

**A NEW SPECIES OF WATER BEETLE FROM ISCHIGUALASTO PARK,  
ARGENTINA (COLEOPTERA: HYDRAENIDAE)**

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**Abstract**

A new species of water beetle, *Gymnochthebius ischigualasto*, is described from Ischigualasto Park, San Juan Province, Argentina. The new species is compared to related members of the genus, and the aedeagus of the holotype is illustrated. The aedeagus of the holotype of *G. reticulatus* (Orchymont), a related species, is also illustrated.

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New World hydraenids were revised by Perkins (1980); since then no new species have been described from Argentina. Although aquatic beetles from some regions of Argentina have been well studied, there are several areas that have been poorly sampled. One of these regions is the western part of the country, where the 'Parque Provincial Ischigualasto' is located. This park, mostly known for its paleontological richness, is a semidesert, belonging to the Chaco Domain and the Monte phytogeographical province. Specimens of the new species were collected among filamentose algae at the margins of Agua de la Peña, one of the small creeks that runs through this park.

*Gymnochthebius ischigualasto* **new species**

**Type Material.** Holotype male and 19 paratypes: Argentina, Prov. San Juan, Ischigualasto Park, Agua de la Peña; 30°05'37"S, 67°56'02"W, 1,280 m, among algae, 19.vii.1999, M. Archangelsky. Holotype deposited in the Argentine Museum of Natural Sciences 'Bernardino Rivadavia', Buenos Aires; paratypes deposited in that institution, in CRILAR, La Rioja, Argentina, in the Institute and Museum of Natural Sciences (San Juan National University), and in the Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, U.S.A.

**Diagnosis.** Recognized by the large size (ca. 2.39 mm), the piceus to dark brown dorsal coloration, the weakly shining, effacedly micropunctulate ground sculpture of the pronotum, the body proportions, the large median glabrous area of the metasternum, and the male genitalia.

**Description (Holotype).** Size (mm): total length 2.39, width 1.04, elytral length 1.40, pronotal width 0.75. Head piceus, pronotum and elytra dark brown, legs light brown.

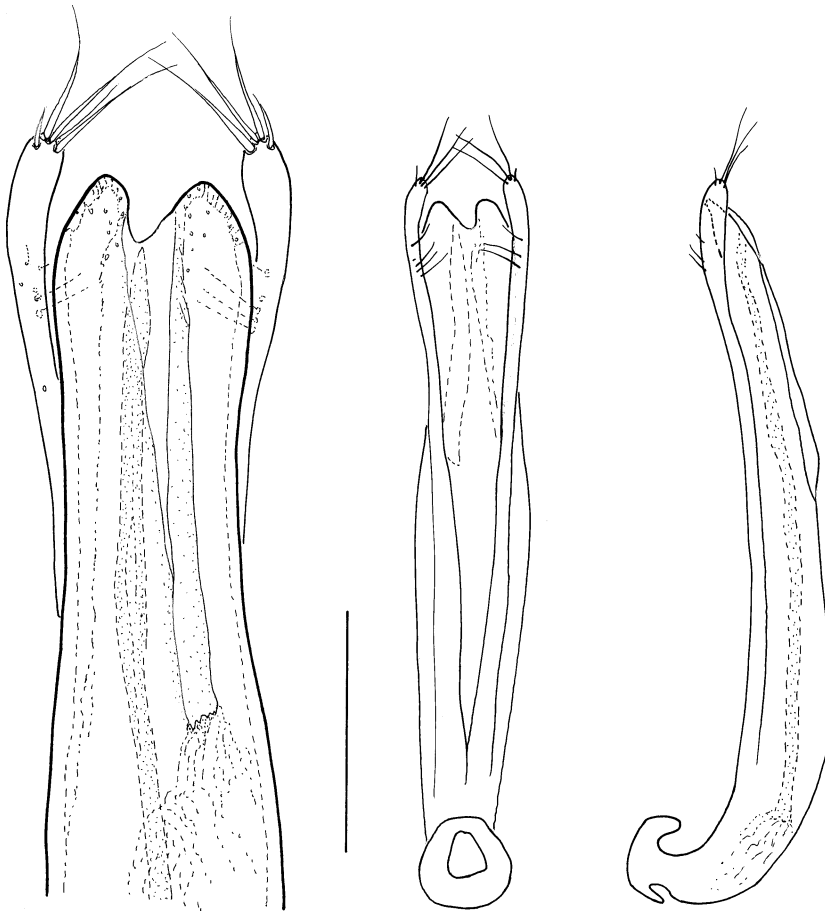
Head and pronotal reliefs finely sparsely punctate over weakly to very weakly micropunctulate ground sculpture, head more shining than pronotum. *Pronotum*: anterior hyaline border narrow in front of disc, wider in front of lateral fossulae; lateral hyaline border wide, lateral margin weakly sinuate, nearly straight, minutely emarginate where joining acute tooth of posterior lobe of lateral depression, posterolaterally angulate, minute colored cuticle forming a point at origin near base of anterior lobe; lateral depression with well produced, subacute anterior lobe, posterior lobe with small tooth at apex; anterior foveae deep, oval, width equal distance between fovea and median groove; median groove constricted in middle; posterior fovea oblique, 3–4 times as long as wide; posterolateral angles each with distinct impression. *Elytra*: disc rather flat, serial punctures small, separated longitudinally by about puncture diameter or less; intervals shining, flat or weakly rounded, width about twice puncture diameter; series weakly striate impressed laterally; sides nearly parallel to each other in front of midlength, arcuate behind midlength; explanate margin moderately wide, ended near apical one-fifth. *Venter*: mentum width equal to length, shining, moderately densely punctate; genae shining, swollen; metasternum with large glabrous, shining median area; abdomen with basal four sterna entirely covered with hydrofuge pubescence, sternum five with posterior arc of glabrous area with anterior limit near midlength of segment in midline, anterior limit at posterior angles laterally. *Aedeagus*: Length 0.62 mm (Fig. 1).

**Sexual Dimorphism.** Females have the explanate elytral margin distinctly wider over the middle one-third, hence the sides of the elytra are arcuate for the entire length, not nearly parallel-sided in front of the middle as in males. In females the elytra are slightly more transversely convex and the apices are conjointly rounded instead of distinctly separately rounded as in males. The labrum in females is emarginate, but not quite as deeply as in males, and the apical margin is not upturned. The pronotum is usually slightly more micropunctulate in females; sometimes, in males, the area bordering each side of the median groove is shiny and apparently non-micropunctulate. Males have a conspicuous tuft of golden setae on the apical part of the last sternite, whereas females have sparse setae that do not form a tuft.

**Comparative Notes.** The relatively large body size, ventral vestiture, body shape, and pronotal impressions places *G. ischigualasto* n. sp. with *G. reticulatus* (Orchymont) and *G. reticulatissimus* Perkins, the known members of the *reticulatus* Subgroup of the *germaini* Group (Perkins 1980). The male genitalia of the new species corroborate this placement, being most similar to *G. reticulatus* (Orchymont). Members of the *reticulatus* Subgroup are only known from northwestern Argentina, *G. reticulatus* being found in Jujuy Province and *G. reticulatissimus* from Tucuman Province.

Members of *G. ischigualasto* n. sp. will key to couplet 13 in Perkins (1980: 249), and if one changes the wording in that couplet from pronotum with “entire surface coarsely microreticulate” to pronotum coarsely to effacedly microreticulate, the new species will key to *G. reticulatus* in couplet 14. The new species differs distinctly from *G. reticulatus* by the darker dorsal coloration, the much less developed microreticulation of the pronotum and elytra, the slightly longer elytra relative to width of the pronotum (ca. 75:140 vs. 76:136), and the aedeagus (Figs. 1–2). The aedeagus of *G. ischigualasto* is broad distally, wider than the central part of the mainpiece, and the paramere tips are distinctly arcuate. The aedeagus of *G. reticulatus* is not broadly bilobed distally, the mainpiece being wider at midlength than distally, and the paramere tips are weakly arcuate.

In members of *G. ischigualasto* n. sp. the internal tube of the male genitalia is very slender and rests against the side of the lumen of the mainpiece; the distal end of the tube gradually thins and tapers to a nearly invisible fine tip.

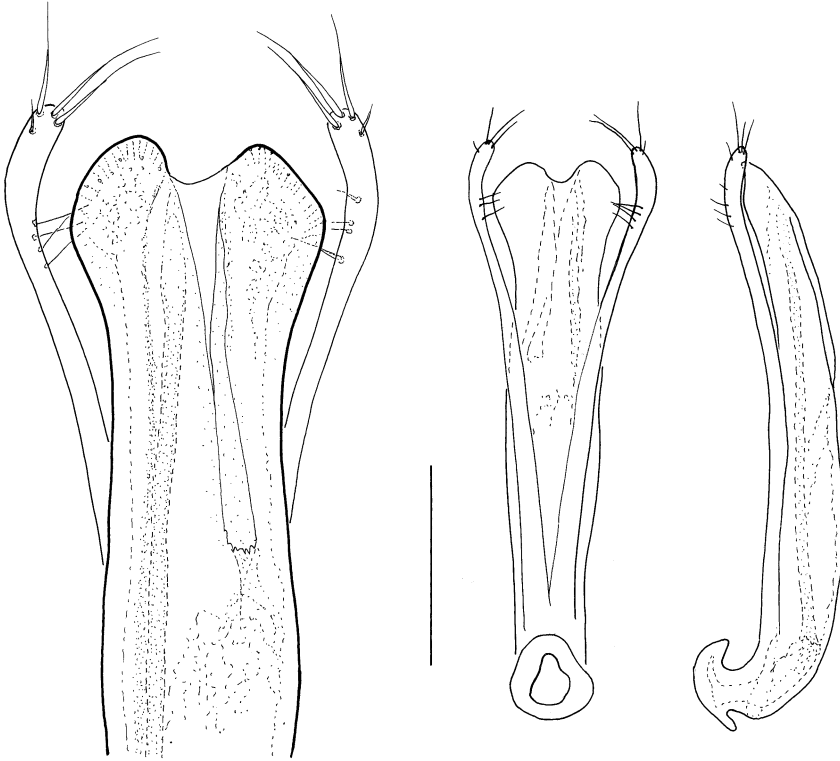


**Fig. 1.** *Gymnochthebius ischigualasto* new species, aedeagus of holotype, dorsal (left), ventral and lateral aspects (scale line equals 0.1 mm for dorsal aspect, 0.2 mm for other aspects).

Consequently the tube is difficult to differentiate from the thickened side of the lumen, even at high magnification. The internal tube of the aedeagus of the holotype of *G. reticulatus* (Orchymont) is likewise pressed against the side of the lumen and was not illustrated by Perkins (1980:272). The proportions of the mainpiece and thickness of its walls in the distal part differ markedly in the compared species. In these species the dorsal surface of the aedeagus has a narrow slit-like opening through which, one predicts, the internal tube slides during copulation.

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**Fig. 2.** *Gymnochthebius reticulatus* (Orchymont), aedeagus of holotype, dorsal (left), ventral and lateral aspects (scale line equals 0.1 mm for dorsal aspect, 0.2 mm for other aspects).

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#### Literature Cited

**Perkins, P. D. 1980.** Aquatic beetles of the family Hydraenidae in the Western Hemisphere: classification, biogeography and inferred phylogeny (Insecta: Coleoptera). *Questiones Entomologicae* 16:3-554.

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