecology and the Environment (ATREE), Royal Enclave, Bangalore, Karnataka, India

Fishes

Dr. Topiltzin Contreras MacBeath, Universidad Autónoma del estado de Morelos, México
Dr. Heok Hee Ng, National University of Singapore, Science Drive, Singapore
Dr. Rajeev Raghavan, St. Albert's College, Kochi, Kerala, India
Dr. Robert D. Sluka, Chiltern Gateway Project, A Rocha UK, Southall, Middlesex, UK
Dr. E. Vivekanandan, Central Marine Fisheries Research Institute, Chennai, India
Dr. Davor Zanella, University of Zagreb, Zagreb, Croatia
Dr. A. Biju Kumar, University of Kerala, Thiruvananthapuram, Kerala, India
Dr. Akhilesh K.V., ICAR-Central Marine Fisheries Research Institute, Mumbai Research Centre, Mumbai, Maharashtra, India
Dr. J.A. Johnson, Wildlife Institute of India, Dehradun, Uttarakhand, India
Dr. R. Ravinesh, Gujarat Institute of Desert Ecology, Gujarat, India

Amphibians

Dr. Sushil K. Dutta, Indian Institute of Science, Bengaluru, Karnataka, India
Dr. Annemarie Ohler, Muséum national d'Histoire naturelle, Paris, France

Reptiles

Dr. Gernot Vogel, Heidelberg, Germany
Dr. Raju Vyas, Vadodara, Gujarat, India
Dr. Pritpal S. Soorae, Environment Agency, Abu Dhabi, UAE.
Prof. Dr. Wayne J. Fuller, Near East University, Mersin, Turkey
Prof. Chandrashekher U. Rivonker, Goa University, Taleigao Plateau, Goa. India
Dr. S.R. Ganesh, Kalinga Foundation, Agumbe, India.
Dr. Himansu Sekhar Das, Terrestrial & Marine Biodiversity, Abu Dhabi, UAE

Birds

Dr. Hem Sagar Baral, Charles Sturt University, NSW Australia
Mr. H. Byju, Coimbatore, Tamil Nadu, India
Dr. Chris Bowden, Royal Society for the Protection of Birds, Sandy, UK
Dr. Priya Davidar, Pondicherry University, Kalapet, Puducherry, India
Dr. J.W. Duckworth, IUCN SSC, Bath, UK
Dr. Rajah Jayapal, SAGON, Coimbatore, Tamil Nadu, India
Dr. Rajiv S. Kalsi, M.L.N. College, Yamuna Nagar, Haryana, India
Dr. V. Santharam, Rishi Valley Education Centre, Chittoor Dt., Andhra Pradesh, India
Dr. S. Balachandran, Bombay Natural History Society, Mumbai, India
Mr. J. Praveen, Bengaluru, India
Dr. C. Srinivasulu, Osmania University, Hyderabad, India
Dr. K.S. Gopi Sundar, International Crane Foundation, Baraboo, USA
Dr. Gombobaatar Sunde, Professor of Ornithology, Ulaanbaatar, Mongolia
Prof. Reuven Yosef, International Birding & Research Centre, Eilat, Israel
Dr. Taej Mundkur, Wetlands International, Wageningen, The Netherlands
Dr. Carol Inskipp, Bishop Auckland Co., Durham, UK
Dr. Tim Inskipp, Bishop Auckland Co., Durham, UK
Dr. V. Gokula, National College, Tiruchirappalli, Tamil Nadu, India
Dr. Arkady Lelej, Russian Academy of Sciences, Vladivostok, Russia
Dr. Simon Dowell, Science Director, Chester Zoo, UK
Dr. Mário Gabriel Santiago dos Santos, Universidade de Trás-os-Montes e Alto Douro, Quinta de Prados, Vila Real, Portugal
Dr. Grant Connette, Smithsonian Institution, Royal, VA, USA
Dr. P.A. Azeez, Coimbatore, Tamil Nadu, India

Mammals

Dr. Giovanni Amori, CNR - Institute of Ecosystem Studies, Rome, Italy
Dr. Anwaruddin Chowdhury, Guwahati, India
Dr. David Mallon, Zoological Society of London, UK
Dr. Shomita Mukherjee, SAGON, Coimbatore, Tamil Nadu, India
Dr. Angie Appel, Wild Cat Network, Germany
Dr. P.O. Nameer, Kerala Agricultural University, Thrissur, Kerala, India
Dr. Ian Redmond, UNEP Convention on Migratory Species, Lansdown, UK
Dr. Heidi S. Riddle, Riddle's Elephant and Wildlife Sanctuary, Arkansas, USA
Dr. Karin Schwartz, George Mason University, Fairfax, Virginia.
Dr. Lala A.K. Singh, Bhubaneswar, Orissa, India
Dr. Mewa Singh, Mysore University, Mysore, India
Dr. Paul Racey, University of Exeter, Devon, UK
Dr. Honnavalli N. Kumara, SAGON, Anaikatty P.O., Coimbatore, Tamil Nadu, India
Dr. Nishith Dharaiya, HNG University, Patan, Gujarat, India
Dr. Spartaco Gippoliti, Socio Onorario Società Italiana per la Storia della Fauna "Giuseppe Altobello", Rome, Italy
Dr. Justus Joshua, Green Future Foundation, Tiruchirappalli, Tamil Nadu, India
Dr. H. Raghuram, Sri S. Ramasamy Naidu Memorial College, Virudhunagar, Tamil Nadu, India
Dr. Paul Bates, Harison Institute, Kent, UK
Dr. Jim Sanderson, Small Wild Cat Conservation Foundation, Hartford, USA
Dr. Dan Challender, University of Kent, Canterbury, UK
Dr. David Mallon, Manchester Metropolitan University, Derbyshire, UK
Dr. Brian L. Cypher, California State University-Stanislaus, Bakersfield, CA
Dr. S.S. Talmale, Zoological Survey of India, Pune, Maharashtra, India
Prof. Karan Bahadur Shah, Budhanilakantha Municipality, Kathmandu, Nepal
Dr. Susan Cheyne, Borneo Nature Foundation International, Palangkaraja, Indonesia
Dr. Hemanta Kafley, Wildlife Sciences, Tarleton State University, Texas, USA

Other Disciplines

Dr. Aniruddha Belsare, Columbia MO 65203, USA (Veterinary)
Dr. Mandar S. Paingankar, University of Pune, Pune, Maharashtra, India (Molecular)
Dr. Jack Tordoff, Critical Ecosystem Partnership Fund, Arlington, USA (Communities)
Dr. Ulrike Streicher, University of Oregon, Eugene, USA (Veterinary)
Dr. Hari Balasubramanian, EcoAdvisors, Nova Scotia, Canada (Communities)
Dr. Rayanna Hellem Santos Bezerra, Universidade Federal de Sergipe, São Cristóvão, Brazil
Dr. Jamie R. Wood, Landcare Research, Canterbury, New Zealand
Dr. Wendy Collinson-Jonker, Endangered Wildlife Trust, Gauteng, South Africa
Dr. Rajeshkumar G. Jani, Anand Agricultural University, Anand, Gujarat, India
Dr. O.N. Tiwari, Senior Scientist, ICAR-Indian Agricultural Research Institute (IARI), New Delhi, India
Dr. L.D. Singla, Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana, India
Dr. Rupika S. Rajakaruna, University of Peradeniya, Peradeniya, Sri Lanka
Dr. Bahar Baviskar, Wild-CER, Nagpur, Maharashtra 440013, India

Reviewers 2021–2023

Due to pausity of space, the list of reviewers for 2021–2023 is available online.

The opinions expressed by the authors do not reflect the views of the Journal of Threatened Taxa, Wildlife Information Liaison Development Society, Zoo Outreach Organization, or any of the partners. The journal, the publisher, the host, and the partners are not responsible for the accuracy of the political boundaries shown in the maps by the authors.

Print copies of the Journal are available at cost. Write to:
The Managing Editor, JoTT,
c/o Wildlife Information Liaison Development Society,
3A2 Varadarajulu Nagar, FCI Road, Ganapathy, Coimbatore,
Tamil Nadu 641006, India
ravi@threatenedtaxa.org & ravi@zooreach.org

Journal of Threatened Taxa is indexed/abstracted in Bibliography of Systematic Mycology, Biological Abstracts, BIOSIS Previews, CAB Abstracts, EBSCO, Google Scholar, Index Copernicus, Index Fungorum, JournalSeek, National Academy of Agricultural Sciences, NewJour, OCLC WorldCat, SCOPUS, Stanford University Libraries, Virtual Library of Biology, Zoological Records.

NAAS rating (India) 5.64



www.threatenedtaxa.org

OPEN ACCESS



The Journal of Threatened Taxa (JoTT) is dedicated to building evidence for conservation globally by publishing peer-reviewed articles online every month at a reasonably rapid rate at www.threatenedtaxa.org. All articles published in JoTT are registered under [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/) unless otherwise mentioned. JoTT allows unrestricted use, reproduction, and distribution of articles in any medium by providing adequate credit to the author(s) and the source of publication.

ISSN 0974-7907 (Online) | ISSN 0974-7893 (Print)

January 2026 | Vol. 18 | No. 1 | Pages: 28151–28262

Date of Publication: 26 January 2026 (Online & Print)

DOI: 10.11609/jott.2026.18.1.28151-28262

Articles

Biological validation of fecal glucocorticoid and triiodothyronine measures in free-ranging Golden-headed Lion Tamarins (Kühl, 1820), (Mammalia: Primates: Callitrichidae: *Leontopithecus chrysomelas*): effects of the stress of capture and body condition

– Roberto Fiorini-Torrico, Leonardo de Carvalho Oliveira, Damián Escribano, José Joaquín Cerón & Kristel Myriam de Vleeschouwer, Pp. 28151–28166

Tricho-taxonomic prey identifications from faeces of Indian Rock Python *Python molurus* (Linnaeus, 1758) (Reptilia: Squamata: Pythonidae) in Moyar River Valley, Tamil Nadu, India

– Jyoti Nagarkoti, C.S. Vishnu, Chinnasamy Ramesh & Archana Bahuguna, Pp. 28167–28173

Field observations and citizen science reveal ecological insights into rare and threatened parrots in the Philippines

– Vince Angelo G. Gicaraya & Carmela P. Española, Pp. 28174–28185

People's perceptions on the impacts of select linear infrastructure projects on avifauna in Chhattisgarh, India

– C.P. Ashwin, J.M. Alby & P.R. Arun, Pp. 28186–28193

Communications

Habitat associations and feeding ecology of adult Tamdil Leaf-litter Frog *Leptobrachella tamdil* (Amphibia: Megophryidae) from the type locality – the Tamdil wetland, Mizoram, India

– Malsawmdawngliana, Esther Lalhmingliani, Samuel Lalronunga, Lalrinmawia & Lalnuntluanga, Pp. 28194–28200

An inventory of hymenopteran insects from division Jammu of Jammu & Kashmir, India

– Charul, Anjoo Dhar, Shash Pal, Shivalika Loona, Neha Choudhary, Sourabh Sharma & Rakesh Kumar Panjaliya, Pp. 28201–28214

Four new additions to the angiosperm flora of Manipur, India

– Bimolkumar Singh Sadokpam, Sanatombi Devi Yumkham, Dhaneshwor Waikhom & Sorokhaibam Sureshkumar Singh, Pp. 28215–28222

Review

Historical records of the Jaguar *Panthera onca* (Linnaeus, 1758) (Mammalia: Carnivora: Felidae) in the state of Santa Catarina, Brazil

– Jackson Fábio Preuss & Pedro Henrique Amancio Padilha, Pp. 28223–28234

Short Communications

First photographic record of Red-naped Ibis *Pseudibis papillosa* Temminck, 1824 in Sikkim Himalaya, India

– Laxmi Rai, Kritan Rai & Bijoy Chhetri, Pp. 28235–28238

New distribution record of *Sonoita lightfooti* G.W. Peckham & E.G. Peckham, 1903 (Araneae: Salticidae) from Gujarat, India

– Subhash I. Parmar, Pranav J. Pandya & Vivek U. Chauhan, Pp. 28239–28241

***Garcinia pedunculata* (Clusiaceae), a new record for Bhutan and its ethnopharmacological potential**

– Jigme Wangchuk, Ugyen Dorji, Sherab Dorji, Yograj Chhetri & Tsethup Tshering, Pp. 28242–28245

Notes

First record of Indian Fox *Vulpes bengalensis* in Dang, Gujarat, India

– Aadil Kazi, Mohmad Navaz Dahya, Rohit Chaudhary & Pravin Chaudhari, Pp. 28246–28248

First record with photographic evidence of Dhole *Cuon alpinus* (Pallas, 1811) from Panshet, Pune, Maharashtra, India

– Sonali Shinde & Chinmay Sonawane, Pp. 28249–28251

First photographic evidence of Spot-bellied Eagle Owl *Ketupa nipalensis* (Strigiformes: Strigidae) in Palamau Tiger Reserve, Jharkhand, India

– Arshyaan Shahid, Shahzada Iqbal & Orus Ilyas, Pp. 28252–28254

Sighting of Sooty Gull *Ichthyaelus hemprichii* from the salt pans of Nagapattinam Coast, Tamil Nadu, India

– S. Babu, Anand Shibu & M. Kishore, Pp. 28255–28258

First record of *Colyttus bilineatus* Thorell, 1891 (Arachnida: Araneae: Salticidae) from India

– Monica Chetry, John T.D. Caleb & Parthankar Choudhury, Pp. 28259–28262

Publisher & Host



Threatened Taxa