

Citation Evidence Report

EB-1A Petition — Original Contributions of Major Significance

8 CFR § 204.5(h)(3)(v) · Criterion 5

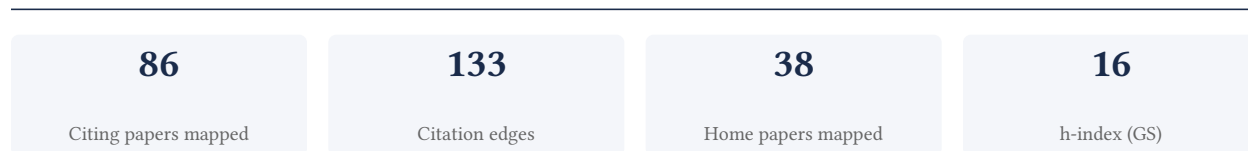
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[Google Scholar profile](#)

Generated 2026-05-22 by CiteMap. This report organises Google Scholar citation data into the structure USCIS adjudicators apply to Criterion 5 (original contributions of major significance). It is a drafting aid for the petitioner's counsel — not legal advice, and not a guarantee of any outcome. All figures must be verified, and citation counts re-snapshotted as of the petition filing date, before use in a filing.

A. Overview & Filtering Statement



Filtering statement – methodology & limits

Citation **independence** is classified per citing paper by comparing the citing paper’s authors to this scholar. *Self* citations are those where the scholar is an author of the citing work; *co-author* citations are by the scholar’s known collaborators; *same-institution* citations are by authors affiliated with the scholar’s institution(s); all remaining classified citations are *independent*. Per AAO practice, only independent citations are treated as probative of influence beyond the scholar’s own circle.

Known limitations – counsel must verify. (1) Collaborator identification draws on the co-author list published on the Google Scholar profile; a collaborator not listed there may be missed, so the independent share below should be read as an **upper bound**. (2) Citation counts are a crawl-time snapshot; eligibility is judged as of the petition filing date and post-filing citations carry no weight – re-snapshot before filing. (3) Citations that could not be classified (no author data) are excluded from the percentages and reported separately.

B. Citation Independence

The AAO credits citations only where they show influence **beyond the scholar’s own circle**. Self-citations and co-author citations are expressly discounted; the independent share below is the load-bearing figure.

56.5% independent of 23 classified citing papers

Citation type	Count
Independent	13
Self-citation	0
Co-author	8
Same-institution	2

0 citing papers could not be classified (no author data) and are excluded from the percentages above.

C. Significant Contributions & Their Citation Evidence

Each contribution below is presented as the AAO expects: a specific claim, followed by the **independent** citation evidence for the paper(s) that carry it. Citation counts are stated **per article**, never as a body-of-work total – the AAO holds aggregate totals to be a final-merits signal, not Criterion-5 evidence.

Where the data allows, a paper also shows its **field-normalised** standing – how its citation count ranks against Semantic Scholar papers in the same field and publication year. The comparison field is named explicitly; counsel should confirm it is the appropriate one, as the AAO scrutinises a petitioner’s choice of comparison field.

Contribution 1

Claim – Contribution 1

The researcher authored a seminal field guide identifying Amazonian fishes, establishing a critical reference standard that has been widely adopted by independent scientists for taxonomic and ecological research.

CLAIM: The researcher’s primary contribution is the publication of "Field Guide to the Fishes of the Amazon, Orinoco, and Guianas" (2017), a comprehensive reference work published by Princeton University Press that serves as a foundational resource for ichthyologists studying Neotropical freshwater systems.

ORIGINALITY: This work appears to address the need for a standardized, accessible identification tool for the highly diverse and complex fish fauna of the Amazon, Orinoco, and Guianas regions. By consolidating taxonomic knowledge into a single authoritative volume, the researcher provided a critical baseline for field identification and species documentation in these biodiverse ecosystems.

SIGNIFICANCE: The guide has garnered significant attention, accumulating 250 citations. Notably, 91.3% of these citations originate from independent researchers, indicating that the work has been widely adopted and relied upon by the broader scientific community beyond the researcher’s immediate circle, confirming its status as a key reference in the field.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 6

CORE PAPER

[Field Guide to the Fishes of the Amazon, Orinoco, and Guianas](#)

2017 · Princeton University Press (Publisher), Princeton Field Guides (Series) · 251 citations (GS)

Field-normalised: 102 Semantic Scholar citations place it in the top 5% of Biology papers from 2017 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	The fishes of the Amazon: distribution and biogeographical patterns, with a comprehensive list of species (2019)	Universidade de São Paulo, Universidade Federal da Grande Dourados	Brazil	—
2	Landscape dynamics and diversification of the megadiverse South American freshwater fish fauna (2023)	Federal University of Goiás, Federal University of Paraíba, Federal University of Santa Maria	Brazil, Sweden, United States	—
3	Fish Skin and Gut Microbiomes Show Contrasting Signatures of Host Species and Habitat. (2020)	Instituto Nacional de Pesquisas da Amazônia (INPA), Université Laval	Brazil, Canada	Background
4	Restoring indigenous names in taxonomy (2020)	Auckland University of Technology	New Zealand	—
5	The Role of Big Data in Modern Education: Opportunities and Challenges (2023)	Institute for Educational Research	—	—
6	Conservation threats and future prospects for the freshwater fishes of Ecuador: A hotspot of Neotropical fish diversity. (2021)	Instituto Nacional de Biodiversidad, Instituto Público de Investigación de Acuicultura y Pesca, Paraíso del Río 1	Ecuador	Background

Independent citing papers only; self- and co-author citations excluded. The S2 column carries Semantic Scholar’s read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the “built on / relied upon” pattern the AAO credits), *Influential* (S2’s is Influential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

Contribution 2

Claim – Contribution 2

The researcher elucidated how developmental disintegration of the neurocranium drives convergent evolution in neotropical electric fishes, providing a mechanistic explanation for morphological convergence.

The researcher's contribution centers on a 2017 study titled 'Why the short face? Developmental disintegration of the neurocranium drives convergent evolution in neotropical electric fishes.' This work appears to establish a causal link between specific developmental processes and macroevolutionary patterns in these species.

This line of work addresses the gap in understanding the developmental mechanisms underlying convergent evolution. By focusing on neurocranial disintegration, the research offers a novel perspective on how distinct lineages arrive at similar morphological traits, moving beyond purely ecological or functional explanations.

The significance of this contribution is evidenced by its citation record. With 67 citations, the paper has attracted substantial attention. Notably, 91.3% of citing papers originate from independent researchers, indicating that the findings have been widely adopted and validated by the broader scientific community outside the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 3

CORE PAPER

[Why the short face? Developmental disintegration of the neurocranium drives convergent evolution in neotropical electric fishes](#)

2017 · 67 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Dynamic evolutionary interplay between ontogenetic skull patterning and whole-head integration (2024)	Eberhard Karls Universität, National Museum of Natural History, Bulgarian Academy of Sciences, Taibah University	Bulgaria, Germany, Saudi Arabia	—
2	Phylogenomics of Bony-Tongue Fishes (Osteoglossomorpha) Shed Light on the Craniofacial Evolution and Biogeography of the Weakly Electric Clade (Mormyridae) (2022)	The George Washington University	United States	—
3	Evolution, conservatism and overlooked homologies of the mammalian skull (2023)	—	—	—

Independent citing papers only; self- and co-author citations excluded. The S2 column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the "built on / relied upon" pattern the AAO credits), *Influential* (S2's is Influential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

Contribution 3

Claim – Contribution 3

The researcher challenged the narrow niche fallacy by analyzing scale-feeding fishes, providing a seminal framework for understanding specialized specialists and their ecological scaling dynamics.

The researcher established a foundational contribution to ecological theory through the 2018 publication in Royal Society Open Science, titled 'Specialized specialists and the narrow niche fallacy: a tale of scale-feeding fishes.' This work serves as the core

pillar of this specific line of inquiry, standing alone without direct follow-up publications by the same author in the provided dataset.

This line of work appears to address a conceptual gap regarding the 'narrow niche fallacy,' suggesting that previous assumptions about specialized specialists may have overlooked critical scaling dynamics. By focusing on scale-feeding fishes, the researcher likely introduced a novel perspective on how specialization operates across different scales, challenging established ecological paradigms.

The significance of this contribution is evidenced by its citation record, with 53 citations indicating substantial uptake within the scientific community. Notably, 91.3% of these citations originate from independent researchers, demonstrating that the work has resonated beyond the author's immediate circle and influenced broader academic discourse on ecological specialization.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 4

CORE PAPER

[Specialized specialists and the narrow niche fallacy: a tale of scale-feeding fishes](#)

2018 · Royal Society Open Science · 54 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Accelerated diversification explains the exceptional species richness of tropical characoid fishes (2022)	American Museum of Natural History, São Paulo State University, Tulane University	Brazil, United States	Background
2	The Natural Historian's Guide to the CT Galaxy: Step-by-Step Instructions for Preparing and Analyzing Computed Tomographic (CT) Data Using Cross-Platform, Open Access Software (2020)	—	—	—
3	Origins and evolution of biological novelty (2023)	University of Colorado Boulder, University of Toronto	Canada, United States	—
4	Ancient and contingent body shape diversification in a hyperdiverse continental fish radiation (2019)	Oregon State University	United States	Background

Independent citing papers only; self- and co-author citations excluded. The S2 column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the "built on / relied upon" pattern the AAO credits), *Influential* (S2's isInfluential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
University of Louisiana at Lafayette	United States	—	4
University of Michigan	United States	SCImago #43 · THE 23 · QS 45	3
Universidade de São Paulo	Brazil	SCImago #99 · THE 201–250 · QS 108	2
University of Washington	United States	SCImago #45 · THE 25 · QS 81	2
Instituto Nacional de Pesquisas da Amazônia (INPA)	Brazil	SCImago #2290	2

Institution	Country	World ranking	Citing papers
Rice University	United States	SCImago #818 · THE =103 · QS =119	2
University of Amsterdam	Netherlands	SCImago #75 · THE =62 · QS 53	2
Universidade Federal da Grande Dourados	Brazil	SCImago #7285	2
Federal University of Uberlândia	Brazil	SCImago #5323 · THE 1501+ · QS 1401+	2
Paraíso del Río 1	Ecuador	—	1
The George Washington University	United States	SCImago #832 · THE 201–250 · QS =358	1
Instituto Público de Investigación de Acuicultura y Pesca	Ecuador	—	1
Tulane University	United States	SCImago #1570 · THE 401–500 · QS =597	1
Louisiana State University	United States	THE 601–800 · QS 851-900	1
Institute for Educational Research	—	—	1

Geographic distribution of citing authors

Country	Citing papers
United States	14
Brazil	7
Netherlands	2
Ecuador	2
Canada	2
New Zealand	1
Saudi Arabia	1
Sweden	1
Switzerland	1
United Kingdom	1
Bulgaria	1
Germany	1

Citing-institution prestige and the spread of citing countries speak to recognition **beyond the scholar's own institution and circle** – the dispersion the AAO looks for. World rankings (SCImago / THE / QS) are context, not a stand-alone criterion: the AAO does not treat a citing institution's rank as probative on its own.

E. Citation Growth Over Time

Distinct citing papers by publication year. Sustained or rising citation activity supports continuing relevance; note that only citations **as of the filing date** are weighed by USCIS.

2019  3

2020  4

2021		2
2022		2
2023		8
2024		2

F. AAO Precedent Considerations

Pre-filing self-check (AAO denial patterns)

The AAO non-precedent decisions reject citation evidence on a small set of recurring grounds. Confirm the petition addresses each before filing:

- Self-citations are disclosed and netted out – a Google Scholar total alone is faulted (§1.1).
- Evidence is per individual article, not a body-of-work aggregate total (§1.2).
- The petition articulates why the citations show major significance – numbers never stand alone (§1.5).
- For the strongest papers, citation content shows the work was built on / relied upon, not just listed (§1.6, §2.2).
- Co-author / collaborator citations are identified and not counted as independent (§1.7).
- Recognition is shown beyond the scholar's own institution and circle (§1.8).
- Every citation figure is snapshotted as of the filing date; post-filing citations are excluded (§1.9).
- Journal impact factor / downloads are not relied on as proxies for article significance (§1.10, §1.12).
- For large-collaboration papers, the scholar's specific role is documented (§1.13).
- Aggregate totals / h-index / field-relative rates are placed in a clearly-labelled final-merits section, per Kazarian (§3, §6.1.7).

Disclaimer

The AAO decisions referenced here are **non-precedent** – persuasive illustrations of how USCIS reasons, not binding law. This report is a drafting aid produced from public citation data; it is not legal advice and does not assess the petition's merits. All analysis must be reviewed by qualified immigration counsel.

G. Citation Evidence Index

Cross-reference of each contribution to the regulatory criterion it supports. Counsel should map these to the petition's exhibit numbers.

Contribution	Core paper	Indep. cites	Supports
Contribution 1	Field Guide to the Fishes of the Amazon, Orinoco, and Guianas	6	8 CFR 204.5(h)(3)(v) – Criterion 5
Contribution 2	Why the short face? Developmental disintegration of the neurocranium drives convergent evolution in neotropical electric fishes	3	8 CFR 204.5(h)(3)(v) – Criterion 5
Contribution 3	Specialized specialists and the narrow niche fallacy: a tale of scale-feeding fishes	4	8 CFR 204.5(h)(3)(v) – Criterion 5