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APPENDIX 2. EXAMPLES OF STUDIES ASSESSING VARIATION IN SELECTION ON FLOWER-POLLINATOR FIT TRAITS ACROSS MULTIPLE POPULATIONS, YEARS, OR EXPERIMENTAL TREATMENTS.

Table S1. Examples of studies assessing variation in selection on flower-pollinator fit traits across multiple populations, years, or experimental treatments. The column 'CV mismatch' is computed by scaling the standard deviation in the mismatch between the relevant floral and pollinator traits by the mean of the floral trait, and thus gives the variation in mismatch among studies as a percentage of the size of the floral trait.

| Species                      | Level of analysis          | n  | Pollinator trait            | Floral trait(s)                              | CV mismatch | Main findings   | Reference                        |
|------------------------------|----------------------------|----|-----------------------------|--|-------------|---|----------------------------------|
| Dalechampia scandens         | Populations                | 8  | Body length                 | Gland-stigma distance                        | 58.6%       | Selection on fit trait when mismatch occurred in combination with unreliable pollination  | Albertsen et al. 2020            |
| Caesalpinia gilliesii        | Populations                | 7  | Proboscis length            | Style length                                 | 10.6%       | Stronger selection on the fit trait with greater mismatch   | Soteras et al. 2020              |
| Roscoea purpurea             | Populations                | 5  | Proboscis length            | Corolla tube length                          | 4.0%        | Consistent positive selection, very limited variation   | Paudel et al. 2016               |
| Nicotiana glauca             | Populations                | 6  | Bill length                 | Corolla tube length                          | 19.7%       | Stronger selection on the fit trait with greater mismatch   | Nattero et al. 2010a             |
| Nierembergia<br>linariifolia | Populations                | 4  | Oil-collecting<br>structure | Elaiphore size                               |             | No variation in selection despite differences in mismatch   | Nattero et al. 2010b             |
| Calathea ovandensis          | Years                      | 3  |                             | Corolla length                               |             | Substantial between-year variation in<br>selection linked to variation in pollinator<br>assemblage  | Schemske & Horvitz 1989          |
| Cyclopogon elatus            | Years                      | 4  |                             | Nectary depth                                |             | Limited variation in selection on a fit trait, consistent with limited variation in pollinator assemblage                                       | Benitez-Vieyra et al. 2012       |
| Polemonium<br>brandegeei     | Experimental<br>arrays     | 2  |                             | Stigma exsertion, corolla<br>tube dimensions |             | Contrasting patterns of selection in<br>experimental arrays visited by hawkmoths<br>vs. hummingbirds  | Kulbaba and Worley 2012,<br>2013 |
| Ipomopsis aggregata          | Years                      | 10 |                             | Corolla tube width                           |             | Negative selection on tube width in years<br>when hawkmoths were present in the<br>population   | Campbell and Powers 2015         |
| Gymnadenia conopsea          | Populations,<br>treatments | 4  |                             | Spur length                                  |             | Differences in selection among populations<br>and between plants exposed to day vs.<br>night-active pollinators                                 | Chapurlat et al. 2015            |
| Primula secundiflora         | Populations                | 2  |                             | Corolla tube entrance<br>diameter            |             | Some difference in selection between<br>populations visited by different pollinator<br>assemblages  | Wu and Li 2017                   |
| Platanthera bifolia          | Populations                | 4  | Proboscis length            | Spur length                                  |             | Limited variation in selection despite<br>differences in trait means and pollinator<br>assemblages, possibly related to reliable<br>pollination | Trunschke et al. 2020            |
| Erysimum<br>mediohispanicum  | Populations                | 8  |                             | Corolla dimensions                           |             | Variable selection on corolla dimensions<br>associated with variation in pollinator<br>assemblages  | Gómez et al. 2009                |

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