Supplementary Information:
Zoological Studies
Title: First Description of female and larva of *Phyllocycla basidenta* Dunkle, 1987 (Anisoptera: Gomphidae), and Ecological Niche Modeling of *Phyllocycla* species in Northwestern Argentina
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Studied material. *Phyllocycla argentina*, in alcohol: 2 male (IBN-O-2816 & 2817) and 1 female (IBN-O-2819) adults (reared, with larval exuviae) from Argentina, Jujuy, Dpto. Ledesma, 2 km SW de Caimancito, río Zora, S23.77331°, W64.61330°, 11.xi.2023, C. Molineri & J. Rodríguez cols.; 1 male adult (IBN-O-2814), same data; 4 larvae, same data (IBN-O-2809); 1 female (reared, with larval exuvia, IBN-O-2822) from Tucumán, Trancas, Arroyo Pozo del Pescado, S 26.19055°, W 65.28389°, 788 m, J. Rodríguez col.; 1 female (IBN-O-326) (reared, with larval exuvia) from Argentina, Santiago del Estero, Dpto. Pellegrini, Río Urueña, S 26.23308°, W 64.46843°, 400 m, E. Pero col.; 1 female adult (reared with larval exuvia, IBN-O-326) from Santiago del Estero, El Remate, río Urueña, S 26.23308°, W 64.46843°, 400 m, 11.xi.2014, E. Pero col.; 7 larvae (IBN-O-2811) from Santiago del Estero, El Remate, río Urueña, S 26.23385°, W 64.46991°, 400 m, 24.x.2022, C. Molineri, J. Rodríguez & G. Fontanarrosa cols.; 1 larva from Jujuy, Viñalito, Finca la Lucrecia, arroyo sin nombre en escuela, S 23.73130, W 64.54000, 360 m, E. Dominguez & C. Molineri cols. (IBN-O-41); 1 larva Salta, Dpto. Orán, Pichanal, río Santa María, S 23.27751, W 64.32571, 330 m, 19.xi.2014, D. Gomez col.; 2 larvae from Tucumán, Trancas, Arroyo Pozo del Pescado, S 26.19055°, W 65.28389°, 788 m, 17.xii.2016, C. Molineri & J. Rodríguez cols.; 3 larvae from Tucumán, río Chico S 27.527248, W-65.262820, 22.x.2014, J.S. Rodríguez col.; 1 larva (IBN-O-2463) same data except: 302 m, 1.xii.2016, C. Molineri & J. Rodríguez cols.; 1 larva from Tucumán, Simoca, río Balderrama, S27.180066, W 65.356961, 1.xii.2016, G. Hankel, C. Molineri y J.S. Rodríguez cols; 4 larvae from Tucumán, Acheral, RP 38, río Aranillas, S 27.11667, W 65.46222, 366 m, 28.vii.2006, C. Molineri col. (IBN-O-42); 11 larvae from Tucumán, Trancas, El Boyero, S 26.23222, W 26.23222, 756 m, 17.xii.2016, C. Molineri & J.S. Rodríguez cols. Adults in envelopes: 2 males (IBN-O-3, IBN-O-6) and 1 female (IBN-O-4)

from Argentina, Jujuy, Dpto. Ledesma, ca. Caimancito, río Zora por ruta interna, S 23.77222, W 64.61250, 385 m, 17.ii.2014, E. Dominguez y C. Molineri cols.; 1 male (IBN-O-2) and 1 female (IBN-O-28) same locality except S 23.77331, W 64.61155, 367 m, 17.i.2014, D. Gomez, J. Rodriguez y C. Molineri cols.; 1 male (IBN-O-5) from Jujuy, Dpto. Ledesma, PN Calilegua, río Sauzalito, S 23.66277, W 64.57416, 430 m, 16.xi.2014, E. Dominguez y C. Molineri cols.; 1 female (IBN-O-122) from Salta, Dpto. Orán, Pichanal, río Santa María, S 23.27751, W 64.32571, 330 m, 18.i.2014, J.S. Rodríguez col.; 1 female (IBN-O-25) same data except: 19.i.2014, D. Gomez y C. Molineri; 1 female adult from Tucumán, Capital, calle José Garmendia 442, S26.84201, W 65.18083, 427 m, 1.1.2017, J.S. Rodríguez col. (IBN-O-65).

Phyllocycla basidenta, in alcohol: 2 male (IBN-O-2820 & 2821) and 1 female (IBN-O-2818) adults (reared, with larval exuviae) from Argentina, Jujuy, Dpto. Ledesma, 2 km SW de Caimancito, Río Zora, S 23.77331°, W 64.61330°, 11.xi.2023, C. Molineri & J. Rodríguez cols.; 3 larvae, same data (IBN-O-2810); 3 larva except: 7.viii.2013, D. Gómez col.; 4 larva same data except: 6.viii.2013, D. Gómez col.; 1 female (reared, with larval exuvia, IBN-O-2815) from Tucumán, Simoca, Manuela Pedraza, río Balderrama, 1.xii.2016, S 27.17917°, W 65.35983°, 330 m, C. Molineri, J. Rodríguez & G. Hankel cols.; 12 larvae (IBN-O-2812) from Jujuy, Libertador San Martin, río San Francisco, toma de agua ca. Caimancito, -23.706621, -64.521288, 387 m, 1.iv.2024, C. Molineri & J. Rodríguez col.; 4 larvae from Jujuy, Termas de Caimancito, arroyo termal, S 23.74397, W 64.51883, 18.ii.2004, E. Dominguez col.; 2 larvae from Jujuy, Calilegua, Sauzalito, Arroyo nº 3 (abajo), S23.63556, W 64.58478, 10.xi.2023, C. Molineri & J.S. Rodríguez cols.; 4 larvae from Salta, Orán, Ingenio Tabacal, río Santa María (1), S 23.26667, W 64.31667, 27-29.xii.2015, D. Gómez col; 3 larvae same data except río Santa María (2), S23.2500, W 64.46667, 24-26.xii.2015, D. Gómez col.; 1 larva from Tucumán, río Balderrama, S 27.15245, W 65.49561, 350 m, 4.v.2006, C. Molineri col. (IBN-O-44); 4 larvae same data except: S 27.180066, W 65.356961, 1.xii.2016, G. Hankel, C. Molineri & J.S. Rodríguez; 2 larvae (IBN-O-2937) from Tucumán, Trancas, El Boyero, Arroyo Pozo del Pescado, S 26.23222, W 65.25889, 756 m, 17.xii.2016, C. Molineri & J.S. Rodríguez cols.; 5 larvae from Tucumán, Acheral, río Aranillas, 366 m, S 27.11667, W 65.46222, 366 m, 30.vii.2018, J.S. Rodríguez col.; 1 larval exuvia (IBN-O-2463) from Tucumán, río Chico S

27.527248, W-65.262820, 302 m, 1.xii.2016, C. Molineri & J. Rodríguez cols.; 7 larvae from Jujuy, Lib. Gral. San Martín, río Ledesma, S 23.93333, W 64.9500, 8-10.xii.2015, D. Gómez col.; 1 larva from Jujuy, Ledesma, río Los Berros, S 23.73333, W 64.66667, 17.i.2013, C. Molineri col.; 1 larva (IBN-O-43) from Jujuy, Ledesma, río Los Berros, S 23.746335, W 64.6670, 393 m, 8.vi.2006, C. Molineri col; 1 larva from Jujuy, PN Calilegua, río Sauzalito, Pozo 17, S 23.61667, W 64.58333, 5.xii.2015, D. Gómez. Bolivia: 2 larvae (IBN-O-2813) from Tarija, Prov. O´Connor, ca. Entre Rios, río Salinas, S 21.64513, W 64.15227, 1160m, 6.x.2004, Molineri C. & Manzo V. cols.; 1 larva from Dpto. Tarija, Prov. O´Connor, río Saican, ca. Entre Ríos, S21.77458, W64.0900, 1000 m, 6.x.2004, Molineri C. & Manzo V. cols. Adults in envelopes: 7 males (IBN-O-7, IBN-O-34 to 39) from Argentina, Jujuy, Dpto. Ledesma, aprox. 20 km al W por camino a F. Yuchán, S 23.94940, W 64.92846, 700 m, 29.i.2013, J. Rodríguez col.; 1 male (IBN-O-33) from Jujuy, Dpto. Ledesma, PN Calilegua, río Sauzalito, S 23.62370, W 64.58701, 500 m, 2.ii.2013, J. Rodríguez col., 1 male (IBN-O-27) from Jujuy, Dpto. Ledesma, Fraile Pintado, río Colorado, S 23.97333, W 64.92694, 690 m, 15.i.2013, D. Gomez, C. Molineri y J.S. Rodriguez cols.; 4 female adults (IBN-O-29 to 32) from Jujuy, Depto. Ledesma, Fraile Pintado, río Ledesma, S 23.94671, W 64.96396, 700 m, 29.i.2013, J.S. Rodríguez col.; 1 female adult (IBN-O-26) from Jujuy, Depto. Ledesma, PN Calilegua, RP 34, arroyo Yuto, S 23.64444, W 64.53917, 430 m, 2.vi.2000, C. Molineri col.

Phyllocycla viridipleuris: 1 male adult (IBN-O-1115, HW 27 mm) from Argentina, Corrientes, Itá Ibaté, arroyo Santa Lucía, S 27.51318°, W 57.23370, 70 m, 9.xi.2021, C. Molineri & G. Fontanarrosa cols.

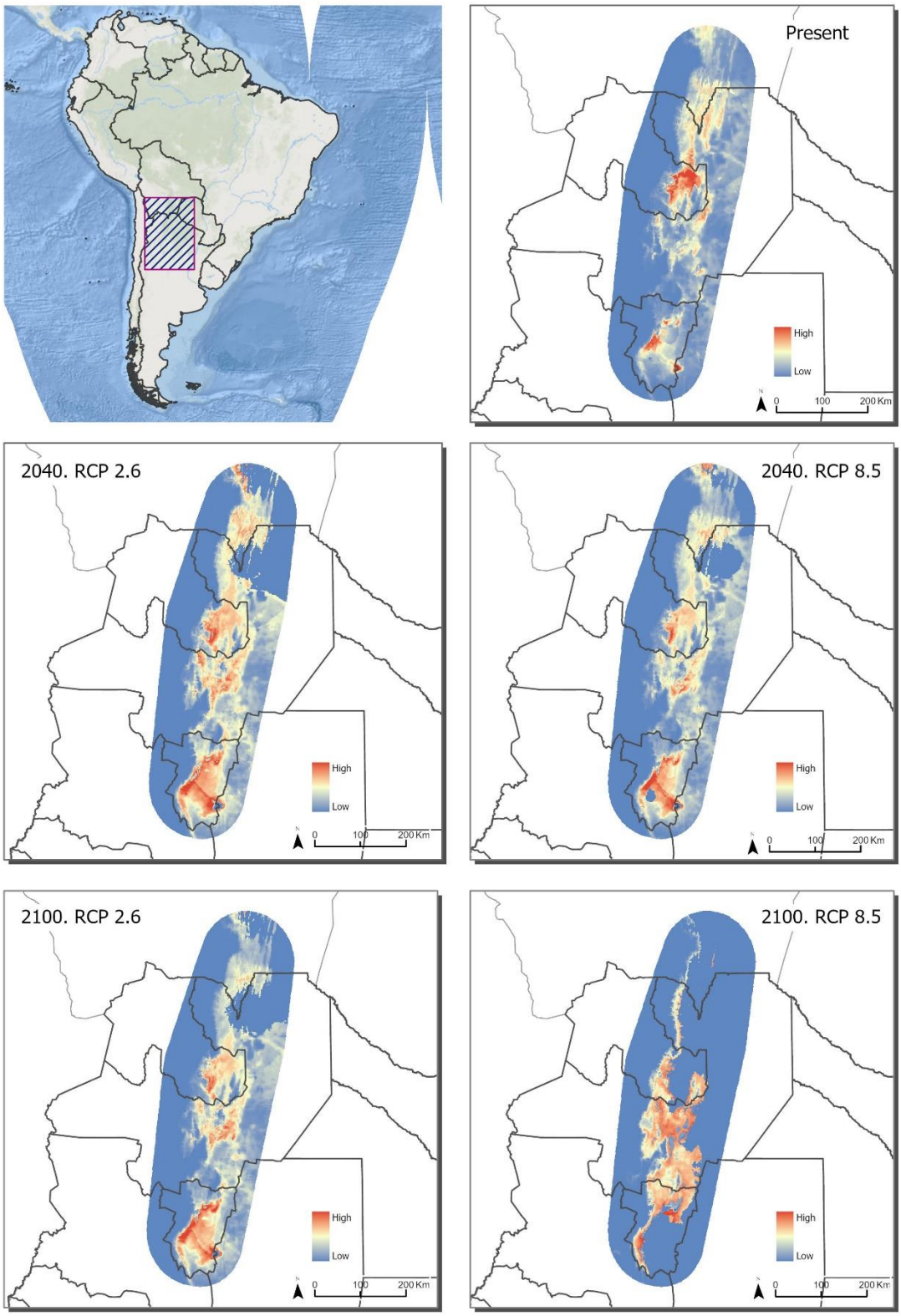

Fig. S2. Estimate of the potential geographic distribution of *P. basidenta* and projections across four future climate scenarios. The gradient indicates the habitat suitability for the species, with red indicating higher suitability.