

***Sepiolo ttrirostrata* Voss, 1962**

Fig. 245

Sepiolo ttrirostrata Voss, 1962a, *Proceedings of the Biological Society of Washington*, 75: 172 [type locality: Philippines].

Frequent Synonyms: None.

Misidentifications: None.

FAO Names: **En** – Knobby bobtail squid; **Fr** – Sépiole bosselée; **Sp** – *Sepiolo nudosa*.

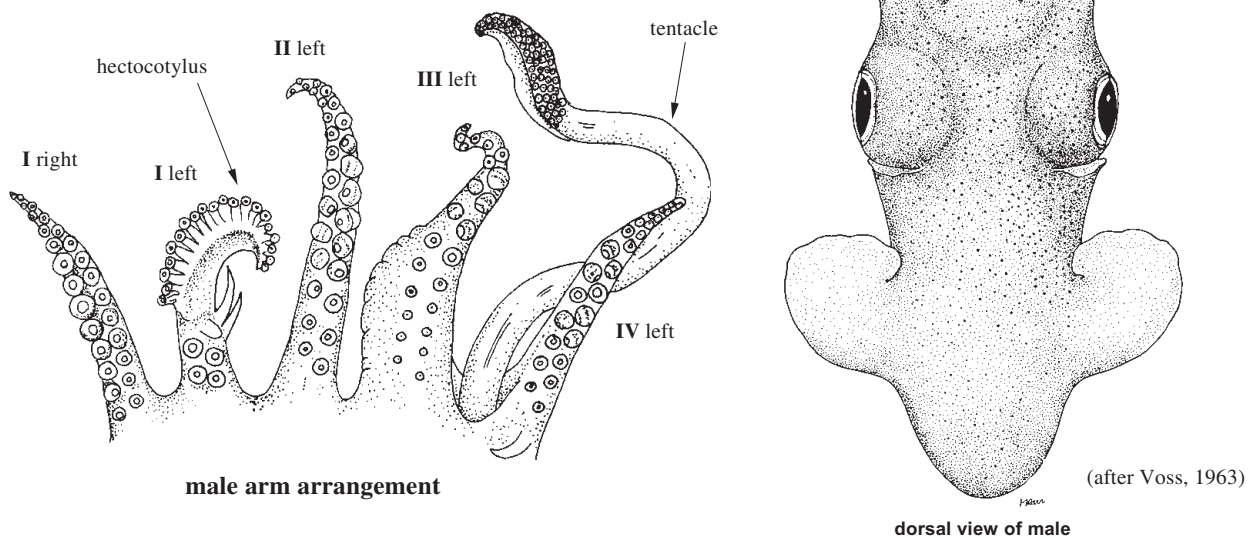


Fig. 245 *Sepiolo ttrirostrata*

Diagnostic Features: Fins short, do not exceed length of mantle anteriorly or posteriorly. Arms III in both sexes stout and strongly curved inward, more obviously so in males. Suckers in ventral series of right arm I and arms II of males larger than dorsal suckers. Hectocotylus present, left dorsal arm modified: proximal end with **2 slender fleshy papillae** (anteriormost papilla longest) and dorsolateral to these a **blunt tongue-like lobe**, all formed from enlarged and elongate sucker pedicels; 2 rows of suckers on arm proximal to fleshy pad; distal end of hectocotylized arm with sucker pedicels enlarged and tightly packed to form 2 double rows of columnar structures; suckers reduced with tiny, fleshy, slit-like openings. Club with 4 large suckers in transverse rows; suckers differ in size; dorsal marginal longitudinal series of suckers larger than those in ventral marginal series. Paired kidney-shaped light organs present inside mantle cavity on each side of ink sac. **Colour:** Mantle and head with many minute brown or black chromatophores; arms III deep pink, arms I to III each with single longitudinal row of large chromatophores, arms IV with double row of small chromatophores.

Size: Up to 12.5 mm mantle length.

Geographical Distribution: Indo-Pacific: Philippines, Singapore (Fig. 246).

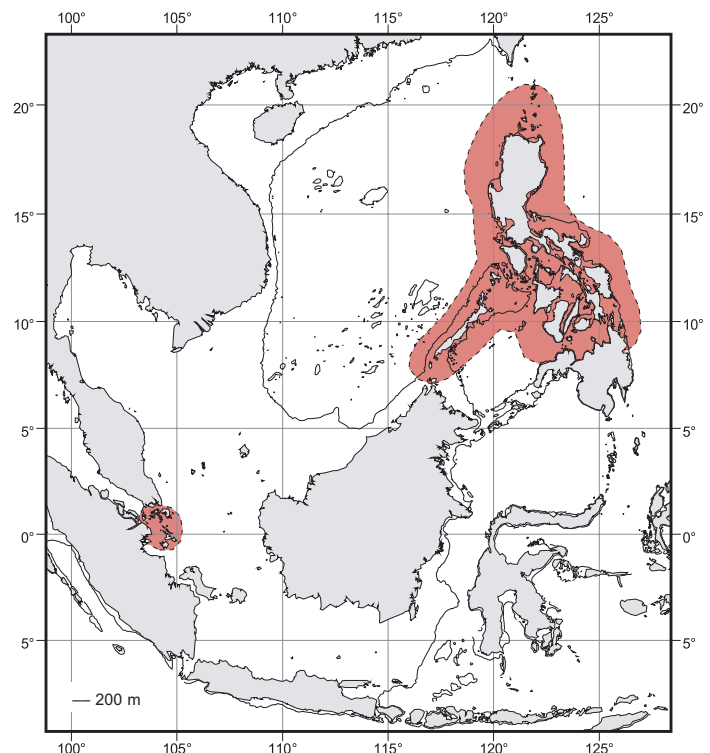


Fig. 246 *Sepiolo ttrirostrata*
 Known distribution

Interest to Fisheries: Presently undetermined.

Remarks: Differs from *S. birostrata* Sasaki, 1918 in the presence of the blunt, fleshy papilla, in addition to the 2 slender papillae on the hectocotylus. The slender papillae arise from a common mound-like base, while the third lobe arises separately. In this trait, *S. tirostrata* differs from those *S. birostrata* specimens that bear a third lobe on the hectocotylus.

Literature: Voss (1963).

***Euprymna berryi* Sasaki, 1929**

Fig. 247

Euprymna berryi Sasaki, 1929, *Journal of the College of Agriculture, Hokkaido Imperial University*, 20(supplement): 143 [type locality: Japan, Honshu].

Frequent Synonyms: None.

Misidentifications: None.

FAO Names: En – Humming-bird bobtail squid;
Fr – Sépiole colibri; Sp – Globito colibri.

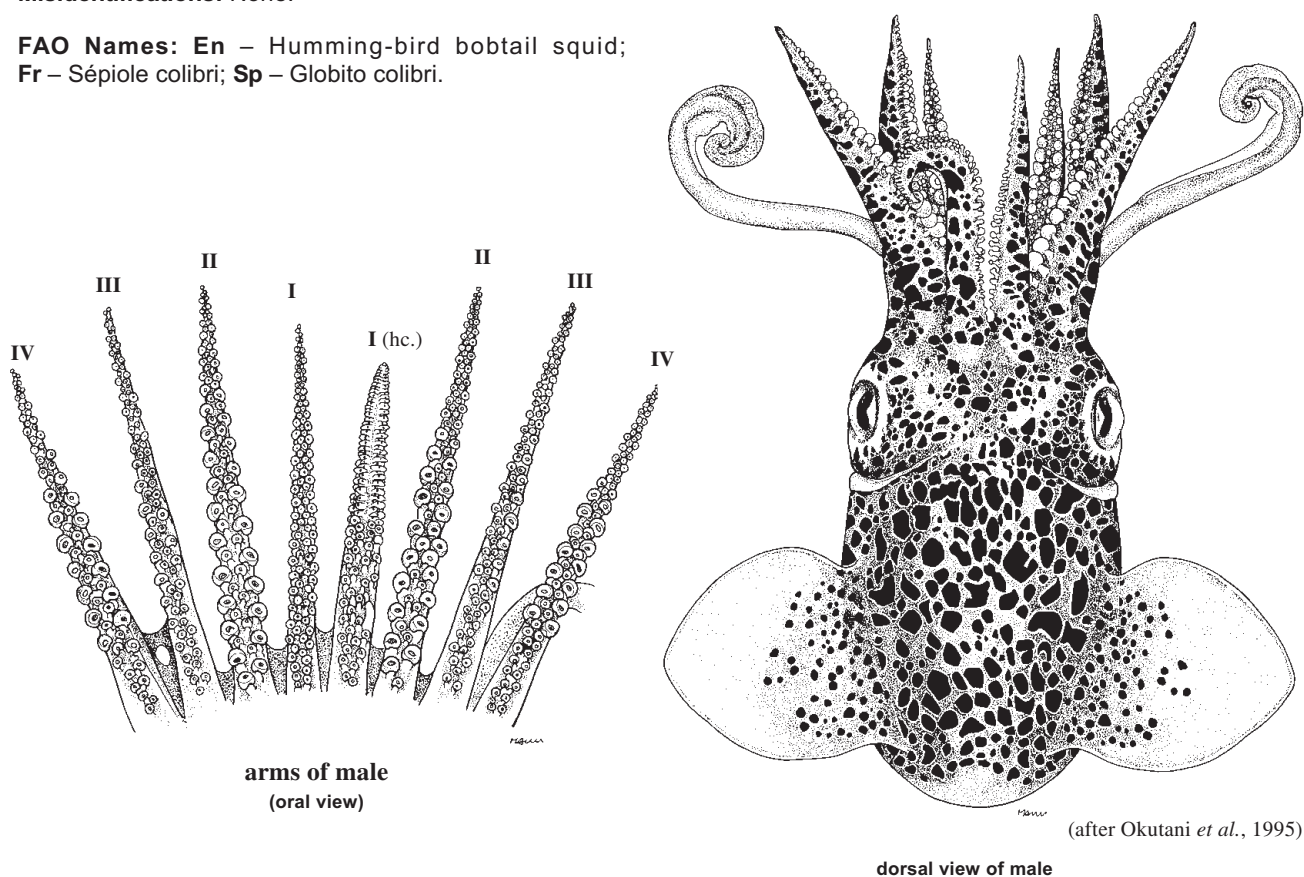


Fig. 247 *Euprymna berryi*

Diagnostic Features: Fins short, do not exceed length of mantle anteriorly or posteriorly. Non-hectocotylized arm sucker arrangement same in both sexes: arm suckers tetraserial. Male non-hectocotylized arm suckers enlarged on some arms: **arms II and IV with approximately 10 moderately enlarged suckers in dorsal and ventral rows from proximal second to fourth suckers; approximately 8 slightly enlarged suckers in ventral row of arm III from proximal fifth to eighth sucker.** Hectocotylus present; left dorsal arm modified: arm thick, short, and blunt; proximal end with 2 fleshy papillae formed from enlarged, or elongate sucker pedicels; distal end of hectocotylized arm with sucker pedicels enlarged and tightly packed forming 2 double rows of 70 to 80 columnar structures; suckers reduced with tiny, fleshy, slit-like openings. Marginal suckers on dorsal arms I are slightly larger than medial ones. Tentacular club suckers goblet-shaped. Swimming keel of club extends well beyond carpus.

Size: Males up to 30 mm mantle length; females up to 50 mm mantle length.

Geographical Distribution: Indo-Pacific: Along coasts of China, south to Hong Kong and Japan (but not in Hokkaido), Taiwan Province of China, possibly Andaman Islands and Sri Lanka (Fig. 248).

Habitat and Biology: Upper sublittoral and pelagic in warm temperate waters; depth range to 107 m. This species has been reared successfully in aquaculture experiments. Females lay clumps of round, pale orange eggs.

Interest to Fisheries: Consumed locally in China and Taiwan Province of China, where this species is abundant and sustains local small fisheries; currently not commercially exploited in Hong Kong.

Local Names: CHINA: Leung yee jai; JAPAN: Niyori-mimi-ika.

Remarks: The taxonomic status of members of this genus is largely unresolved (Norman and Lu 1997). *Euprymna berryi* is sympatric with, and very similar to *E. morsei* Verrill (1881). Non-quantitative differences between the 2 species include: among 4 rows of arm suckers, only the ventral rows are enlarged in *E. morsei* (particularly from third to fourth suckers on arms II to IV), but both dorsal and ventral arms have enlarged suckers in *E. berryi*; the club suckers are spherical, or cup-shaped in *E. morsei*, but goblet-shaped in *E. berryi*. The club suckers have an indistinct proximal border in *E. berryi*, while those in *E. morsei* have distinct borders.

Literature: Roper *et al.* (1984), Okutani and Horita (1987), Okutani (1995), Norman and Lu (1997), Kubodera and Yamada (1998), Lu (1998b).

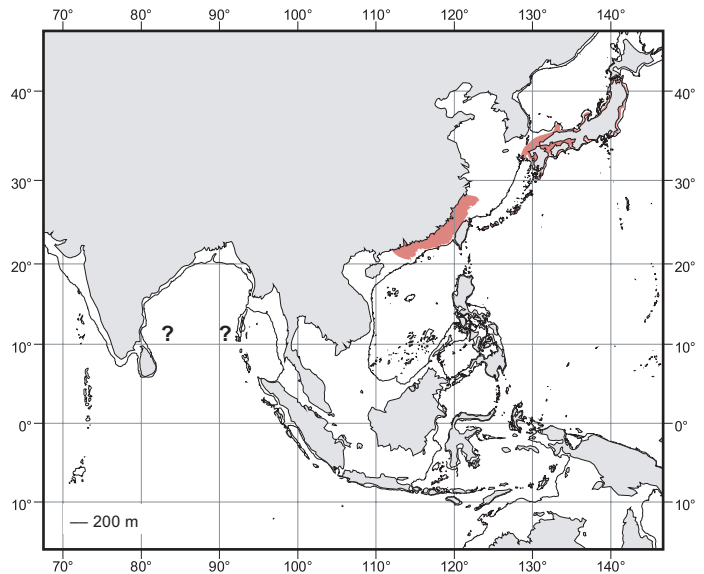


Fig. 248 *Euprymna berryi*

Known distribution

***Euprymna morsei* (Verrill, 1881)**

Fig. 249

Inioteuthis morsei Verrill, 1881, *Transactions of the Connecticut Academy of Sciences*, 5(6): 417 [type locality: Japan, Tokyo Bay].

Frequent Synonyms: None.

Misidentifications: None.

FAO Names: En – Mimika bobtail squid; Fr – Sépiole mimika; Sp – Globito mimika.

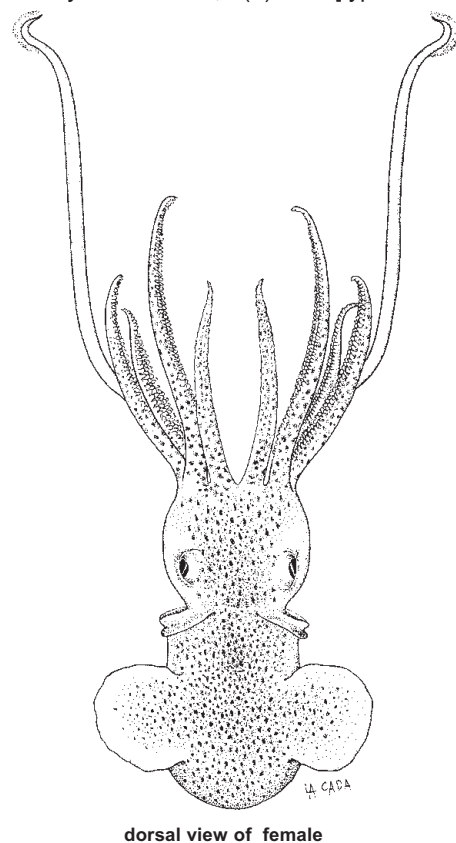
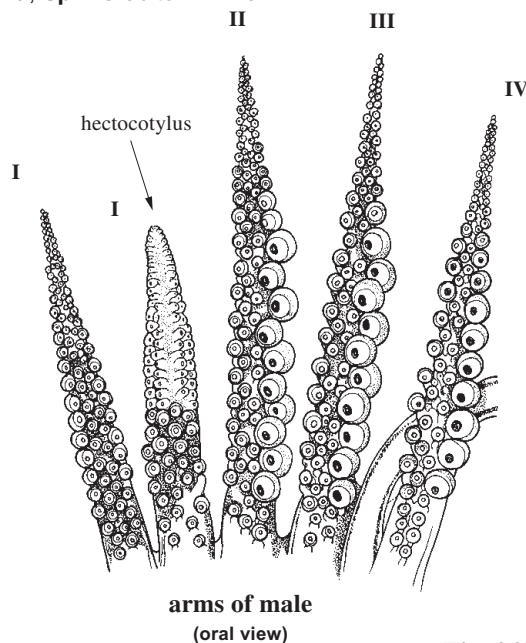


Fig. 249 *Euprymna morsei*

Diagnostic Features: Mantle dome-shaped, plump. Dorsal mantle fused to head. Fins wide, rounded, semicircular; short, do not exceed length of mantle anteriorly or posteriorly; posteriorly with wide gap between fins; anterior origin posterior to mantle margin. Non-hectocotylized arm sucker arrangement same in both sexes: arm suckers tetraserial. **Ventral rows of arms II to IV in males with enlarged suckers, approximately 10 on each arm from proximal third or fourth suckers.** Hectocotylus present; distal half of left dorsal arm modified: sucker pedicels enlarged and tightly packed to form 2 double rows of columnar structures; suckers reduced with tiny, fleshy, slit-like openings; proximal end of arm with single nipple-like papilla. Marginal suckers arms I slightly larger than medial suckers. Tentacular-club suckers cup-shaped or spherical. Internal gladius absent. Paired saddle-shaped light organs present inside mantle cavity on ink sac. **Colour:** Iridescent gold to purple with large black chromatophores.

Size: Up to 40 mm mantle length.

Geographical Distribution: Indo-Pacific: southern Japan (sympatric with *E. berryi* Sasaki, 1929), East China Sea and the Philippines, south at least to Indonesia. Possibly Bay of Bengal, India (record based on females only) and Maldives Islands (Fig. 250).

Habitat and Biology: This neritic species has been reported from the stomach contents of lancet fishes, *Alepisaurus ferox*, captured in the Solomon Sea.

Interest to Fisheries: Harvested on a minor scale, primarily as trawl bycatch. Low economic value, but utilized locally.

Remarks: The taxonomic status of members of this genus is largely unresolved (Norman and Lu 1997).

Literature: Joubin (1902a), Raj and Kalyani (1971), Okutani *et al.* (1987), Okutani and Tsukada (1988), Okutani (1995), Norman and Lu (1997), Kubodera and Yamada (1998), Reid and Norman (1998).

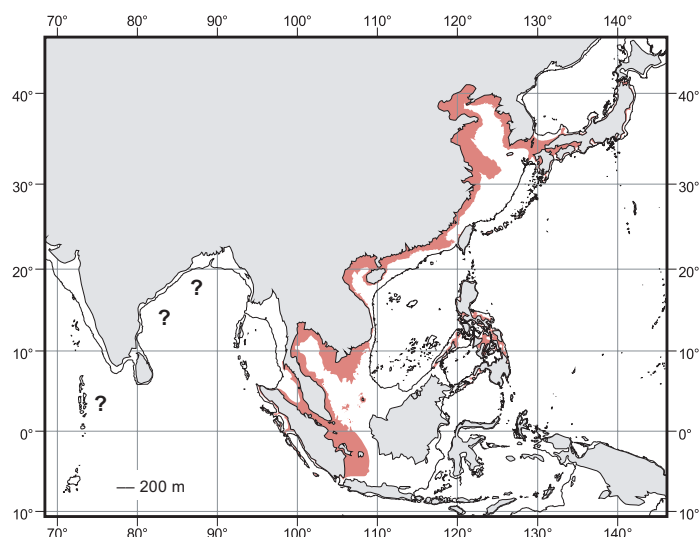


Fig. 250 *Euprymna morsei*

■ Known distribution

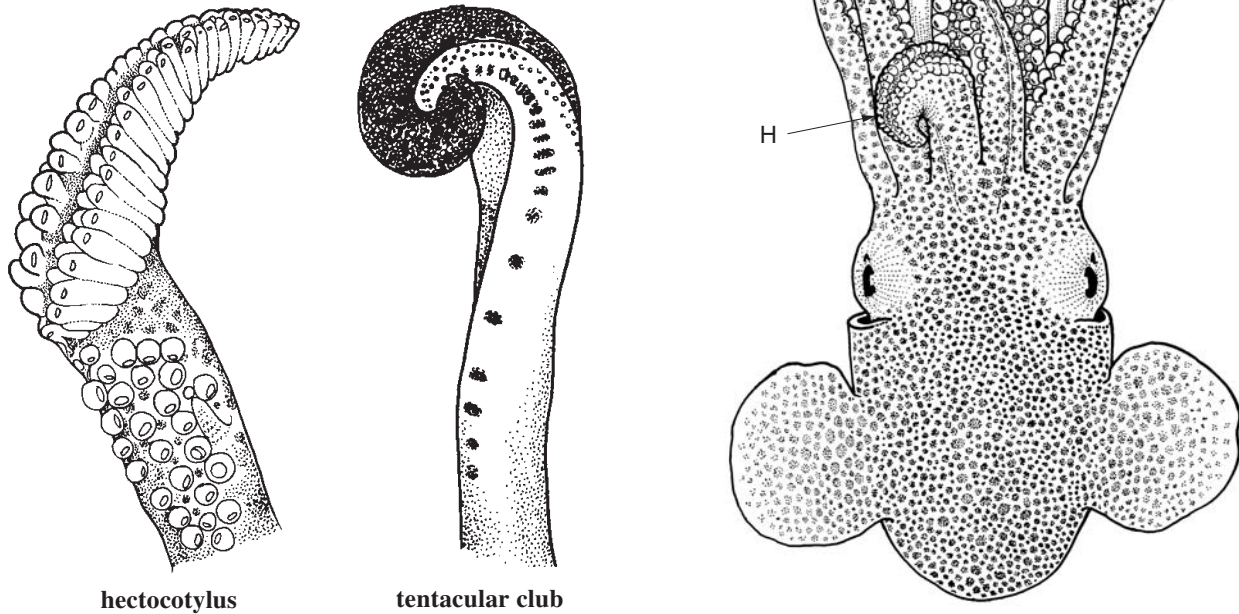
Euprymna tasmanica* (Pfeffer, 1884)*Fig. 251; Plate VI, 39–41**

Sepiolo tasmanica Pfeffer, 1884, *Abhandlungen aus dem Gebiete der Naturwissenschaften*, Hamburg, 8(1): 6 [type locality: Australia: Bass Strait].

Frequent Synonyms: None.

Misidentifications: None.

FAO Names: En – Southern bobtail squid; Fr – Sépiole du Tasmanie; Sp – Globito de Tasmania.

**Fig. 251** *Euprymna tasmanica*

dorsal view of male

Diagnostic Features: Dorsal mantle fused to head. Fins wide, rounded, semicircular; short, do not exceed length of mantle anteriorly or posteriorly. Non-hectocotylized arm sucker arrangement same in both sexes: arm suckers tetraseriate. **Dorsal and ventral rows of suckers on arms II to IV in males enlarged; ventral marginal rows of arms II and III with 1 to 3 greatly enlarged suckers basally** (8 to 11% mantle length); **dorsal and ventral marginal rows of arms II to IV with more than 10 enlarged suckers** (diameter 4 to 7% mantle length). Hectocotylus present, distal half of left dorsal arm modified: third and/or fourth proximal suckers in ventral row elongated into long papilla(e), each bearing a tiny sucker; base of hectocotylus with 29 to 38 normal suckers; distal end of hectocotylized arm with sucker pedicels enlarged and tightly packed to form 2 double rows of columnar structures; suckers reduced with tiny, fleshy, slit-like openings (30 to 38 in dorsal rows, 29 to 38 in ventral rows). Tentacular club suckers (many hundreds) all of similar minute size. Saddle-shaped bacterial light organ inside mantle cavity.

Size: Up to 40 mm mantle length.

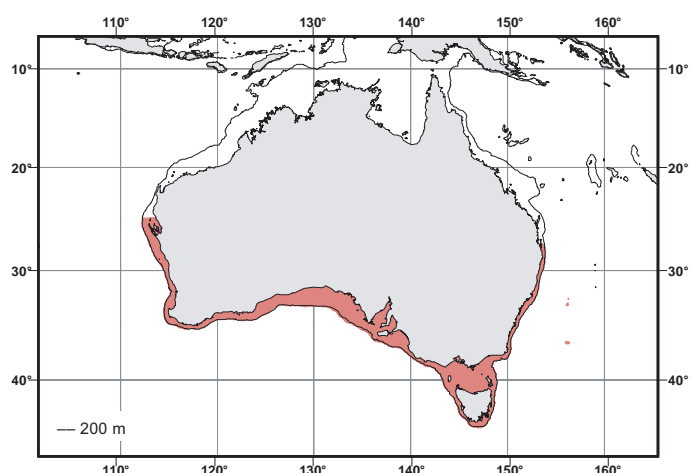
Geographical Distribution: Southern Indo-Pacific: eastern and southeastern Australia, from Brisbane to Shark Bay, Western Australia (Fig. 252).

Habitat and Biology: This species lives in sandy and muddy areas, often in association with seagrass beds. It remains buried in sand during the day, and emerges at night to forage for small crustaceans and fishes. It can 'glue' sand grains to its dorsal body surface to aid in camouflage. Spawning occurs in spring and summer. Females lay pale orange eggs in loose clumps, usually at the base of seaweed or seagrass.

Interest to Fisheries: Undetermined, but the species is likely to be utilized on a local basis.

Remarks: The taxonomic status of members of this genus is largely unresolved.

Literature: Norman and Lu (1997), Reid and Norman (1998).

**Fig. 252** *Euprymna tasmanica*
Known distribution

Rondeletiola minor* (Naef, 1912)*Fig. 253**

Sepietta minor Naef, 1912a, *Zoologischer Anzeiger*, 39(7): 267 [type locality: Tyrrhenian Sea].

Frequent Synonyms: *Sepietta minor* Naef, 1912.

Misidentifications: None.

FAO Names: **En** – Lentil bobtail squid; **Fr** – Sépiole bobie; **Sp** – Globito pequeño.

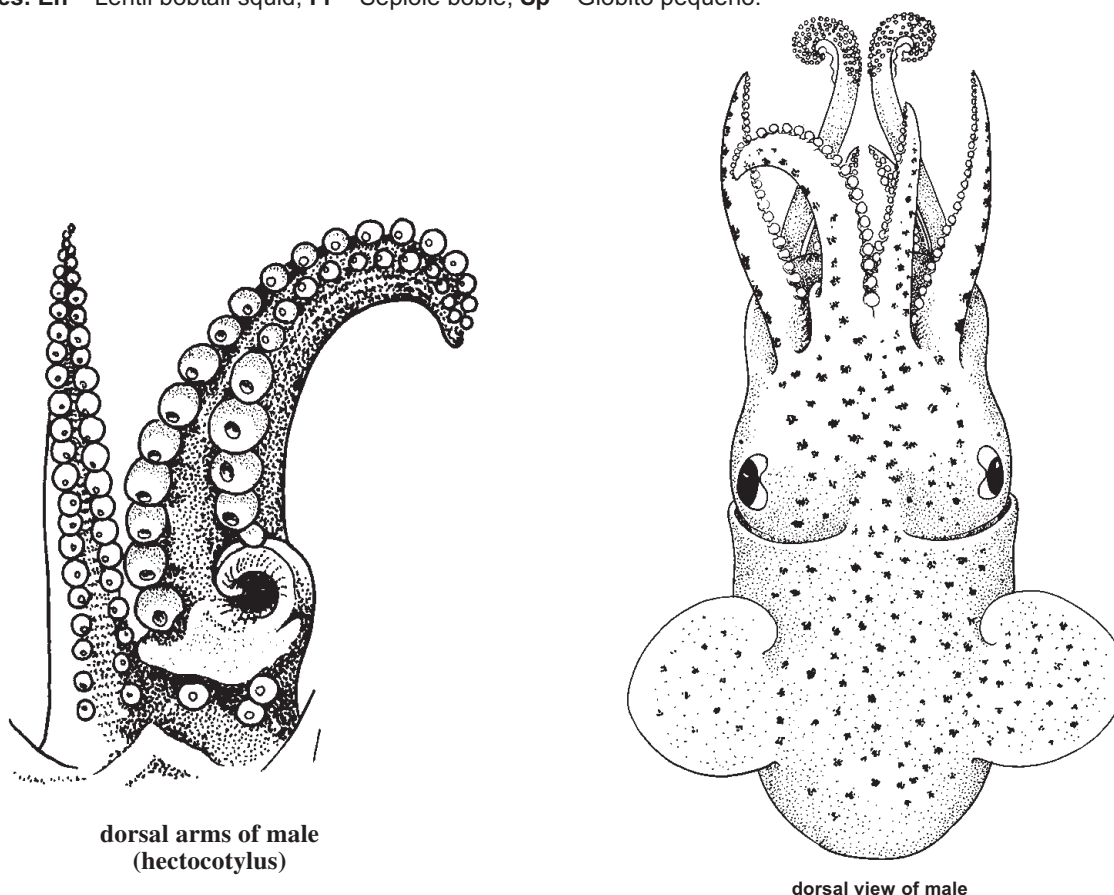


Fig. 253 *Rondeletiola minor*

Diagnostic Features: Mantle bullet-shaped, **delicate consistency**. Fins small, bluntly pointed laterally rather than curved; short, do not exceed length of mantle anteriorly or posteriorly. Non-hectocotylized arm sucker arrangement same in both sexes; arm suckers biserial. Hectocotylus present; left dorsal arm modified: proximal end with fleshy pad formed from enlarged and fused sucker pedicels; **copulatory apparatus a large, swollen, transverse, hood-shaped horn with small accessory papilla**; 3 small suckers proximal to fleshy pad; proximal half of ventral row of suckers distal to copulatory apparatus with enlarged suckers; oral surface of modified region as for remaining arms, not wide, fleshy; suckers evenly spaced on modified portion of arm, rows not widely separated. Club with 16 suckers in transverse rows. Paired, roundish light organs present inside mantle cavity on ventral side of ink sac, deeply embedded in its tissue; closely connected to nidamental gland in female. **Base of right gill of female separated from median and posterior part of mantle cavity by a septum.**

Size: Up to 23 mm mantle length.

Geographical Distribution: Eastern Atlantic and Mediterranean Sea: northwest of Spain, Portugal and the eastern, central and western Mediterranean Sea (including Ligurian Sea, northern and southern Tyrrhenian Sea, Strait of Sicily, Gulf of Taranto, Adriatic Sea, north Aegean Sea, Sea of Marmara and Levantine Sea) to the southeastern Atlantic Benguela Current off Namibia (Fig. 254).

Habitat and Biology: *Rondeletiola minor* lives on muddy bottoms. It is a sublittoral, demersal, or upper bathyal species, with depth a range between 76 and 496 m. In the Sea of Marmara (Mediterranean Sea) the species was found in brackish waters (salinity between 18 and 25‰), which indicates a high degree of tolerance to fresh water. Recent studies confirm a common reproductive pattern for the species in the western and eastern Mediterranean (Aegean Sea): an extended spawning period is likely to occur, since mature animals are found throughout the year. *Rondeletiola minor* may ascend to the surface during the reproductive period and has been collected at the surface at night using artificial light.

Interest to Fisheries: Caught throughout its range and consumed locally.

Local Names: ITALY: Seppiola minore, Cappuccetto.

Remarks: This species, often reported as rare in some areas of its distributional range, has recently proved to be fairly common in several areas of the western Mediterranean and in the Aegean Sea.

Literature: Naef (1923), Guerra (1982), Roper *et al.* (1984), Bello (1990b), Guerra (1992), Villanueva and Sánchez (1993), Bello (1995), Jereb and DiStefano (1995), Sartor and Belcari (1995), Villanueva (1995), Volpi *et al.* (1995), Wurtz *et al.* (1995), D'Onghia *et al.* (1996), Salman and Katagan (1996), Jereb *et al.* (1997), Unsal *et al.* (1999).

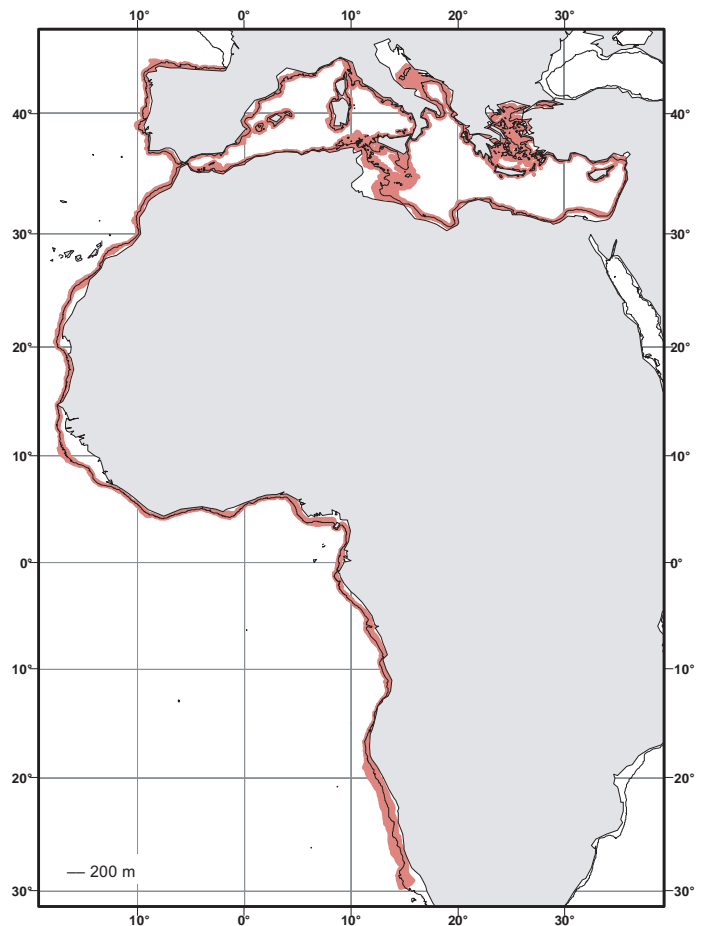


Fig. 254 *Rondeletiola minor*
■ Known distribution

***Sepiolo ttrirostrata* Voss, 1962**

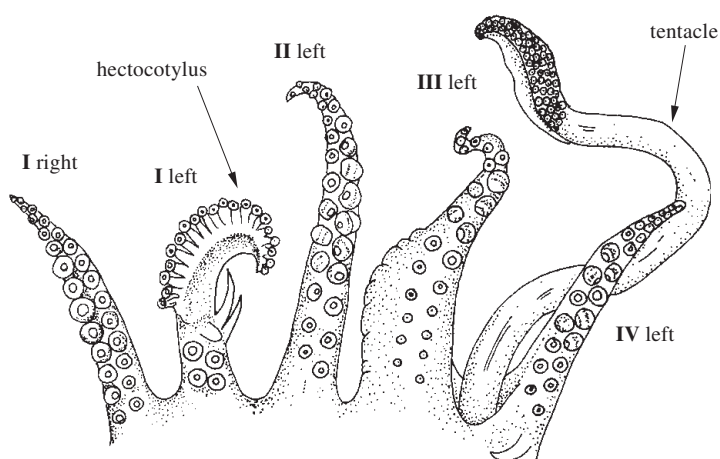
Fig. 245

Sepiolo ttrirostrata Voss, 1962a, *Proceedings of the Biological Society of Washington*, 75: 172 [type locality: Philippines].

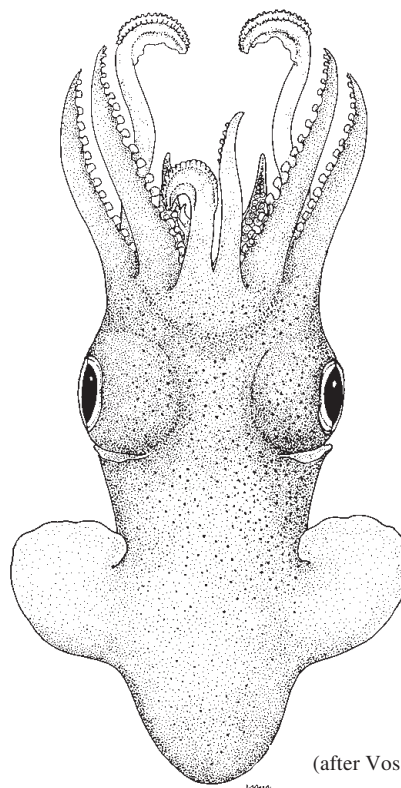
Frequent Synonyms: None.

Misidentifications: None.

FAO Names: **En** – Knobby bobtail squid; **Fr** – Sépiole bosselée; **Sp** – *Sepiolo nudosa*.



male arm arrangement



(after Voss, 1963)

dorsal view of male

Fig. 245 *Sepiolo ttrirostrata*

Diagnostic Features: Fins short, do not exceed length of mantle anteriorly or posteriorly. Arms III in both sexes stout and strongly curved inward, more obviously so in males. Suckers in ventral series of right arm I and arms II of males larger than dorsal suckers. Hectocotylus present, left dorsal arm modified: proximal end with **2 slender fleshy papillae** (anteriormost papilla longest) and dorsolateral to these a **blunt tongue-like lobe**, all formed from enlarged and elongate sucker pedicels; 2 rows of suckers on arm proximal to fleshy pad; distal end of hectocotylized arm with sucker pedicels enlarged and tightly packed to form 2 double rows of columnar structures; suckers reduced with tiny, fleshy, slit-like openings. Club with 4 large suckers in transverse rows; suckers differ in size; dorsal marginal longitudinal series of suckers larger than those in ventral marginal series. Paired kidney-shaped light organs present inside mantle cavity on each side of ink sac. **Colour:** Mantle and head with many minute brown or black chromatophores; arms III deep pink, arms I to III each with single longitudinal row of large chromatophores, arms IV with double row of small chromatophores.

Size: Up to 12.5 mm mantle length.

Geographical Distribution: Indo-Pacific: Philippines, Singapore (Fig. 246).

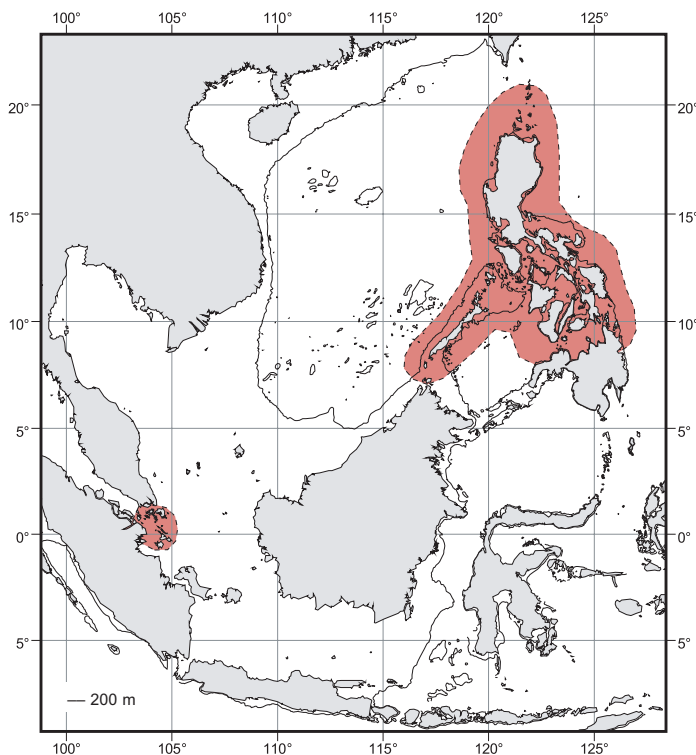


Fig. 246 *Sepiolo ttrirostrata*
■ Known distribution

Interest to Fisheries: Presently undetermined.

Remarks: Differs from *S. birostrata* Sasaki, 1918 in the presence of the blunt, fleshy papilla, in addition to the 2 slender papillae on the hectocotylus. The slender papillae arise from a common mound-like base, while the third lobe arises separately. In this trait, *S. tirostrata* differs from those *S. birostrata* specimens that bear a third lobe on the hectocotylus.

Literature: Voss (1963).

***Euprymna berryi* Sasaki, 1929**

Fig. 247

Euprymna berryi Sasaki, 1929, *Journal of the College of Agriculture, Hokkaido Imperial University*, 20(supplement): 143 [type locality: Japan, Honshu].

Frequent Synonyms: None.

Misidentifications: None.

FAO Names: En – Humming-bird bobtail squid;
Fr – Sépiole colibri; Sp – Globito colibri.

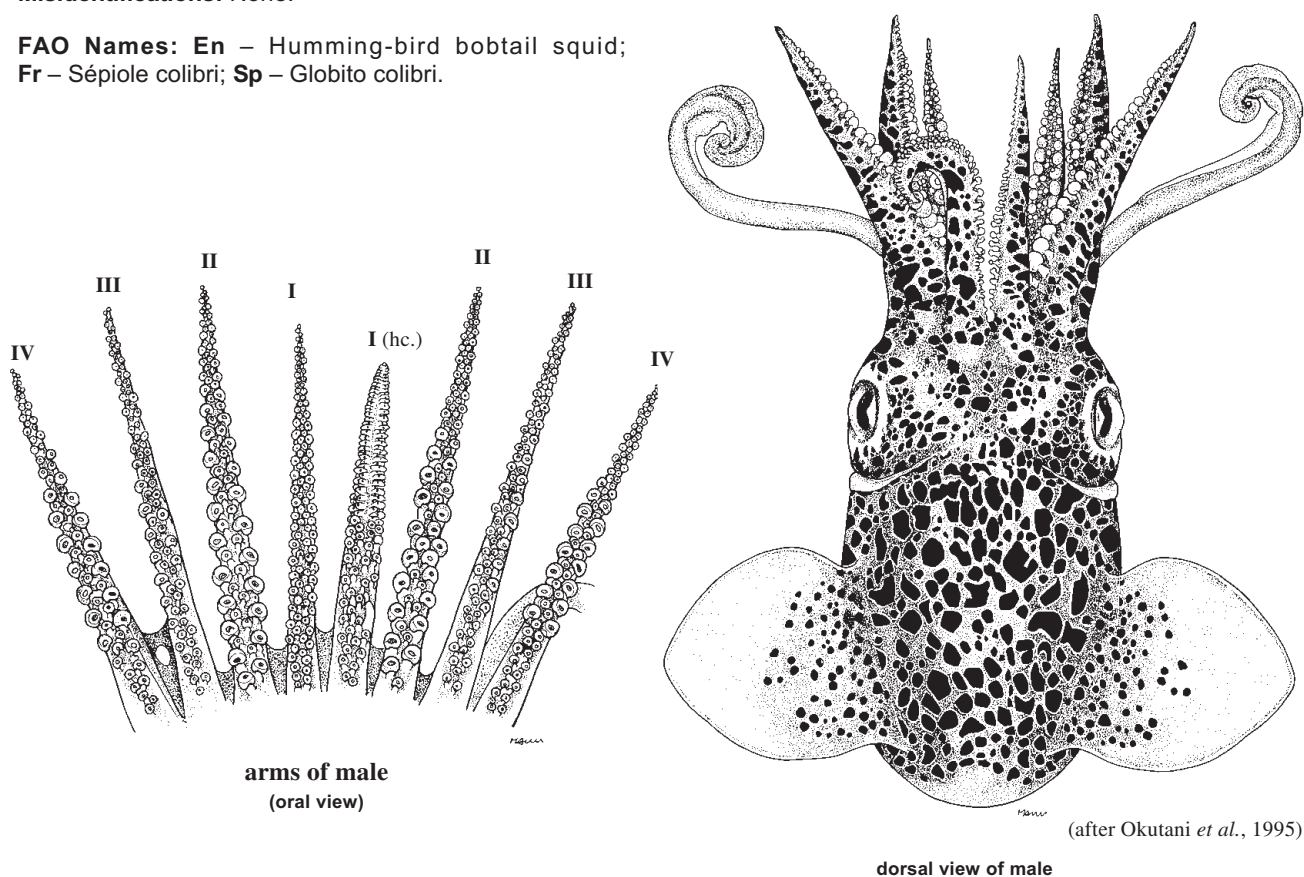


Fig. 247 *Euprymna berryi*

Diagnostic Features: Fins short, do not exceed length of mantle anteriorly or posteriorly. Non-hectocotylized arm sucker arrangement same in both sexes: arm suckers tetraserial. Male non-hectocotylized arm suckers enlarged on some arms: **arms II and IV with approximately 10 moderately enlarged suckers in dorsal and ventral rows from proximal second to fourth suckers; approximately 8 slightly enlarged suckers in ventral row of arm III from proximal fifth to eighth sucker.** Hectocotylus present; left dorsal arm modified: arm thick, short, and blunt; proximal end with 2 fleshy papillae formed from enlarged, or elongate sucker pedicels; distal end of hectocotylized arm with sucker pedicels enlarged and tightly packed forming 2 double rows of 70 to 80 columnar structures; suckers reduced with tiny, fleshy, slit-like openings. Marginal suckers on dorsal arms I are slightly larger than medial ones. Tentacular club suckers goblet-shaped. Swimming keel of club extends well beyond carpus.

Size: Males up to 30 mm mantle length; females up to 50 mm mantle length.

Geographical Distribution: Indo-Pacific: Along coasts of China, south to Hong Kong and Japan (but not in Hokkaido), Taiwan Province of China, possibly Andaman Islands and Sri Lanka (Fig. 248).

Habitat and Biology: Upper sublittoral and pelagic in warm temperate waters; depth range to 107 m. This species has been reared successfully in aquaculture experiments. Females lay clumps of round, pale orange eggs.

Interest to Fisheries: Consumed locally in China and Taiwan Province of China, where this species is abundant and sustains local small fisheries; currently not commercially exploited in Hong Kong.

Local Names: CHINA: Leung yee jai; JAPAN: Niyori-mimi-ika.

Remarks: The taxonomic status of members of this genus is largely unresolved (Norman and Lu 1997). *Euprymna berryi* is sympatric with, and very similar to *E. morsei* Verrill (1881). Non-quantitative differences between the 2 species include: among 4 rows of arm suckers, only the ventral rows are enlarged in *E. morsei* (particularly from third to fourth suckers on arms II to IV), but both dorsal and ventral arms have enlarged suckers in *E. berryi*; the club suckers are spherical, or cup-shaped in *E. morsei*, but goblet-shaped in *E. berryi*. The club suckers have an indistinct proximal border in *E. berryi*, while those in *E. morsei* have distinct borders.

Literature: Roper *et al.* (1984), Okutani and Horita (1987), Okutani (1995), Norman and Lu (1997), Kubodera and Yamada (1998), Lu (1998b).

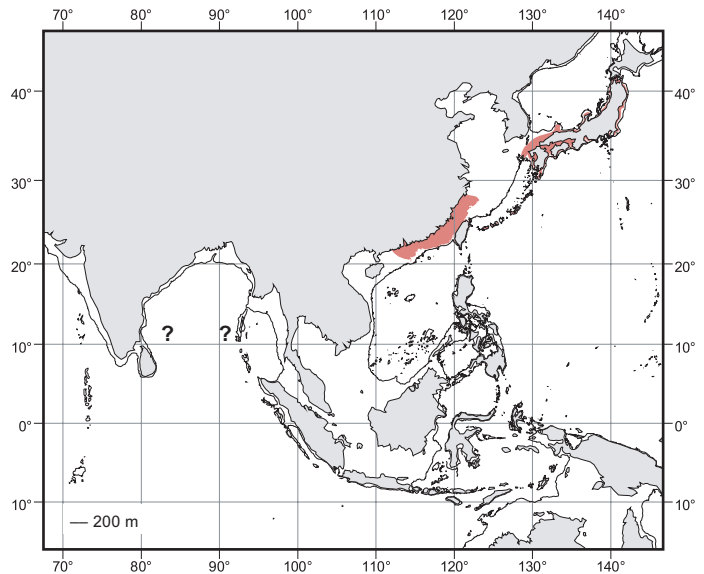


Fig. 248 *Euprymna berryi*

Known distribution

***Euprymna morsei* (Verrill, 1881)**

Fig. 249

Inioteuthis morsei Verrill, 1881, *Transactions of the Connecticut Academy of Sciences*, 5(6): 417 [type locality: Japan, Tokyo Bay].

Frequent Synonyms: None.

Misidentifications: None.

FAO Names: En – Mimika bobtail squid; Fr – Sépiole mimika; Sp – Globito mimika.

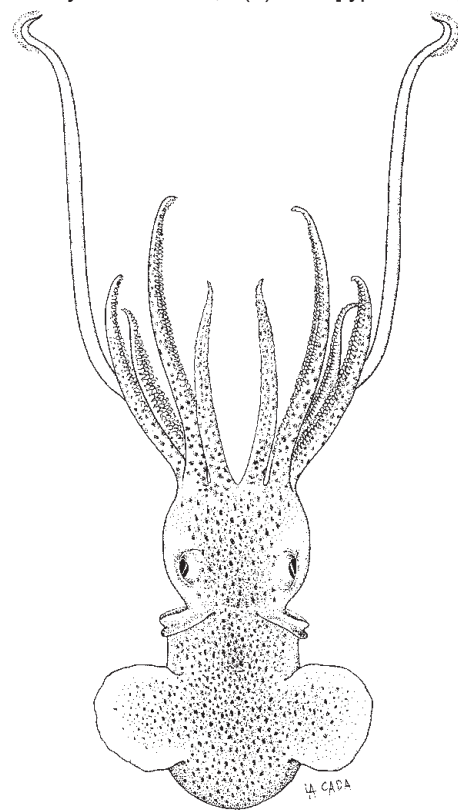
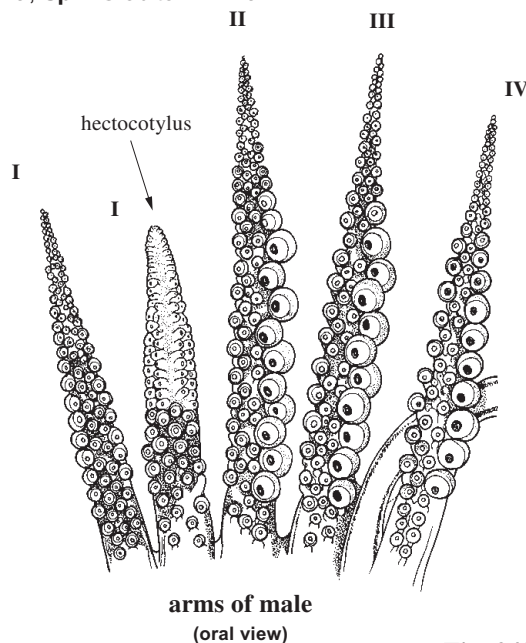


Fig. 249 *Euprymna morsei*

Diagnostic Features: Mantle dome-shaped, plump. Dorsal mantle fused to head. Fins wide, rounded, semicircular; short, do not exceed length of mantle anteriorly or posteriorly; posteriorly with wide gap between fins; anterior origin posterior to mantle margin. Non-hectocotylized arm sucker arrangement same in both sexes: arm suckers tetraserial. **Ventral rows of arms II to IV in males with enlarged suckers, approximately 10 on each arm from proximal third or fourth suckers.** Hectocotylus present; distal half of left dorsal arm modified: sucker pedicels enlarged and tightly packed to form 2 double rows of columnar structures; suckers reduced with tiny, fleshy, slit-like openings; proximal end of arm with single nipple-like papilla. Marginal suckers arms I slightly larger than medial suckers. Tentacular-club suckers cup-shaped or spherical. Internal gladius absent. Paired saddle-shaped light organs present inside mantle cavity on ink sac. **Colour:** Iridescent gold to purple with large black chromatophores.

Size: Up to 40 mm mantle length.

Geographical Distribution: Indo-Pacific: southern Japan (sympatric with *E. berryi* Sasaki, 1929), East China Sea and the Philippines, south at least to Indonesia. Possibly Bay of Bengal, India (record based on females only) and Maldives Islands (Fig. 250).

Habitat and Biology: This neritic species has been reported from the stomach contents of lancet fishes, *Alepisaurus ferox*, captured in the Solomon Sea.

Interest to Fisheries: Harvested on a minor scale, primarily as trawl bycatch. Low economic value, but utilized locally.

Remarks: The taxonomic status of members of this genus is largely unresolved (Norman and Lu 1997).

Literature: Joubin (1902a), Raj and Kalyani (1971), Okutani *et al.* (1987), Okutani and Tsukada (1988), Okutani (1995), Norman and Lu (1997), Kubodera and Yamada (1998), Reid and Norman (1998).

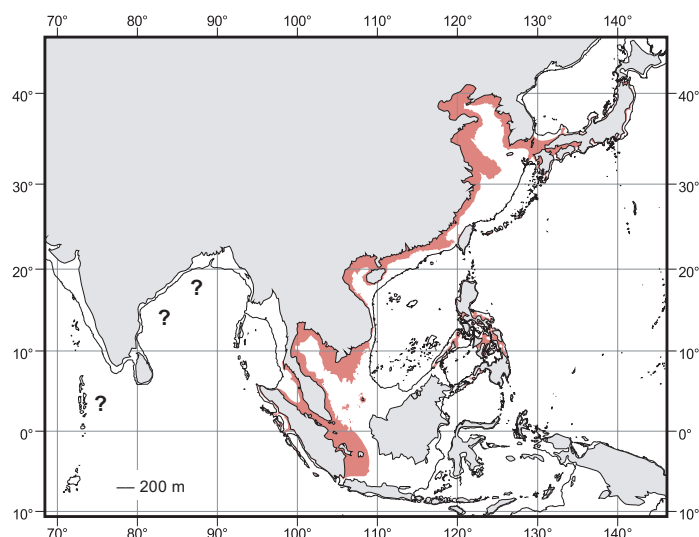


Fig. 250 *Euprymna morsei*

■ Known distribution

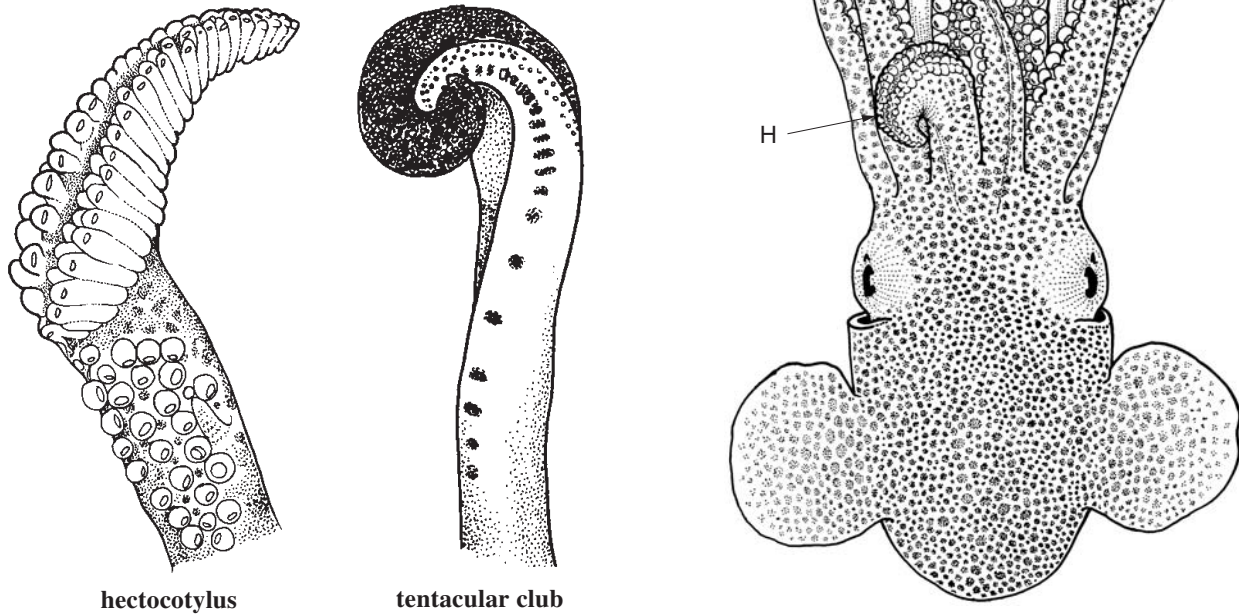
Euprymna tasmanica* (Pfeffer, 1884)*Fig. 251; Plate VI, 39–41**

Sepiolo tasmanica Pfeffer, 1884, *Abhandlungen aus dem Gebiete der Naturwissenschaften*, Hamburg, 8(1): 6 [type locality: Australia: Bass Strait].

Frequent Synonyms: None.

Misidentifications: None.

FAO Names: En – Southern bobtail squid; Fr – Sépiole du Tasmanie; Sp – Globito de Tasmania.

**Fig. 251** *Euprymna tasmanica*

dorsal view of male

Diagnostic Features: Dorsal mantle fused to head. Fins wide, rounded, semicircular; short, do not exceed length of mantle anteriorly or posteriorly. Non-hectocotylized arm sucker arrangement same in both sexes: arm suckers tetraserial. **Dorsal and ventral rows of suckers on arms II to IV in males enlarged; ventral marginal rows of arms II and III with 1 to 3 greatly enlarged suckers basally** (8 to 11% mantle length); **dorsal and ventral marginal rows of arms II to IV with more than 10 enlarged suckers** (diameter 4 to 7% mantle length). Hectocotylus present, distal half of left dorsal arm modified: third and/or fourth proximal suckers in ventral row elongated into long papilla(e), each bearing a tiny sucker; base of hectocotylus with 29 to 38 normal suckers; distal end of hectocotylized arm with sucker pedicels enlarged and tightly packed to form 2 double rows of columnar structures; suckers reduced with tiny, fleshy, slit-like openings (30 to 38 in dorsal rows, 29 to 38 in ventral rows). Tentacular club suckers (many hundreds) all of similar minute size. Saddle-shaped bacterial light organ inside mantle cavity.

Size: Up to 40 mm mantle length.

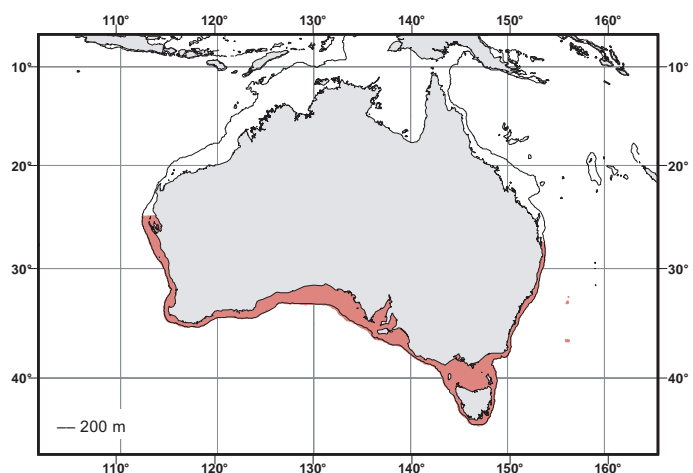
Geographical Distribution: Southern Indo-Pacific: eastern and southeastern Australia, from Brisbane to Shark Bay, Western Australia (Fig. 252).

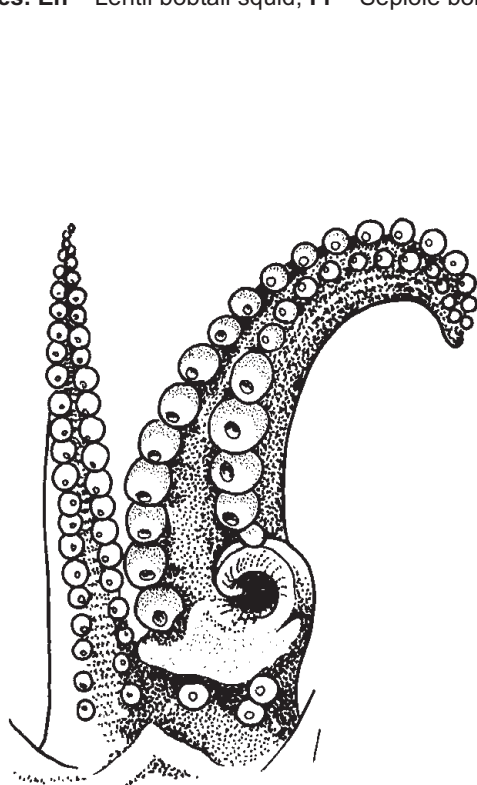
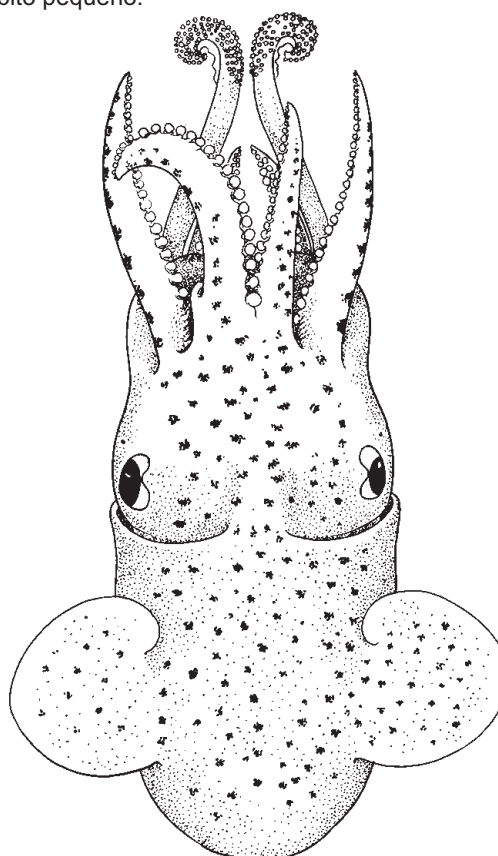
Habitat and Biology: This species lives in sandy and muddy areas, often in association with seagrass beds. It remains buried in sand during the day, and emerges at night to forage for small crustaceans and fishes. It can 'glue' sand grains to its dorsal body surface to aid in camouflage. Spawning occurs in spring and summer. Females lay pale orange eggs in loose clumps, usually at the base of seaweed or seagrass.

Interest to Fisheries: Undetermined, but the species is likely to be utilized on a local basis.

Remarks: The taxonomic status of members of this genus is largely unresolved.

Literature: Norman and Lu (1997), Reid and Norman (1998).

**Fig. 252** *Euprymna tasmanica*
Known distribution

Rondeletiola minor* (Naef, 1912)*Fig. 253***Sepietta minor* Naef, 1912a, *Zoologischer Anzeiger*, 39(7): 267 [type locality: Tyrrhenian Sea].**Frequent Synonyms:** *Sepietta minor* Naef, 1912.**Misidentifications:** None.**FAO Names:** **En** – Lentil bobtail squid; **Fr** – Sépiole bobie; **Sp** – Globito pequeño.dorsal arms of male
(hectocotylus)

dorsal view of male

Fig. 253 *Rondeletiola minor*

Diagnostic Features: Mantle bullet-shaped, **delicate consistency**. Fins small, bluntly pointed laterally rather than curved; short, do not exceed length of mantle anteriorly or posteriorly. Non-hectocotylized arm sucker arrangement same in both sexes; arm suckers biserial. Hectocotylus present; left dorsal arm modified: proximal end with fleshy pad formed from enlarged and fused sucker pedicels; **copulatory apparatus a large, swollen, transverse, hood-shaped horn with small accessory papilla**; 3 small suckers proximal to fleshy pad; proximal half of ventral row of suckers distal to copulatory apparatus with enlarged suckers; oral surface of modified region as for remaining arms, not wide, fleshy; suckers evenly spaced on modified portion of arm, rows not widely separated. Club with 16 suckers in transverse rows. Paired, roundish light organs present inside mantle cavity on ventral side of ink sac, deeply embedded in its tissue; closely connected to nidamental gland in female. **Base of right gill of female separated from median and posterior part of mantle cavity by a septum.**

Size: Up to 23 mm mantle length.

Geographical Distribution: Eastern Atlantic and Mediterranean Sea: northwest of Spain, Portugal and the eastern, central and western Mediterranean Sea (including Ligurian Sea, northern and southern Tyrrhenian Sea, Strait of Sicily, Gulf of Taranto, Adriatic Sea, north Aegean Sea, Sea of Marmara and Levantine Sea) to the southeastern Atlantic Benguela Current off Namibia (Fig. 254).

Habitat and Biology: *Rondeletiola minor* lives on muddy bottoms. It is a sublittoral, demersal, or upper bathyal species, with depth a range between 76 and 496 m. In the Sea of Marmara (Mediterranean Sea) the species was found in brackish waters (salinity between 18 and 25‰), which indicates a high degree of tolerance to fresh water. Recent studies confirm a common reproductive pattern for the species in the western and eastern Mediterranean (Aegean Sea): an extended spawning period is likely to occur, since mature animals are found throughout the year. *Rondeletiola minor* may ascend to the surface during the reproductive period and has been collected at the surface at night using artificial light.

Interest to Fisheries: Caught throughout its range and consumed locally.

Local Names: ITALY: Seppiola minore, Cappuccetto.

Remarks: This species, often reported as rare in some areas of its distributional range, has recently proved to be fairly common in several areas of the western Mediterranean and in the Aegean Sea.

Literature: Naef (1923), Guerra (1982), Roper *et al.* (1984), Bello (1990b), Guerra (1992), Villanueva and Sánchez (1993), Bello (1995), Jereb and DiStefano (1995), Sartor and Belcari (1995), Villanueva (1995), Volpi *et al.* (1995), Wurtz *et al.* (1995), D'Onghia *et al.* (1996), Salman and Katagan (1996), Jereb *et al.* (1997), Unsal *et al.* (1999).

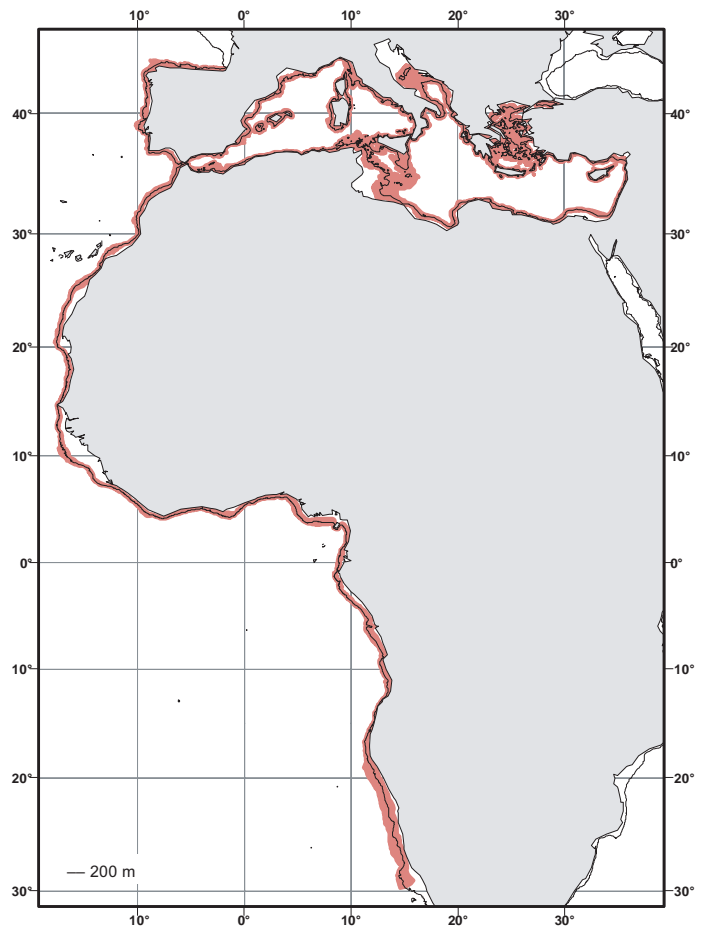


Fig. 254 *Rondeletiola minor*
■ Known distribution