

TAXONOMIC REVISION OF GENUS *GYRETES* BRULLÉ
(COLEOPTERA: GYRINIDAE) FROM AMERICA NORTH OF MEXICO

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Abstract

Species of the genus *Gyretes* Brullé of America north of Mexico are reviewed. Morphological variation among species is characterized using multivariate analyses. Three species are recognized: *Gyretes iricolor* Young, *G. sinuatus* LeConte and *G. torosus* **new species**. *Gyretes compressus* LeConte and *G. californicus* Régimbart are synonymized under *G. sinuatus* **new synonymies**. Diagnoses, illustrations, and a key to identify species from America north of Mexico are provided.

The aquatic beetle family Gyrinidae comprises four genera in America north of Mexico; *Gyrinus* Müller (41 species), *Dineutus* MacLeay (11 species), *Gyretes* Brullé (3 species) and *Spanglerogyrus* Folkerts (1 species) (Roughley 2001). Of these, *Gyretes* is the least studied. Adults of this genus are stream-dwellers that can be distinguished from other North American gyrinids by the hidden scutellum, the conical shape of the last abdominal segment and the presence of pubescence along the margin of the pronotum and elytra (Ferkinhoff and Gundersen 1983; Oygur and Wolfe 1991). Specimens of *Gyretes* generally are found in areas shaded by overhanging banks and vegetation. Individuals frequently leave the flowing water to rest by climbing onto emergent roots and leaves (Folkerts and Donovan 1973; Steiner and Anderson 1981). Besides allowing the beetles to remain motionless for periods of time, this climbing behavior could aid in heat conservation, reducing predator risk, and maintaining position during floods (Folkerts and Donovan 1973).

The genus *Gyretes* comprises 79 species worldwide, all of which occur in the Western Hemisphere (Oygur and Wolfe 1991). The taxonomy of the world *Gyretes* requires revision. In spite of a limited number of species, North America is no exception as the limits and validity of the existing species are still debated. Four species names have been proposed thus far for *Gyretes* of America north of Mexico. *Gyretes sinuatus* LeConte (1852) first was described from the Colorado River in California. *Gyretes compressus* LeConte (1863) subsequently was described from Illinois and distinguished from *G. sinuatus* by its narrower shape. There has been, however, much debate over the status of the latter two species (Régimbart 1883; Ochs 1949; Walls 1974; Poole and Gentili 1996). Régimbart (1883) postulated that *G. compressus* was a junior synonym of *G. sinuatus*. More recently, in his key to the *Gyretes* of North America, Walls (1974) recognized *Gyretes compressus* as a valid species. This key, however, was not sufficient to identify a number of specimens, according to Walls (1974) himself. This was due to the variation in the height of the pubescent border and in the shape of the midcaudal tooth on the penultimate abdominal tergite in members of this genus in North America.

In 1907, Régimbart described a new species, *G. californicus*, based on a single female. *Gyretes californicus* was synonymized as a junior subjective synonym of *G. sinuatus* by Leech and Chandler (1963) and Walls (1974).

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