

1 CORRESPONDENCE

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3 **Identity crisis? News reports on invasive species feature misleading**
4 **images of unrelated organisms**

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10 Public interest in invasive species and their impacts on ecosystems is steadily growing,
11 fuelled by scientific efforts¹ and heightened media coverage. News outlets play a crucial
12 role in raising awareness and garnering public support for invasive species
13 management. This increased attention presents an opportunity for scientists to
14 celebrate greater engagement with these critical issues.

15 One significant challenge, however, lies in ensuring that the images featured in media
16 reports on invasive species accurately portray those species, instead of other unrelated
17 organisms. This is a pertinent issue for reports on invasive species of lesser known and
18 diverse groups, such as many invertebrates. Problems are especially likely to occur
19 when journalists are only provided with common names and lack access to accurate
20 images of the organisms. This tends to promote the undesirable sourcing of images
21 from stock image repositories, which can contain vast inaccuracies.

22 Consider recent media coverage on the Red Imported Fire Ant (*Solenopsis invicta*), one
23 of the world's most damaging and widespread invasive species². Mainstream news
24 reports from the past year discussing *S. invicta* infestations in Australia^{3,4}, Asia⁵ and
25 Europe⁶⁻⁸ featured images depicting a variety of other ant species (Fig. 1), all of which
26 were incorrectly identified as 'Fire Ant' in the captions. The credits of many images
27 suggested they were sourced from stock image repositories such as iStock
28 (istockphoto.com) and Getty Images (gettyimages.com). In an image search for 'Red
29 Imported Fire Ant' on these two platforms, only three out of the top 40 images depicted
30 ants of the 'Fire Ant' genus *Solenopsis*; all others displayed species from
31 morphologically and taxonomically distinct genera (e.g. *Atta*, *Formica*, *Iridomyrmex*,
32 *Myrmica*, *Oecophylla*, *Pogonomyrmex*, *Tapinoma*) (Fig. 1).

33 The repercussions of these inaccurate depictions of the wrong organisms as invasive
34 species in news reports are nontrivial. They can perpetuate negative stereotypes about
35 native species, misdirect management efforts, or cause unwarranted public alarm. For

36 instance, one article⁵ from a leading news outlet in Southeast Asia described the severe
37 medical effects of venomous stings of *S. invicta*, yet featured an image of *Oecophylla*
38 *smaragdina*, a common native ant species which not only lacks a sting, but moreover
39 plays key roles in multiple ecosystem functions in the region⁹.

40 At a fundamental level, scientific inaccuracies in media reports damage scientific
41 credibility. The persistence of taxonomic inaccuracies and confusion in media reports
42 on the serious issue of biological invasions risks eroding public trust in conservation
43 initiatives.

44 As scientists, we should take proactive measures to mitigate the spread of taxonomic
45 inconsistencies in the media. Unfortunately, once an article is published in the rapid
46 news cycle, identifying and rectifying errors becomes arduous. Therefore, it is crucial to
47 establish effective communication with journalists from the outset.

48 As far as possible, we should provide journalists with accurate images that emphasise
49 distinctive features which can aid in species identification. If such images are not in our
50 possession, we can point journalists to reliable taxon-specific image repositories¹⁰ or
51 photographers and illustrators with taxonomic expertise. At bare minimum, we should
52 provide journalists with species' scientific names, underscore the importance of using
53 these consistently, and explain the pitfalls of exclusively using common names.

54 Addressing taxonomic inconsistencies in the media ultimately requires concerted
55 efforts from both scientists and journalists. By working together to promote accuracy
56 and transparency in media portrayals, we can safeguard the integrity of ecological
57 science and bolster effective conservation practices. This collaboration not only
58 enhances public understanding but also strengthens support for vital conservation
59 efforts worldwide.

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61 REFERENCES

- 62 1. Roy, H. E., et al. *IPBES Invasive Alien Species Assessment: Summary for Policymakers* (2023).
- 63 2. Lowe, S., Browne, M., Boudjelas, S., & De Poorter, M. *100 of the world's worst invasive alien*
64 *species: a selection from the global invasive species database* (Vol. 12). Auckland: Invasive
65 Species Specialist Group (2000).
- 66 3. Gillespie, E. *Queensland to extend fire ant control zone into NSW in bid to stop their march to the*
67 *border*. The Guardian (2023, Jul 25). [https://www.theguardian.com/australia-](https://www.theguardian.com/australia-news/2023/jul/25/queensland-to-extend-fire-ant-control-zone-into-nsw-in-bid-to-stop-their-march-to-the-border)
68 [news/2023/jul/25/queensland-to-extend-fire-ant-control-zone-into-nsw-in-bid-to-stop-their-](https://www.theguardian.com/australia-news/2023/jul/25/queensland-to-extend-fire-ant-control-zone-into-nsw-in-bid-to-stop-their-march-to-the-border)
69 [march-to-the-border](https://www.theguardian.com/australia-news/2023/jul/25/queensland-to-extend-fire-ant-control-zone-into-nsw-in-bid-to-stop-their-march-to-the-border)
- 70 4. Vidler, A. *New research suggests fire ants could cost Australia \$22 billion by 2040*. 9News (2024,
71 Apr 18).
72 [https://www.9news.com.au/national/red-imported-fire-ants-cost-to-economy-could-be-](https://www.9news.com.au/national/red-imported-fire-ants-cost-to-economy-could-be-billions-new-research-says/29094906-8e19-43fc-b00a-e7859078cc87)
73 [billions-new-research-says/29094906-8e19-43fc-b00a-e7859078cc87](https://www.9news.com.au/national/red-imported-fire-ants-cost-to-economy-could-be-billions-new-research-says/29094906-8e19-43fc-b00a-e7859078cc87)
- 74 5. Khoo, B. K. *Fire ants, hornets, bed bugs: What to do if you get bitten or stung, and when to see a*
75 *doctor*. Channal News Asia (2024, Mar 15).

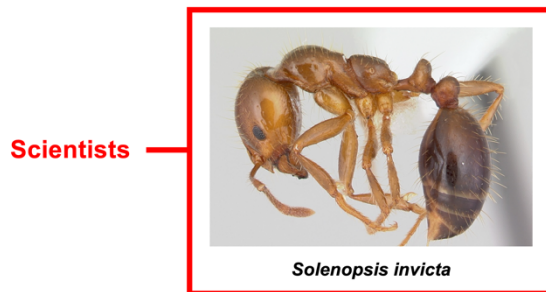
76 [https://cnalifestyle.channelnewsasia.com/wellness/insect-bites-treatment-hornet-fire-ants-](https://cnalifestyle.channelnewsasia.com/wellness/insect-bites-treatment-hornet-fire-ants-bed-bugs-386711)
77 [bed-bugs-386711](https://cnalifestyle.channelnewsasia.com/wellness/insect-bites-treatment-hornet-fire-ants-bed-bugs-386711)
78 6. Knapton, S. London on red fire ant alert after deadly species found in Europe. The Telegraph
79 (2023, 11 Sep).
80 [https://www.telegraph.co.uk/news/2023/09/11/red-fire-ant-syracuse-sicily-italy-deadly-europe-](https://www.telegraph.co.uk/news/2023/09/11/red-fire-ant-syracuse-sicily-italy-deadly-europe-london/)
81 [london/](https://www.telegraph.co.uk/news/2023/09/11/red-fire-ant-syracuse-sicily-italy-deadly-europe-london/)
82 7. Symons, A. *Invasive fire ants have made it to Europe – and they’re likely to spread as the climate*
83 *heats up*. Euro News (2023, 12 Sep).
84 [https://www.euronews.com/green/2023/09/12/invasive-fire-ants-have-made-it-to-europe-and-](https://www.euronews.com/green/2023/09/12/invasive-fire-ants-have-made-it-to-europe-and-theyre-likely-to-spread-as-the-climate-heats)
85 [theyre-likely-to-spread-as-the-climate-heats](https://www.euronews.com/green/2023/09/12/invasive-fire-ants-have-made-it-to-europe-and-theyre-likely-to-spread-as-the-climate-heats)
86 8. Heath, L. *Fears that fire ants with painful sting will arrive in UK due to climate change*. iNews
87 (2024, May 19).
88 <https://inews.co.uk/news/fire-ants-arrive-uk-climate-change-3061622>
89 9. Crozier, R. H., Newey, P. S., Schluens, E. A., & Robson, S. K. (2010). A masterpiece of evolution–
90 *Oecophylla weaver ants* (Hymenoptera: Formicidae). *Myrmecological News*, 13(5), 57-71.
91 10. AntWeb. California Academy of Science.
92 <https://www.antweb.org>

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94 **FIGURES**

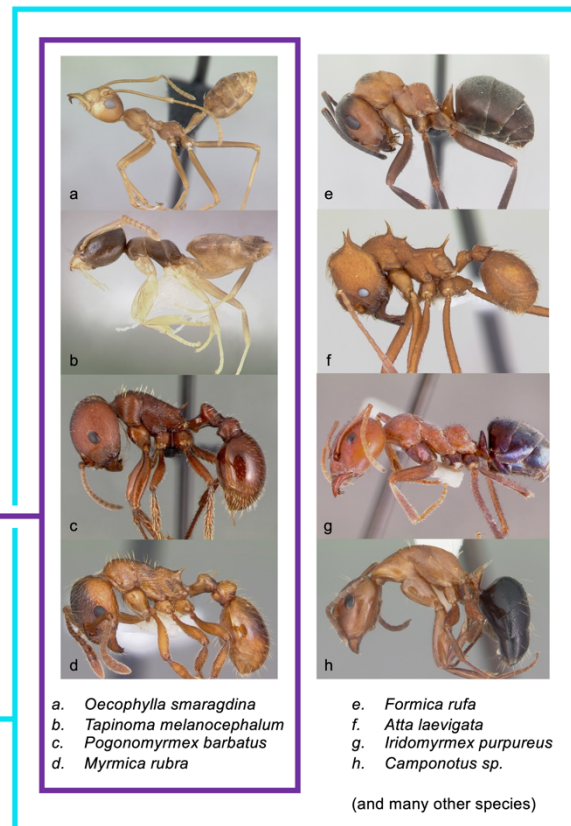
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A ‘Red Imported Fire Ant’ according to...



Mainstream Media
e.g. *The Guardian, The Telegraph, Channel News Asia, Euro News*

Stock Image Repositories
e.g. *Getty Images, iStock*



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97 **Figure 1. Mainstream news reports on invasive species feature misleading images of unrelated**
98 **organisms.** Multiple media reports on infestations by the Red Imported Fire Ant (*Solenopsis invicta*) in

99 Asia, Australia and Europe over the past year³⁻⁸ featured inaccurate images depicting ant species from a
100 variety of other genera. Such images tend to be sourced by journalists from stock image repositories,
101 which contain numerous images of ant species incorrectly labelled 'Red Imported Fire Ant'. Scientists
102 can take proactive steps to mitigate the spread of taxonomic inaccuracies in mainstream media. All
103 images obtained from AntWeb¹⁰ (photographer April Nobile).