Long-term trends in the occupancy of ants revealed through use of multi-sourced datasets

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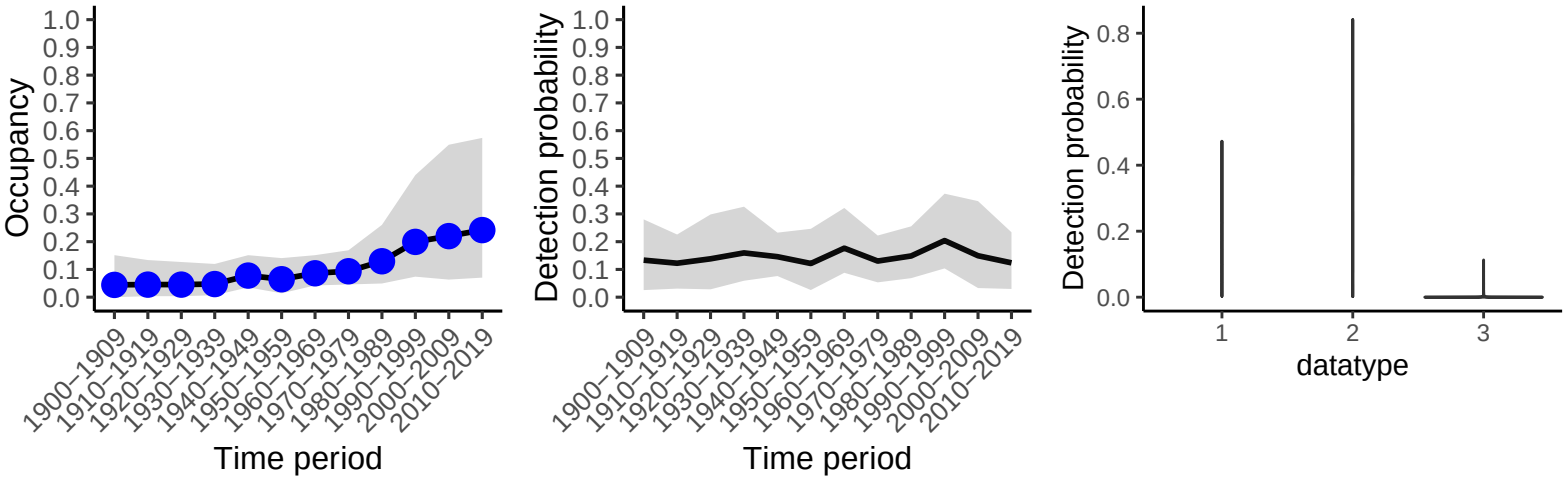
Julie K. Sheard[*1], Carsten Rahbek[1,2,3,4,5], Robert R. Dunn[6], Nathan J. Sanders[7], Nick J.B. Isaac[8]

[1]Center for Macroecology, Evolution and Climate, and [2]Center for Global Mountain Biodiversity, GLOBE Institute, University of Copenhagen, Universitetsparken 15, Copenhagen 2100, Denmark
[3]Institute of Ecology, Peking University, Beijing 100871, People's Republic of China
[4]Department of Life Sciences, Imperial College London, Ascot SL5 7PY, UK
[5]Danish Institute for Advanced Study, University of Southern Denmark, Campusvej 55, Odense M 5230, Denmark
[6]Department of Applied Ecology, North Carolina State University, Raleigh, NC, USA
[7]Department of Ecology and Evolutionary Biology, University of Michigan, Ann Arbor, MI, USA
[8]UK Centre for Ecology and Hydrology, Crowmarsh Gifford, Maclean Building, Wallingford OX10 8BB, UK

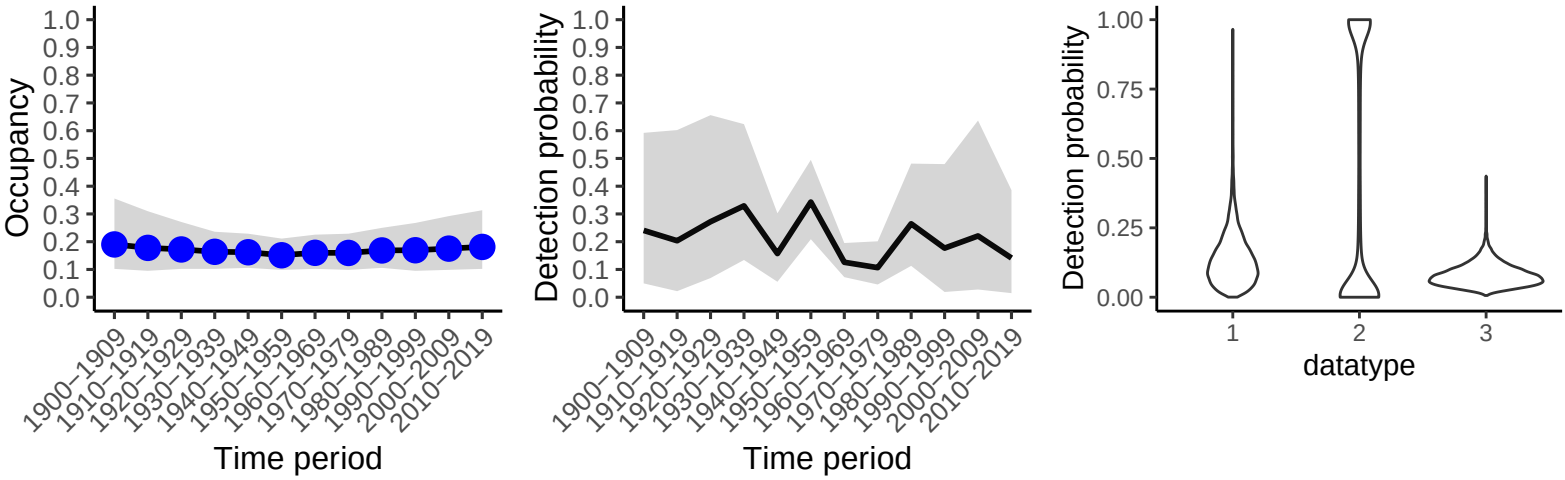
Figure S4: Occupancy and detection probability

Decadal occupancy and detection probability for 29 ant species in Denmark from 1900-2019. The first column shows estimated occupancy for each decade. Blue dots indicate that models have converged (Rhat < 1.1). Solid lines represent the average values and the shaded area is the associated 95 % credible interval. The second column shows detection probability generated by the plot_DetectionOverTime function in the package Sparta for ListLength category 1 (The Natural History Museum of Denmark, the Natural History Museum of Aarhus, Holger Holgersen, Sämi Schär and Christian Skøtt), defined by the a_t parameter. Solid lines represent the average values and the shaded area is the associated 95 % credible interval. The third column shows detection probability for the last decade (2010-2019) for each of the three datatypes (1 =the Natural History Museum of Denmark, the Natural History Museum of Aarhus, Holger Holgersen, Sämi Schär, Christian Skøtt. 2 = the EuroAnts course and 3 = the Ant Hunt citizen science project). The difference between categories 2 and 3 are defined by parameters $ß_1$ and $ß_2$.

Camponotus herculeanus



Formica cinerea



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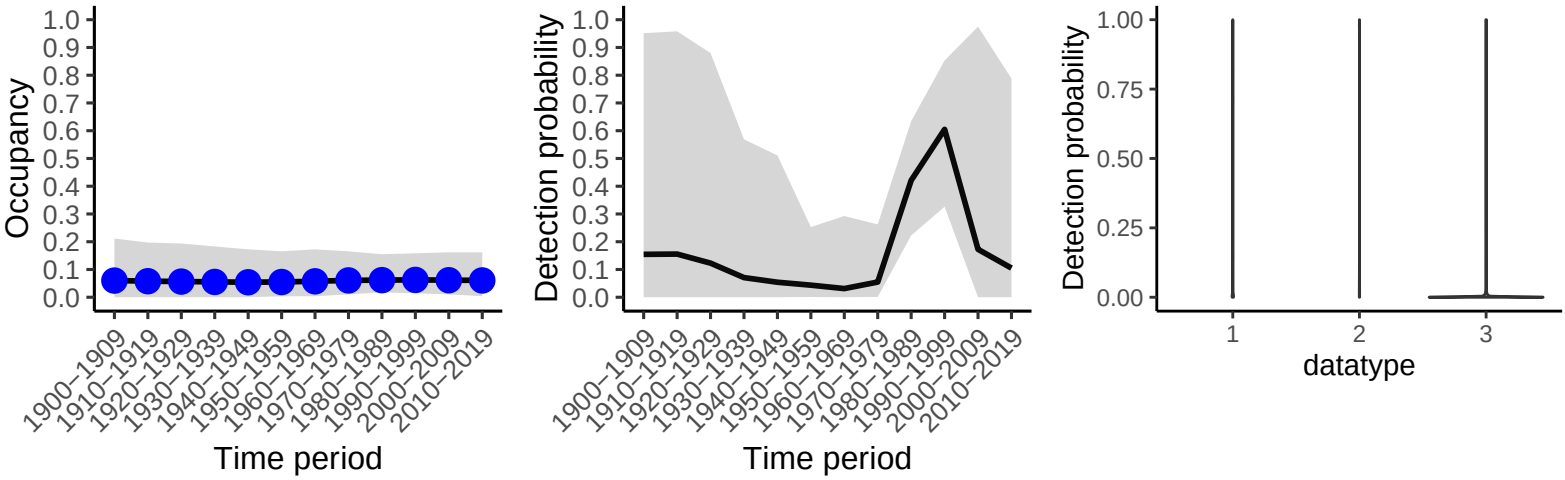
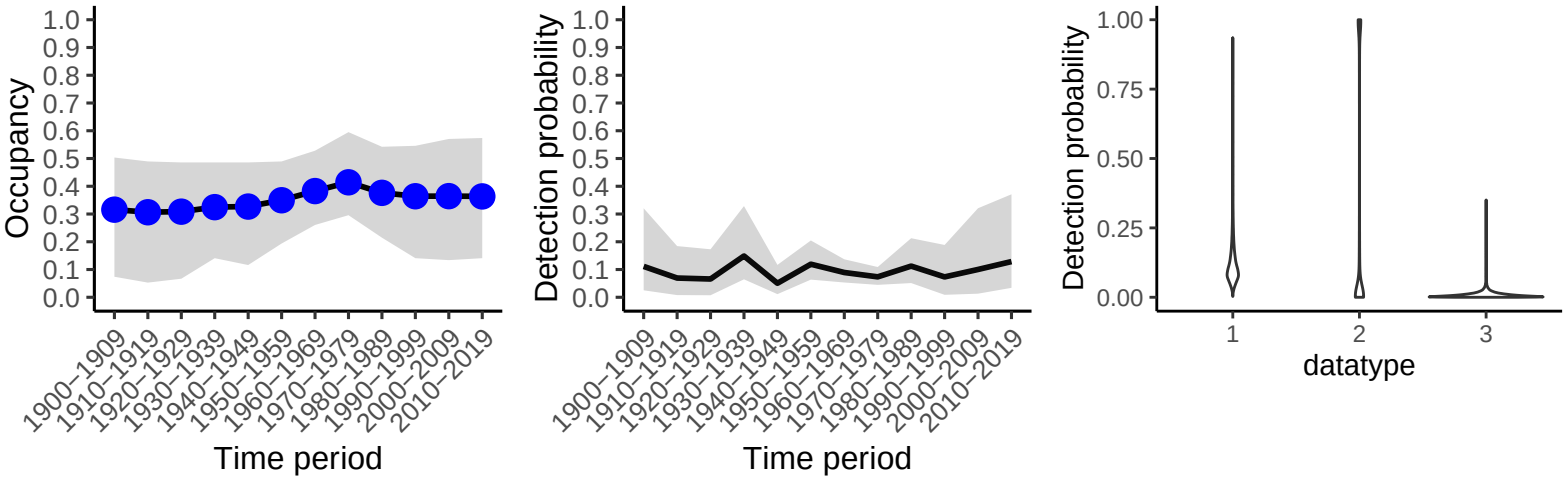


Formica exsecta



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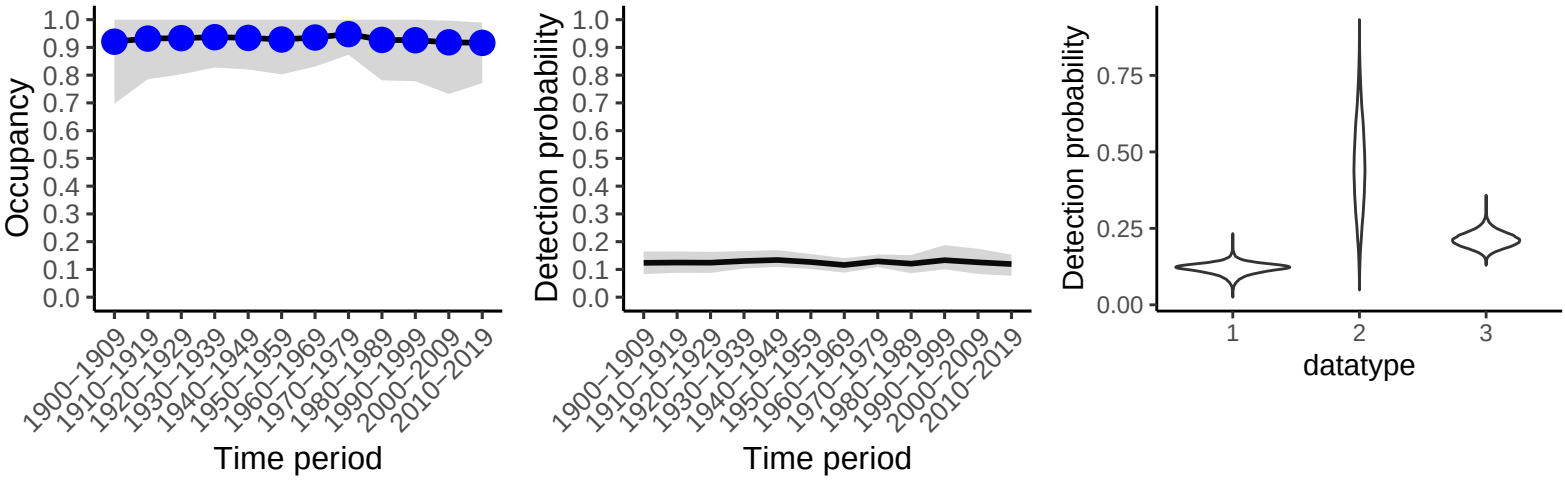
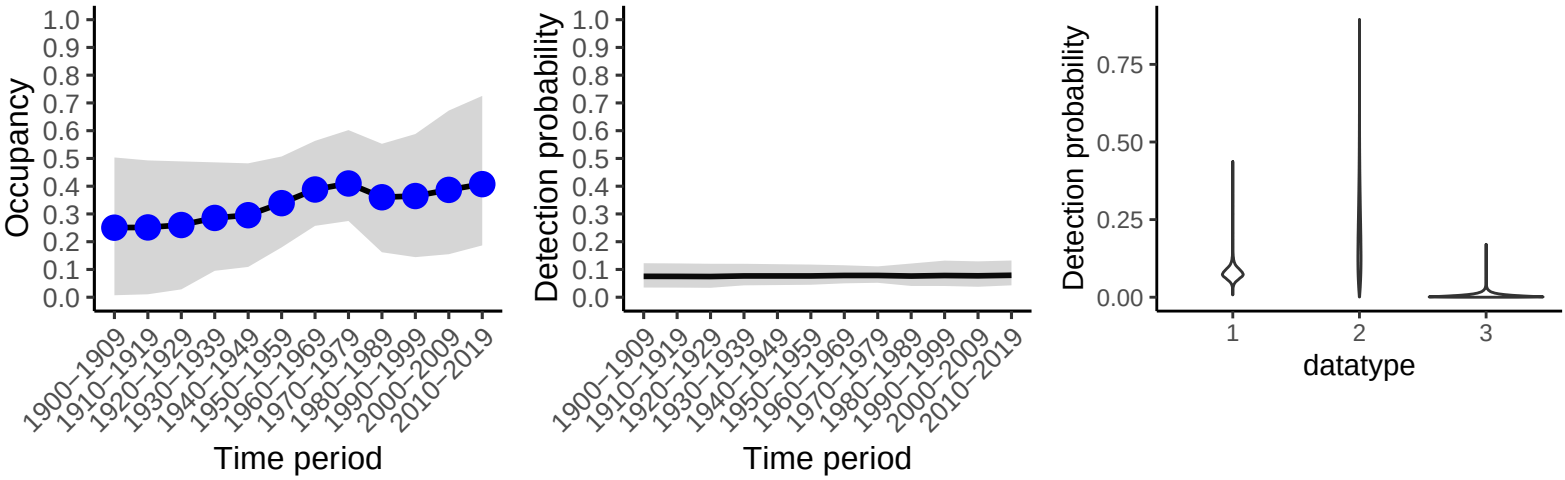


Formica picea



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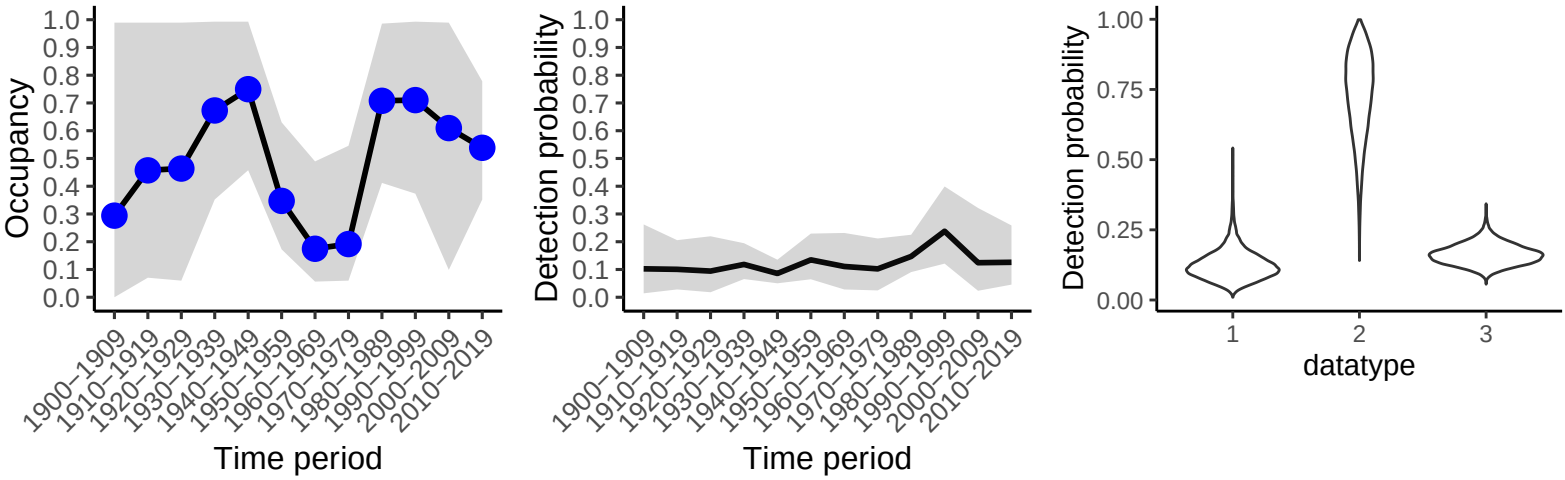

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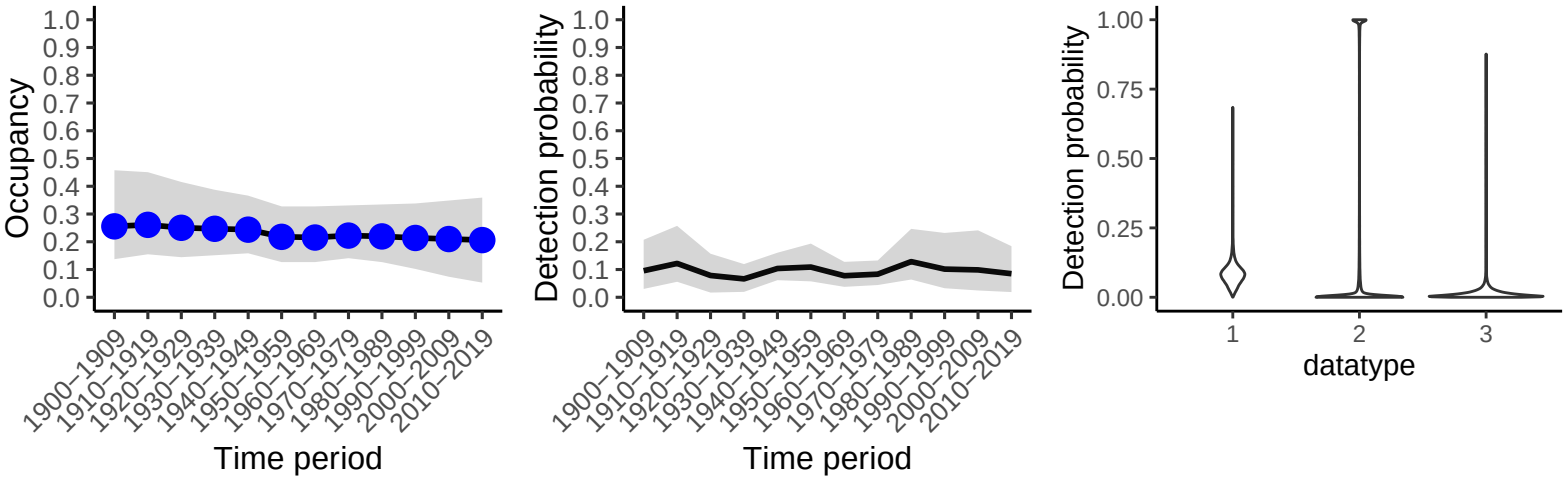
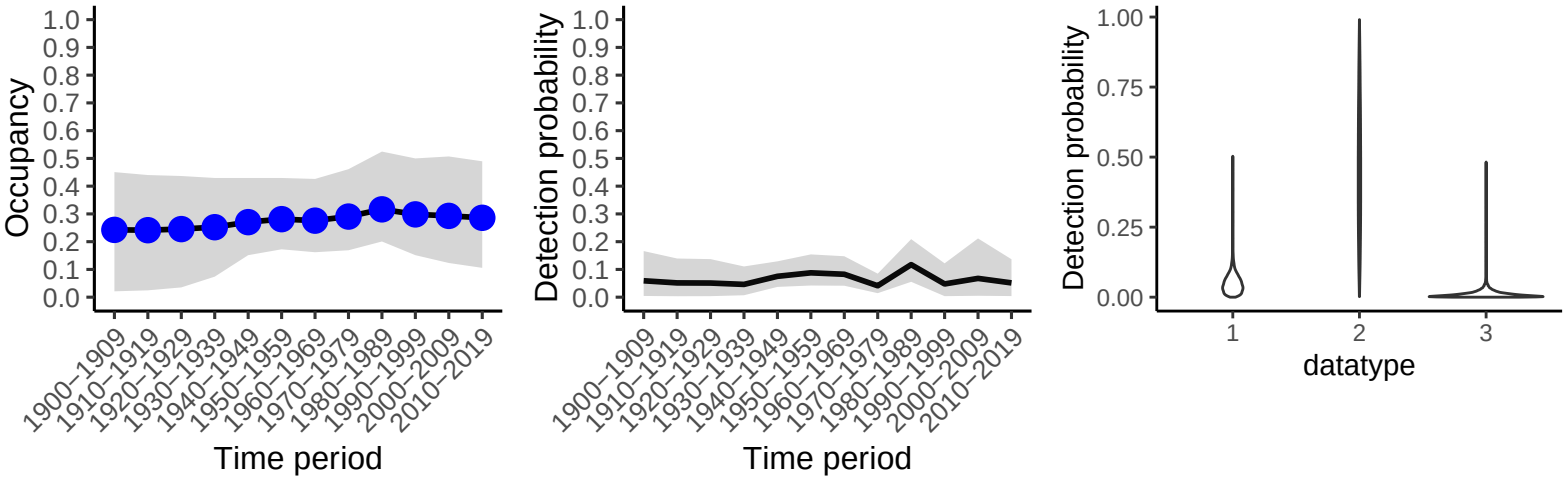
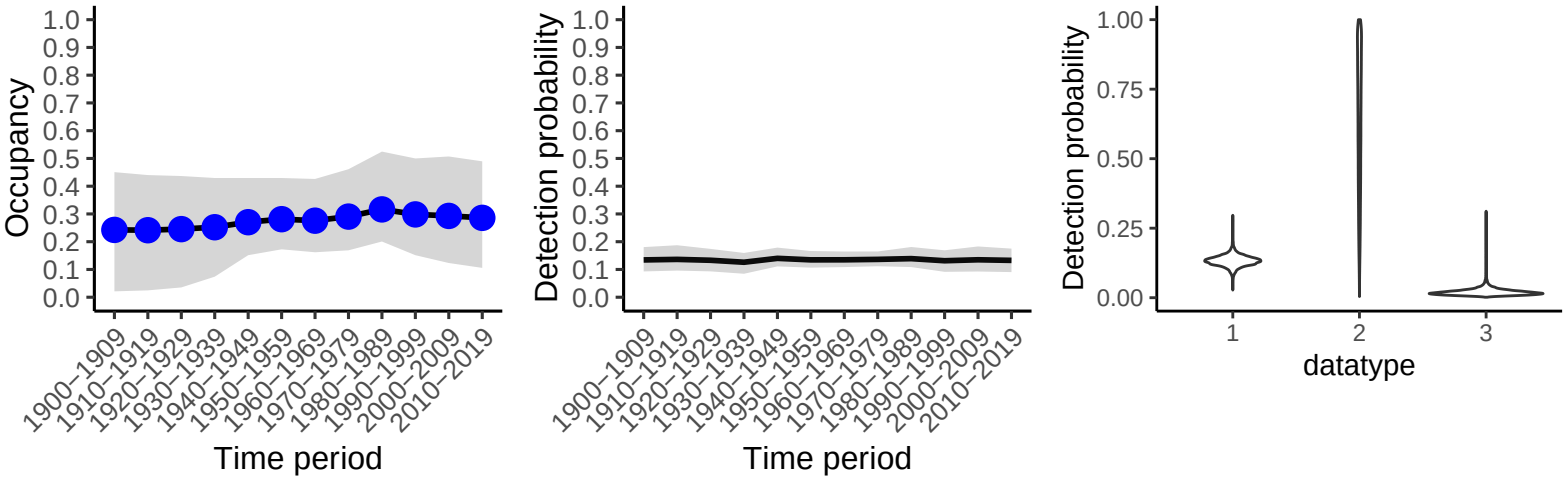


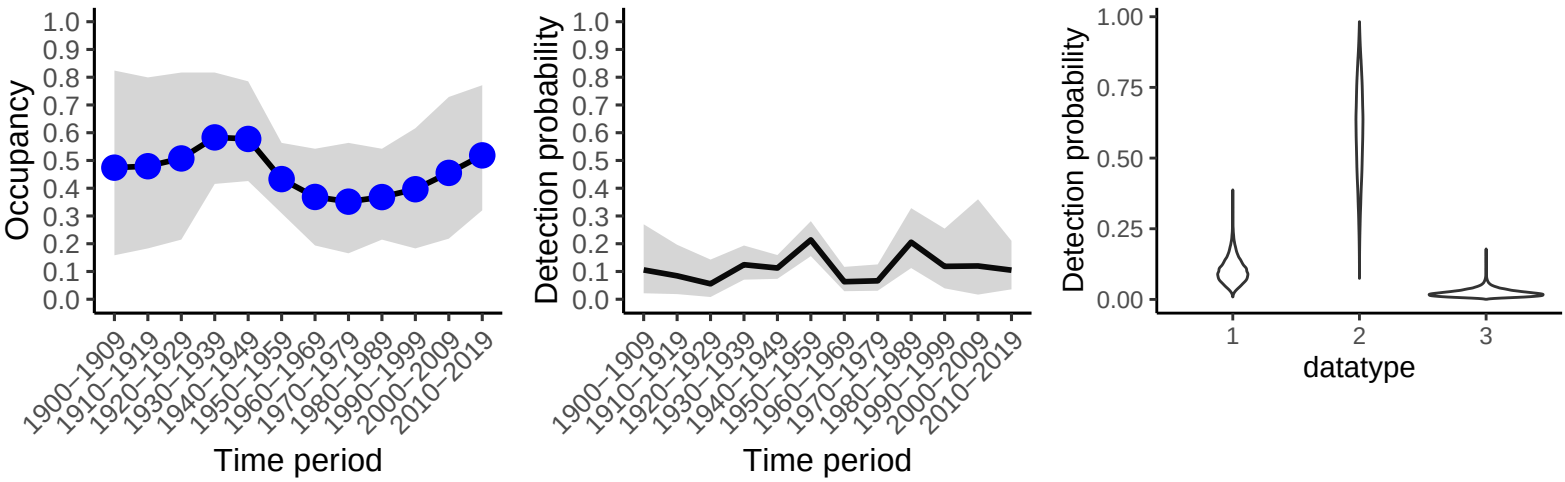
Formica pressilabris



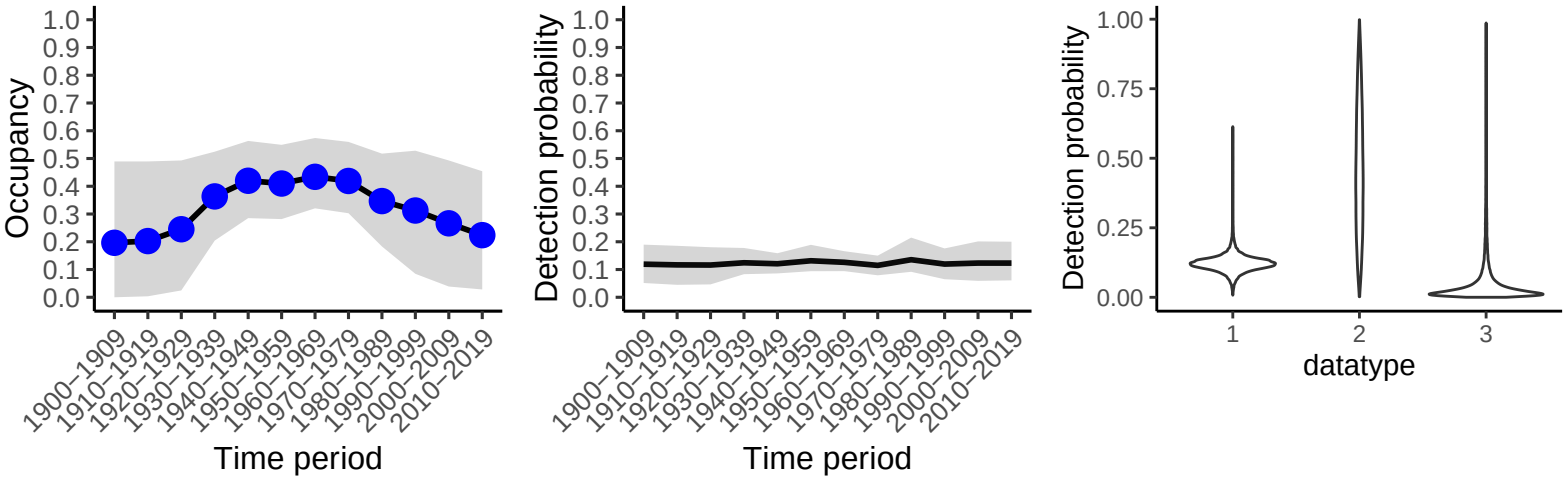
Formica rufa



Formica rufibarbis



Formica sanguinea



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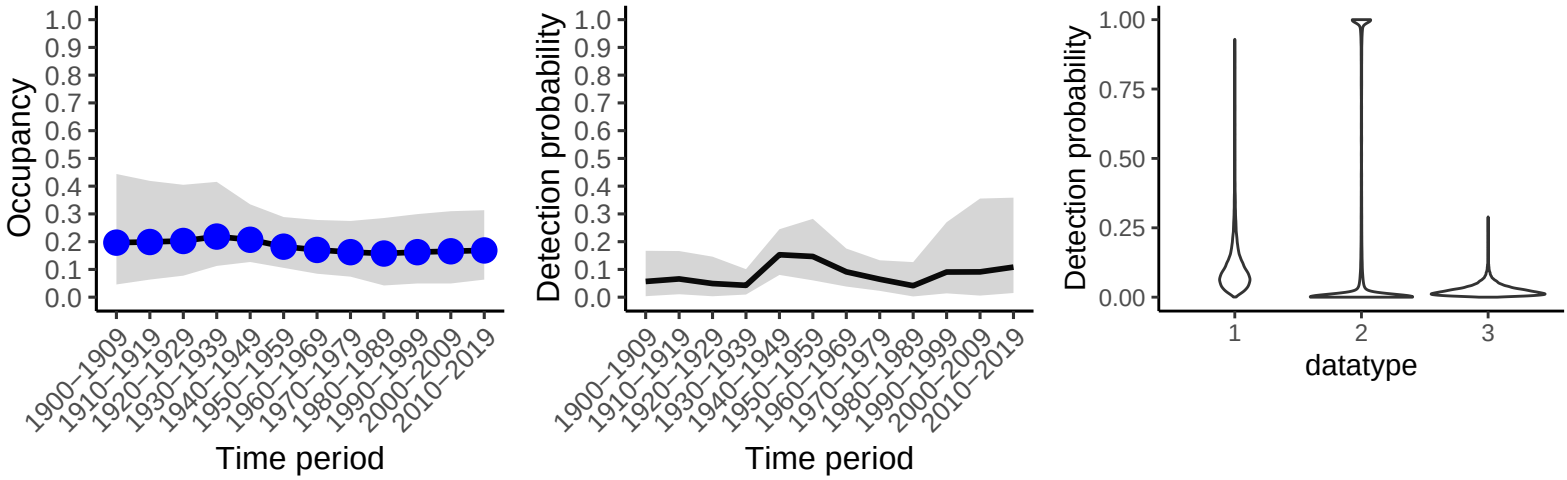
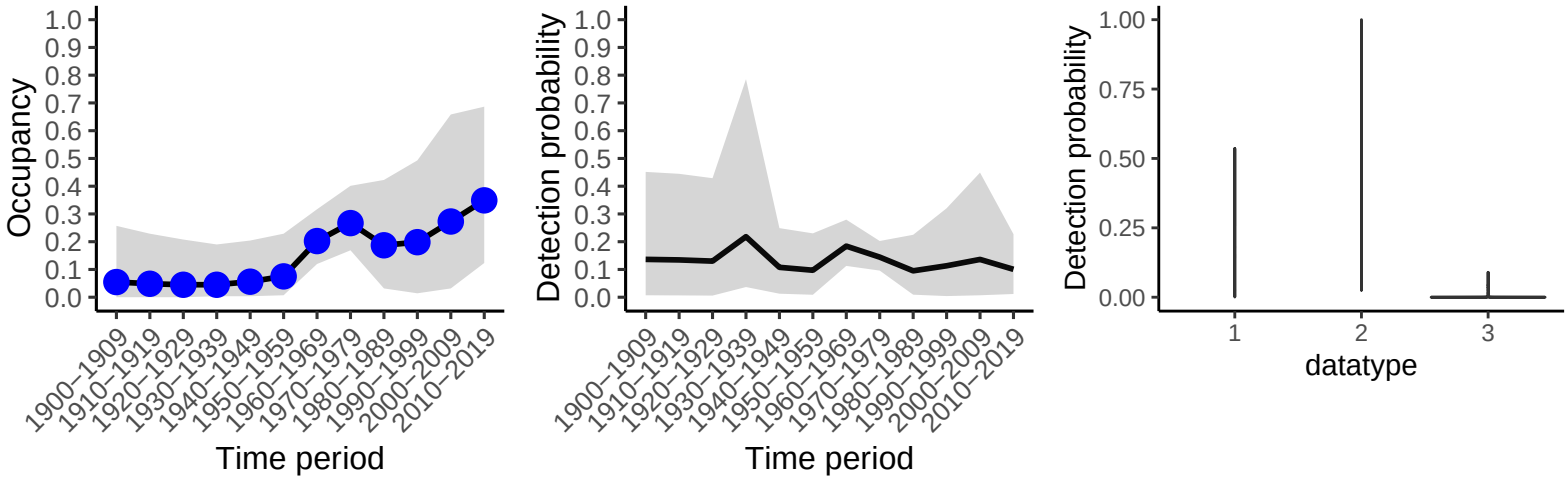


Formica uralensis



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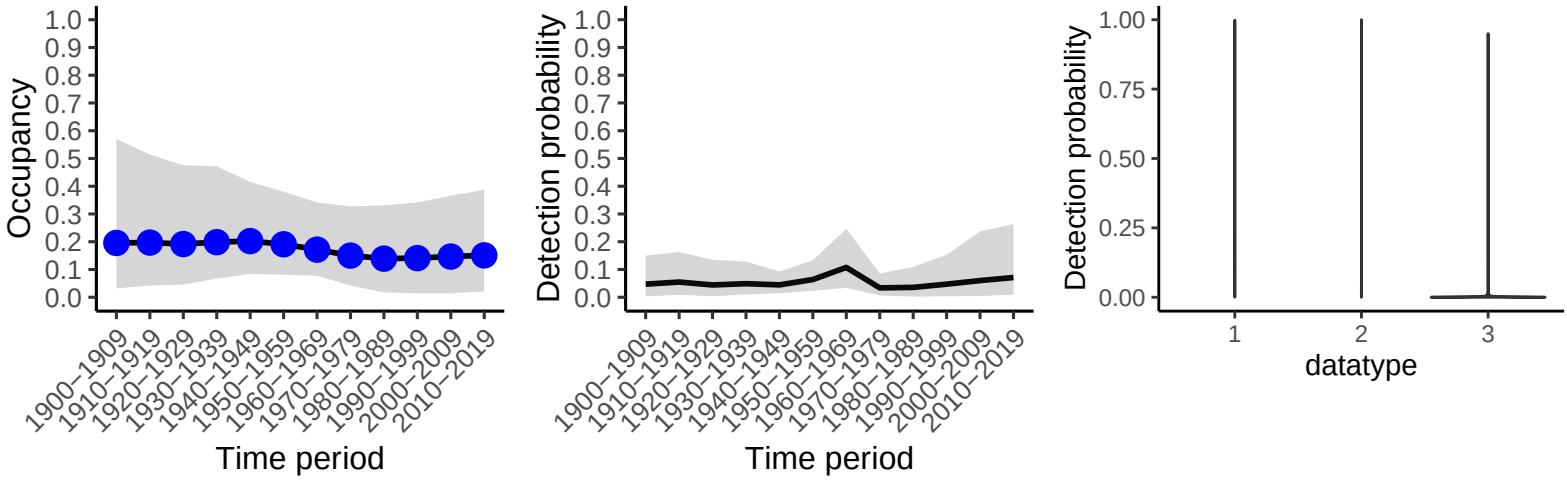
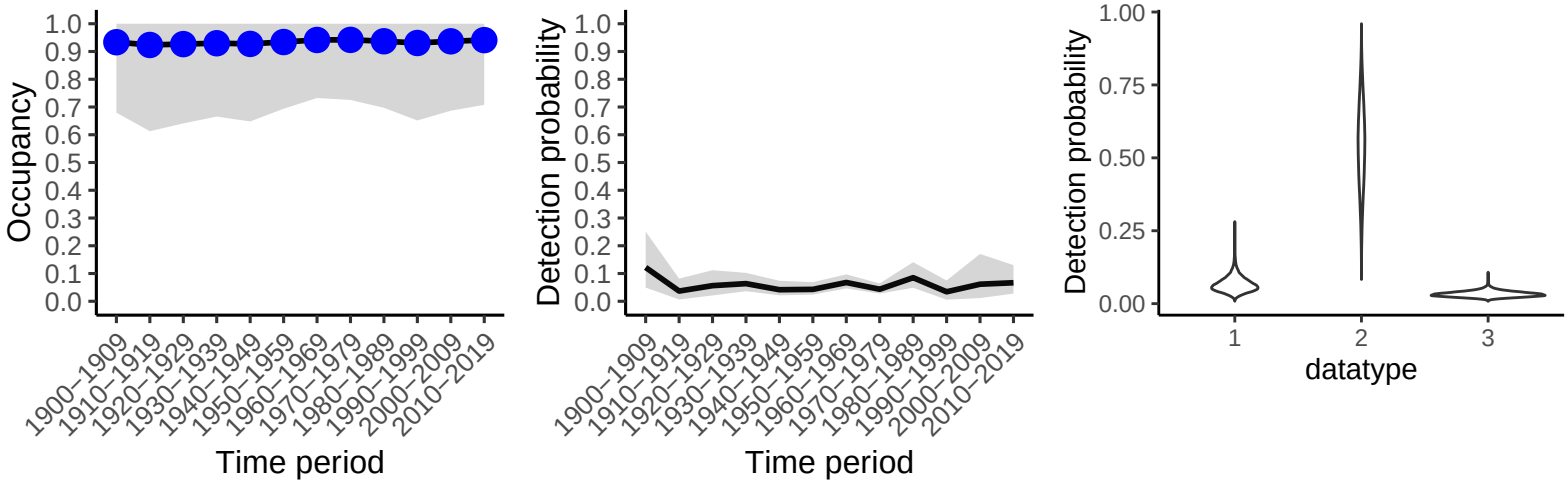
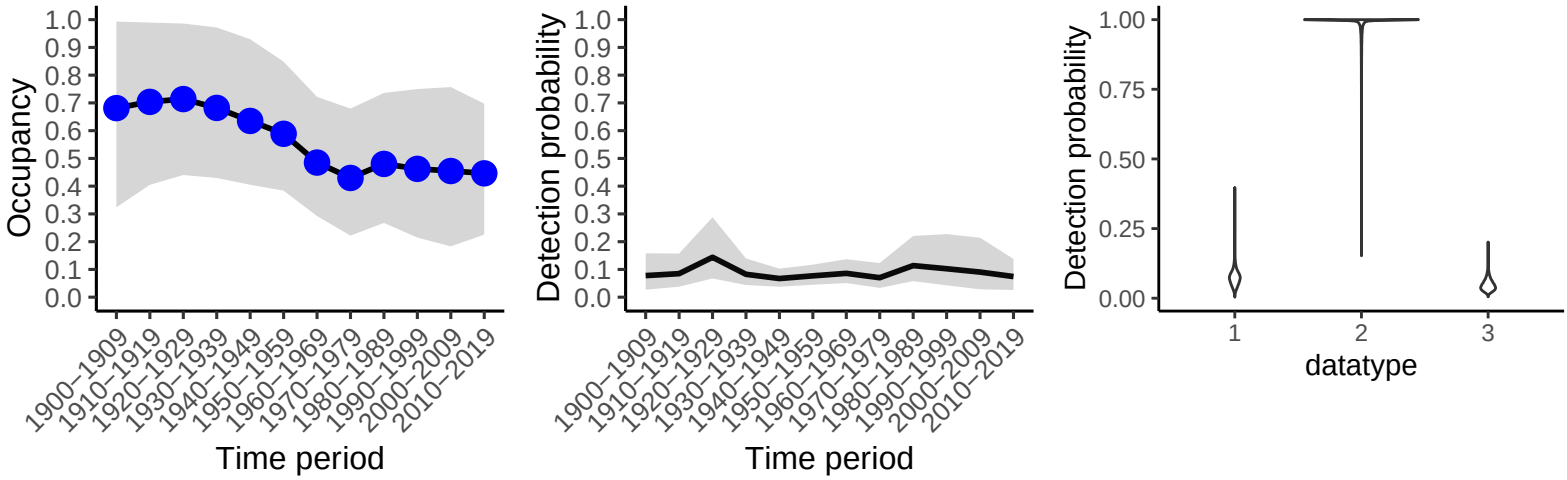


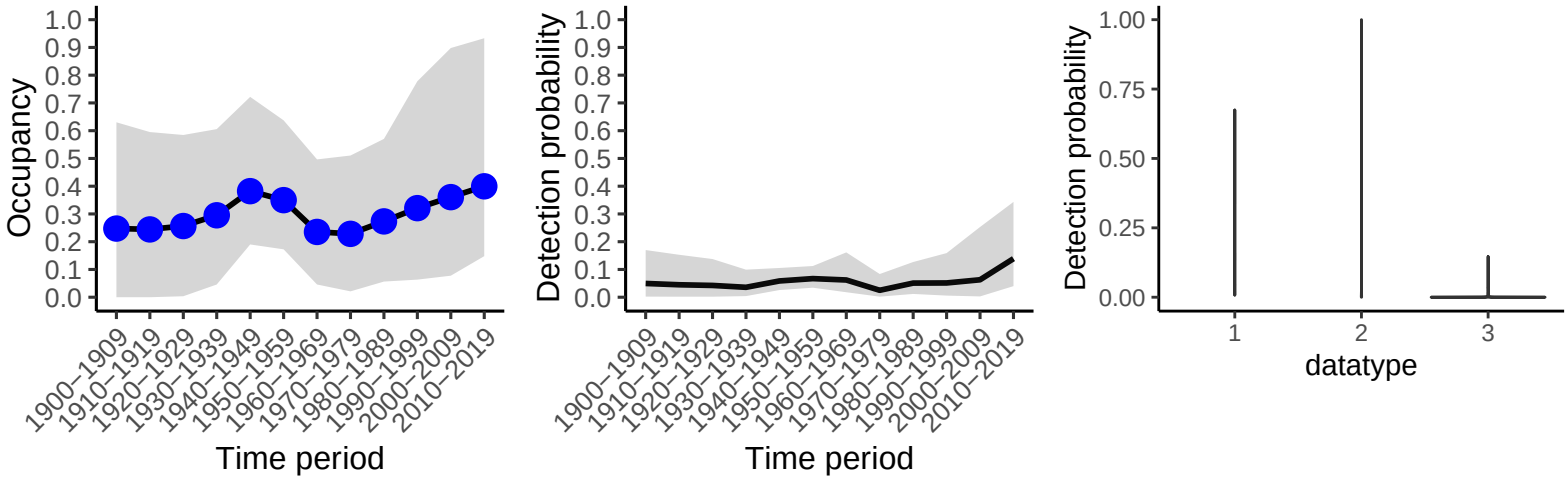
Lasius flavus



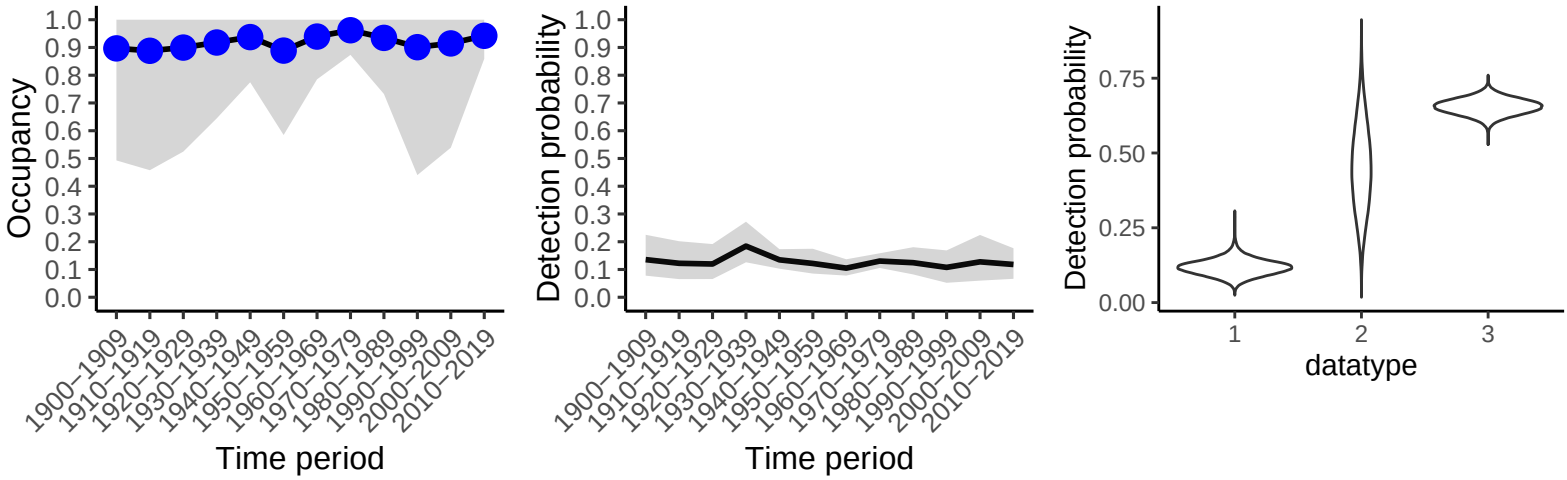
Lasius fuliginosus



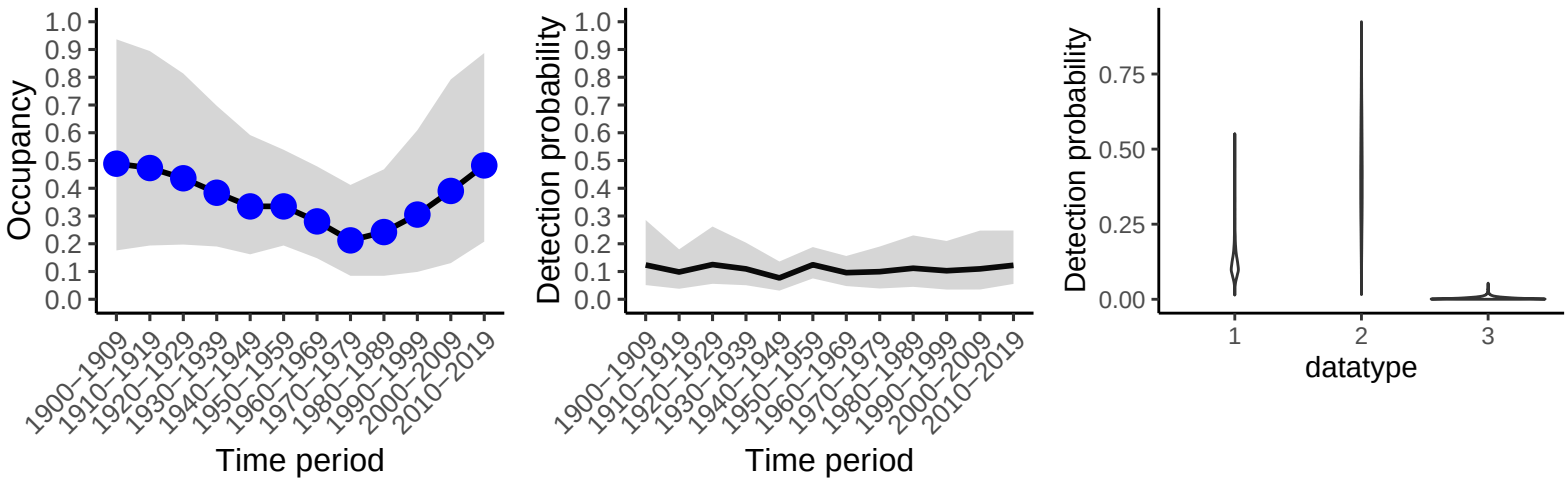
Lasius meridionalis



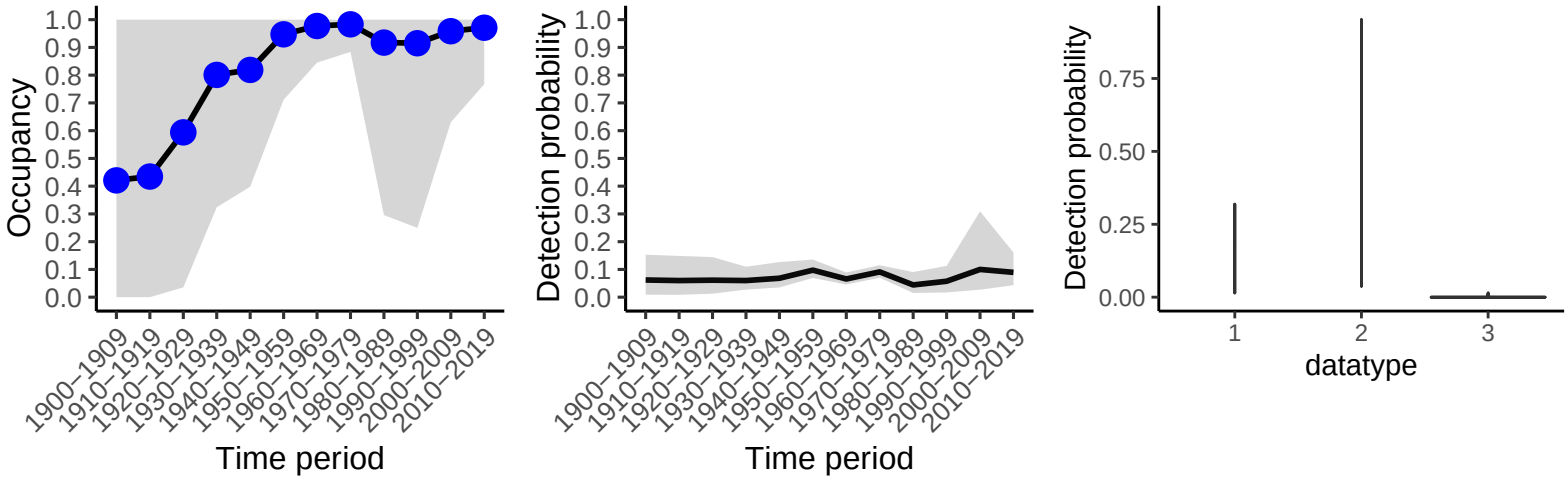
Lasius niger



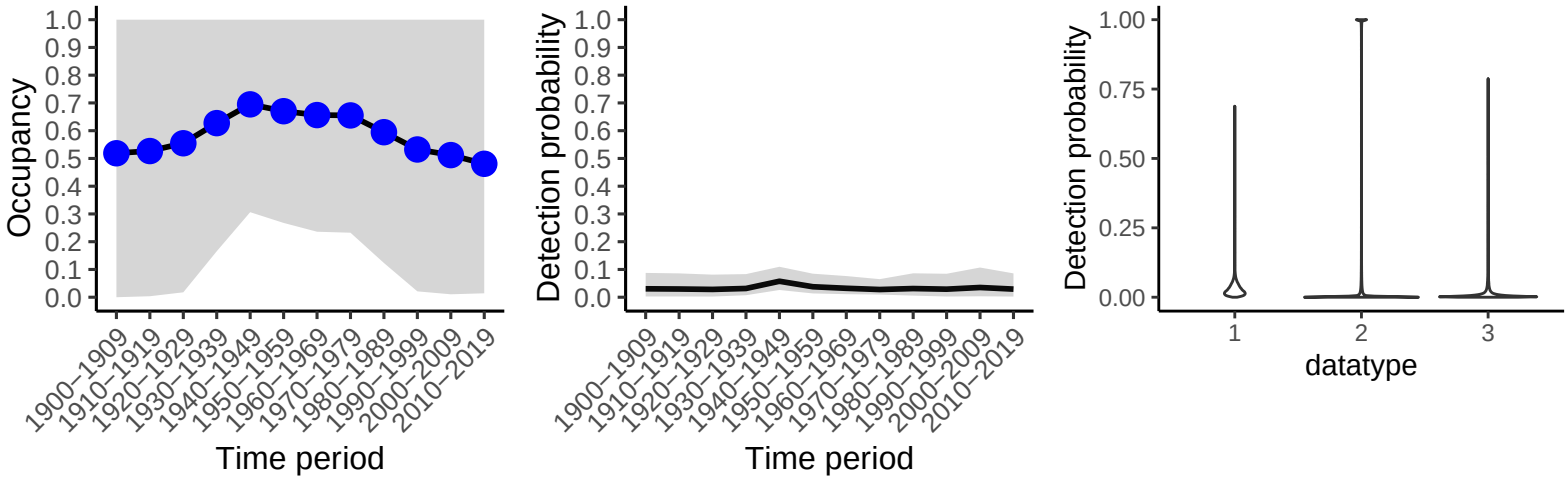
Lasius umbratus



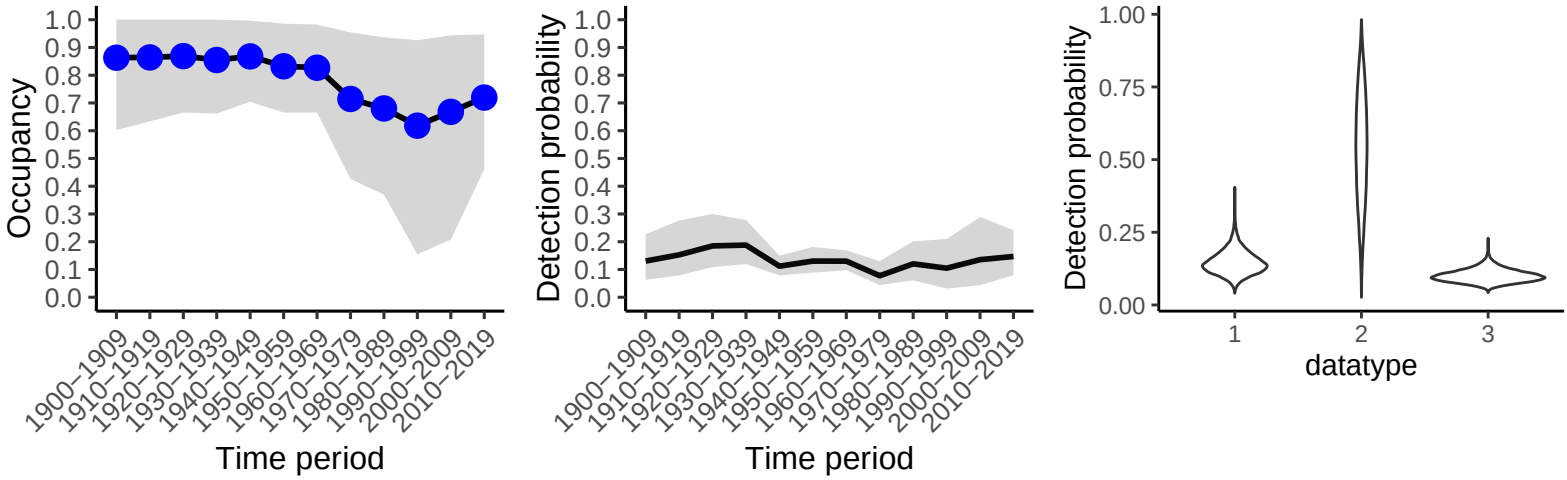
Leptothorax acervorum



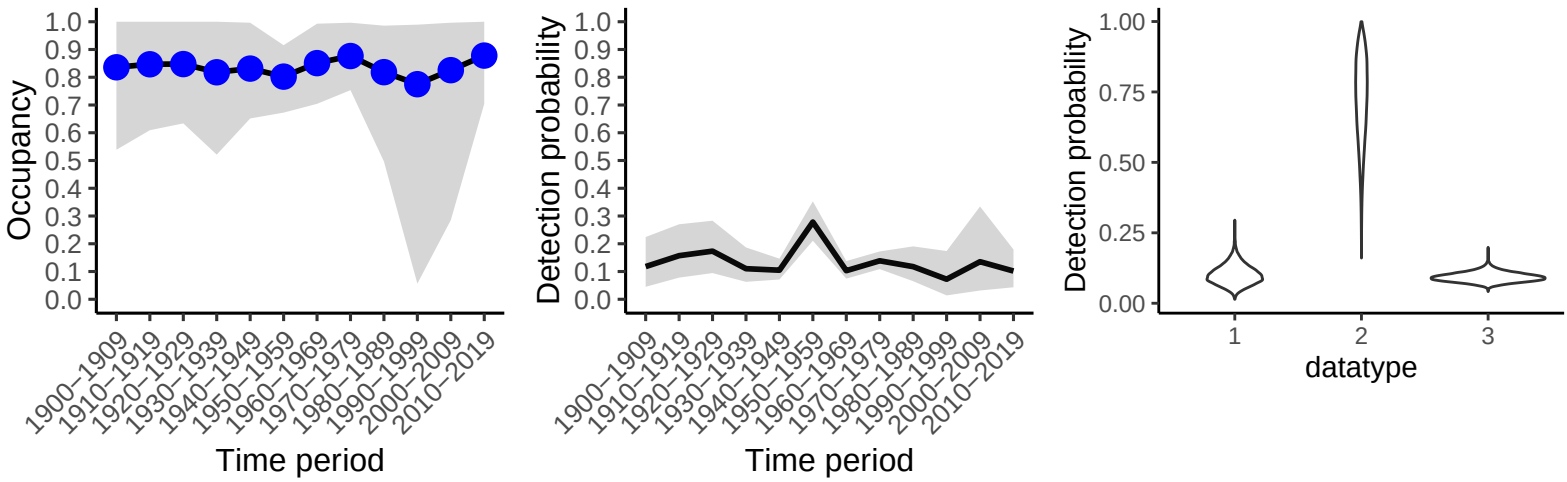
Myrmica lobicornis



Myrmica rubra



Myrmica ruginodis



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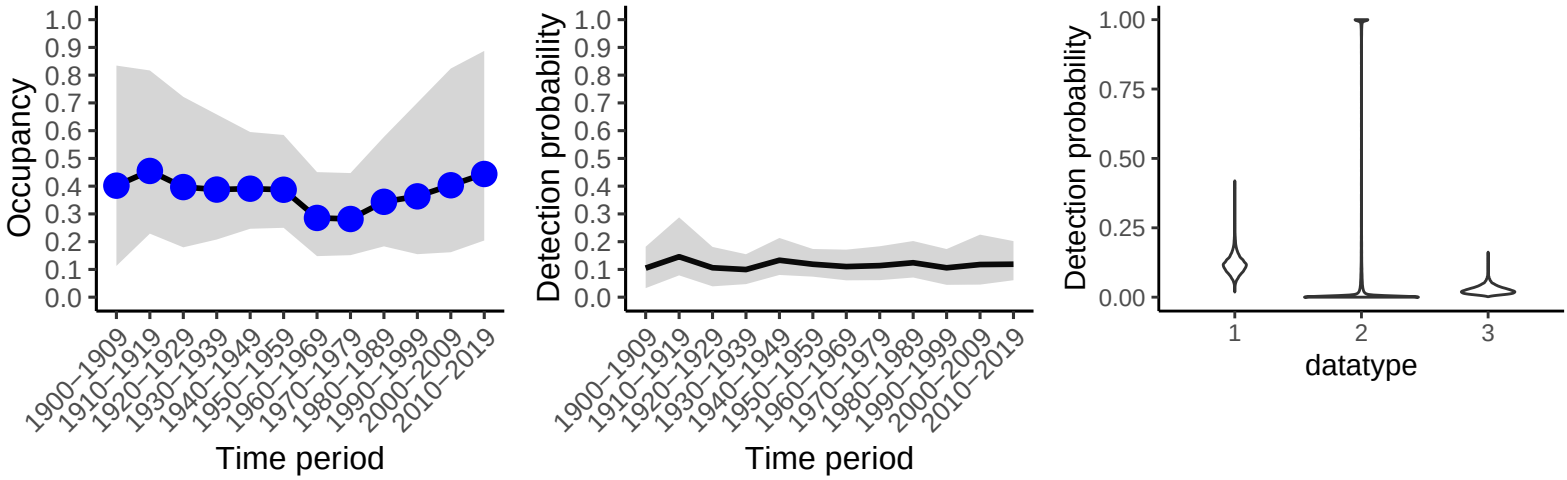
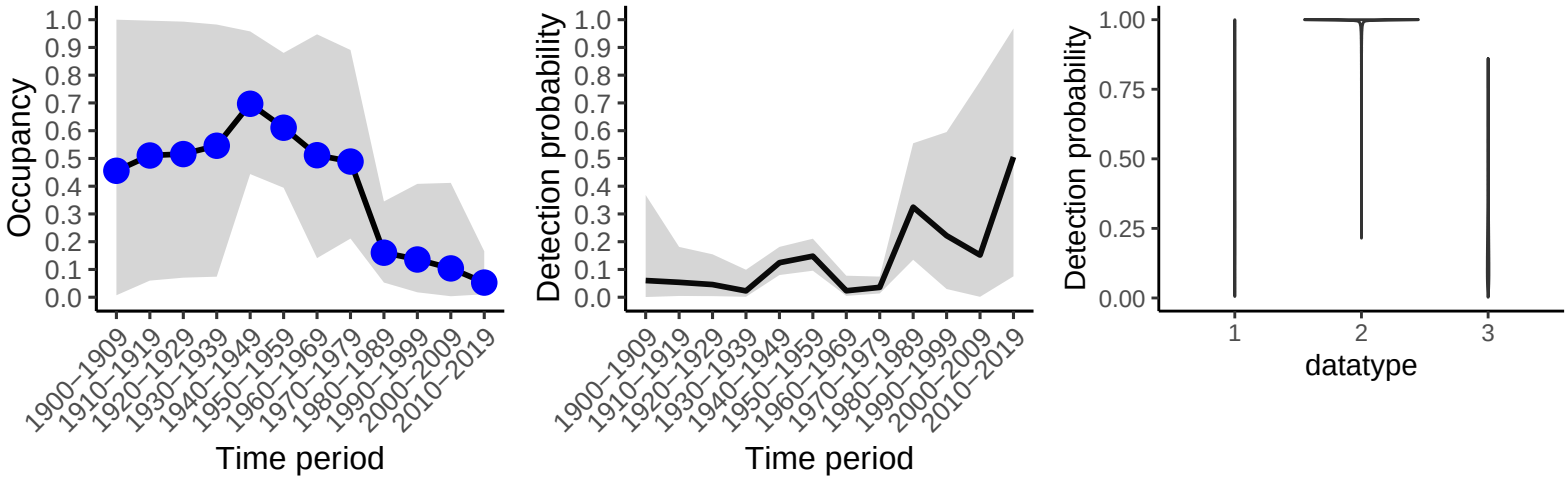
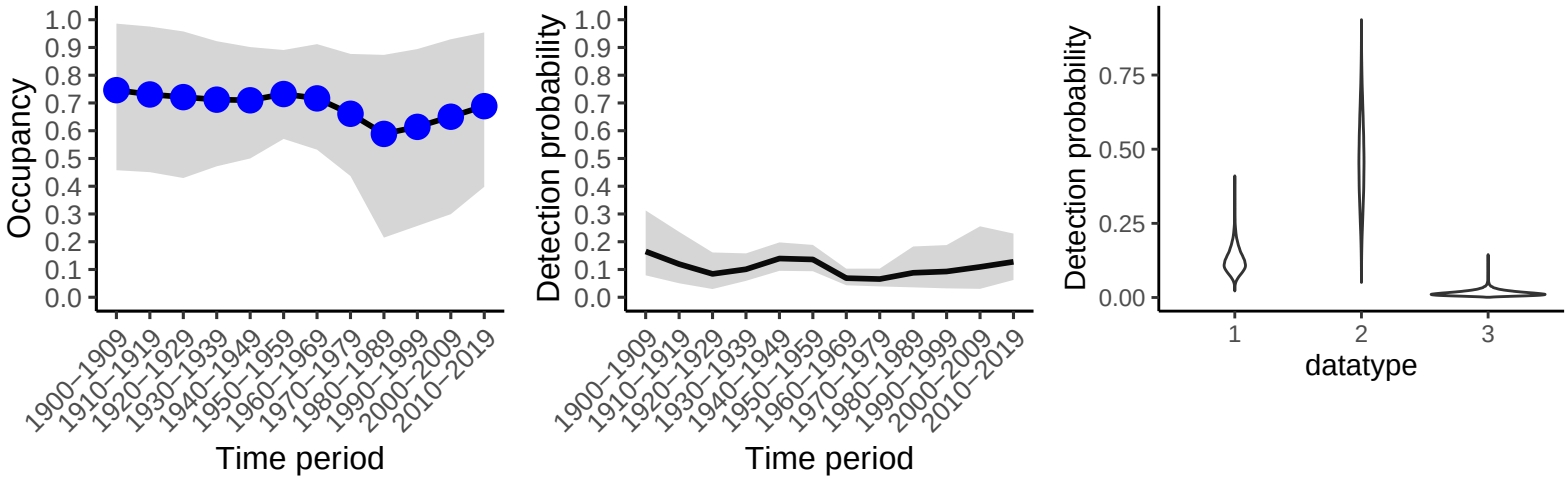


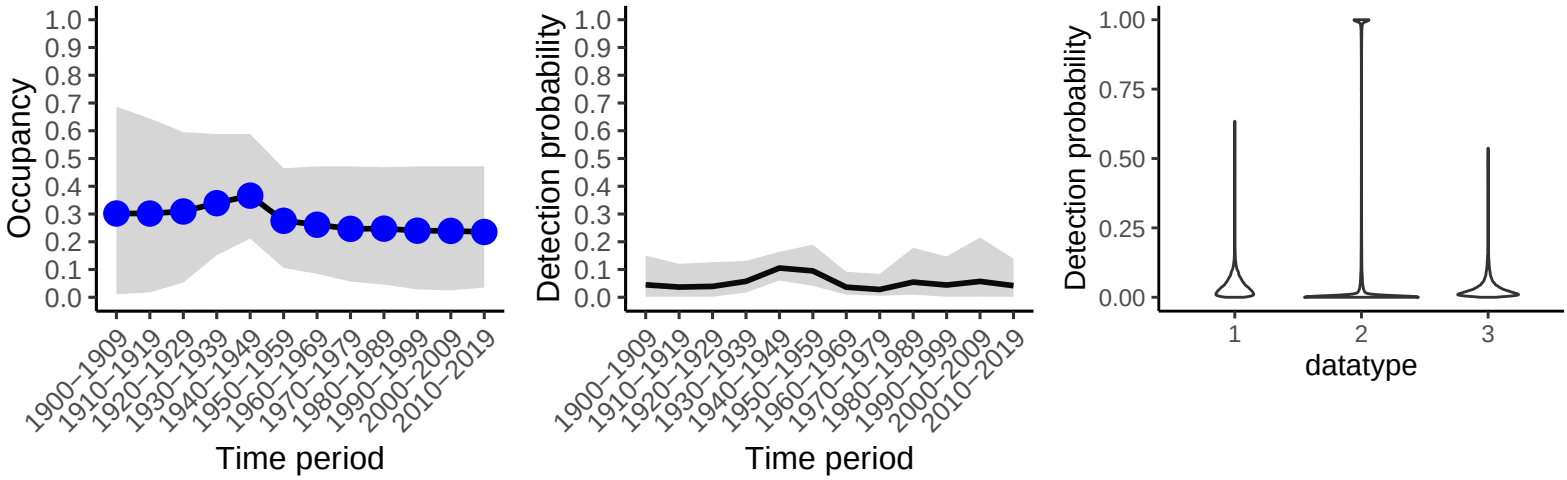
Myrmica sabuleti

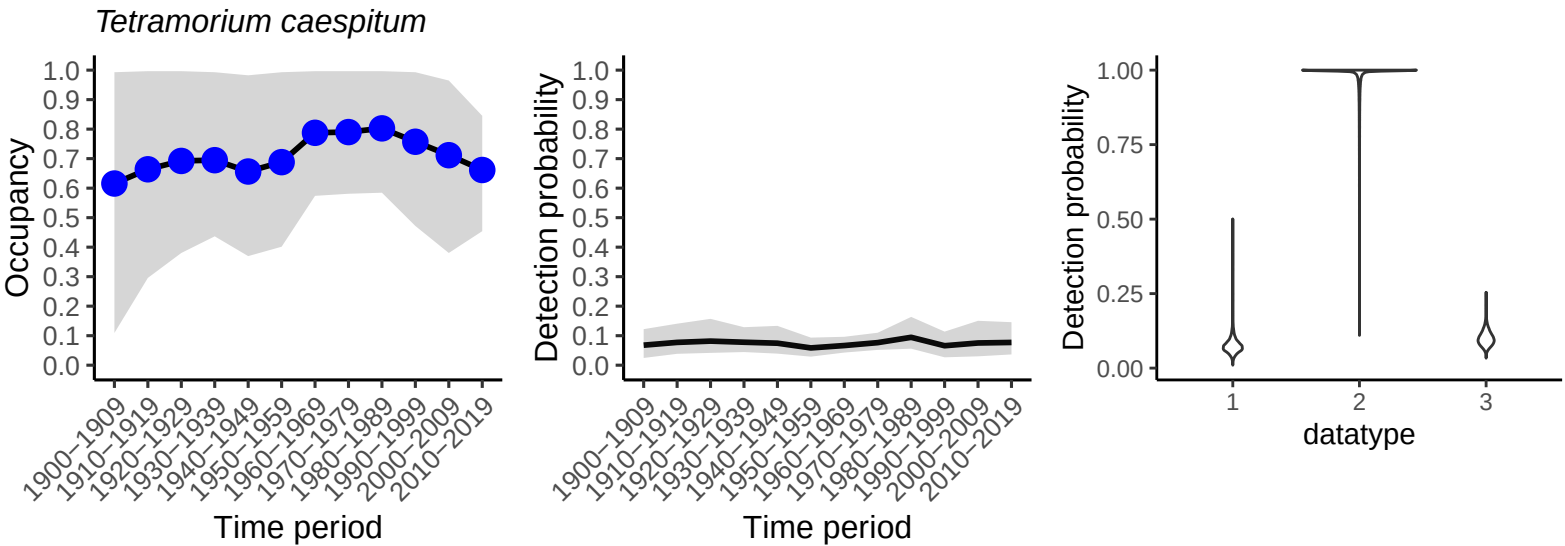


Myrmica scabrinodis



Myrmica schencki




Tetramorium caespitum
Occupancy
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
1900–1909
1910–1919
1920–1929
1930–1939
1940–1949
1950–1959
1960–1969
1970–1979
1980–1989
1990–1999
2000–2009
2010–2019
Time period
Detection probability
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
1900–1909
1910–1919
1920–1929
1930–1939
1940–1949
1950–1959
1960–1969
1970–1979
1980–1989
1990–1999
2000–2009
2010–2019
Time period
Detection probability
1.00
0.75
0.50
0.25
0.00
1
2
3
datatype