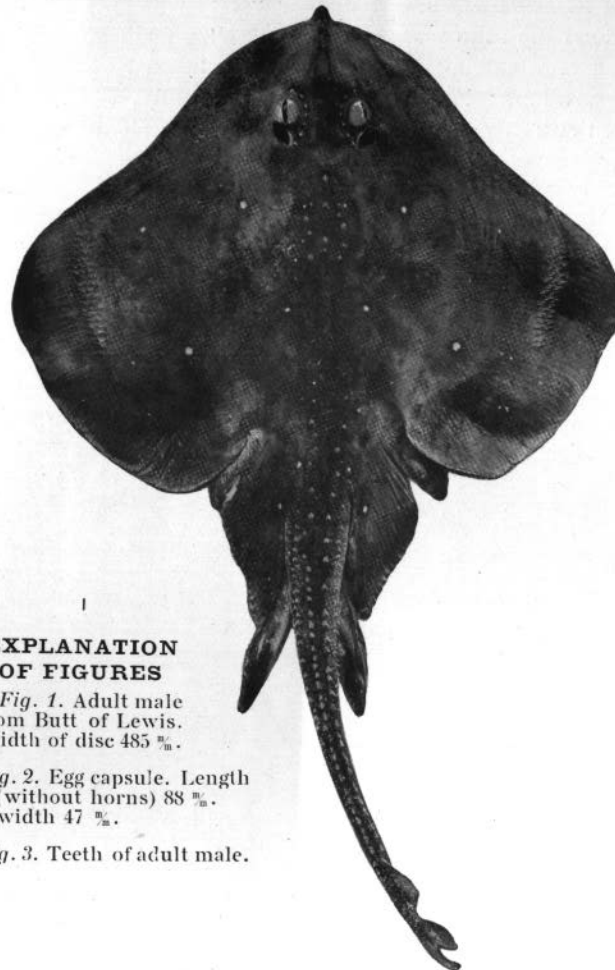


3



EXPLANATION  
OF FIGURES

*Fig. 1.* Adult male  
from Butt of Lewis.  
Width of disc 485  $\frac{m}{m}$ .

*Fig. 2.* Egg capsule. Length  
(without horns) 88  $\frac{m}{m}$ .  
width 47  $\frac{m}{m}$ .

*Fig. 3.* Teeth of adult male.



2

**DIAGNOSIS** — A moderately large species, reaching a length of 1200 mm. *Disc* broader than long, its width about 62 per cent. (52 to 58 in the young) in total length of fish; anterior margin slightly undulated; outer angle rounded. Snout projecting as a small acute process, its length five to six times (four to five in young) in width of disc. Longitudinal diameter of eye about equal to the interorbital width in adults, greater than interorbit in young. Vent nearer end of tail than tip of snout in adults, the reverse in young stages. *Teeth* small and pointed in both sexes; 64 to 84 rows (64 to 68 in young) in upper jaw. *Upper surface of disc* entirely spinulose or with large bare median patches. Snout and anterior margin of disc more strongly spinulose. A few medium-sized spines on tip of rostrum. A row of spines on the inner ocular ridge and a triangular patch on the shoulder. No median spines on body and tail in adults but present in the young. Two parallel rows of large recurved spines one on each side of the median line of the tail continued on to the posterior half of the body and an outer row of irregularly spaced spines on each side of the tail proximally. Dorsals confluent. Colour uniform light or reddish brown in fresh condition (chocolate colour in formalin) with creamy white spots on disc and on pelvics, generally four to six on each side. *Lower surface* mostly smooth, except praenasal area, anterior margin of disc for three quarters of the distance to the outer angle, and tail margins. Females usually with rough patches on the chin and near

the vent. Colour white. *Egg capsule* smooth, biconvex, transparent, amber to brown coloured. A film of fine threads attached to the side margins at extrusion. Range in length (without horns) 84 to 92 mm. and in width 46 to 53 mm. Ripe females observed from November to August.

**DISTRIBUTION** — A deeper water species occurring off the Atlantic coasts of Europe in water from 70 to 275 metres. Enters the Mediterranean and Northern North Sea.

Skagerak (Malm); W. Norway; Northern North Sea, including Shetlands; N. and N.W. Scotland; Faroes; S. W. Ireland to W. of Great Sole Bank; English Channel, western entrance; Scillies; Portuguese coast; Mediterranean.

**COMMON NAMES** — British, Sandy Ray; German, Sandroche; Swedish, Sandrocka,

**SYNONYMY** — *R. falsavela* Bonaparte 1841.

*R. radula* Sim 1902.

*R. quadrimaculata* Garman 1913 (non. syn.).

#### LITERATURE

1838. — COUCH JON. *Mag. Nat. Hist. (Charlesworth), Vol. II, p. 71.* London.

1865. — DUMERIL AUG. *Hist. Nat. des Poissons. Tome premier.* Paris.

1902. — SIM G. Is *R. radula* of Couch, Thomson and Yarrell a good species? *Annals of Scottish Nat. Hist. Oct. 1902.*

1926. — CLARK R.-S. Rays and Skates, *Fisheries Scotland, Sci. Invest. 1926. I.*

1928. — REY L. Lozano. Fauna Iberica, Peces. Tomo primero. Madrid, *Museo Nacional de Ciencias Naturales.*

R. S. CLARK — 1929,