

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

Authors: Carlos Molineri, José S. Rodríguez and Carolina Nieto

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 Martín, 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.

Table S2. Estimates of relative contributions of the environmental variables to the Maxent model. Values shown are averages over replicate runs

P. basidenta

Variable	Percent contribution	Permutation Importance
BIO2	34.2	28.6
BIO3	21.9	30.3
BIO18	8	3.3
BIO11	7.8	11.4
BIO17	7	4
BIO9	6.5	5.8
BIO7	5.4	9.4
BIO4	3	3.2
BIO13	2.1	0.7
BIO1	2	0.4
BIO14	1.1	2.6
BIO12	0.9	0.1

P. argentina

Variable	Percent contribution	Permutation Importance
BIO4	20.9	15.5
BIO11	18.7	39.4
BIO9	17.5	22.7
BIO13	12.3	9.1
BIO2	11.9	7
BIO12	10.1	5.6
BIO3	6.9	0.1
BIO1	1.7	0.6