

DISTRIBUTION OF *VERODES AEQUALIS* (COLEOPTERA: ZOPHERIDAE), A POORLY KNOWN SPECIES FROM CLOUD FORESTS OF MEXICO

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Information on the geographic range of Zopherine beetles (Coleoptera: Zopheridae) in Mexico is extremely scant and fragmentary. This is true for the genus *Verodes*, with 12 species currently recognized (Foley & Ivie 2008). Some are known only from the type locality, sometimes as imprecise as “Mexico” or “Guerrero” (Champion 1884-1893; García-París et al. 2006) or from summarized state records (Foley & Ivie 2008).

Verodes aequalis (Champion 1884) is a characteristic species with distinct habitus (Fig. 1) and large size. It is distinguished by the lack of pronotal and elytral tuberculation typical of the remaining taxa included in the genus. It was originally described within the genus *Nosoderma* Solier 1841 (not Guérin-Ménéville 1838). It was made the type species of *Verodes* by Casey (1907). Since *Nosoderma Solier* is a junior homonym, the name currently accepted for this genus is *Verodes Casey* (Foley & Ivie 2007). *Verodes aequalis* was described from a unique specimen from “Mexico, Parada (Sallé)”. Although “Parada” is a common name for Mexican localities meaning “stop-point” in Spanish, the locality mentioned by Champion

likely corresponds with the one recorded as “La Parada, Oaxaca” by Selander & Vaurie (1962): “hacienda and important collecting site on the north slope of the mountains west of Cerro San Felipe, which is just north of the city of Oaxaca”.

This interpretation is supported by the distribution range of specimens we have studied, from several localities of the State of Oaxaca including some in the vicinity of Cerro San Felipe. However, the distribution of *V. aequalis* is not narrowly restricted, but ranges through a great portion of the mountains of northern Oaxaca, along the Sierra Aloapaneca, Sierra Mazateca and Sierra de Juárez, including a small area in the neighboring mountains of Veracruz (Fig. 2). The latter locality represents a new record for the state of Veracruz.



Fig. 1. Habitus of a live specimen of *V. aequalis* from Tlaquilpa, Veracruz, Mexico.

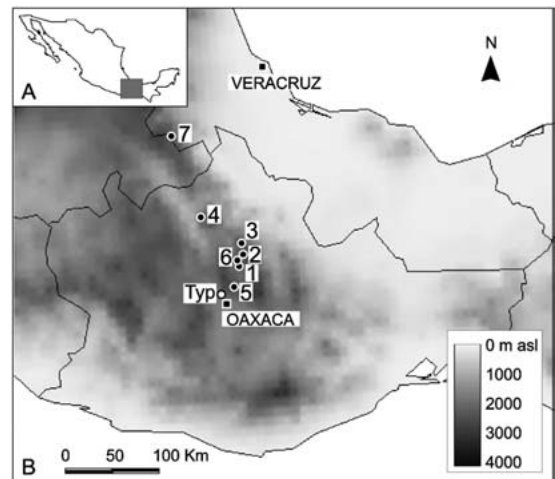


Fig. 2. Sampling area and localities of *V. aequalis*. (A) Outline of Mexico. The area zoomed in B is marked as a grey rectangle. (B) Known records for *V. aequalis*, ranging the states of Oaxaca and Veracruz: Typ = Type locality; 1 = Analco; 2 = Cerro Machín; 3 = Cerro Pelón; 4 = Concepción Pápalo; 5 = Corral de Piedra, La Cumbre; 6 = Llano de las Flores; 7 = Tlaquilpa. Note that the known distribution is linked to the cloud forest bioclimatic zone in the south stem of Sierra Madre Oriental.

All the specimens were collected in humid montane forests dominated by pine and pine-oak associations in the almost permanent cloud zone at altitudes between 2130 and 3000 m asl. Most of the specimens were observed under bark of old decaying stumps or crawling on the trunks in humid nights. The species was found often in microsymbiopathy with *V. carinatus* (Champion). The following new localities represent a major range extension for this species and we provide the first citation for the State of Veracruz.

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Examined Material:

Verodes aequalis (Champion 1884)

Type material: HOLOTYPE: One female bearing the following labels: 1. "Type" (round label bordered in red) (printed); 2. "PARADA" (printed); 3. "1654" (printed); 4. "Mexico. Salle Coll." (printed); 5. "*Nosoderma aequale* Champ. M.S." (hand written); 6. "Sp. figured." (printed); 7. "B.C.A. Col. IV.1. *Nosoderma aequale*" (printed except *aequale*); 8. "Holotypus. *Nosoderma aequale* Champion. García-París des. 2000" (printed in red label). Holotype deposited at the Natural History Museum, London (BMNH).

Other material examined (number of specimens is indicated in brackets, collectors in parentheses): MEXICO: OAXACA: Analco, 2800 m, 31-VII-1977 [1] (J. Hendrichs); Cerro Machín, 2822 m, 8-X-1997 [1] (M. García-París, G. Parra-Olea & D. B. Wake); Cerro Pelón, 2936 m, 8-X-1997, [1] (M. García-París, G. Parra-Olea & D. B. Wake); Llano de las Flores, 2904 m, 8-X-1997, [3] (M. García-París, G. Parra-Olea & D. B. Wake); Concepción Pápalo, 2130 m, 18-IX-2000, [3] (M. García-París, G. Parra-Olea & D. B. Wake); La Cumbre, Corral de Piedra, 2800-3000 m, 4-VIII-1999, [4] (M. García-París, G. Parra-Olea & D. B.

Wake; RMO Corral de Piedra, 14 km O La Cumbre, 29-VIII-2002, [2] (M. García-París & G. Parra-Olea); VERACRUZ: Tlaquilpa, 2405 m, 22-III-2003, [1] (M. García-París & G. Parra-Olea). Specimens are deposited at the Museo Nacional de Ciencias Naturales, Madrid (MNCN) and Colección Nacional de Insectos, Instituto de Biología, Mexico (UNAM).

SUMMARY

Verodes aequalis (Champion) was previously known only from its type locality ("Parada, Mexico", likely close to Cerro San Felipe, Oaxaca, Mexico). We provide several new localities from the mountains of northern Oaxaca and neighboring Veracruz representing a major range extension. All specimens were captured in pine and pine-oak forests in the cloud zone above 2130 m asl.

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