

Triatominae (Heteroptera Reduviidae) of Nicaragua

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Abstract

Triatominae (Heteroptera Reduviidae) are Chagas disease vectors and so of medical importance. Three species are reported as new for Nicaraguan fauna : *Eratyrus cuspidatus* STAL, *Triatoma dispar* LENT and *Triatoma nitida* USINGER.

Résumé

Les punaises Triatominae (Heteroptera Reduviidae) sont d'importance médicale, étant les vecteurs de la maladie de Chagas. Cette note présente trois espèces nouvelles pour la faune du Nicaragua : *Eratyrus cuspidatus* STAL, *Triatoma dispar* LENT et *Triatoma nitida* USINGER.

Resumen

Los chinches Triatominae (Heteroptera Reduviidae) son importantes a nivel médico, siendo vectores de la enfermedad de Chagas. En esta nota se reportan tres especies como nuevas para la fauna de Nicaragua : *Eratyrus cuspidatus* STAL, *Triatoma dispar* LENT y *Triatoma nitida* USINGER.

Introduction

The Triatominae are known as "Chinches de Chagas" in Nicaragua and all entomologists knows their importance as vector of Chagas Disease. There are very few studies of Chagas disease in Nicaragua and many people die with the only comment "natural death".

URROZ (1975) reported that 4.5 to 10% of blood donors in Nicaragua were contaminated with *Trypanosoma cruzi*, the pathogen of Chagas Disease.

In a study in the Department of Madriz, RIVERA *et al.*, 1997 found that in 8 localities *Triatoma dimidiata* was present, and, 24.2% of the collected specimens were infested with *Trypanosoma cruzi*. A little bit more than 15%

of the houses were infested by *Triatoma dimidiata*. An important fact was that one locality had only 1,7% of the houses infested because of the better quality of the houses. It is now well known that metallic roofs are not very suitable for the Triatominae, they prefer vegetal roofs (leaves of palms or banana).

The first report of a Triatominae from Nicaragua was *Triatoma dimidiata* (LATREILLE), by CHAMPION (1899 : 206-207). Then, URROZ *et al.* (1966), SMITH (1973) and URROZ (1975) report newly this species.

LENT & JURBERG (1969 : 540-550) report *Rhodnius prolixus* STAL for first time.

LENT & WYGODZINSKY (1979), in their revision of the Triatominae report the two pre-

ceding species and, for the first time, *Panstrongylus geniculatus* (LATREILLE). Different authors report the same species with different purposes : ZELEDÓN, 1981; LENT & JURBERG, 1985; HARWOOD & JAMES, 1987; MAES, 1992; RIVERA *et al.*, 1996, 1997; MAES, 1996.

A fourth species, *Panstrongylus rufotuberculatus* (CHAMPION) is reported by MAES (1996, 1997). MAES (1998) in the Insectos de Nicaragua catalogue adds the same four species.

The present note presents three species new for the Nicaraguan fauna : *Eratyrus cuspidatus* STAL, *Triatoma dispar* LENT and *Triatoma nitida* USINGER.

Nicaraguan species

Eratyrus cuspidatus STAL, 1859 (Fig. 1)

Eratyrus cuspidatus STAL, 1859.

Distribution : Guatemala, Nicaragua (new report), Panama, Colombia, Venezuela, Ecuador.

Vector of *Trypanosoma cruzi*.

Found in houses, attracted by lights, the species has been reported as associated with bats (LENT & WYGODZINSKY, 1979).

Nicaraguan material used for the present study :

- Río San Juan : Refugio Bartola, 6/9.II.2000, col. J.M. Maes & B. Hernández (1 ex.).

Panstrongylus geniculatus (LATREILLE, 1811) (Fig. 2)

Reduvius geniculatus LATREILLE, 1811.

Conorhinus lutulentus ERICHSON, 1848.

Conorhinus corticalis WALKER, 1873.

Triatoma tenuis NEIVA, 1914.

Triatoma fluminensis NEIVA & PINTO, 1922.

Panstrongylus parageniculatus ORTIZ, 1971.

Distribution : Nicaragua (Departments of Boaco, Zelaya), Costa Rica, Panama, Colombia, Trinidad, Venezuela, Guyana, Surinam, French Guiana, Ecuador, Peru, Bolivia, Brazil, Paraguay, Uruguay, Argentina.

Vector of *Trypanosoma cruzi*.

Found in nests of mammals : armadillo, paca, anteaters, coendou, rats, possums. Also found in association with bats and under bark near birds nests. The species came to light. All our specimens were collected on the Atlantic side of Nicaragua, by light and in wooded localities or small communities in the fields. The species seems more common in recently built small towns near forests.

Nicaraguan material used for the present study :



Fig. 1A. *Eratyrus cuspidatus* STAL, 1859 from Refugio Bartola, Río San Juan.



Fig. 1B. *Eratyrus cuspidatus* STAL, 1859 from Refugio Bartola, Río San Juan. Head and thorax detail, to show the characteristic spine of the scutellum.

- Zelaya (RAAN) : Río Waspuk : Rápidos de Waula Kombas, 14°21 N - 84°36 W, 75 m, IX.1996, col. J.M. Maes & J. Hernández (2 ex.).
- Zelaya (RAAN) : Río Waspuk - Río Pispis : Sulum, 14°15 N - 84°36 W, I.1996, col. J.M. Maes & J. Hernández (2 ex.).
- Zelaya (RAAN) : 8 km of Bonanza : CICA-BO, IV.2000, col. J.M. Maes & B. Hernández (5 ex.).
- Zelaya (RAAN) : 8 km of Bonanza : CICABO, 17/20.XI.2000, col. J.M. Maes & B. Hernández (5 ex.).



Fig. 2. *Panstrongylus geniculatus* (LATREILLE, 1811) from CICABO, Bonanza.



Fig. 3. *Panstrongylus rufotuberculatus* (CHAMPION, 1899) from Refugio Bartola, Río San Juan.

- Zelaya (RAAS) : Bluefields : Campus URACCAN, 9/10.VI.2000, col. J.M. Maes & B. Hernández (1 ex.).
- Río San Juan : Río Papaturro : Los Guatusos, UTM 16P - 0712685 - 1220212, 11°01 N - 85°03 W, 21/29.V.2000, col. B. Hernández & J. Sunyer (10 ex.).
- Río San Juan : Río Papaturro : Los Guatusos, UTM 16P - 0712685 - 1220212, 11°01 N - 85°03 W, 21/26.IV.2001, col. B. Hernández & J. Sunyer (7 ex.).
- Río San Juan : Río Papaturro : Los Guatusos, UTM 16P - 0712685 - 1220212, 11°01 N - 85°03 W, 8/16.VI.2001, col. B. Hernández & J. Sunyer (1 ex.).
- Nicaragua (1 ex.).

- Río San Juan : Refugio Bartola, 10/20.XI. 1999, col. J.M. Maes & B. Hernández (1 ex.).

***Rhodnius prolixus* STAL, 1859 (Fig. 4)**

Rhodnius prolixus STAL, 1859.

Conorhinus limosus WALKER, 1873.

Distribution : Mexico, Guatemala, El Salvador, Honduras, Nicaragua (Departments of Esteli, Managua), Costa Rica, Panama, Colombia, Venezuela, Guyana, Surinam, French Guiana, Ecuador, Bolivia, Brazil.

Vector of *Trypanosoma cruzi*.

Has been found biting man, sometimes common in houses. Also found in nests of mammals : paca (*Agouti paca*), rats, possums, armadillo;

***Panstrongylus rufotuberculatus* (CHAMPION, 1899) (Fig. 3)**

Lamius rufotuberculatus CHAMPION, 1899.

Triatoma coxo-rufa CAMPOS, 1932.

Distribution : Nicaragua (Department of Zelaya), Costa Rica, Panama, Colombia, Venezuela, French Guiana, Ecuador, Peru, Brazil, Bolivia.

Vector of *Trypanosoma cruzi*.

Could be found in houses and is attracted by lights. In nature has been found in kinkajou (*Potos flavus*) shelter (LENT & WYGODZINSKY, 1979).

Nicaraguan material used for the present study :

- Zelaya (RAAN) : Cerro Saslaya, 13°44 N - 85°01 W, 700 m, IV.1996, col. J.M. Maes & J. Hernández (1 ex.).
- Zelaya (RAAN) : 8 km of Bonanza : CICABO, 17/20.XI.2000, col. J.M. Maes & B. Hernández (1 ex.).



Fig. 4. *Rhodnius prolixus* STAL, 1859 from San Rafael del Sur, Managua.

in pigeon coops and chicken houses, in bird nests (*Jaribu mycteria*, *Mycteria americana*). Can attack cold blooded animals like reptiles and amphibians. It has been collected in many palms : *Attalea humboldtiana*, *Acrocomia sclerocarpa*, *Copernicia tectorum* and *Leopoldina piassaba*.

Nicaraguan material used for the present study :

- Managua : San Rafael del Sur, 16.IX.1964, sucking human blood, col. D. Valladarez (1 ex.).
- Nicaragua (1 niph).

***Triatoma dimidiata* (LATREILLE, 1811) (Fig. 5)**

Reduvius dimidiata LATREILLE, 1811.

Conorhinus maculipennis STAL, 1859.

Triatoma capitata USINGER, 1941.

Distribution : Mexico, Guatemala, Belize, Honduras, El Salvador, Nicaragua (Departments of Madriz, Nueva Segovia, Esteli, Jinotega, Matagalpa, Leon, Managua, Chontales, Zelaya), Costa Rica, Panama, Colombia, Venezuela, Ecuador, Peru.

Vector of *Trypanosoma cruzi* and *Trypanosoma rangeli*.

Has been found biting man, sometimes common in houses, attracted easily by lights.

Also found in nests of mammals : armadillo, rats, possums, cows, pigs, dogs, cats, etc... Could also attack cold blooded animals like amphibians (*Bufo*) or snakes (*Boa*). From our specimens we can said that it's a species found in forest and in town, including big cities like León.

Nicaraguan material used for the present study :

- Nueva Segovia : Ocotal : 5.VI.1985, in rotten logs, col. J. Ventura (1 ex.).
- Jinotega : Cerro Kilambé : Camp 5 : Las Torres, 1000 m, UTM 16P 1500283 - 0637383, V.2001, col. J. Sunyer & B. Hernández (1 ex.).
- Matagalpa : Selva Negra, 1300 m, 5/7.III.2001, col. J.M. Maes, J. Peña & B. Téllez (1 ex.).
- León : in the city, VII.1989, col. B. Garcete (1 ex.).
- León : León : CIMAC, 24.VI.2000, trampas de frutas, col. J.M. Maes, M. Torres & B. Hernández (1 ex.).
- Masaya : Laguna de Apollo, XII.1999, col. J. McCraery (3 ex. + 1 nymph).
- Masaya : Laguna de Apollo, IX.2000, col. J. McCraery (1 ex.).
- Zelaya (RAAN) : Río Waspuk - Río Pispis : Sulum, 14°15 N - 84°36 W, I.1996, col. J.M. Maes & J. Hernández (1 ex.).
- Zelaya (RAAN) : Cerro Saslaya, 13°44 N - 85°01 W, 700 m, IV.1996, col. J.M. Maes & J. Hernández (2 ex.).



Fig. 5. *Triatoma dimidiata* (LATREILLE, 1811) from Laguna de Appolo, Managua..

- Nicaragua (1 ex.).

***Triatoma dispar* LENT, 1950 (Fig. 6)**

Conorhinus venosus CHAMPION, 1899 (nec STAL, 1872).

Triatoma dispar LENT, 1950.

Distribution : Nicaragua (new report), Costa Rica, Panama, Ecuador.

Vector of a *Trypanosoma* similar to *Trypanosoma cruzi* (LENT & WYGODZINSKY, 1979).

Woodland species, not found associated with man. In Panama it has been found associated with the sloth (*Choloepus hoffmanni*); specimens were also found to attack a human



Fig. 6. *Triatoma dispar* LENT, 1950 from Cerro Kilambé, Jinotega.

stationed on an arboreal platform at a height of 30 meters.

Nicaraguan material used for the present study :

- Jinotega : Cerro Kilambé : Camp 5 : Las Torres, 1000 m, UTM 16P 1500283 - 0637383, V.2001, col. J. Sunyer & B. Her-nández (2 ex.).
- Jinotega : Cerro Kilambé : Camp 5 : Las Torres, 1000 m, UTM 16P 1500283 - 0637383, 19/22.VI.2001, col. J. Sunyer & B. Hernández (2 ex.).

***Triatoma nitida* USINGER, 1939 (Fig. 7)**

Triatoma nitida USINGER, 1939.

Distribution : Mexico (Yucatan), Guatemala, Honduras, Nicaragua (new report), Costa Rica.

Vector of *Trypanosoma cruzi*.

Nicaraguan material used for the present study :

- Jinotega : Santa Maura, 1215 m, UTM 16P 0624181 - 1455368, 16/17.IX.2000, col. J.M. Maes & B. Téllez (1 ex.).

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Fig. 7. *Triatoma nitida* USINGER, 1939 from Santa Maura, Jinotega.

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