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A new species of genus *Vipio* Latreille *Vipio porteri* sp. Nov. (Hymenoptera, Braconidae) from Argentina

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Abstract
A new braconid species *Vipio porteri* sp. nov. from Argentina is described and illustrated. This is the first *Vipio* species described from Argentina. *Vipio porteri* sp. nov. is different from other *Vipio* species due the long ovipositor, peculiar shape of disc and sculpture on metasomal tergum 1 and the long hypopygium. The new species is compared with its closely related species. Distribution, seasonal pattern of flight have been provided. Scanning Electron Photomicrographs of important morphological characters are given in this research article.

Keywords: *Vipio*, Braconidae, Braconinae, Argentina, Neotropical region, new species.

1. Introduction
Genus *Vipio* Latreille is a nearly cosmopolitan braconid genus which compries approximately 113 described species worldwide [3]. The genus was described by Latrielle [6] who characterized it by the presence of clypeal guard setae which occurs in two clusters (Fig. 4 A). Quicke (1997) [8] placed *Vipio* species under tribe Glyptomorphini because of short marginal cell on the forewing (as in Fig. 3 A). The genus can be easily distinguished from other members of the tribe Glyptomorphini by the clypeal guard setae above the hypo clypeus which occur as two clusters, and are usually apically twisted (Fig. 4 A). Also there is a smooth baso-medial flat area on the second metasomal segment which continues posteriorly as a median carina (Fig. 4 B) [4].
Among the glyptomorphine genera *Vipio* is more closely related to *Glyptomorpha* Holmgren based on some morphological similarities [7], [5]. Consequently, many previous workers did not correctly distinguish between the two genera and some *Glyptomorpha* and *Vipio* species were incorrectly placed [7]. However, *Vipio* can be separated by the shape of clypeal guard setae which are not formed in to two clusters in *Glyptomorpha*. Baso-medial area is also absent from the second abdominal segment in *Glyptomorpha*. Additionally, the second submarginal cell is not distally expanded in *Vipio* while in *Glyptomorpha* the second submarginal cell is distally expanded.
Like most braconines, *Vipio* species are external parasitoids of coleopterous, lepidopterous and hymenopterous larvae that feed inside the plant tissue [1, 4, 9]). Many species in these orders are pests of field crops or forest trees, and are therefore of economic significance. *Vipio* species, therefore, may be of value in the natural control of these pests [9].
In the present work one new *Vipio* species is described from Argentina. This is the first species described from that country.

2. Materials and Methods
The study is based on insect specimens borrowed from American Entomological Institute, Gainesville, Florida (AEI); Museum of Comparatively Zoology, Harvard University, USA (MCZ) and Rocky Mountain Systematic Entomology Laboratory, Wyoming, USA (RMSEL). Specimens were also borrowed from Museo Argentino de Ciencias Naturales Bernardino Rivadavia (MACNB), Argentina.
To illustrate details of body parts and cuticular microsculpture, photomicrographs of the head and metasoma were taken using the scanning electron microscope Philips model 505. Before taking photographs specimens were dehydrated in alcohol and then cleaned in chloroform. Finally specimens were sputter coated with 100-300 angstroms of gold, using a Denton Desk II sputter coater.

Surface sculpturing nomenclature is that of [2] and for wing vein nomenclature the Comstock-needham system is employed. All measurements were recorded with an ocular micrometer. Abbreviations used in the text are: F=Flagellomere T = Metasomal Tergum, AL= Antenna Length, BL = Body Length, FWL = Forewing Length, OL = Ovipositor Length, EH = Eye Height, EW = Eye Width, FH = Face Height, FW = Face Width, MS = Malar Space, HH = Head Height, HW = Head Width, TOD = Tentorio-ocular Distance, ITD = Intertentorial Distance, PL = Pterostigma Length, PW = Pterostigma Width, LRC = Length of Marginal Cell.

Holotypes of all the species described from the region were examined. The holotype of *Vipio porteri* sp. nov is deposited in the Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, USA.

3. Results and Discussion

Family: Braconidae Stephen, 1829
Genus: Vipio Latreille, 1804
Species: *Vipio porteri* sp. nov.

Material Examined

Holotype, ♀, Argentina, Tucuman: Las Cejas, 8.iii-11.iv.1968; (C.C. Porter). Deposited in the Museum of Comparatively Zoology, Harvard University, Cambridge, Massachusetts, USA.

Paratypes: Argentina, Tocumen: 9 ♀, 2 ♂, same data as holotype, except 21.i-21.ii, 1968; 3 ♀, 2 ♂, 22. ii – 13. iii. 1968 (C. C. Porter) (MCZ); 1♀, 1 ♂ same data, except 1-21.i.1968; 1♀, same data, except 2.iv.1966; 2 ♀, 5 ♂, near Las Cejas, 11Km. W, 1-16.xi.1967 (C.C. Porter) (MCZ); 1 ♀, same data, except 1.xi.1967; 2 ♀, same data, except 18.xi-4.xii1967;1 ♀, same data, except 27.v-14.viii.1968;1 ♀, same data, except 24.ix-17.x.1968; 1 ♀, same data, except xii.1967; 4 ♀,1 ♂, same data, except 24.ix-17.x.1968 (RMSEL); 1 ♀, Las Cejas 11 Km. W, 1 ♀, 12.iv-5.v.1968 (Lionel Stange) (AEI).

Diagnosis of *Vipio porteri* sp. nov.

Colour yellow to yellowish red; BL 6.3-11.0 mm; OL /BL 1.5-1.85; head nearly spherical; MS/EH 0.25-0.31; antenna stout, 57-64 F metasomal terga 2-4 densely longitudinally striate; claw with basal tooth.

Description of Holotype Female

BL 10.4 mm; FWL 7.2mm; OL 19.3mm; OL/BL 1.85;

Color: predominantly yellowish-red; mandible tip, basal segment of labial palpi, basal three segments of maxillary palpi, vertex, temple, occiput dorsally, second pair of legs, trochanters of hind tibiae, all tibiae, all tarsi and ovipositor sheath black.

Head: nearly spherical; face uniformly punctuate; remainder of head nitid; clypeus higher in profile, slightly rugulose, clypeal guard setae typically formed in to two clusters above the hypo clypeus (Fig. 4 A); HL/HH 1.0; HW/HH 0.88; FH/FW 0.5; MS/EH 0.31; EH/HH 0.69; EH/FW 0.92; EW/EH 0.82; TOD/ITD 0.49; AL/BL 0.94; antenna stout; 64 F; F1-F11 1.0-1.6X longer than broad; F12 and the following flagellomeres broader than long, except the terminal, longer than broad.

Mesosoma: 1.66 times longer than its hight, nitid, pronotal furrow crenulate dorsally; notauli smooth; wings dark brown; pterostigma black, yellow basally; FWL/BL 0.68; PL/LRC 1.07; PW/PL 0.20, SR1/r+3-SR 1.11; 1-M/1-SR+M 0.76; third abscissa of radius touching anterior wing margin at a distance of 0.53 between apex of pterostigma and wing apex (Fig. 3 A, B); a large glabrous spot anterior to the basal cell present in the hind wing, and with one hamulus at the apex of C+SC+R; leg claw with a well defined basal tooth present; propodeum reticulate-rugose postero-medially, nitid interiorly, slightly rugulose laterally.

Metasoma: T1L/W 1.43; T2L/W 0.82; T3L/W 0.8; T1 disc oval, anterior smooth area continuing posteriorly and gradually narrowing and transforming in to a mid- longitudinal carina, short transverse carinae issuing from sides; remainder of the disc rugulose; surrounding area of the disc with transverse carinae (Fig. 4B); dorsolateral carina present; T2 basal areas smooth, baso-medial area distinct and posteriorly continuing as a mid- longitudinal carina, reaching a small nitid area at apex of tergum, oblique furrows present on T2 latero-basally, furrows strongly impressed, striate; remainder of the tergum longitudinally striate, tergum depressed addorsally; T3 as T2 except latero-basal areas well defined; T4 as T3 except latero-basal areas short; T5-7 slightly rugulose (Fig. 4 B); Hypopygium extends 0.7 mm beyond the tip of metasoma. Ovipositor well exerted 1.6 X longer than body length.

Variation: Paratype Females (n=33)

As in Holotype, except BL 6.4-11.0 mm; OL/BL 1.5-1.85; HL/HH 0.94-1.0; EH/HH 0.68-0.75; MS/EH 0.25-0.31; TOD/ITD 0.47-0.54; SR1/r+3-SR 0.9-1.1; PL/LRC 0.91-1.07; 1-M/1-SR+M 0.74-0.77; EH/FW 0.46-0.5;57-64F; some specimens with face slightly yellowish red, leg yellow, except hind tibia and tarsi black; third abscissa of radius joining anterior wing margin between apex of pterostigma and wing apex at distance of 0.53-0.57.

Variation: Paratype Males (n=11)

Similar to female, except BL 5.0-6.9 mm; FWL/BL 0.68-0.74; 44-53F; AL/BL 0.87-1.1; HL/HH 0.82-0.88; EH/HH 0.68-0.74; EW/EH 0.68-0.72; FW/FH 0.53-0.58; TOD/ITD 0.30-0.36; MS/EH 0.11-0.20; EH/FW 1.06-1.17; face yellowish-white, smooth with a small brown area above clypeus; T1 disc elongate; latero-basal area on T3 and T4 not well defined; T5 longitudinally striate basally becoming punctate posteriorly.

Host: Unknown

Distribution: Las Cejas, Tucumen-Argentina.

Seasonal Patterns of Flight

Available collection data show that this species flies from September through May in Las Cejas, Tucumen-Argentina.

Remarks

Vipio porteri sp. nov. is morphologically similar to *Vipio melanocephalus* Brulle because of the addorsally (sublaterally) depressed T2, long BL and OL. The shorter malar space (MS/EH 0.25-0.31) and shorter ovipositor (OL/BL 1.5-1.85) in *Vipio porteri* will distinguish this species from *V. melanocephalus* in which the MS to EH ratio is 0.39-0.40 and the OL/BL is 1.94-2.34.

Etymology

This new species is named after its collector Mr. Charles C. Porter, a prominent ichneumonid taxonomist.

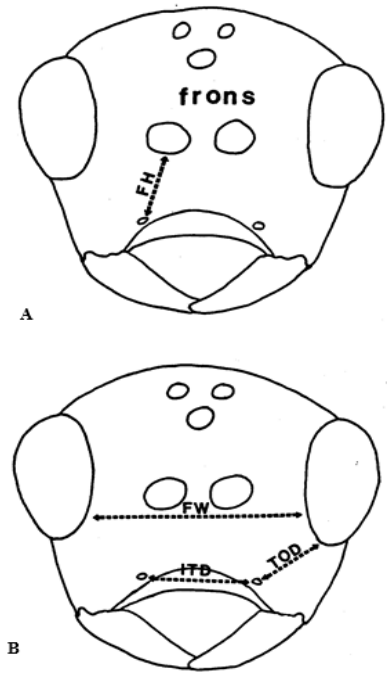

Fig 1: A, B; Frontal view of head of *Vipio* species showing how measurements were recorded.

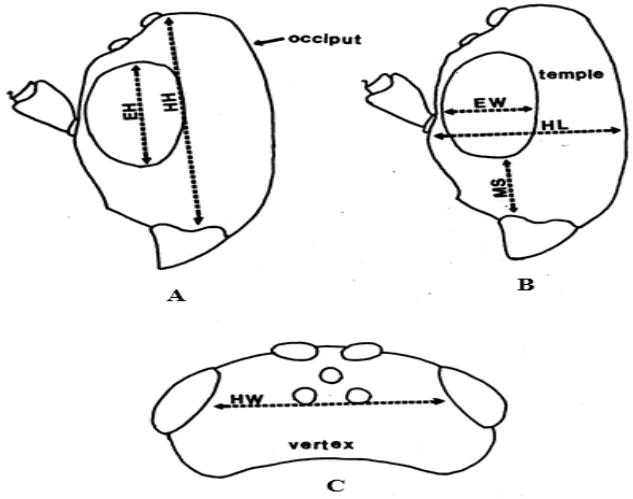

Fig 2: Head of *Vipio* species showing how measurements were recorded; A, B: lateral view; C, dorsal view.

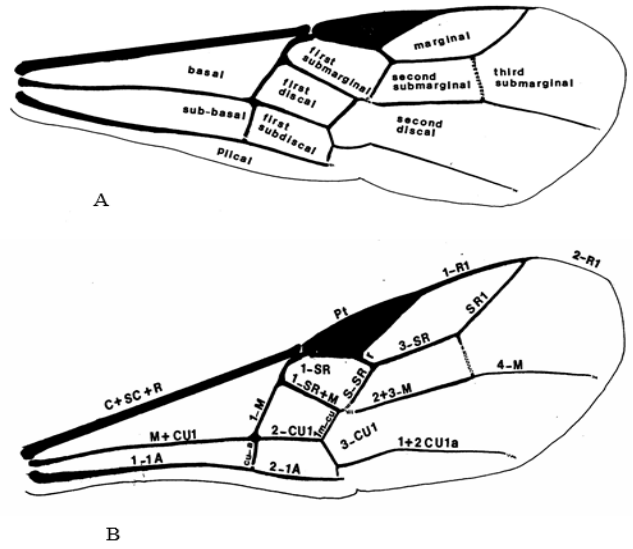

Fig 3: Fore wing of *Vipio* species showing: A, cells; B, veins.

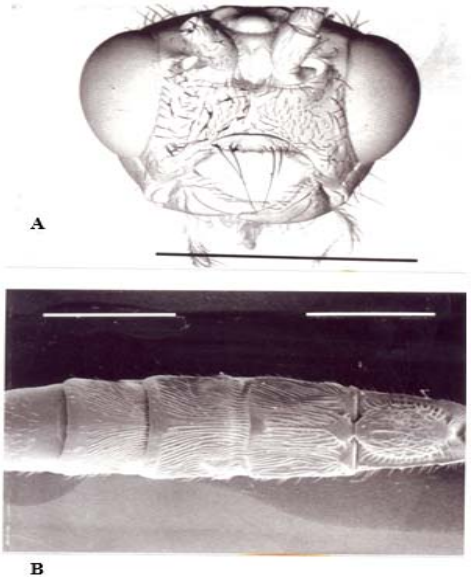

Fig 4: A, Head of *Vipio portri* sp. nov. showing clypeal guard setae in two clusters; B, Metasoma of *Vipio porteri* sp. nov. showing sculpture.

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