

# Ethnopharmaceuticals for the Treatment of New World Cutaneous Leishmaniasis: A Systematic Review of Topical Application of Pepper and Allium

Anjola Ogunsina<sup>1</sup>, Ruwandi Kariyawasam<sup>2</sup>, Olamide Egbewumi<sup>3</sup>, Sonia Igboanugo<sup>4</sup>, Shveta Bhasker<sup>5</sup>, Shareese Clarke<sup>6</sup>, Paul Dunn<sup>6</sup>,  
Avinash Mukkala<sup>2</sup>, David Harris<sup>7</sup>, Andrea K. Boggild<sup>2,7</sup>

<sup>1</sup>Department of Life Science, Queen’s University, Kingston, ON, Canada, <sup>2</sup>Institute of Medical Science, University of Toronto, Toronto, ON, Canada, <sup>3</sup>Faculty of Science, McMaster University, Hamilton, ON, Canada. <sup>4</sup>Biomedical Discovery & Commercialization, McMaster University, Hamilton, ON, Canada <sup>5</sup>Department of Psychology, University of Toronto Mississauga, Mississauga, ON, Canada, <sup>6</sup>Faculty of Health Sciences, University of Ontario Institute of Technology, Toronto, ON, Canada, <sup>7</sup>Tropical Disease Unit, UHN-Toronto General Hospital, Toronto, ON, Canada

## Introduction

- **New World Cutaneous Leishmaniasis (NWCL):** neglected parasitic disease caused by members of the genus *Leishmania*, located primarily in Central and South America<sup>1</sup>
- Better drugs needed due to the toxicity, accessibility limits, and expense of first-line treatment options
- **Ethnopharmaceuticals:** plant-based compounds with potential anti-leishmanial effects found in and around local endemic communities<sup>2</sup>
- Potential to overcome the aforementioned therapeutic challenges using ethnopharmaceuticals, are supported by anecdotal evidence of efficacy

**Objective:** Aim to synthesize existing evidence around available ethnopharmaceuticals, pepper and allium to promote drug discovery for the prevention and treatment of NWCL.

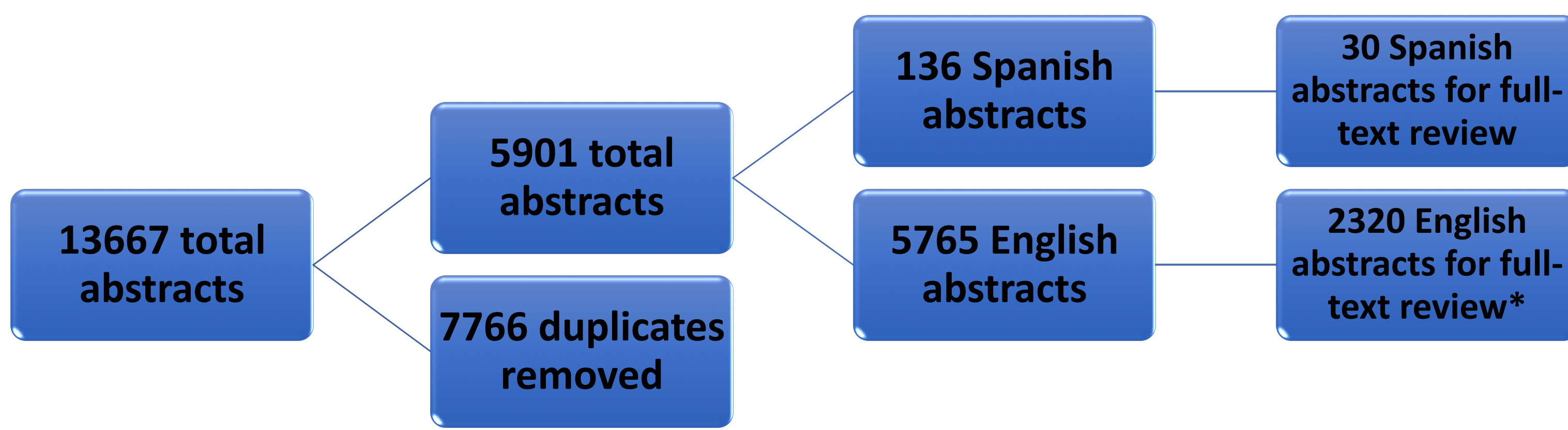
## Methods

- PubMed (NCBI), Medline (OVID), Embase (OVID), Web of Science (BioSIS) and LILACS (VHL) were searched using combinations of the search terms "**cutaneous leishmaniasis**" and "**ethnopharmaceuticals**"
- Inclusion and exclusion of search terms was employed to maximize relevant article extraction
- Inclusion criteria: observational studies, case reports, case series, cohort studies, and clinical trials reporting therapeutic outcomes, if possible
- GRADE approach used to assess the quality of studies reporting therapeutic interventions
- LILACS articles screened by native Spanish speaking individuals to ensure proper adherence to inclusion and exclusion criteria
- Data grouped and summarized by *Leishmania* spp. and plant species

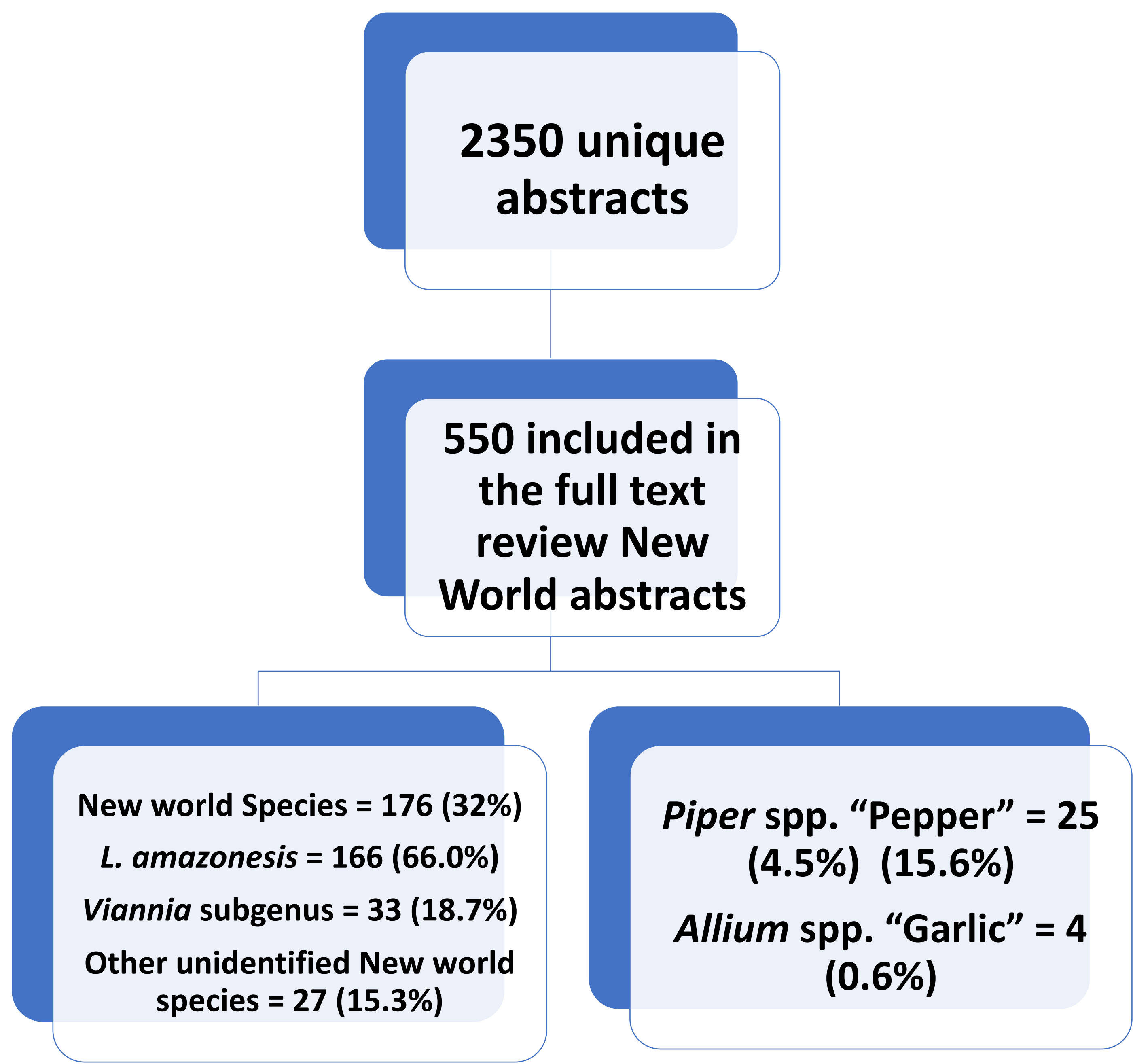
## Discussion & Conclusions

- 550 abstracts included for full-text review of NWCL using the GRADE approach from 1957-present (Figure 1 & 2)
- Focus of systematic review will be on the effects of ethnopharmaceuticals ***Piper* spp. “Pepper” (2.0%)**, and ***Allium* spp. “Garlic” (0.67)** (Figure 2)
- Increased human and vector migrations, climate change and travel, and the incidence of CL may increase in non-endemic areas
- Synthesizing current evidence surrounding ethnopharmaceuticals for the treatment of NWCL may contribute to drug discovery pipelines and potentially lead to novel therapeutics

## Results



**Figure 1:** Workflow highlighting abstract inclusion and exclusion criteria for full-text review.



**Figure 2:** Abstracts by infecting *Leishmania* spp and plant compounds..

## References

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3. Guyatt G, Oxman AD, Akl EA, Kunz R, Vist G, Brozek J, Norris S, Falck-Ytter Y, Glasziou P, deBeer H, Jaeschke R, Rind D, Meerpohl J, Dahm P, Schunemann HJ. GRADE guidelines: 1. Introduction-GRADE evidence profiles and summary of findings table. *J Clin Epidemiol* 2011; 64(4): 380-2.