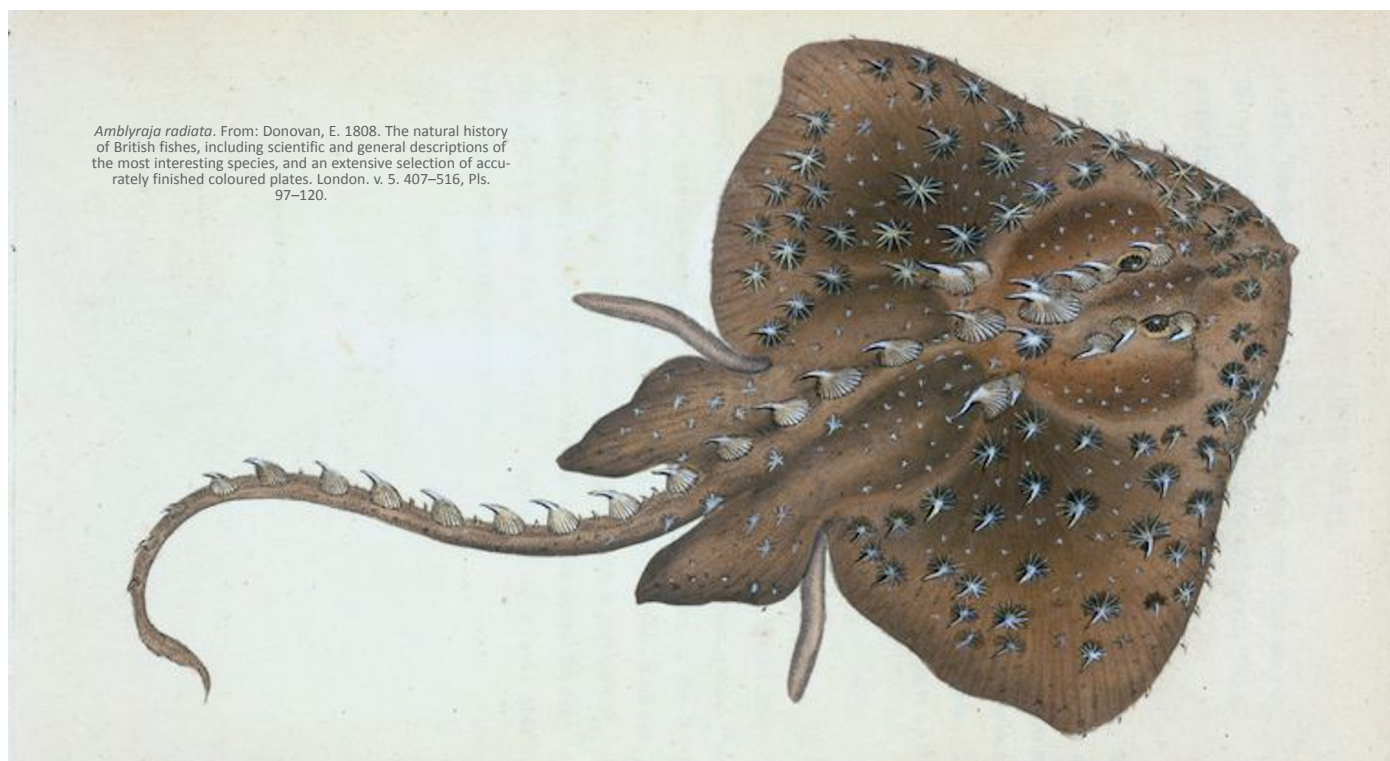


Order RAJIFORMES

Skates

Family **RAJIDAE**

Blainville 1816



Amblyraja radiata. From: Donovan, E. 1808. The natural history of British fishes, including scientific and general descriptions of the most interesting species, and an extensive selection of accurately finished coloured plates. London. v. 5. 407–516, Pls. 97–120.

Amblyraja

Malm 1877

amblys (Gr. ἀμβλύς), blunt, allusion not explained, perhaps referring to relatively blunt snout compared with related skate genera; *raja*, from *raia* (L.), ray or skate

***Amblyraja doellojuradoi* (Pozzi 1935)** in honor of Argentine marine biologist Martín Doello-Jurado (1884–1948), Museo Argentino de Ciencias Naturales, for his studies of Argentine hydrobiology

***Amblyraja frerichsi* (Krefft 1968)** in honor of Thomas Frerichs, captain of the research vessel *Walther Herwig*, from which holotype was collected, for “his keen interest in deep-sea catches, which assured us many precious discoveries” (translation)

***Amblyraja georgiana* (Norman 1938) -ana** (L.), belonging to: South Georgia, southern Atlantic Ocean, type locality

***Amblyraja hyperborea* (Collett 1879)** *hypér* (Gr. ὑπέρ), very; *boréa* (Gr. βορέα), north wind (in a broader sense, northern), referring to its distribution in the Arctic Ocean and waters around Canada and northwest Europe (but also occurs in Pacific Ocean and in waters surrounding Antarctica and New Zealand)

***Amblyraja jenseni* (Bigelow & Schroeder 1950)** in honor of Danish zoologist Adolf Severin Jensen (1866–1953), Lund University, for contributions to the ichthyology of the North Atlantic

***Amblyraja radiata* (Donovan 1808)** Latin for rayed or radiated, referring to large spinous plates on body and tail, each with a radiated or stellate base

***Amblyraja reversa* (Lloyd 1906)** Latin for turned back (i.e., reversed), referring to pale coloration on dorsal surface and dark coloration on ventral surface

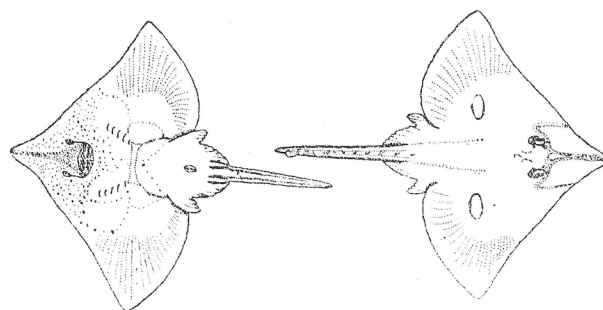
***Amblyraja taaf* (Meissner 1987)** abbreviation of *Terres australes et antarctiques françaises* (Territory of the French Southern and Antarctic Lands), a group of volcanic islands in the southwestern Indian Ocean, type locality

Beringraja

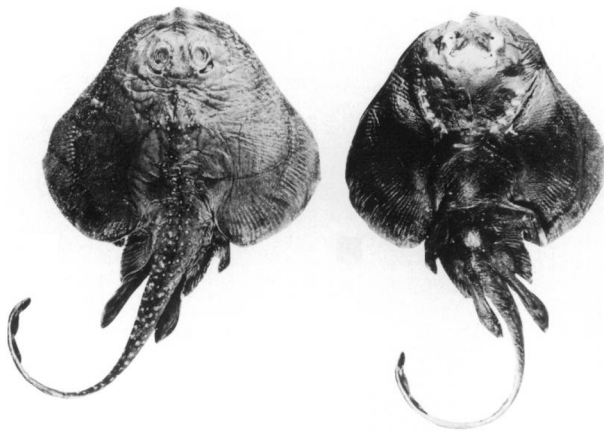
Ishihara, Treloar, Bor, Senou & Jeong 2012

named for the Bering Sea, where *B. binocularata* and *B. pulchra* are presumed to have originated since they are allopatrically distributed, one on each side of the sea; *raja*, from *raia* (L.), ray or skate

***Beringraja binocularata* (Girard 1855)** *bi-*, from *bis* (L.), twice; *ocularata*



Beringraja pulchra, ventral (left) and dorsal (right) views. From: Liu, F. H. 1932. The elasmobranchiate fishes of North China. The Science reports of National Tsing Hua University. Series B: Biological and psychological sciences. 1 (5): 133–177, Pl. 1–6.



Breviraja nigriventris, dorsal (left) and ventral (right) views, holotype, 402 mm TL. From: McEachran, J. D. and R. E. Matheson, Jr. 1985. Polychromatism and polymorphism in *Breviraja spinosa* (Elasmobranchii, Rajiformes), with description of three new species. Copeia 1985 (4): 1035–1052.

(L.), eyed, referring to prominent eyespot at base of each pectoral fin

***Beringiraja pulchra* (Liu 1932)** Latin for beautiful or lovely, allusion not explained, perhaps referring to Liu's opinion of its coloration, described as "Prout's-brown" (i.e., dark olive-brown) above and "Wood-brown" below with two "Burnt Umber" oblong rings (ocelli) on pectorals

Breviraja

Bigelow & Schroeder 1948

brevi (L.), short, referring to short tip on rostral process of *B. colesi*; *raja*, from *raia* (L.), ray or skate

***Breviraja claramaculata* McEachran & Matheson 1985** *clarus* (L.), clear or bright; *maculata* (L.), spotted, referring to light-colored spots on dorsal surface

***Breviraja colesi* Bigelow & Schroeder 1948** patronym not identified, possibly in honor of angler and amateur elasmobranch biologist Russell J. Coles (1865–1928)

***Breviraja mouldi* McEachran & Matheson 1995** in honor of Brian Mould, University of Nottingham (England), who told the authors that their original (1985) name for this species was preoccupied by *Breviraja* (= *Bathyraja*) *schroederi* Krefft 1968

***Breviraja nigriventralis* McEachran & Matheson 1985** *nigra* (L.), black or dark; *ventralis* (L.), of the belly, referring to uniformly black ventral coloration in life

***Breviraja spinosa* Bigelow & Schroeder 1950** Latin for thorny, referring to 3–4 irregular rows of large, conspicuous thorns along middle of disc

Caliraja

Ebert 2022

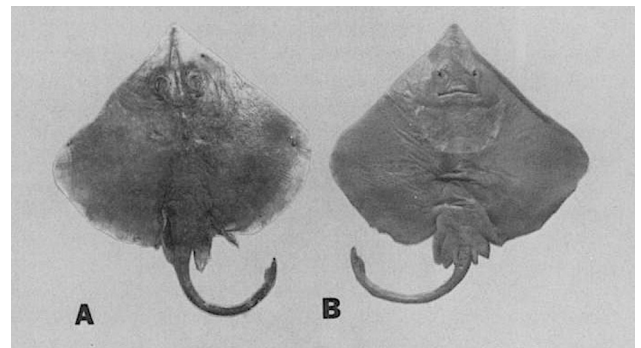
Cali-, referring to state of California (USA) and Gulf of California (Baja California, Mexico), the regions where the types of all four recognized species were described; *raja*, from *raia* (L.), ray or skate

***Caliraja cortezensis* (McEachran & Miyake 1988)** *-ensis*, Latin suffix denoting place: Sea of Cortez (Gulf of California), where it is endemic

***Caliraja inornata* (Jordan & Gilbert 1881)** Latin for unadorned, presumably referring to much smaller prickles (and hence smoother body) compared with much larger prickles of *C. rhina*

***Caliraja rhina* (Jordan & Gilbert 1880)** according to Jordan & Evermann (1896),¹ name has a double meaning: *rhinē* (Gr. ῥίνη), rasp, and *rhinós* (Gr. ῥινός), genitive of *rhís* (ῥίς), nose, referring to its body prickles, which are largest and most stellate on its very long snout

¹ Jordan, D. S. and B. W. Evermann. 1896. The fishes of North and Middle America: a descriptive catalogue of the species of fish-like vertebrates found in the waters of North America, north of the Isthmus of Panama. Part I. Bulletin of the United States National Museum No. 47: i–lx + 1–1240.



Caliraja cortezensis, paratype, juvenile male, 204 mm TL. (A) dorsal view. (B) ventral view. From: McEachran, J. D. and T. Miyake. 1988. A new species of skate from the Gulf of California (Chondrichthyes, Rajoidei). Copeia 1988 (4): 877–886.

***Caliraja stellulata* (Jordan & Gilbert 1880)** Latin for starred or starry, referring to numerous star-shaped prickles covering dorsal surface

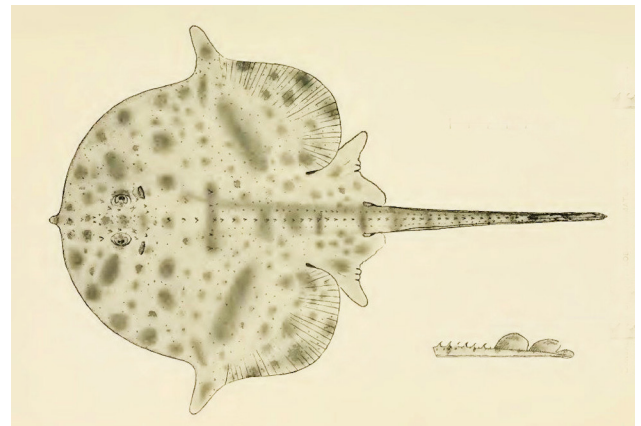
Dactylobatus

Bean & Weed 1909

dáktylos (Gr. δάκτυλος), finger, referring to how 6–7 middle pectoral rays of *D. armatus* form finger-like processes; *batus*, from *bátos* (Gr. βάτος) or *batís* (βατίς), a flat fish, usually applied to a skate or ray

***Dactylobatus armatus* Bean & Weed 1909** Latin for armed with a weapon, referring to double row of sharp, hooked spines on ventral surface, a "peculiar armament"

***Dactylobatus clarkii* (Bigelow & Schroeder 1958)** in honor of British marine biologist and explorer Robert S. Clark (1882–1950), for his 1926 revision of European skates and rays



Dactylobatus armatus. From: Bean, B. A. and A. C. Weed. 1909. Description of a new skate (*Dactylobatus armatus*) from deep water off the southern Atlantic coast of the United States. Proceedings of the United States National Museum 36 (1682): 459–461, Pl. 38.

Dentiraja

Whitley 1940

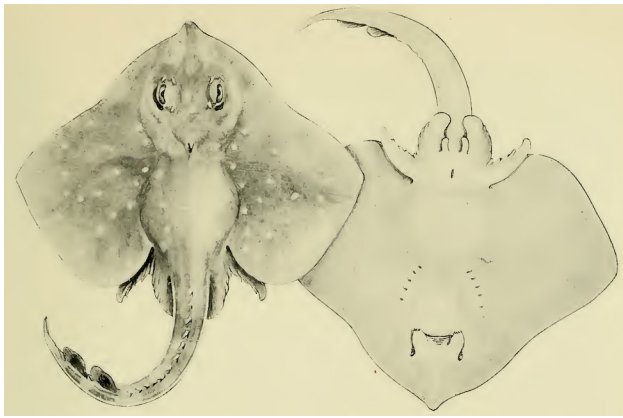
dentis, genitive of *dens* (L.), tooth, proposed as a subgenus of *Raja* referring to numerous denticles embedded in skin of *Raja dentata* (= *Dentiraja lemprieri*)

***Dentiraja australis* (Macleay 1884)** Latin for southern, this being the first time Macleay has encountered a "true" skate (i.e., *Raja* and its relatives) in Port Jackson, Australia

***Dentiraja cerva* (Whitley 1939)** Latin for doe, allusion not explained, possibly referring to deer-like coloration of female's dorsal surface, light tan to dark brown with distinct white spots

***Dentiraja confusa* (Last 2008)** Latin for confused, referring to previous confusion with two other Australasian skates, *D. cerva* and *D. nasutus*

***Dentiraja endeavouri* (Last 2008)** in honor of the "ill-fated F.I.S. Endeavour, the Federal fisheries survey vessel that was responsible for collecting the first specimens of this species and so many of Australia's continental shelf fishes in the early 20th century before it along with all



Dentiraja cerva, holotype, young male, 118 mm TL. Illustration by Mary Soady. From: Whitley, G. P. 1939. Taxonomic notes on sharks and rays. Australian Zoologist 9 (3): 227–262, Pls. 20–22.

hands was lost at sea in 1914”

***Dentiraja falloargus* (Last 2008) fallo** (L.), to cause to fall or to deceive; *Argus*, mythical hundred-eyed guardian of Io, whose eyes after death were transformed into the feathers of a peacock, referring to vague, eye-like marking on middle of each pectoral fin

***Dentiraja flindersi* Last & Gledhill 2008** of Flinders, referring to its distribution in the western warm temperate biogeographic region of Australia, otherwise known as the Flindersian Province

***Dentiraja healdi* (Last, White & Pogonoski 2008)** in honor of David Heald, Department of Fisheries Western Australia, who discovered this species off Western Australia in the early 1980s

***Dentiraja lemprieri* (Richardson 1845)** in honor of Deputy Assistant Commissary-General F. J. (actually Thomas James) Lempriere (1796–1852), German-born British public official, diarist and naturalist, “to whose exertions the Ichthyology of Van Diemen’s Land [Tasmania] is much indebted”

***Dentiraja oculus* (Last 2008)** Latin for eye, referring to eye-like marking on each pectoral fin [sometimes incorrectly spelled *oculata*]

Dentiraja polyommata* (Ogilby 1910) poly-** (Gr. πολύ), many; ***ómmata (Gr. ὄμματα), eyes, referring to numerous white-edged spots (ocelli) on dorsal surface

Dipturus

Rafinesque 1810

di- (Gr. prefix), from *dýo* (δύο), two; **pt-**, from *pterón* (Gr. πτερόν) or *ptéryx* (πτέρυξ), wing or fin; **urus**, from *ourá* (Gr. οὐρά), tail, referring to two rayed dorsal fins on tail

***Dipturus acrobelus* Last, White & Pogonoski 2008** from *akrobelés* (Gr. ἀκροβελής), pointed at the end, referring to long, angular snout and somewhat arrow-head shaped body

Dipturus amphispinus* Last & Alava 2013** ***amphi- (Gr. ἀμφί), on both sides or double; ***spinus***, from *spina* (L.), thorn, referring to two prominent rows of strongly tilted thorns that form a ridge on median disc

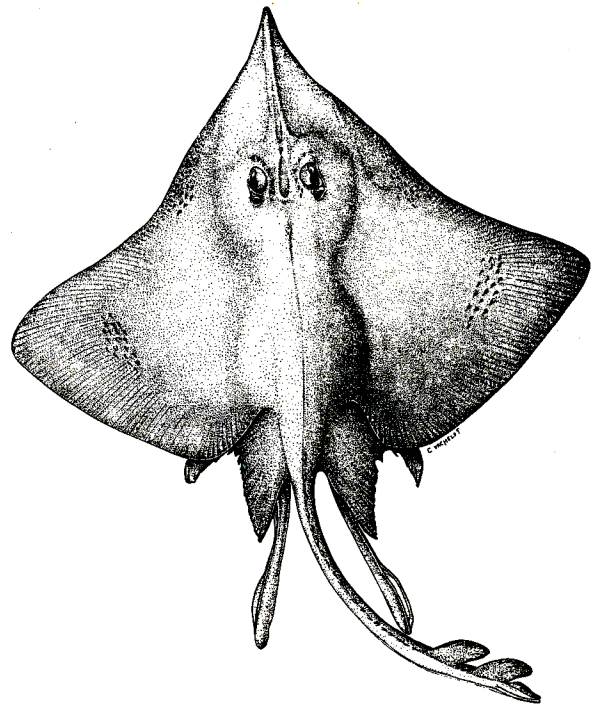
***Dipturus apricus* Last, White & Pogonoski 2008** Latin for exposed to the sun, a “cryptic reference” to its common name, Pale Tropical Skate

Dipturus argentinensis* Díaz de Astarloa, Mabragna, Hanner & Figueroa 2008** ***-ensis (L.), suffix denoting place: the Argentine Sea, South Atlantic Ocean, type locality

***Dipturus batis* (Linnaeus 1758) batis** (Gr. βατίς), a flat fish, usually applied to a skate or ray

Dipturus breviceaudatus* (Marini 1933) brevis** (L.), short; ***caudatus (L.), tailed, referring to short tail, (2.1–2.7 times in TL), shorter than the similar *Raja stabuliformis* (= *D. laevis*)

***Dipturus bullisi* (Bigelow & Schroeder 1962)** in honor of American



Dipturus crosnieri, holotype, adult male, 573 mm TL. From: Séret, B. 1989. Deep water skates of Madagascar. Part 3. Rajidae (Pisces, Chondrichthyes, Batoidea). *Raja* (*Dipturus*) *crosnieri* sp. n. *Cybius* 13 (2): 115–130.

marine biologist Harvey R. Bullis, Jr. (1924–1992), for providing batoid fishes collected during cruises of U.S. Fish and Wildlife Service vessels in the Gulf of Mexico, Caribbean and along the South American coast

***Dipturus campbelli* (Wallace 1967)** in honor of George Gordon Campbell (1893–1977), South African physician and naturalist, “instrumental” in the establishment of the South African Marine Biological Association

***Dipturus canutus* Last 2008** Latin for gray or ash-colored, referring to its almost uniformly gray dorsal coloration

***Dipturus chilensis* (Guichenot 1848) -ensis**, Latin suffix denoting place: Valparaíso Bay, central Chile, type locality

***Dipturus chinensis* (Basilewsky 1855) -ensis**, Latin suffix denoting place: northern China, “Oriental Sea,” type locality

***Dipturus crosnieri* (Séret 1989)** in honor of French carcinologist Alain Crosnier (1930–2021), who initiated the deep trawling surveys off Madagascar in the 1970s, and who entrusted Séret with his valuable collection of Madagascar skates

***Dipturus doutrei* (Cadenat 1960)** in honor of Michel-Pierre Doutre, French veterinary surgeon, Labaortoire National de l’Élevage et de Recherches Vétérinaires, (Dakar, Senegal) and chief fisheries officer for Senegal, off the coast of which this skate occurs²

***Dipturus ecuadoriensis* (Beebe & Tee-Van 1941) -ensis**, Latin suffix denoting place: San Helena Bay, Ecuador, type locality

***Dipturus garricki* (Bigelow & Schroeder 1958)** in honor of J. A. F. (Jack) Garrick (1928–2018), New Zealand shark biologist, for his work on the elasmobranchs of New Zealand

***Dipturus gigas* (Ishiyama 1958) gigas** (Gr. γίγας), giant, being the largest member of a *Raja* subgenus Ishiyama named *Tengujei* (now a junior synonym of *Dipturus*)

***Dipturus grahami* Last 2008** in honor of two unrelated ichthyologists, Alastair Graham (b. 1964), collection manager at CSIRO (Australia’s Commonwealth Scientific and Industrial Research Organisation), and

² Doutre named a cod after Cadenat, *Merluccius polli cadenati*, the same year.

Ken Graham (b. 1947), Fisheries Biologist, New South Wales Department of Primary Industries, for their “very important but very different” contributions to the knowledge of Australian sharks and rays [preferably spelled *grahamorum* since name honors more than one person, but ICZN 32.5.1 forbids such a correction]

***Dipturus gudgeri* (Whitley 1940)** in honor of American ichthyologist Eugene Willis Gudger (1866–1956), American Museum of Natural History (New York), “in appreciation of his work on fishes and their bibliography”

***Dipturus innominatus* (Garrick & Paul 1974)** *in-* (L. prefix indicating a negation), e.g., not or un-; *nominatus* (L.), named, referring to its not having a name even though it had been known since at least 1953

***Dipturus intermedius* (Parnell 1837)** Latin for intermediate, presumably referring to its being intermediate in form between *D. batis* and *D. oxyrinchus*

***Dipturus johannisdavisi* (Alcock 1899)** in honor of the “celebrated Elizabethan navigator and explorer John Davis [ca. 1550–1605] who — though best known for his Arctic voyages — piloted three expeditions to the East Indies and lost his life in Indian Seas”

***Dipturus kwangtungensis* (Chu 1960)** *-ensis*, Latin suffix denoting place: off the coast of Guangdong (=Kwangtung) Province, China, its type locality in the South China Sea

***Dipturus laevis* (Mitchill 1818)** from *levis* (L.), smooth, referring to smooth (or relatively smooth) dorsal surface

***Dipturus lanceorostratus* (Wallace 1967)** *lanceola* (L.), small spear; *rostratus* (L.), beaked, probably referring to long, acutely pointed snout

***Dipturus leptocauda* (Krefft & Stehmann 1975)** *leptós* (Gr. λεπτός), thin; *cauda* (L.), tail, referring to longer and thinner tail compared with shorter and broader tails of some congeners

***Dipturus macrocauda* (Ishiyama 1955)** *macro-*, from *makrós* (Gr. μακρός), long or large; *cauda* (L.), tail, a possible misnomer since Ishiyama described the tail as short and “stumpy”; perhaps he was referring to the “enormously large” electric organ that makes the middle of the tail thicker

***Dipturus maugeanus* (Last & Gledhill 2007)** *-anus* (L.), belonging to: Maugean Province, Australian cool temperate biogeographic region where this skate is a keystone species

***Dipturus melanospilus* Last, White & Pogonoski 2008** *mélanos* (Gr. μέλανος), genitive of *mélas* (Gr. μέλας), black; *spilos* (Gr. σπῖλος), mark or spot, referring to distinctive black margin on outer half of the anterior or ventral disc in juveniles (less distinct in adults)

***Dipturus mennii* Gomes & Paragó 2001** in honor of ichthyologist Roberto Carlos Menni, Universidad Nacional de La Plata (Argentina), for his contributions to the study of South American rays

***Dipturus nasutus* (Banks 1841)** Latin for large-nosed, referring to its produced snout [authorship often attributed to Müller & Henle, who published Banks’ manuscript]

***Dipturus nidarosiensis* (Storm 1881)** *-ensis*, Latin suffix denoting place: Nidaros, name of Trondheim during the Middle Ages, referring to Trondheim Fjord, Norway, type locality

***Dipturus olseni* (Bigelow & Schroeder 1951)** in honor of Danish-American ichthyologist Yngve H. Olsen (1905–2000), assistant editor of the authors’ “Fishes of the Western North Atlantic” monographs, for his “excellent editorial work”

***Dipturus oregoni* (Bigelow & Schroeder 1958)** in honor of the U.S. Fish and Wildlife Service vessel *Oregon*, for its fishery explorations of the Gulf of Mexico and the Caribbean Sea

***Dipturus oxyrinchus* (Linnaeus 1758)** *oxýs* (Gr. ὀξύς), sharp or pointed; *rinchus*, from *rhýnchos* (Gr. ῥύγχος), snout, referring to its long and sharp snout

***Dipturus pullopunctatus* (Smith 1964)** *pullus* (L.), dark; *punctatus* (L.),

spotted, referring to small, dark brown to black spots scattered irregularly over dorsal surface

***Dipturus queenslandicus* Last, White & Pogonoski 2008** *-icus* (L.), belonging to: Queensland, referring to its regional geographical range

***Dipturus springeri* (Wallace 1967)** in honor of American ichthyologist Stewart Springer (1906–1991), Chief Scientist on Cruise 8 of the International Indian Ocean Expedition (which collected holotype), for his elasmobranch studies

***Dipturus stenorhynchus* (Wallace 1967)** *sténos* (Gr. στένος), narrow; *rhýnchos* (Gr. ῥύγχος), snout, referring to it “long wedge-shaped” snout

***Dipturus teevani* (Bigelow & Schroeder 1951)** in honor of zookeeper John Tee Van (1897–1967), for his “helpful assistance” as editor-in-chief of the authors’ “Fishes of the Western North Atlantic” monographs (he later became Director of both the Bronx Zoo and the Coney Island Aquarium in New York City)

***Dipturus tengu* (Jordan & Fowler 1903)** named for Tengii or Tegu, a comical being in Japanese mythology with a very long nose, which he thrusts into the business of other people, referring to this skate’s greatly produced snout

***Dipturus trachyderma* (Krefft & Stehmann 1975)** *trachýs* (Gr. τραχύς), rough or jagged; *dérma* (Gr. δέρμα), skin, referring to very coarse dermal denticles on dorsal and ventral surfaces

***Dipturus wengi* Séret & Last 2008** in honor of Herman Ting-Chen Weng, Queensland (Australia) fisheries biologist, “who showed an enthusiastic interest in skates and collected the first validated Australian specimens of this species in 1983”

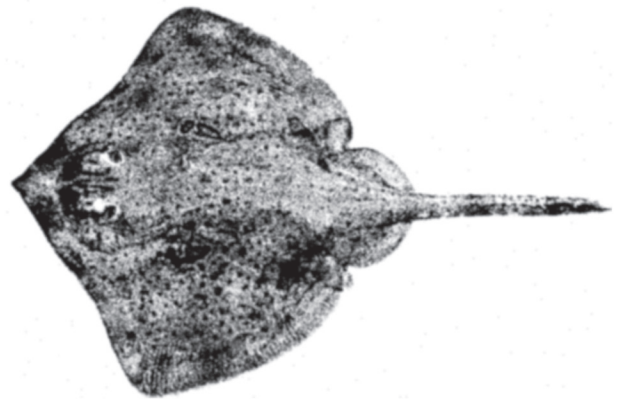
***Dipturus wuhanlingi* Jeong & Nakabo 2008** in honor of Wu Han-Lin, Shanghai Ocean University (Shanghai, China), for his “great contributions” to Chinese ichthyology

Hongoe

Jeong & Nakabo 2009

hong-eo, Korean common name for skates

***Hongoe koreanus* (Jeong & Nakabo 1997)** *-anus* (L.), belonging to: Pacific waters off South Korea, type locality



Hongoe koreanus, holotype, adult female, 735 mm TL. From: Jeong, C.-H. and T. Nakabo. 1997. *Rajella koreanus*, a new species of skate (Elasmobranchii, Rajoidae) from Korea. Ichthyological Research 44 (4): 413–420.

Leucoraja

Malm 1877

leuco-, from *leukós* (Gr. λευκός), white, referring to pale color of *L. fulionica* and *L. lineata* (=Rajella lineata); *raja*, from *raia* (L.), ray or skate

***Leucoraja circularis* (Couch 1838)** Latin for round, referring to the disc’s “great tendency to circularity” compared with the sympatric *Raja* (=Dipturus) *oxyrinchus*, which is broadly rhombic

***Leucoraja compagnoi* (Stehmann 1995)** in honor of American ichthyologist Leonard J. V. Compagno (b. 1943), for his “fundamental contributions to chondrichthyan systematics, mainly on sharks, and his research



Leucoraja elaineae, holotype, female, 318 mm TL. From: Ebert, D. A. and R. W. Leslie. 2019. *Leucoraja elaineae* sp. nov., a new rough skate (Rajiformes: Rajidae) from the Western Indian Ocean. *Zootaxa* 4691 (3): 225–234.

devoted to South African chondrichthyan”

***Leucoraja elaineae* Ebert & Leslie 2019** in honor of Elaine Heemstra, South African Institute for Aquatic Biodiversity, for her “enormous contributions in illustrating marine fishes, mostly from the Western Indian Ocean” (her husband, ichthyologist Phillip C. Heemstra [1941–2019], collected holotype in 1980)

***Leucoraja erinaceus* (Mitchill 1825)** Latin for hedgehog, referring to how the specimen Mitchill examined, which curled its tail under its body, arched its back and presented its “armature and prickles,” resembled a hedgehog [often misspelled as an adjective, *erinacea*]

***Leucoraja fullonica* (Linnaeus 1758)** *-ica* (L. suffix), belonging to: fuller (L. *fullo*), one who fulls (cleanses, scours and presses) woolen cloth using a tool equipped with iron spikes, referring to this skate’s rough and spiny dorsal surface, like a fuller’s tool

***Leucoraja garmani* (Whitley 1939)** in honor of American ichthyologist-herpetologist Samuel Garman (1843–1927), Harvard University, who described this skate as *Raja ackleyi ornata* in 1881 but used a preoccupied name (*Raia ornata* Agassiz 1843 in fossil fishes)

***Leucoraja garmani caribbaea* (McEachran 1977)** named for its Caribbean distribution, from Quintana Roo (Mexico) to Nicaragua [possibly a junior synonym of *L. yucatanensis*]

***Leucoraja garmani virginica* (McEachran 1977)** *-ica* (L.), belonging to: Virginia (USA), referring to its distribution largely off the coast of Virginia, from Cape Hatteras (North Carolina) to Nantucket Shoals (Massachusetts)

***Leucoraja lentiginosa* (Bigelow & Schroeder 1951)** Latin for full of freckles, referring to dense, small, dark, light brown and whitish spots on dorsal surface

***Leucoraja leucosticta* (Stehmann 1971)** *leuco-*, from *leukós* (Gr. λευκός), white; *sticta*, from *stiktós* (Gr. στικτός), spotted or tattooed, referring to relatively indistinct pale blotching on upper disc in contrast to clearly defined, small circular white spots in symmetric pattern of *L. circularis*

***Leucoraja melitensis* (Clark 1926)** *-ensis*, Latin suffix denoting place: Melite, ancient Greek name for Malta, type locality

***Leucoraja naevus* (Müller & Henle 1841)** Latin for mark or spot, probably referring to large black eye-spot in middle of each pectoral fin

***Leucoraja ocellata* (Mitchill 1815)** Latin for having little eyes (ocelli), referring to large white ocellus usually (but not always) near posterior angle of each pectoral fin

***Leucoraja pristispina* Last, Stehmann & Séret 2008** *pristis*, from *prío* (Gr. πρίω) or *prizō* (πρίζω), to saw, or from *prístēs* (πρίστης), sawyer (authors say it means, simply, saw, i.e., Sawback Skate); *spina* (L.), thorn, referring to rows of thorns along midline of disc and tail

***Leucoraja wallacei* (Hulley 1970)** in honor of John H. Wallace (ca. 1921–ca. 1986), Oceanographic Research Institute (Durban), who reported this species as *Raja* (now *Rajella*) *barnardi* in 1967 (Wallace’s 1967 study of east coast South African rajiform fishes is a companion to Hulley’s study covering the west and south coasts)

***Leucoraja yucatanensis* (Bigelow & Schroeder 1950)** *-ensis*, Latin suffix denoting place: off the northeastern slope of Yucatán, Mexico, type locality

Malacoraja

Stehmann 1970

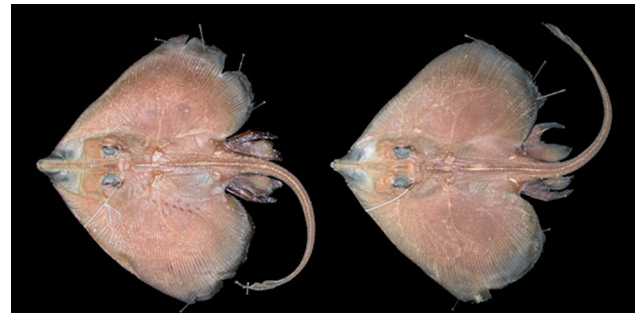
malaco-, from *malakós* (Gr. μαλακός), soft, referring to dense, velvet-like covering of fine dermal denticles on upper surface of *Raja mollis* (= *Malaoraja spinacidermis*); *raja*, from *raia* (L.), ray or skate

***Malacoraja krefftii* (Stehmann 1978)** in honor of German ichthyologist Gerhard Krefft (1912–1993), Institut für Seefischerei (Hamburg), for his numerous publications on zoogeography and taxonomy of cartilaginous fishes (particularly the Rajidae) and Atlantic meso- and bathypelagic bony fishes; for his leadership of the Ichthyology Group of the Institute of Sea Fisheries and its extensive scientific fish reference collection; and for his knowledge and encouragement during more than 10 years of collaboration with Stehmann

***Malacoraja obscura* Carvalho, Gomes & Gadig 2005** Latin for dark or indistinct, referring to subtle nature of differences separating this species from its congeners

***Malacoraja senta* (Garman 1885)** presumably derived from *sentis* (L.), thorn, briar or bramble, referring to numerous hooked spines of dorsal surface and in front of each eye

***Malacoraja spinacidermis* (Barnard 1923)** *spina* (L.), thorn; *akis* (Gr. ἀκίς), point or barb; *dérma* (Gr. δέρμα), skin, referring to fine, closely-set spinules on entire upper surface of disc and upper and lateral surfaces of tail



Malacoraja obscura, paratypes, smaller males, 355 mm TL (left) and 295 mm TL (right). From: Carvalho, M. R. de, U. L. Gomes and O. B. F. Gadig. 2005. Description of a new species of skate of the genus *Malacoraja* Stehmann, 1970: the first species from the southwestern Atlantic Ocean, with notes on generic monophyly and composition (Chondrichthyes: Rajidae). *Neotropical Ichthyology* 3 (2): 239–258.

Neoraja

McEachran & Compagno 1982

néos (Gr. νέος), i.e., a new genus of *Raja*

***Neoraja africana* (Stehmann & Séret 1983)** *-ana* (L.), belonging to: Africa, referring to type locality off Central West Africa, which geographically links its presumed congeners in *Breviraja* from the north-eastern and southeastern Atlantic

***Neoraja caerulea* (Stehmann 1976)** Latin for dark blue, referring to blue-purple color of dorsal surface, obvious at first glance in trawl catches and even persistent for a long time after preservation in formalin and ethanol

***Neoraja carolinensis* McEachran & Stehmann 1984** *-ensis*, Latin suffix denoting place: Carolinian Province of the Western North Atlantic, type locality

***Neoraja iberica* Stehmann, Séret, Costa & Baro 2008** *-ica* (L.), belonging to: Iberian Peninsula of Portugal and Spain

***Neoraja stehmanni* (Hulley 1972)** in honor of German ichthyologist (and specialist in skates and rays) Matthias Stehmann (b. 1943), Institut für Seefischerei (Hamburg)



Neoraja iberica, holotype, mature male, 322 mm TL. From: Stehmann, M. F. W., B. Séret, E. M. Costa and J. Baro. 2008. *Neoraja iberica* n. sp., a new species of pygmy skate (Elasmobranchii, Rajidae) from the southern upper slope of the Iberian Peninsula (Eastern North Atlantic). *Cybius* 32 (1): 51–71.

Okamejei

Ishiyama 1958

Okame, Japanese vernacular for a “female with low-nose,” proposed as a subgenus of *Raja* distinguished in part by a “relatively shorter snout”; *jei*, Japanese for skate and ray

Okamejei acutispina (Ishiyama 1958) *acutus* (L.), sharp or pointed; *spina* (L.), thorn, allusion not explained, presumably referring to its nuchal and/or tail spines

Okamejei arafurensis Last & Gledhill 2008 *-ensis*, Latin suffix denoting place: Arafura Sea, referring to its distribution from southwest of Scott Reef (Western Australia), north to the Arafura Sea off the Northern Territory

Okamejei boesemani (Ishihara 1987) in honor of Dutch ichthyologist Marinus Boeseman (1916–2006), Leiden University (Netherlands), without whom Ishihara would not have been aware of problems in the systematics of Japanese *Raja*

Okamejei cairae Last, Fahmi & Ishihara 2010 in honor of Canadian parasitologist Janine Cairn (b. 1957), University of Connecticut, who coordinated the collection of important chondrichthyan material in Borneo, including most of the type series of this species, during her “quest” to describe the metazoan parasites of these animals

Okamejei heemstrai (McEachran & Fechhelm 1982) in honor of American-born South African ichthyologist Phillip C. Heemstra (1941–2019), Rhodes University (Grahamstown), who furnished specimens of the new species and for being “extremely cooperative” in supplying the authors with elasmobranch material from South Africa

Okamejei hollandi (Jordan & Richardson 1909) in honor of Jamaican-born American zoologist-paleontologist William J. Holland (1848–1932), Director of the Carnegie Museum, for supporting the authors’ study of Taiwanese fishes

Okamejei kenojei (Bürger 1841) *keno-ei*, Japanese name for this skate [authorship often attributed to Müller & Henle, who published Bürger’s description]

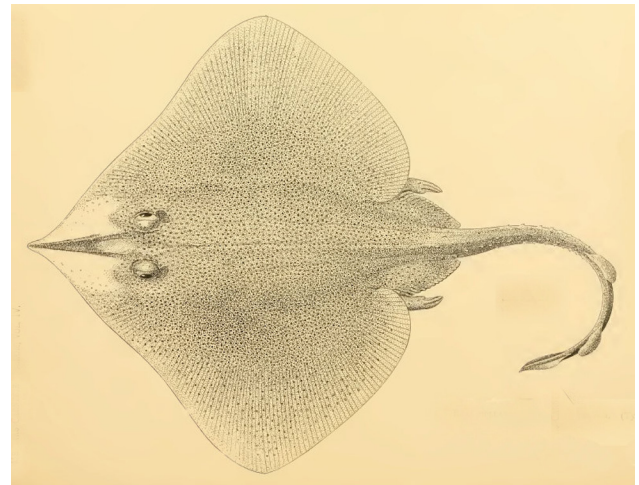
Okamejei leptoura Last & Gledhill 2008 *leptós* (Gr. λεπτός), thin; *oura* (Gr. οὐρά), tail, referring to its thin, somewhat filamentous tail

Okamejei meerdervoortii (Bleeker 1860) in honor of Johannes Lijdius Catharinus Pompe van Meerdervoort (1829–1908), Dutch physician based in Nagasaki, Japan, who collected fishes for Bleeker

Okamejei mengae Jeong, Nakabo & Wu 2007 in honor of Qing-Wen Meng, President, Shanghai Fisheries College (now Shanghai Ocean University, Shanghai, China), for her “great” contributions to elasmobranch studies in China

Okamejei ornata Weigmann, Stehmann & Thiel 2015 Latin for adorned or decorated (i.e., ornate), referring to dorsal color pattern of dark brown spots encircled with beige pigment and arranged into rosettes

Okamejei panayensis Misawa, Babaran & Motomura 2022 *-ensis*, Latin suffix denoting place: Panay Island, Philippines, type locality



Okamejei hollandi, holotype, female. From: Jordan, D. S. and R. E. Richardson. 1909. A catalog of the fishes of the island of Formosa, or Taiwan, based on the collections of Dr. Hans Sauter. *Memoirs of the Carnegie Museum* 4 (4): 159–204, Pls. 63–74.

Okamejei picta Ng, Ho, Joung & Liu 2023 Latin for painted or colored, referring to the densely distributed black spots on the contrasting yellowish-brown dorsal disc

Okamejei schmidtii (Ishiyama 1958) patronym not identified, presumably in honor of Soviet ichthyologist Petr Yulievich Schmidt (1872–1949), who identified this skate as *Raja fusca* (= *O. kenojei*) in 1931

Orbiraja

Last, Weigmann & Dumale 2016

orbis (L.), ring or circle, referring to paired, ring-like pectoral-fin ocelli in all three species; *raja*, from *raia* (L.), ray or skate

Orbiraja jensene (Last & Lim 2010) in honor of cestode parasitologist Kirsten Jensen, University of Kansas (USA), for her field surveys of Bornean fish markets, during which she captured digital images of chondrichthyan specimens for a field guide to the sharks and rays of Borneo



Orbiraja jensene, holotype, female, 488 mm TL. From: Last, P. R. and A. P. K. Lim. 2010. A new species of skate *Okamejei jensene* sp. nov. (Rajidae: Rajidae) from the seas off Borneo, with a redescription of the Kwangtung skate, *Dipturus kwangtungensis* (Chu). In: *Descriptions of new sharks and rays from Borneo*. CSIRO Marine and Atmospheric Research Paper No. 032: 101–114.

Orbiraja philipi (Lloyd 1906) patronym not identified, nor can identity be inferred based on available information

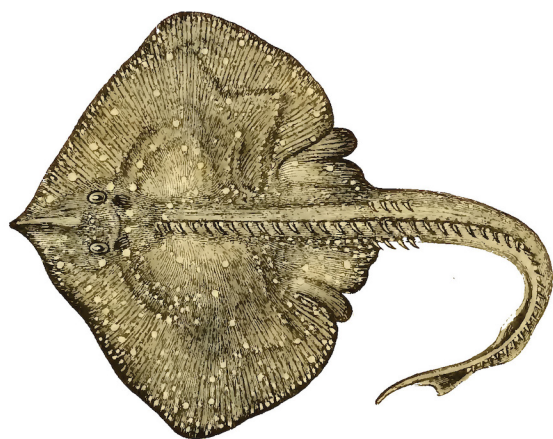
Orbiraja powelli (Alcock 1898) in honor of Lt. Frederick Thomas Powell (1806–1859) of the Indian Navy, “a colleague, in the old Marine Survey branch of the service, of Captain [Robert] Moresby,” hydrographer, maritime surveyor and draughtsman

Raja

Linnaeus 1758

from *raia*, Latin for ray or skate

Raja asterias Delaroche 1809 *asterias* (Gr. ἀστερίας), a starred or starry fish or bird, referring to its many small white spots, like stars in a night sky



Raja undulata. From: Lacepède, B. G. E. 1802. Histoire naturelle des poissons. v. 4: i–xliv + 1–728, Pl. 1–16.

***Raja brachyura* Lafont 1873** *brachys* (Gr. βραχύς), short; *ourá* (Gr. οὐρά), tail, referring to its thick, short tail

***Raja clavata* Linnaeus 1758** Latin for “furnished with nails,” presumably referring to numerous thorny spines on back

***Raja cyanoplax* Koerber & Kast 2023** *cyano-*, from *kýanos* (Gr. κύανος), dark blue; *phláx* (Gr. πλάξ), anything flat and broad (e.g., flat land, the ocean surface), in reference to Pampa Azul (Blue Pampa), a public research project launched by Argentina to assert the country’s geopolitical sovereignty claim over maritime territory [provisionally included here; replacement name for *Raja magellanica* Steindachner 1903, preoccupied by and possibly the same species as *Raja* (now *Bathyrāja*) *magellanica* Philippi 1902 in Arhynchobatidae]

***Raja herwig* Krefft 1965** eponym not identified, presumably named after research vessel *Walther Herwig*, from which holotype was collected, and not Walther Herwig (1838–1912), founder of German fisheries science, for whom research vessel was named

***Raja karagea* Tanaka 1927** from *same-karagea*, local name for this skate (and for *Bathyrāja isotrachys*) among fishermen of Kesen, Rikuzen Province, Japan

***Raja maderensis* Lowe 1838** *-ensis*, Latin suffix denoting place: Madeira, type locality

***Raja mauritaniensis* White & Fricke 2021** *-ensis*, Latin suffix denoting place: off Mauritania, between Cap Blanc and Cap Vert, type locality [replacement name for *R. africana* Capapé 1977, a junior homonym of *Raja africana* Bloch & Schneider 1801 (= *Urogymnus asperrimus*, Myliobatiformes: Dasyatidae)]

***Raja microocellata* Montagu 1818** *micro-*, from *mikrós* (Gr. μικρός), small; *ocellata* (L.), having little eyes, referring to its conspicuously small eyes

***Raja miraletus* Linnaeus 1758** Latinization of the French *mirallet*, mirror, presumably referring to mirror-like image of eyespots on both sides of pectoral fins

***Raja montagui* Fowler 1910** in honor of British naturalist George Montagu (1753–1815), who described this species (posthumously) in 1818 but used a preoccupied name, *Raja* (= *Narcine*) *maculata*

***Raja ocellifera* Regan 1906** *ocellus*, diminutive of *oculus* (L.), eye (but here meaning eyespot); *-fera* (L.), to carry or bear, referring to large, bluish-black white-edged ocellus near middle of each pectoral-fin base

***Raja parva* Last & Séret 2016** Latin for small, referring to small adult size compared to most congeners

***Raja pita* Fricke & Al-Hassan 1995** *pita*, a “tasty Arabian bread” with brown spots, referring to this skate’s pita-like shape and coloration

***Raja polystigma* Regan 1923** *poly-* (Gr. πολύ), many; *stigma* (Gr. στίγμα), spot, referring to numerous black spots on dorsal surface

***Raja radula* Delaroche 1809** Latin for scraper, referring to coarse spinules covering dorsal surface

***Raja straeleni* Poll 1951** in honor of Belgian paleontologist-carcinologist Victor van Straelen (1889–1964), Director, Royal Belgian Institute of Natural Sciences, and president of the non-profit organization (Mbizi) that sponsored expedition that collected holotype; in addition, he accompanied one of the expedition’s trawling cruises trawler off the mouth of the Congo

***Raja undulata* Lacepède 1802** Latin for wavy, referring to numerous undulating dusky streaks on dorsal surface

Rajella

Stehmann 1970

diminutive of *Raja*, referring to small size of type species *R. fyllae*

***Rajella annandalei* (Weber 1913)** in honor of British zoologist-anthropologist Thomas Nelson Annandale (1876–1924), Director, Indian Museum (Calcutta)

***Rajella barnardi* (Norman 1935)** in honor of English-born zoologist Keppel Harcourt Barnard (1887–1964), South African Museum; reason not given but likely for his 1925–27 monograph on South African marine fishes, which Norman repeatedly cited, for the loan of rays from the South African Museum, and/or for the “kindly interest” he has shown in Norman’s work

***Rajella bathyphila* (Holt & Byrne 1908)** *bathys* (Gr. βαθύς), deep; *phila*, from *philos* (Gr. φίλος), fond of, referring to its deepwater habitat (up to 2050 m)

***Rajella bigelowi* (Stehmann 1978)** in honor of the late Henry B. Bigelow (1879–1967), Woods Hole Oceanographic Institution, who, with William C. Schroeder, wrote numerous standard-setting publications on cartilaginous fishes, especially among the rajid fauna of the Western Atlantic; by resurrecting *R. bathyphila*, Bigelow and Schroeder provided the first comprehensive description and illustrations of this new species

***Rajella caudaspinosa* (von Bonde & Swart 1923)** *cauda* (L.), tail; *spinosa* (L.), thorny, referring to two belts of numerous, minute spines on sides of upper half of tail, and one single row of spines on lower half

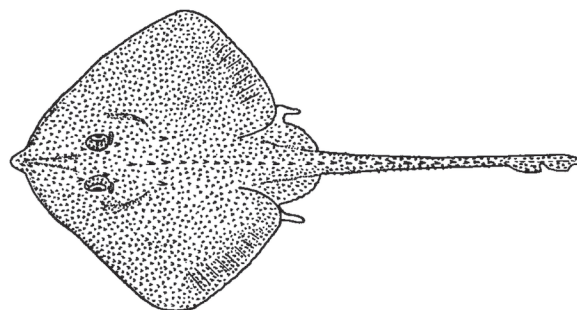
***Rajella challenger* Last & Stehmann 2008** in honor of the Tasmanian research vessel FRV *Challenger*, for its contributions to the knowledge of Australian deepwater demersal fishes

***Rajella dissimilis* (Hulley 1970)** Latin for unlike or dissimilar, the only skate in the southern Atlantic with a marked reduction or loss of mid-dorsal thorns from disc to tail

***Rajella eisenhardti* Long & McCosker 1999** in honor of E. Roy Eisenhardt (b. 1939), Director Emeritus of the California Academy of Sciences, for “generously” assisting the authors and their colleagues

***Rajella fuliginea* (Bigelow & Schroeder 1954)** Latin for sooty or painted black, referring to its “sooty chocolate to nearly black” ventral coloration

***Rajella fyllae* (Lütken 1887)** in honor of *Fylla*, Danish cruiser from which holotype was collected



Rajella nigerrima, holotype, young male, 175 mm TL. From: de Buen, F. 1960. Tiburones, rayas y quimeras en la estación de Biología Marina de Montemar, Chile. Revista de Biología Marina, Valparaíso 10 (1–3): 3–50, 13 unnumb. pls.

***Rajella kukujevi* (Dolganov 1985)** in honor of Russian ichthyologist Efim Izrailevich Kekuev (b. 1947, also spelled Kukujev and Kukuyev), Atlantic Scientific Research Institute of Marine Fisheries & Oceanography (AtlantNIRO)

***Rajella leoparda* (von Bonde & Swart 1923)** modified from *leopardus* (L.), leopard, referring to numerous dark brown, nearly black spots on tail and disc, the “whole effect [of which] resembles the appearance of a leopard skin”

***Rajella lintea* (Fries 1838)** Latin for “clothed in linen,” referring to pale or gray coloration, said to resemble a linen sail

***Rajella nigerrima* (de Buen 1960)** Latin for very black, referring to dark dorsal surface

***Rajella paucispinosa* Weigmann, Stehmann & Thiel 2014** *paucus* (L.), few; *spinosa* (L.), thorny, referring to small number of thorns on dorsal surface compared with congeners

***Rajella purpuriventralis* (Bigelow & Schroeder 1962)** *purpureus* (L.), purple; *ventralis* (L.), of the belly, referring to dark purple-to-black belly

***Rajella ravidula* (Hulley 1970)** presumably a diminutive of *ravidus* (L.), somewhat gray, referring to pale-gray dorsal surface

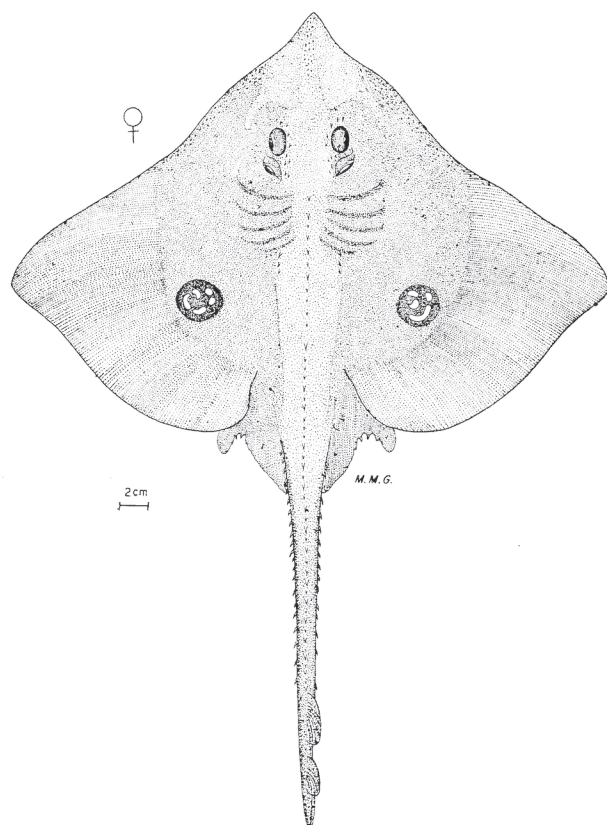
***Rajella sadowskii* (Krefft & Stehmann 1974)** in honor of Latvian-born ichthyologist Viktor Sadowski (1909–1990), Instituto Oceanográfico da Universidade de São Paulo (Brazil), whose works have considerably added to the knowledge of southwestern Atlantic elasmobranchs

Rostroraja

Hulley 1972

rostrum (L.), snout, referring to produced and elongate snout;
raja, from *raia* (L.), ray or skate

***Rostroraja ackleyi* (Garman 1881)** in honor of Lieut. Seth M. Ackley (1845–1908), United States Navy, “to whose energy and enthusiasm we were indebted for much valuable assistance”



Rostroraja velezi, holotype, female, 565 mm TL. Illustration by Matilde Méndez G. From: Chirichigno F., N. 1973. Nuevas especies de peces de los generos *Mustelus* (Fam. Triakidae), *Raja* (Fam. Rajidae) y *Schedophilus* (Fam. Centrolophidae). Informes, Especiales, Instituto del Mar del Perú. Callao No. 42: 1–40.

***Rostroraja alba* (Lacepède 1803)** Latin for white, referring to bright-white ventral surface

***Rostroraja bahamensis* (Bigelow & Schroeder 1965)** *-ensis*, Latin suffix denoting place: the Bahama Banks, type locality

***Rostroraja cervigoni* (Bigelow & Schroeder 1964)** in honor of Spanish-born Venezuelan ichthyologist Fernando Cervigón Marcos (1930–2017), Estacion de Investigaciones Marinas de Margarita, for the opportunity to describe the Venezuelan specimens

***Rostroraja eglanteria* (Bosc 1800)** *-ia* (L. suffix), having the quality of: *Rosa eglantina*, the Briar Rose or Eglantine, i.e., Eglantine -like, referring to small but very sharp spines covering dorsal surface

***Rostroraja equatorialis* (Jordan & Bollman 1890)** Latin for equatorial, referring to type locality off west coast of Colombia between Panama and the Galapagos Islands

***Rostroraja texana* (Chandler 1921)** *-ana* (L.), belonging to: Texas (USA), where type locality (off jetties in Galveston, Gulf of Mexico) is situated

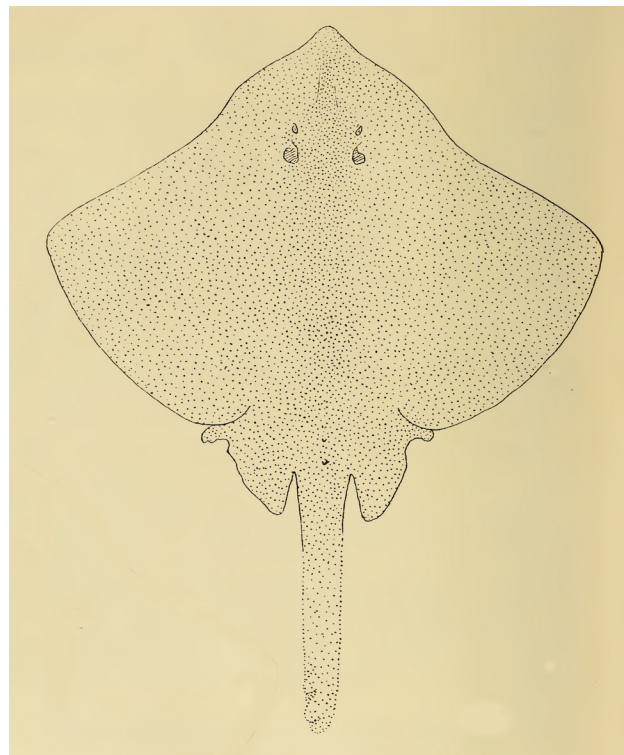
***Rostroraja velezi* (Chirichigno F. 1973)** in honor of Juan Vélez D., Instituto del Mar del Perú, for his dedication to ichthyology and for collaborating with Chirichigno F.

Spiniraja

Whitley 1939

spini-, from *spina* (L.), thorn, referring to how *Raja ogilbyi* (= *S. whitleyi*) “differs from true *Raja* in being very spiny above and below”; *raja*, from *raia* (L.), ray or skate

***Spiniraja whitleyi* (Iredale 1938)** in honor of British-born Australian ichthyologist and malacologist Gilbert Percy Whitley (1903–1975), as a replacement name for the preoccupied *Raja scabra* Ogilby, which Whitley had used in a recent article; “Mr. Whitley’s oversight,” wrote Iredale, “is the more remarkable as he and I pride ourselves that we carefully check all of our references many times, yet even with our meticulousness errors may slip through”



Possibly first-published illustration of *Spiniraja whitleyi*, as *Raja (Spiniraja) ogilbyi*, a junior synonym). Illustration by Gilbert Percy Whitley. From: Whitley, G. P. 1939. Taxonomic notes on sharks and rays. Australian Zoologist 9 (3): 227–262, Pls. 20–22.