Re.: Letter in support of Jaime Chalissery’s application for the 2020 Canadian Council of University Biology Chairs Undergraduate Paper Award

Dear Members of Adjudication Committee:

I write to most strongly, enthusiastically and whole-heartedly support Jaime Chalissery’s application for the 2020 Canadian Council of University Biology Chairs Undergraduate Paper Award. My letter of support is based on (i) a research project that Jaime conducted as an undergraduate student in my lab and (ii) the resulting manuscript titled “Ants sense, and follow, trail pheromones of ant community members” which was published in 2019 as a cover story in “Insects”.

It is widely accepted that ant colonies use multimodal communication signals to coordinate specific tasks such as foraging, nest defense, and cooperative brood care. Trail pheromone, e.g., is particularly important in the context of foraging. When a forager ant has located a profitable food source and then returns to her nest, she deposits a trail pheromone that guides nest mates to the same resource.

Jaime has taken this common knowledge to a new level, showing that ant nest mates not only communicate among themselves but also eavesdrop on communication signals of other ant community members. Specifically, Jaime has tested the hypotheses that ant community members (Western carpenter ants, Camponotus modoc; black garden ants, Lasius niger; European fire ants, Myrmica rubra) (1) sense, and follow, each other’s trail pheromones, and (2) fail to recognize trail pheromones of allopatric ants (pavement ants, Tetramorium caespitum; desert harvester ants, Novomessor albisetosus; Argentine ants, Linepithema humilis).

Jaime has run technically challenging electrophysiological recordings and elaborate behavioural experiments, collecting a large body of data supporting his hypotheses.

Jaime’s study is exemplary in its conception, rigorous experimental design, diligent data collection and analysis, and its overall presentation. This level of sophistication is exceedingly rare for an undergraduate student!

Jaime’s study has drawn a lot of attention. His article became the Cover Story of the “Insect” issue publishing it. Meanwhile, it had 1,170 views, 1,347 downloads, and four citations. Its altmetric score of 43 is equally impressive.
In conclusion, Jaime would be a most deserving recipient of the Canadian Council of University Biology Chairs Undergraduate Paper Award. **He has my highest possible recommendation!**

Yours sincerely

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