

CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES
OF WILD FAUNA AND FLORA



Eighteenth meeting of the Conference of the Parties
Geneva (Switzerland), 17-28 August 2019

MYTH DEBUNKED: KERATINOUS PANGOLIN SCALES
DO NOT CONTAIN THE ANALGESIC TRAMADOL.
CONSERVATION SCIENCE AND PRACTICE

This document has been submitted by the United States of America in relation to agenda item 75.*

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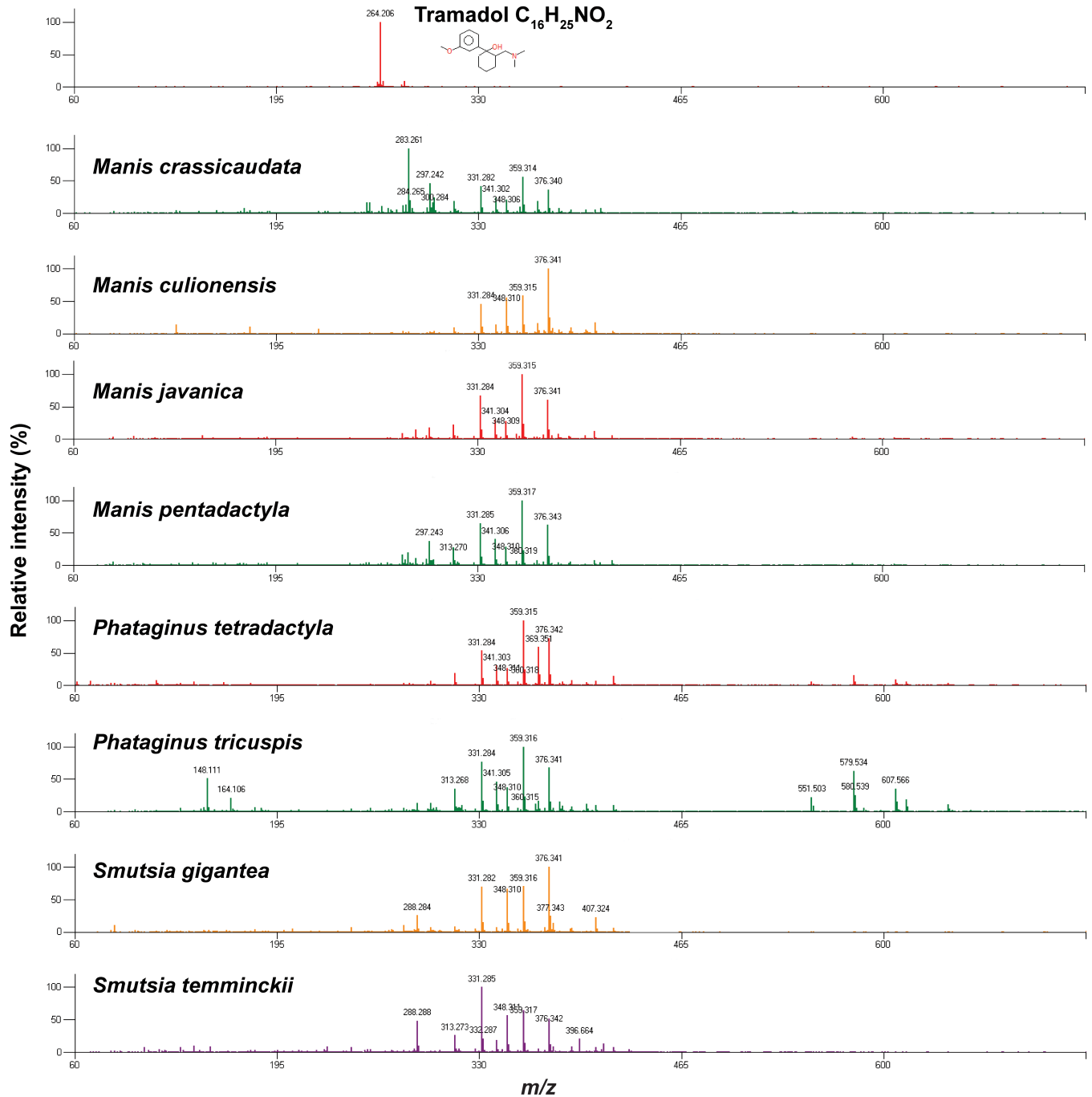


FIGURE 1 Full spectra of individual keratin scales representing each pangolin species compared to the spectrum of tramadol obtained using DART-TOFMS. m/z refers to the mass-to-charge ratio. Samples represented for each species are as follows: *Manis crassicaudata* (FMNH 91353); *Manis culionensis* (FMNH 62921); *Manis javanica* (AMNH M-32637); *Manis pentadactyla* (AMNH M-26637); *Phataginus tetradactyla* (FMNH 62209); *Phataginus tricuspis* (AMNH M-53875); *Smutsia gigantea* (AMNH M-53846); *Smutsia temminckii* (AMNH M-83772). See Supporting Information Data S2 for spectra representing all 104 scale samples

ACKNOWLEDGMENTS

We thank the American Museum of Natural History, especially Neil Duncan, Eileen Westwig and Brian O'Toole, and the Field Museum of Natural History, especially Adam

Ferguson, Lawrence Heaney, and Lauren Smith, for allowing us to sample their collection of pangolin scales. Spectral data are available as Supporting Information Data S2. The findings and conclusions in this article are those of the

authors and do not necessarily represent the views of the U.S. Fish and Wildlife Service.

CONFLICT OF INTEREST

The authors declare that they have no conflicts of interest.

AUTHOR CONTRIBUTIONS

The project was conceived by all authors. Sample collection was conducted by R.L.J. E.O.E. and P.J.M. analyzed and interpreted data. R.L.J. drafted the manuscript, and all authors contributed to editing/revising its contents.

ETHICS STATEMENT

This study did not require ethics approval.

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SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of this article.

How to cite this article: Jacobs RL, McClure PJ, Baker BW, Espinoza EO. Myth debunked: Keratinous pangolin scales do not contain the analgesic tramadol. *Conservation Science and Practice*. 2019;e82. <https://doi.org/10.1111/csp2.82>