

Favartia kanneri, a new species (Gastropoda: Muricidae: Muricopsinae) from the Galapagos Islands, Ecuador

ROLAND HOUART

Research Associate, Institut royal des Sciences naturelles de Belgique;
Institute of Systematics, Evolution, Biodiversity (ISEB), Muséum national d'Histoire naturelle (MNHN), CNRS, SU, EPHE, UA,
CP 51, 57 rue Cuvier, 75005 Paris, France; roland.houart@skynet.be



HOUART, R., 2021. *Favartia kanneri*, a new species (Gastropoda: Muricidae: Muricopsinae) from the Galapagos Islands, Ecuador. — *Basteria* 85 (1): 1–5. Leiden. Published 7 May 2021.

ABSTRACT

A new species assigned to *Favartia* Jousseaume, 1880, *F. kanneri*, is described from Isabela Island in the Galapagos Archipelago, Ecuador, and compared with two related species. The eight *Favartia* species living in this area are listed, referenced and illustrated.

Key words: Muricidae, Galapagos Islands, *Favartia*, new species

INTRODUCTION

The Galapagos Islands are situated 970 km from the west coast of South America. The molluscan fauna is composed of largely Panamic taxa. There are also Californian and Peruvian components of the fauna, and a small number of Indo-Pacific taxa, which make up only about 4% (Hickman & Finet, 1999). Of those, 15–20% are endemic to the islands. Finet (1994) listed 718 species considered of verified occurrence in the Galapagos of which about 20% were considered endemic. Kaiser (1997) listed 846 intertidal to deep-water species of which 125 were endemic taxa.

Currently there are eight species of *Favartia* that have been recorded as living in the Galapagos Islands. Two species, *F. purdyae* and *F. radwini*, were originally described from these islands, and one, *F. radwini*, is endemic. They are:

Favartia exigua (Broderip, 1833) (Fig. 1A–C): *Murexiella venustula* Poorman, 1983, described from the Galápagos, Isla Santa Cruz, is a junior synonym. Kaicher (1978) as *Murexiella vittata*; Poorman (1983) as *Murexiella venustula* n. sp.; Finet (1994); Kaiser (1997) as *Murexiella venustula* Poorman, 1983; Hickman & Finet (1999); Myers (2003).

Favartia humilis (Broderip, 1833) (Fig. 2E–H, N): Radwin

& D'Attilio (1976); Finet (1994); Kaiser (1997); Myers (2003).

Favartia incisa (Broderip, 1833) (Fig. 1D–E): Keen (1971); Kaicher (1974); Radwin & D'Attilio (1976); Finet (1994); Kaiser (1997); Myers (2003).

Favartia lappa (Broderip, 1833) (Fig. 1F–H): Finet (1994); Hertz (1996); Kaiser (1997); Myers (2003).

Favartia perita (Hinds, 1844) (Fig. 1I–J): Finet (1994); Kaiser (1997); Myers (2003).

Favartia purdyae Vokes & D'Attilio, 1980 (Fig. 1K–M): Vokes & D'Attilio (1980); Finet (1994); Kaiser (1997); Hickman & Finet (1999); Myers (2003). Type locality: Galapagos Islands, Plasa Island.

Favartia radwini (Emerson & D'Attilio, 1970) (Fig. 1N–P): Emerson & D'Attilio (1970); Keen (1971); Finet (1994); Kaiser (1997); Myers (2003). Type locality: Galapagos Islands, Isabela Island. An apparently endemic species.

Favartia vittata (Broderip, 1833) (Fig. 1Q–R): Keen (1971); Fair (1976); Kaiser (1997); Myers (2003).

A ninth species, also probably endemic, is described here from Isabela Island and compared with *F. humilis* and *F. keenae*. All species are illustrated here, four with Panamic specimens as there was no other material available and five from the Galapagos Islands.

ABBREVIATIONS

Depository — AMNH: American Museum of Natural History, New York, USA; MNHN: Muséum national d'Histoire naturelle, Paris, France; RH: collection of the author; SBMNH: Santa Barbara Museum of Natural History, California, USA.

Terminology used to describe the spiral cords (after Merle 2001, 2005) (Fig. 2M–N) — ab: abapical (or abapertural); ad: adapical (or adapertural).

Subsutural area, between the suture and the P₁ shoulder cord — adis: Adapical infrasutural secondary cord; IP: Infrasutural primary cord.

Convex part of teleoconch whorl and siphonal canal — ABP: abapertural primary cord on the siphonal canal; ADP:



adapertural primary cord on the siphonal canal; ads: adapertural secondary spiral cord on the siphonal canal; MP: median primary cord on the siphonal canal; P: primary cord; P1: shoulder cord; P2–P6: primary cords of the convex part of the teleoconch whorl.

SYSTEMATICS

Family Muricidae Rafinesque, 1815

Subfamily Muricopsinae Radwin & D'Attilio, 1971

Genus *Favartia* Jousseau, 1880

Type species by original designation: *Murex breviculus* G.B. Sowerby II, 1834, Indo-West Pacific.

Favartia kanneri n. sp.

Fig. 2A–D, M

Type material. — Holotype MNHN-IM-2000-36519.

Type locality. — Ecuador, Galapagos Islands, Isabela Island, Urvina Bay, in rubble at base of reef (Fig. 3).

Description. — Shell large for the genus, 35.0 mm in length. Length/width ratio 1.2. Broadly biconical, heavy, spinose. Subsutural ramp broad, weakly sloping, weakly concave. Shell uniformly white with glossy white aperture. Spire moderately high with eroded protoconch and 6 broad, strongly shouldered, spinose whorls. Suture of whorls impressed. Axial sculpture of teleoconch whorls consisting of high, broad, spinose varices. Each varix with long, blunt, ventrally sealed primary spines. Shoulder spine longest and broadest. First teleoconch whorl eroded, second to fourth with 6 varices, fifth and last with 7 varices. Spiral sculpture of high, rounded, broad, primary cords and additional very worn spiral threads over whole surface. Second to fifth whorl with visible P1 and P2, starting IP from third whorl on and adis from fourth. IP spiral cord low on last whorl with short, strongly abaxially recurved spine, increasing in length toward aperture. IP cord obsolete on previous whorls, only visible with short spine. Last whorl with adis, IP, P1–P6 on shoulder and convex part and ADP, MP, ABP on siphonal canal. P1 broadest cord with longest spine, P2–P5

approximately similar in size and strength, P6 very small cord and spine, followed by very short ads spinelet. P1, P4 and P6 spines weakly adaperturally bent, P2 and P3 spines weakly abaperturally recurved. ADP, MP and ABP spines abaxially recurved, with longest and more strongly recurved spine on last varix. Aperture moderately small, roundly ovate. Columellar lip narrow, smooth, rim partially weakly erect, a small portion adherent at adapical extremity. Anal notch very shallow, broad. Outer lip erect, undulate, smooth or weakly undulate within. Siphonal canal medium-sized, broad, straight, narrowly open and weakly dorsally recurved at tip, with long, abaxially recurved spines.

Remarks. — *Favartia humilis* (Fig. 2E–H, N) most resembles *F. kanneri* n. sp. but *F. humilis* has a smaller, narrower, more fragile shell with a comparatively lower spire, a narrower, longer siphonal canal, narrower spiral cords, and narrower, more acute varical spines. Moreover, the spines are strongly abaperturally recurved in *F. humilis* (Fig. 2H) while they are broader, blunt and straight or almost straight in *F. kanneri* n. sp. (Fig. 2D) the P1, P3–P4 spines being yet straighter and even weakly adaperturally bent on last (apertural) and penultimate varices.

Favartia keenae (Fig. 2I–L), not recorded from the Galapagos Islands, is a species with a stouter shell, a lower spire, and a comparatively longer, tapered siphonal canal. It also has fewer axial varices and abaperturally, much shorter, recurved varical spines.

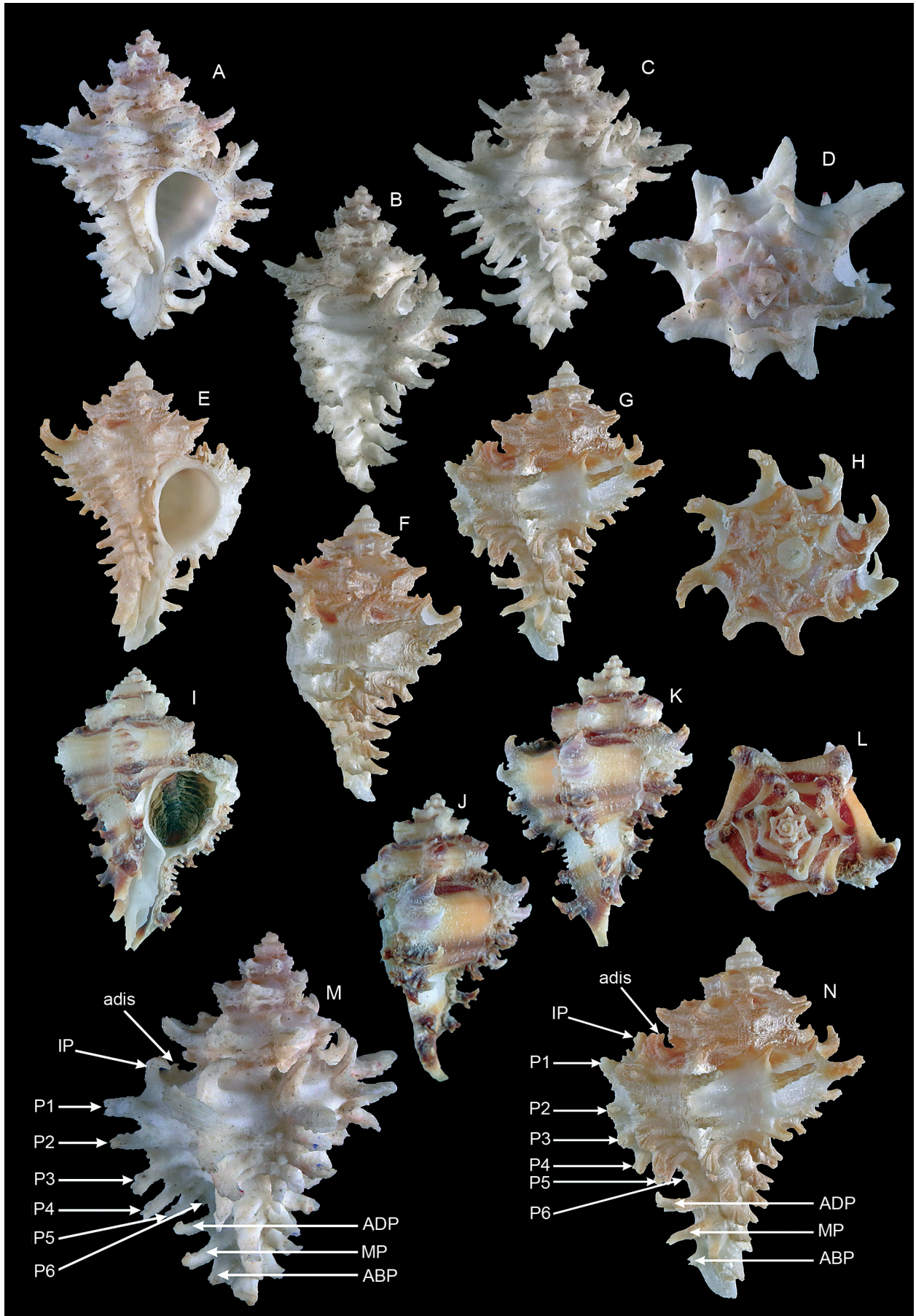
Favartia norrisii (Reeve, 1845), described from San Pedro, Ecuador, and also known from Costa Rica to Peru, was commented on by D'Attilio & Myers (1987). It differs from *F. kanneri* n. sp. by its more fragile shell, the smaller, more delicate, sharp and strongly abaperturally curved spines, and its longer, narrower and strongly tapered siphonal canal.

The other species from the Galapagos and the West Panamic zone are very different and do not have to be compared here.

ACKNOWLEDGEMENTS

I am most thankful to Paul Kanner (Los Angeles, California, USA) for donating his unique self collected specimen for study and deposit as a holotype. I am grateful also to

◀ Fig. 1. A–C. *Favartia exigua* (Broderip, 1833). A. Galapagos Islands, Santa Cruz Island, RH collection, 21.1 mm. B–C. Mexico, Sonora, Lobos Island, RH collection, 17.5 mm. D–E. *Favartia incisa* (Broderip, 1833), Panama, Cameron, Vera Cruz, RH collection, 26.5 mm. F–H. *Favartia lappa* (Broderip, 1833). F–G. Galapagos Islands (no other data), RH collection, 22.5 mm. H. West Panama, Pearl Islands, Bayoneta Island, rocks, low tide, RH collection, 22.7 mm. I–J. *Favartia perita* (Hinds, 1844), West Panama, Canal de Afuera Island, 37–74 m, RH collection, 27.4 mm. K–M. *Favartia purdyae* Vokes & D'Attilio, 1980, Galapagos Islands, Bartholome Island, s side, under rock, intertidal, SBMNH 91497, 16.6 mm. N–P. *Favartia radwini* (Emerson & D'Attilio, 1970). N–O. Galapagos Islands, Isabella Island, at Tagus Cove, 100 m, holotype AMNH 155903, 33.5 mm (photos AMNH); P. Galapagos Islands, Isabela Island, Tagus Cove, 100 m, paratype SBMNH 361820, 13.5 mm (immature). Q–R. *Favartia vittata* (Broderip, 1833), West Panama, Icaico, on rocks, low tide, RH collection, 27.9 mm.



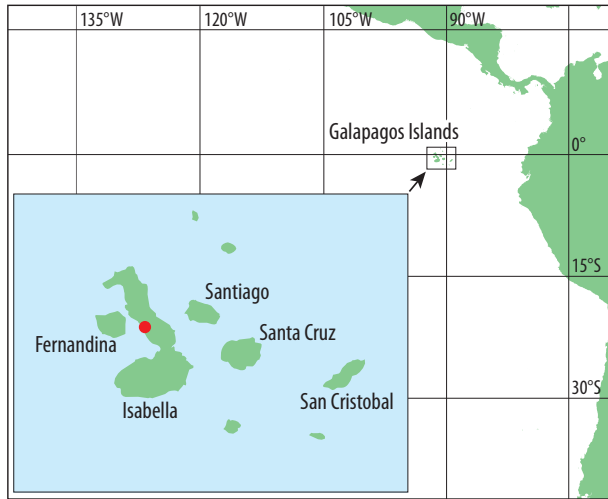


Fig. 3. Distribution of *Favartia kanneri* n. sp.

Henry Chaney and Paul Vanlentic-Scott (Santa Barbara Museum of Natural History) for the loan of several muricopsine specimens in 2010, to Estefania Rodriguez and Lily Berniker (American Museum of Natural History) for the digital images of the holotype of *Murexiella radwini* and to John Wolff, Lancaster, Pennsylvania, U.S.A., for checking the English text and for other comments. Thanks also go to the reviewers for their useful comments.

REFERENCES

EMERSON, W.K. & D'ATTILIO, A., 1970. Three new species of muricacean gastropods from the eastern Pacific. — *The Veliger* 12 (3): 270–274.
 D'ATTILIO, A. & MYERS, B.W., 1987. Emended description and designation of lectotypes for *Favartia (Murexiella) humilis* (Broderip, 1833) and *F. (M.) norrisii* (Reeve, 1845) and discussion of *F. (M.) laurae* (E.H. Vokes, 1970): Muricidae. — *The Festivus* 19 (1): 2–8.
 FAIR, R.H., 1976. *The murex book, an illustrated catalogue of Recent Muricidae (Muricinae, Muricopsinae, Ocenebrinae)*: 138 pp. Sturgis Printing Co., Honolulu.

FINET, Y., 1994. *The marine mollusks of the Galapagos Islands: a documented faunal list*: 180 pp. Ed. Museum d'Histoire Naturelle de Genève, Geneva.
 HERTZ, C.M., 1996. Strange variant of *Murexiella lappa* from the Galápagos or an undescribed species? — *The Festivus* 28 (1): 3–6.
 HICKMAN, C.P. Jr. & FINET, Y., 1999. *A field guide to marine molluscs of Galápagos: an illustrated guidebook to the common intertidal shallow-water snails, bivalves, and chitons of the Galápagos Islands*: 150 pp. Sugar Spring Press, Lexington.
 KAICHER, S.D., 1974. *Card catalogue of world-wide shells, Muricidae II*, pack 6. Privately published, St. Petersburg, Florida.
 KAICHER, S.D., 1978. *Card catalogue of world-wide shells, Muricidae III*, pack 16. Privately published, St. Petersburg, Florida.
 KAISER, K.L., 1997. The Recent molluscan marine fauna of the Islas Galápagos. — *The Festivus* 29, Supplement: i, 1–67.
 KEEN, A.M., 1971. *Sea shells of tropical West America, marine mollusks from Baja California to Peru*, 2nd edition: xiv + 1064 pp. Stanford University Press, Stanford.
 MERLE, D., 2001. The spiral cords and the internal denticles of the outer lip in the Muricidae: terminology and methodological comments. — *Novapex* 2 (3): 69–91.
 MERLE, D., 2005. The spiral cords of the Muricidae (Gastropoda, Neogastropoda): importance of ontogenetic and topological correspondences for delineating structural homologies. — *Lethaia* 38: 367–379.
 MYERS, B.W., 2003. Illustrated catalog of species assigned to the genus *Favartia* (Muricidae) from the Panamic Province. — *The Festivus* 35 (6): 59–83.
 POORMAN, L.H., 1983. New molluscan species (Gastropoda: Neogastropoda) from the tropical Eastern Pacific. — *The Veliger* 26 (1): 5–9.
 RADWIN G. & D'ATTILIO, A., 1976. *Murex shells of the world: an illustrated guide to the Muricidae*: 284 pp. Stanford University Press, Stanford.
 VOKES, E.H. & D'ATTILIO, A., 1980. A new species of *Favartia (Caribiella)* from the Galapagos Islands. — *The Veliger* 23 (1): 15–18.

◀ Fig. 2. A–D, M. *Favartia kanneri* n. sp. Galapagos Islands, Isabela Island, Urvina Bay, in rubble, at base of reef, holotype MNHN-IM-2000-36519, 35.0 mm; M. Spiral cords morphology. E–H, N. *Favartia humilis* (Broderip, 1833). Mexico, Guerrero, Acapulco, off Rio Balsas, dredged in 73–91 m, RH collection, 31.6 mm; N. Spiral cord morphology. I–L. *Favartia keenae* (Vokes, 1970), West Panama, Pearl Islands, Pedro Gonzalez Island, 1 m, RH collection, 30.0 mm.