New distribution records for Neriidae (Diptera, Schizophora) from northeastern Brazil

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Abstract. The geographic ranges in Brazil of 4 species of Neriidae are widened. New records are recorded of the following species and Brazilian states: *Eoneria blanchardi* Aczél, 1951 from Pernambuco and Paraíba, *Glyphidops carrerai* Aczél, 1961 and *Glyphidops filosus* (Fabricius, 1805) from Bahia and Paraíba, and *Nerius pilifer* Fabricius, 1805 from Paraíba. A referential map is included to these species.

Key words. Atlantic Forest species; Bahia; Caatinga species; cactus flies; Nerioidea; Paraíba; Pernambuco

The Neriidae is a small family of acalyptrate flies found in all biogeographic regions although they predominate in the tropics. Currently, in the Neotropical region 37 valid species in 9 genera are recognized (Steyskal 1968, Buck & Marshall 2004, Sepúlveda et al. 2013a, 2013b, 2014). Neriids are medium-sized to large flies (5–25 mm) and adults are distinguished by their dorsoventrally flattened head, generally longer than high, with frons and face projected; a long lunule that is exposed in Neotropical species, deeply grooved medially, forming peculiar antennal bases; porrect antennae with apical is exposed in Neotropical species, deeply grooved medially, forming peculiar antennal bases; porrect antennae with apical is exposed in Neotropical species, deeply grooved medially, forming peculiar antennal bases; porrect antennae with apical

Figure 1

Order Diptera Linnaeus, 1758
Suborder Brachycera Macquart, 1834
Infraorder Schizophora Becher, 1882
Family Neriidae Westwood, 1840

*Eoneria blanchardi* Aczél, 1951

New records. Brazil. Paraíba. Cabaceiras: Fazenda Bravo, Shannan [trap], Amorim & Stevaux leg., 28–29.VI.1986, 16 ♂ [DSEC, 000100-000115DP] and 1 ♀ [DSEC, 000116DP], Remigio: Ass[entamento] Queimadas, Malaise, Suzana Aguilar leg., 13.IX.2011, 3 ♀, [DSEC, 000163-000165DP] and 1 ♀ [DSEC, 000166DP], Remigio: Ass[entamento] Queimadas, Malaise, Suzana Aguilar leg., 13.IX.2011, 3 ♀, [DSEC, 000163-000165DP] and 1 ♀ [DSEC, 000166DP], Remigio: Ass[entamento] Queimadas, Malaise, Suzana Aguilar leg., 13.IX.2011, 3 ♀, [DSEC, 000163-000165DP] and 1 ♀ [DSEC, 000166DP]. Paraíba. Cabaceiras: Fazenda Bravo, Shannan [trap], Amorim & Stevaux leg., 28–29.VI.1986, 16 ♂ [DSEC, 000100-000115DP] and 1 ♀ [DSEC, 000116DP], Remigio: Ass[entamento] Queimadas, Malaise, Suzana Aguilar leg., 13.IX.2011, 3 ♀, [DSEC, 000163-000165DP] and 1 ♀ [DSEC, 000166DP], Remigio: Ass[entamento] Queimadas, Malaise, Suzana Aguilar leg., 13.IX.2011, 3 ♀, [DSEC, 000163-000165DP] and 1 ♀ [DSEC, 000166DP].
03°53’W, W.E. Santos leg., 15.X.2010, 1 ♀ [DSEC, 000117DP] and 2 ♂ [DSEC, 000118, 000119DP]; 16.X.2010, ♀ [DSEC, 000120DP]; 17.X.2010, 2 ♀ [DSEC, 000121, 000122DP]; 18.X.2010, 4 ♀ [DSEC, 000123-000126DP] and 1 ♂ [DSEC, 000127DP]; 21.X.2010, 2 ♂ [DSEC, 000128, 000129DP]; 22.X.2010, 3 ♀ [DSEC, 000130-000132DP]; 22.X.2010, 2 ♀ [DSEC, 000133, 000134DP]; 24.X.2010, 2 ♀ [DSEC, 000135, 000136DP]; 25.X.2010, 2 ♀ [DSEC, 000137, 000138DP]; 26.X.2010, 1 ♀ [DSEC, 000139DP]; 10.II.2011, 1 female, [DSEC, 000140DP]; 11.II.2011, 1 ♀ [DSEC, 000141DP]; 12.II.2011, 2 ♀ [DSEC, 000142, 000143DP]; 13.II.2011, 2 ♀ [DSEC, 000144, 000145DP]; 15.II.2011, 1 ♀ [DSEC, 000146DP]; 16.II.2011, 2 ♀ [DSEC, 000147, 000148DP]; 17.II.2011, 2 ♀ [DSEC, 000149, 000150DP]; 18.II.2011, 1 ♀ [DSEC, 000151DP]; 19.II.2011, 1 ♀ [DSEC, 000152DP]; V(an) S(omeren-Rydon trap) frutas [fermented fruits], I.S. Braga & A.P. Colavite leg., 04–08.III.2016, 6 ♀ [DSEC, 000153-000158DP] and 3 ♂ [DSEC, 000159-000163DP]; Luminosa [= light trap], I.S. Braga & A.P. Colavite leg., 05–08.III.2016, 1 ♀ [DSEC, 000162DP].

Updated known distribution (* = new records). Argentina (Jujuy, Chaco, Corrientes and La Rioja) and Brazil (Bahia, Paraíba* and Pernambuco*) (Aczél 1951, 1961, Steyskal 1968, Sepúlveda et al. 2013a, Dufek et al. 2014).

Diagnosis. Frontal vitta mainly ochraceous pruinose, except for 2 lateral yellowish brown Y-shaped pruinose stripes from the anterior margin of frons to converge on the ocellar tubercle; fronto-orbital plate with three pairs of well-developed fronto-orbital setae; male fore tibiae with 2 ventral rows of small spine-like setae; fore femur with 1 dorsal distomedial seta (Sepúlveda et al. 2013a).

Eoneria blanchardi (Fig. 1) was known to Brazil only by the record of a sole female from Milagres, Bahia (Sepúlveda et al. 2013a) (Fig. 6). The species is recorded for the first time to the states of Paraíba (Cabaceiras, Remigio and São José dos Cordeiros) and Pernambuco (Santa Cruz do Capibaribe) (Fig. 5). The new records extend the distribution of this species from...
its previous occurrence locality in Milagres by approximately 670 km north to Serra do Pará (Santa Cruz do Capibaribe), 680 km north to Fazenda Almas (São José dos Cordeiros), 710 km north to Fazenda Bravo (Cabaceiras) and 790 km north to Assentamento Queimadas (Remígio). Fieldwork in the Atlantic Forest was unsuccessful in finding *E. blanchardi* and seems to indicate that this species is restricted to the Brazilian semi-arid region.

**Glyphidops carrerai** Aczél, 1961

*New records.* Brazil. Bahia. Una: 10 km SE São José, Mata Atlântica, Armadilha (= trap) Shannon com lixo (= garbage), D.S. Amorim & C. Vasconcelos leg., 07–25.X.1986, 2 ♀ [DSEC, 000203, 000204DP]. Paraíba. João Pessoa: Mata do Buraquinho, coleta ativa, A. Pereira-Colavite leg., 05.VI–07.IV.2015, 1 ♀ [DSEC, 000206DP], 1 ♂ [DSEC, 000206DP]. Mamanguape: REBIO Guaribas, V[an] S[omeren-Rydon trap] banana, I.S. Braga & A.P. Colavite leg., 10–11.III–07.IV.2015, 1 ♀ [DSEC, 000207DP] and 1 ♂ [DSEC, 000208DP]. Santa Rita: RPPN Engenhoca, Gargáut, V[an] S[omeren-Rydon trap] dossel, I.S. Braga leg., 07–12.VIII.2015, 1 ♂ [DSEC, 000209DP]. Sapé: RPPN Fazenda. Pacatuba, dossel frutas, I.S. Braga & A.P. Colavite leg., 07.III–07.IV.2016, 6 ♀ [DSEC, 000210–000215DP] and 1 ♂ [DSEC, 000216DP].

**Updated known distribution** (* = new records): Brazil (Amazonas, Bahia*, Pará, Paraíba*, Rio de Janeiro, São Paulo, Minas Gerais, Espírito Santo, Goiás, Mato Grosso, Mato Grosso do Sul, Paraná, Santa Catarina, Pernambuco, Rio Grande do Sul, Rio Grande do Norte, São Paulo, Sergipe, Bahia).
The first records of the Glyphidops carrerai (Fig. 2) in the Brazilian Northeast Region are presented in this study. The species had been previously collected only in the Brazilian Southeast and North regions. The occurrence to Una (Bahia) expands the distribution of the species at least 720 km north of Rio de Janeiro (Fig. 6). The records from the municipalities of João Pessoa, Mamanguape, Santa Rita and Sapé are new occurrences in Paraíba (Fig. 5).

**Glyphidops filosus** (Fabricius, 1805)

**Figure 3**

**New records.** Brazil. Bahia. Itabuna: Fazenda Unacau, Shannon [trap], D.S. Amorim & C. Vasconcelos leg., 07–27.X.1986, 3 undetermined sex [DSEC, 000233-000235DP] and 1 ♀ [DSEC, 000236DP]. Una: 10 km SE S[ão] José, Mata Atlântica, Aramidilha [= trap] Shannon with garbage, D.S. Amorim & C. Vasconcelos leg., 07–25.X.1986, 13 ♀ [DSEC, 000217-000229DP] and 3 ♂ [DSEC, 000230-000232DP]. Paraíba. Cabaceiras: Fazenda Bravo, Malaise, D.S. Amorim leg., 01.VII–15.VIII.1986, 1 ♀ [DSEC, 000239DP]. Sapé: RPPN Fazenda Pacatuba, fezes, A.C.F. Alves leg., 05–07.IV.2016, 2 ♀ [DSEC, 000237, 00238DP].

**Updated known distribution (♀ = new records).** Bolivia, Brazil (Acre, Alagoas, Amazonas, Bahia, Espírito Santo, Mato Grosso, Minas Gerais, Pará, Paraíba*, Rio de Janeiro, Roraima, Santa Catarina and São Paulo), Colombia, Costa Rica, Ecuador, Guatemala, Guyana, Honduras, Montserrat, Panama, Suriname, Trinidad and Venezuela (Aczél 1961, Steyskal 1968, Sepúlveda et al. 2014). In the Brazilian Northeast Region Glyphidops filosus (Fig. 3) was previously recorded to the states of Alagoas (Maceió) and Bahia (no specific site) (Aczél 1961, Sepúlveda et al. 2014). The occurrences in the municipalities of Una and Itabuna are new records for Bahia (Fig. 6). For the first time this species is recorded from Paraíba (Sapé), expanding the distribution of this species by approximately 300 km north of the previous records (Fig. 5). The DSEC has a male specimen labeled as collected at Fazenda Bravo, Cabaceiras. Cabaceiras is located in the Paraíba backwoods region; this would represent the first record of Glyphidops from the Brazilian semi-arid region. According to Aczél (1961) and Sepúlveda et al. (2014) and based on materials in Brazilian collections studied by the second author, Glyphidops occurs in all Brazilian biomes except the Caatinga. The Cabaceiras record is the first from this biome (Fig. 5); however, intensive surveys carried out in several other parts of the semi-arid regions of Paraíba were not fruitful in finding other specimens, and throughout the New World there are no valid records of Glyphidops for arid and semi-arid areas. Thus, the Cabaceiras record is suspect, and it should be viewed with caution.

**Nerius pilifer** Fabricius, 1805

**Figure 4**

**New records.** Brazil. Paraíba. Mamanguape: REBIO Guaribas, V[an] S[omeren-Rydon trap] banana, I.S. Braga & A.P. Colavite leg., 08–10.XII.2015, 1 ♀ [DSEC, 000243DP]. Santa Rita: Carne, A.C.F. Alves leg., 11.II.2015, 1 ♀ [DSEC, 000240DP]; RPPN Eng[enho]. Gargáu, A.L.V. Silva leg., 11.VIII.2015, 1 ♀ [DSEC, 000241DP]; Caratão [= stick card] Sub-bosque, 1 ♀ [DSEC, 000242DP]. Sapé: Fazenda Pacatuba, fezes, A.C.F. Alves leg., 31.III–07.IV.2016, 1 ♀ [DSEC, 000244DP];ssid fruitas, I.S. Braga & A.P. Colavite leg., 1 ♀ [DSEC, 000245DP] and 1 ♂ [DSEC, 000246DP]; V[an] S[omeren-Rydon trap] frutas, 1 ♂ [DSEC, 000247DP].

**Updated known distribution (♀ = new records).** Argentina (Jujuy, Misiones, Chaco, Tucumán, Corrientes), Bolivia, Brazil (Acre, Amazonas, Bahia, Goiás, Mato Grosso do Sul, Mato Grosso, Minas Gerais, Pará, Paraíba*, Rio de Janeiro, Rondônia, São Paulo and Tocantins), Colombia, Costa Rica, Ecuador, Guyana, Haiti, Mexico (Tabasco), Nicaragua, Panama, Paraguay, Peru, Suriname and Venezuela (Aczél 1951, 1961, Steyskal 1968, Dufek et al. 2014).

**Diagnosis.** Mesoforos red-ferruginous, with a central brown band from the middle to posterior region; occiput shiny and dark brown; escape and pedicel brown, antennal base shiny and dark brown; thorax brown with pale pruinescence; thorax in superior view with a broad grayish strip, separated by very thin and brown line; anterior notopleural seta reduced; basicosta with one small seta; a pair of dorsoventral setae; legs dark brown; forefemur with an outstanding anteroventral row of spinules (Aczél 1951).
here increase the known range of all other species and represent other important new findings, such the restricted occurrence of *E. blanchardi* to the semi-arid region. We emphasize the need for further studies and collections that will provide a better understanding of the biodiversity of the Neriidae. Moreover, additional investigations into the distribution patterns of cactus flies will allow for studies on the taxonomy, systematics and biogeography of this group because such investigations can provide specimens and new records to support further studies.

**ACKNOWLEDGEMENTS**

The authors would like to thank Aline Lourenço (DSEC) for the maps illustrating this work. ISB is grateful to the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES) for graduate scholarship; APC is grateful to the Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq) for research scholarship (proc. #350052/2014-0) and Fundação de Apoio à Pesquisa do Estado da Paraíba (FAPESQ) for research support.

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**Authors’ contributions.** ISB identified part of the material, collected the data and wrote part of the text; APC identified part of the material, collected the data and wrote the main part of the text; AJCD wrote part of the text.

**Received:** 9 March 2017  
**Accepted:** 4 May 2017

**Academic editor:** Tiago Kütter Krolow