A CASE OF HERMAPHRODITISM WITH NOTES ON TWO ABNORMAL OVARIES IN THE SILVER BIDDY, *GERRES OYENA* (FORSKÅL) FROM THE PULICAT LAKE

WHILE making observations on the maturity and spawning of *Gerres oyena* (Forskal), locally known as 'Sangu voodan' the author came across a single case of hermaphroditism and two cases of abnormal ovaries.

The occurrence of hermaphroditism among fishes, though common in certain groups, is only an anomaly in others. Thus in the Serranid and Sparid groups of fishes it is a common phenomenon and they are functional hermaphrodites (Hoar, 1957), while the percentage of incidence of hermaphroditism is as much as 10%

in *Polynemus heptadactylus* (Nayak, 1959). The degree of variability of the arrangement of the ovarian and testicular tissues in hermaphroditic individuals is known from the descriptions by Chacko and Krishnamurthy (1949) of *Hilsa ilisha*, Prabhu *et al.* (1959) and Rao (1962) of *Rastrelliger kanagurta*, Raju (1960) of *Katsuwonus pelamis* and Antony Raja (1963) of *Sardinella longiceps*. As the present report on hermaphroditism and abnormal ovaries in *Gerres oyena* seems to be the first one, a detailed description of the gonads with figures is presented. The following are the details of the hermaphroditic fish :—

Date of capture	..	30-9-1966
Place of capture	..	Near Pulicat
Gear of capture	..	Badi valai (shore seine)
Total length	..	271 mm.
Total weight of body	..	346.5 gm.
Length of right lobe	..	71 mm.
Breadth of right lobe	..	20 mm.
Length of left lobe	..	70 mm.
Breadth of left lobe	..	34 mm.
Length of ovarian portion in left lobe	..	53 mm.
Length of ovotesticular area in left lobe	..	17 mm.
Stage of maturity	..	Partly spent.

Externally the specimen was normal and by gross examination, after dissection, it was found to be a partly spent female. The gonads were then preserved in 5% formalin for detailed microscopic examination. Examination of material under a compound microscope revealed that the left lobe was hermaphroditic while its counterpart on the right side was normal. The ovo-testicular area was confined approximately to the posterior one-fourth part of the left lobe. The anterior three-fourths of the lobe contained ovarian tissue (Fig. 1). A cross section by hand of the hermaphroditic area has roughly a club-shaped outline (Fig. 2) with the base of the club missing. The ova were confined to narrow patches near the periphery on both the sides and loosely attached to the testicular tissue. The mature ova had a diameter range of 0.411 mm. to 0.529 mm. while the diameters of maturing ova ranged between 0.176 mm. and 0.392 mm. The testicular tissue was found to be comparatively in an immature state.

Abnormal ovaries :

On 10-3-1967 a case of unequal development of the two lobes of any ovary was noticed. Such an asymmetry is not uncommon. Raju (*op. cit.*) reported such cases in *Katsuwonus pelamis*. In the present case the right lobe is longer than the left lobe. The specimen was a normal female, but for this asymmetry in the gonads. The stage of maturity was II.

The details of this case are presented below :—

Date of capture	..	10.3.1967
Place of capture	..	Off Pulicat village
Gear of capture	..	Badi valai
Total length	..	203 mm.
Weight	..	130.13 gm.
Sex & condition of gonad	..	Female II
Gonad weight	..	1.12 gm.
Length of right lobe	..	37 mm.

Breadth of right lobe	..	5 mm.
Length of the left love	..	26 mm.
Breadth of left lobe .	..	4 mm.

Another case of gonadial abnormality was noticed in a specimen caught on 18.4.1967 by badi valai (shore seine). The specimen was normal externally. In this case the

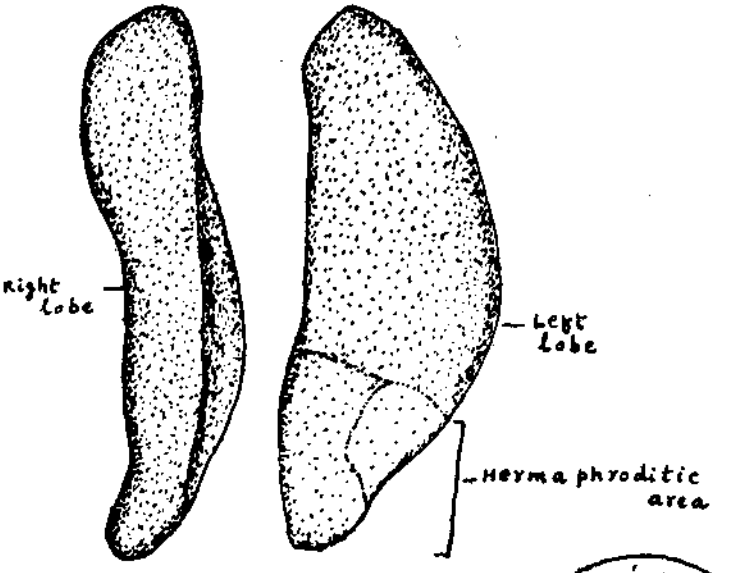

FIG. 1 (not to scale)

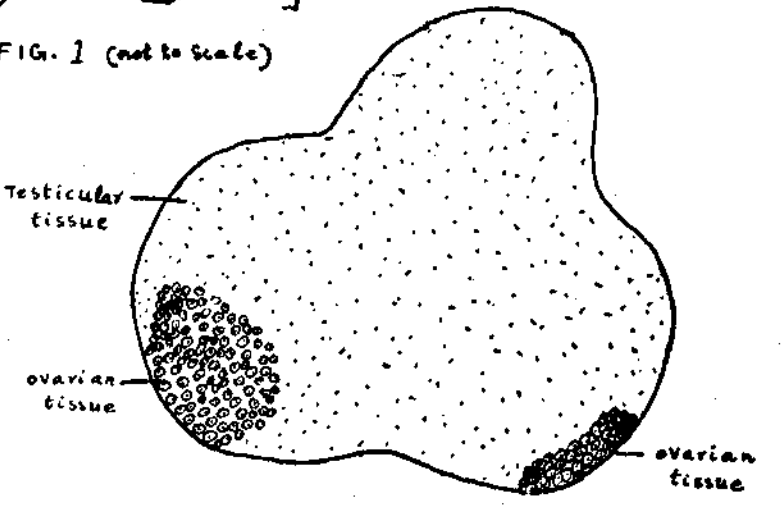

Fig. 2. (Not to scale) (Diagrammatic)

right lobe was normal but the left lobe is bilobed near its anterior end. The details of the fish are furnished below :—

Date of capture	..	18-4-1967
Place of capture	..	Nattan thittu (near Pulicat)

Gear of capture	..	Badi valai
Total length	..	245 mm.
Weight	..	227.6 gm.
Sex & condition of gonad	..	Female III
Weight of ovary	..	2.1 gm.
Length of right lobe	..	48 mm.
Breadth of right lobe	..	7 mm.
Length of left lobe	..	54 mm.
Breadth of left lobe	..	9 mm.

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