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## The octopus mind and the argument against farming it

Commentary on [Mather](#) on *Octopus Mind*

### Jennifer Jacquet

Department of Environmental Studies  
New York University

### Becca Franks

Department of Environmental Studies  
New York University

### Peter Godfrey-Smith

Faculty of Science  
University of Sydney

**Abstract:** Mather is convincing about octopuses having ‘a controlling mind, motivated to gather information,’ but stops short of asking what having that mind means for octopus moral standing. One consequence of understanding the octopus mind should be a refusal to subject octopuses to mass production. Octopus farming is in an experimental phase and supported by various countries. We argue that it is unethical because of concerns about animal welfare as well as environmental impacts.

[Jennifer Jacquet](#), assistant professor in the Department of Environmental Studies at New York University and part of NYU Animal Studies, works on large-scale environmental problems, including overfishing, climate change, and the Internet wildlife trade. [Website](#)



[Becca Franks](#), visiting assistant professor in the Department of Environmental Studies at New York University, studies well-being and motivation, with a focus on aquatic animal welfare. [Website](#)



[Peter Godfrey-Smith](#) is Professor of History and Philosophy of Science at University of Sydney. His main research interests are philosophy of biology and philosophy of mind. His books include *Other Minds: The Octopus, the Sea, and the Deep Origins of Consciousness*. [Website](#)



Mather (2019a) presents ample evidence that octopuses have personalities, causal reasoning, get bored, and have imaginations. These are features we humans understand. She also describes unique aspects of octopuses’ ‘way of being’ — such as a nervous system distributed

mostly throughout eight arms and the ability to camouflage themselves using chromatophores. Mather also argues convincingly that octopuses have ‘a controlling mind, motivated to gather information.’ Yet she stops short of asking what possessing that mind means for octopus moral standing (see commentaries of Browning 2019 and King & Marino 2019).

One consequence of understanding the octopus mind should be a refusal to subject octopuses to mass production. This is in an experimental phase today and supported by various countries, including Spain, Mexico, China, and Japan. Octopus farming is unethical because of concerns about animal welfare as well as environmental impact ([Jacquet et al., 2019](#)).

Mass production of octopus would mean controlled, sterile, and monotonous environments (probably experienced in isolation) combined with set diets and regimented feeding schedules, all designed to maximize biomass, not wellbeing. Few studies have considered octopus welfare in farmed settings (for an overview see Castanheira, 2019), but these have reported high rates of cannibalism and aggression at higher stocking densities (Pham & Isidro, 2009), parasitic infections (Ladineo & Ozić, 2005), and problems with digestion (Sykes et al., 2017). Intensive farm systems are inevitably hostile to the positive experiences octopuses are likely to seek, including high levels of cognitive stimulation (Mather & Dickel, 2017), opportunities to explore, manipulate, and control their environment (Finn et al., 2009; Levy et al., 2015; Steer & Semmens, 2003), and social interaction (Boal, 2006; Caldwell et al., 2015; Scheel et al., 2017).

Beyond welfare concerns, commercial octopus farming would also be ecologically unsustainable. Octopuses are carnivores and require protein from other animals in their diet. Octopuses in captivity grow best on a diet consisting primarily of crab, but diets of mackerel (Pham & Isidro, 2009) or squid and hake have also been tried (Cerezo Valverde & García García, 2016). Rather than alleviating pressure on wild aquatic animals, farming octopus would increase pressure. As with any captive carnivore, farming octopus is inefficient: it would feed people but the result would be a net loss of animal protein.

Ecologists have emphasized that farming carnivores is unsustainable (e.g., Ackefors & Rosén, 1979; Naylor et al., 2000). Aquaculture is a valuable and probably inevitable part of the future of human food consumption, but it can be implemented more or less responsibly. From a sustainability perspective, farming should not focus on carnivores but on organisms lower on the food chain that we do not need to feed, such as mussels and oysters (Jacquet et al., 2017), seaweeds, and other options. Owing to concerns about environmental impact as well as human health, experts have argued that human diets should be composed predominantly or exclusively of plants (Willett, 2019). Although the argument that ‘people have to eat’ has been used to justify the development of octopus farming (including by Mather, 2019b) the human diet need not include farmed octopus. Unlike the octopus, humans have immensely flexible diets.

The nascent octopus farming industry has also argued that octopus farming will meet global demand for octopus. However, as with aquaculture in general, which has not been a substitute for capture fisheries but has added to the global supply of seafood (e.g., Longo et al., 2019), octopus farming would probably result in creating demand for octopus.

The octopus industry has also said octopus farming will create jobs. Any new enterprise, including going to war or building prisons, is likely to create jobs. The question is at what cost. Farming oysters, seaweed, or lentils would also create jobs without subjecting ‘a controlling mind’ to mass production. We must ultimately ask ourselves whether farming the octopus — an

undomesticated, sentient, and sophisticated carnivore — is the right thing to do. We believe it is not. The following scholars (signing as individuals, not on behalf of their institutions) agree:

## Signatures

1. [ABRAMS](#) Peter, University of Toronto, Canada
2. [AINLEY](#) David, Marine Ecologist, USA
3. [AL-ABDULRAZZAK](#) Dalal, Vericatch, Canada
4. [ALAVA](#) Juan Jose, Institute for the Oceans and Fisheries, University of British Columbia, Canada, & Fundacion Ecuatoriana para el Estudio de Mamiferos Marinos (FEMM), Ecuador
5. [ARECHAVALA-LOPEZ](#) Pablo, Mediterranean Institute of Advanced Studies, Spain
6. [ATHANASSAKIS](#) Yanoula, New York University, USA
7. [BAKER](#) Liv, Hunter College, USA
8. [BEKOFF](#) Marc, University of Colorado, USA
9. [BERGHMANS](#) Federico, University of Buenos Aires, Argentina
10. [BERGSTROM](#) Carl, Department of Biology, University of Washington, USA
11. [BOLGER](#) Niall, Columbia University, USA
12. [BROAD](#) Kenneth, University of Miami, USA
13. [BROOKS](#) Cassandra, University of Colorado Boulder, USA
14. [BROTZ](#) Lucas, Institute for the Oceans and Fisheries, University of British Columbia, Canada
15. [BROWNING](#) Heather, Australian National University, Australia
16. [CASAL](#) Paula, Catalan Institution for Research and Advanced Studies, Spain
17. [CARRETERO-GONZÁLEZ](#) Margarita, Universidad de Granada, Spain
18. [CHAUDHURI](#) Una, New York University, USA
19. [CLARK](#) Stephen R.L., University of Liverpool (Professor Emeritus), UK
20. [CONLEY](#) Dalton, Princeton University, USA
21. [CRAMER](#) Katie, Scripps Institution of Oceanography, USA
22. [DAVIES](#) Ben, University of Oxford, UK
23. [DELON](#) Nicolas, New College of Florida, USA
24. [DENNETT](#) Daniel, Tufts University, USA
25. [DONALDSON](#) Brianne, Rice University, USA
26. [DOYLE](#) Rebecca, University of Melbourne, Australia
27. [ESTES](#) James, University of California, Santa Cruz, USA
28. [FENTON](#) Andrew, Dalhousie University, Canada
29. [FISCHER](#) Bob, Texas State University, USA
30. [FONSECA](#) Rui, Centro de Investigação e Estudos de Sociologia (CIES-IUL), Portugal
31. [FRASER](#) David, Animal Welfare Program, University of British Columbia, Canada
32. [FROESE](#) Rainer, GEOMAR Helmholtz Centre for Ocean Research, Germany
33. [GAGLIANO](#) Monica, University of Sydney, Australia
34. [GLASER](#) Sarah, One Earth Future, USA
35. [GRUEN](#) Lori, William Griffin Professor of Philosophy, Wesleyan University, USA
36. [GUPTA](#) Kristin, Rice University, USA
37. [HALTEMAN](#) Matthew C., Calvin College, USA
38. [HAYEK](#) Matthew, Harvard University, USA
39. [HERRMANN](#) Kathrin, Johns Hopkins Bloomberg School of Public Health, USA
40. [HIGGINS](#) E. Tory, Columbia University, USA
41. [HINTZE](#) Sara, University of Natural Resources and Life Sciences Vienna BOKU, Austria
42. [HOROWITZ](#) Alexandra, Barnard College, USA

43. [ILEA](#) Ramona, Professor of Philosophy, Pacific University Oregon, USA
44. [JACKSON](#) Jeremy B.C., Scripps Institution of Oceanography, USA
45. [JAMIESON](#) Dale, Department of Environmental Studies, New York University, USA
46. [JEROLMACK](#) Colin, New York University, USA
47. [JOHN](#) Tyler M., Philosophy, Rutgers University-New Brunswick, USA
48. [JOHNS](#) Brandon, California State University - San Bernardino, USA
49. [JOHNSON](#) Ayana, Ocean Collectiv, USA
50. [JOHNSON](#) Syd, Michigan Technological University, USA
51. [JOST](#) John T., New York University, USA
52. [KILLOREN](#) David, Australian Catholic University, Australia
53. [KING](#) Barbara J., College of William and Mary, USA
54. [KNEBA](#) Elliot, Veterinarian, England
55. [KRISTENSEN](#) Bjørn, University of Oregon, USA
56. [LERNER](#) Adam, New York University Center for Bioethics, USA
57. [MAKOWSKA](#) Joanna, University of British Columbia, Canada
58. [MARINO](#) Lori, Kimmela Center for Animal Advocacy, USA
59. [MCCAULEY](#) Douglas, University of California Santa Barbara, USA
60. [MCCLLENACHAN](#) Loren, Colby College, USA
61. [MCDERMID](#) Sonali, New York University, USA
62. [MELOTTI](#) Luca, University of Münster, Germany
63. [MIGUENS](#) Sofia, University of Porto, Portugal
64. [MILINSKI](#) Manfred, Max-Planck-Institute for Evolutionary Biology, Plön, Germany
65. [MULÀ](#) Anna, Foundation Franz Weber, Spain
66. [NAGY](#) Kelsi, Colorado State University, USA
67. [NOTARBARTOLO DI SCIARA](#) Giuseppe, Tethys Research Institute, Milano, Italy
68. [ORMANDY](#) Elisabeth, Animals in Science Policy Institute, Canada
69. [OVEN](#) Alice, University of Winchester, UK
70. [PAEZ](#) Eze, University of Minho, Portugal & UPF-Centre for Animal Ethics, Spain
71. [PALOMARES](#) Deng, Institute of Oceans and Fisheries, University of British Columbia, Canada
72. [PARDALOU](#) Androniki, School of Biology, Aristotle University of Thessaloniki, Greece
73. [PAULY](#) Daniel, University of British Columbia, Canada
74. [PENG](#) Guo, Philosophy Department, Shandong University, China
75. [PICKETT](#) Susana, University of Leicester, UK
76. [POLICARPO](#) Verónica, Instituto de Ciências Sociais (ICS), Universidade de Lisboa, Portugal
77. [PROUDFOOT](#) Kathryn, Ohio State University, USA
78. [PULEO](#) Alicia, Philosophy Department of the Universidad de Valladolid, Spain
79. [RADER](#) Priscilla, Animal League Defense Fund, USA
80. [RAJAN](#) Kanaka, Princeton University, USA
81. [REISS](#) Diana, Hunter College, USA
82. [RIESER](#) Alison, University of Hawaii, USA
83. [ROBERTS](#) Callum, University of York, UK
84. [RYAN](#) Erin, British Columbia Animal Welfare Program, Canada
85. [SAFINA](#) Carl, Stony Brook University, USA
86. [SALA](#) Eric, National Geographic Society, USA
87. [SARAIVA](#) Joao L., Fish Ethology and Welfare Group, CCMAR, Portugal
88. [SCHANZ](#) Lisa, University of Natural Resources and Life Sciences (BOKU) Vienna, Austria
89. [SCHENKENFELDER](#) Josef, University of Natural Resources and Life Sciences Vienna, Austria
90. [SCHLOTTMANN](#) Christopher, Department of Environmental Studies, NYU, USA

91. [SEBO](#) Jeff, New York University, USA
92. [SHRIVER](#) Adam, Oxford Uehrio Centre for Practical Ethics, UK
93. [SINGER](#) Peter, Princeton University, USA
94. [SMUTS](#) Barbara, Psychology, University of Michigan (Professor Emeritus), USA
95. [SOMMERS](#) Tamler, Philosophy, University of Houston, USA
96. [SUDER](#) Billo Heinzpeter, President, Guarantor Fish Ethology and Welfare Group, Germany
97. [TAFALLA](#) Marta, Philosophy Department, Universitat Autònoma de Barcelona, Spain
98. [TAVELLA](#) Elizabeth, University of Chicago, USA
99. [THIYAGARAJAN](#) Nandini, New York University, USA
100. [TSIKLIRAS](#) Athanassios, Aristotle University of Thessaloniki, Greece
101. [TUMINELLO](#) Joseph, McNeese State University, USA
102. [VENTURA](#) Beth, University of Minnesota, USA
103. [VOLSTORF](#) Jenny, Fish Ethology and Welfare Group, Germany
104. [VOLTES](#) Adrià, Antropologia de la Vida Animal (Institut Català d'Antropologia), Spain
105. [WATLING](#) Les, University of Hawaii, USA
106. [WEBB](#) Christine, Department of Human Evolutionary Biology, Harvard University, USA
107. [WINCKLER](#) Christoph, University Natural Resources & Life Sciences Vienna, Austria
108. [WINTER](#) Drew, Rice University, USA
109. [ZAVITZ](#) Tayler, University of Victoria, Canada
110. [ZOLLITSCH](#) Werner, University of Natural Resources and Life Sciences Vienna, Austria
111. [ZOZAYA](#) Stephen, James Cook University, Australia

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