

Explanation of Plates

Plate 1.

- A. A part of the thyroid gland of the ice-goby collected in the offshore water of the Japan Sea in late March, showing a condition of hypoactivity. $\times 550$
- B. Thyroid follicles of the fish just entered in upstream migration as vanguard of the shoal in April. The gland reveals an active phase with cubic to columnar epithelial cells and wavy margin of colloid. $\times 550$
- C. Thyroid follicles of the migratory fish as reinforcement of the shoal caught in May. A flat epithelium of the follicle forming a broad lumen is apparent. $\times 550$
- D. Hyperactive thyroid follicles of the male caught in the spawning bed in late May. Notice a small follicle consisting of high columnar cells contains a small quantity of colloid in the lumen. The nucleus with distinct contour occupies the basal part of the cell. $\times 550$
- E. A regressive phase of thyroid follicles of the female caught in the spawning bed in late May. A marked degeneration in the follicular epithelial cells with many vacuoles is noticed. $\times 550$
- F. A part of interrenal tissue around the cardinal vein of upstream migrant. The round cell with distinct round nucleus is noted. $\times 500$
- G. Interrenal tissue of the mature fish taken from spawning bed. A slight decrease in the size of cell and nucleus and degeneration of the tissue are seen. $\times 500$
- H. Ovarian egg of the fish caught in the offshore water of the sea in late March. The oocyte attains to a stage of yolk vesicle. $\times 550$

Plate 2.

- J. Ovarian egg of the fish in upstream migration. An ovum attains to migratory nucleus stage with pronounced formation of yolk globules. $\times 150$
- K. Enlarged view of a part of a ripe ovum of the fish taken from spawning bed to show a micropyle and nearby structure. $\times 600$
- L. Enlarged view of a part of a spent ovary showing a ovulation scar. A hypertrophic feature of the follicular membrane is shown. $\times 600$
- M. Section of the testis of fish in the early period of upstream migration. A larger part of the tubular testis is filled by spermatids, and the spermatocytes are seen in peripheral region. $\times 500$
- N. Section of the testis of the fish taken from the spawning bed. Although a larger part of the testis is filled by spermatozoa, a considerable number of the spermatids still remain in the periphery of the testis. $\times 500$
- P. Low magnified view of the spent testis to show a considerable number of relict spermatozoa. $\times 120$

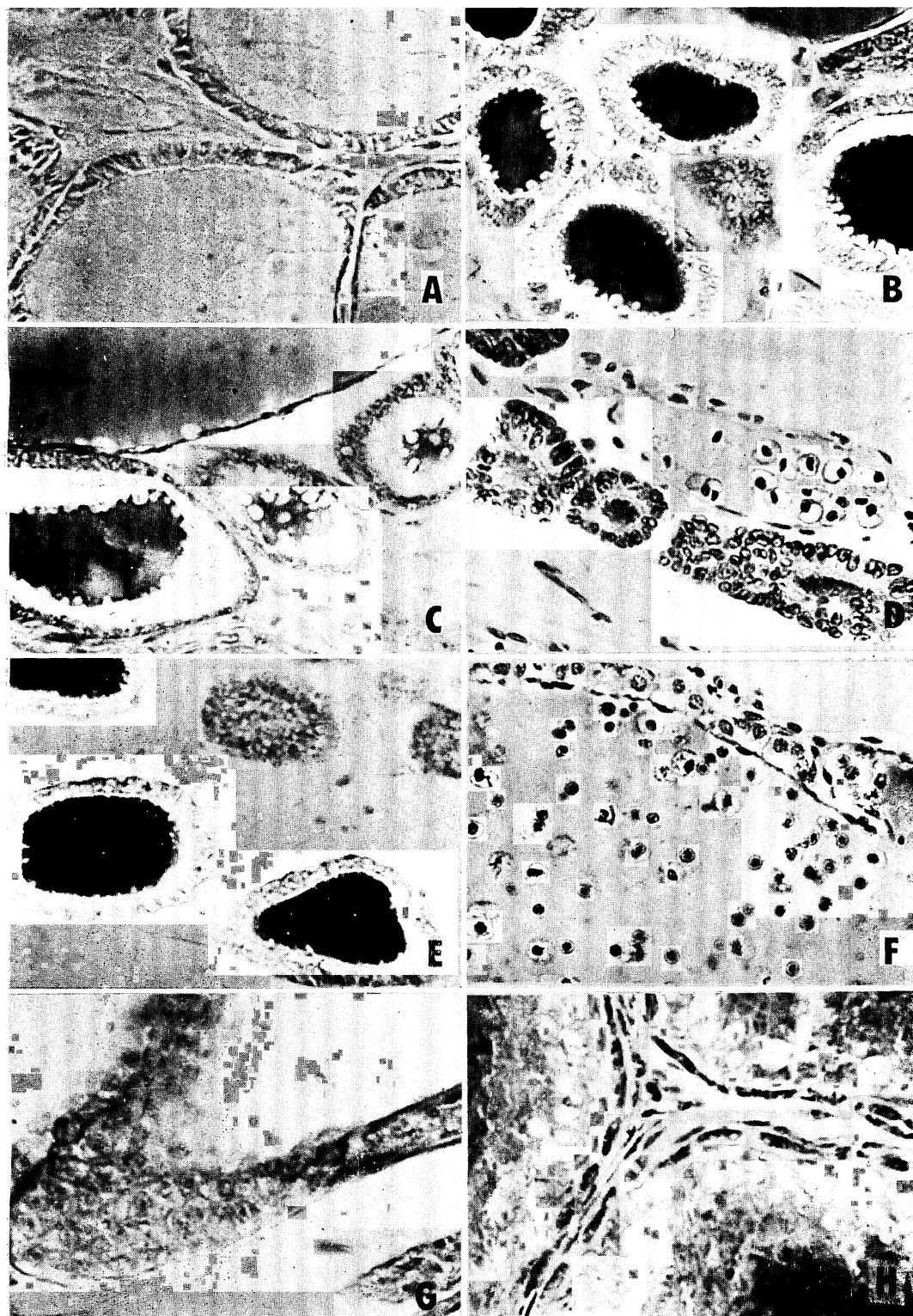


Plate 1.

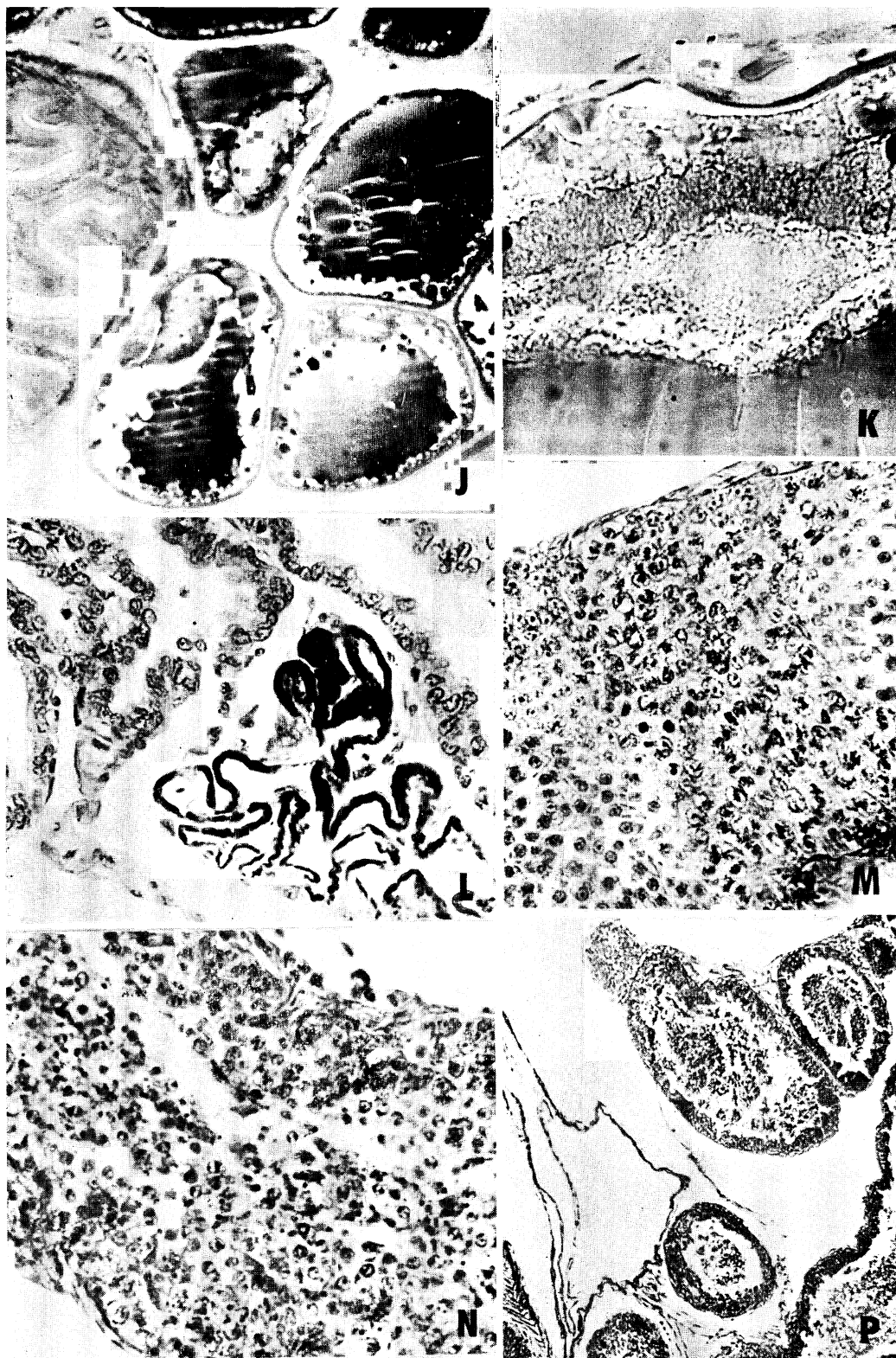


Plate 2.

of poikilothermic vertebrates are extensively reviewed and summarized by Barr (1968) and Lofts (1968), respectively. Regardless of a number of ovulation scars in the spent ovary of the ice-goby just after spawning, there was found no formation of true corpus luteum before and after the death of fish. We assume that the absence of corpus luteum might have been derived from the short survival time after the oviposition. It is of interest to see that a complete ripeness of the ovarian egg in this species is attained in the limited duration, i. e., from the onset of upstream migration in a short distance from the river mouth. The functional spermatozoa are formed asynchronously with the development of ovary in females, so that, a considerable amount of spermatozoa will remain even in the body of dead fish. Since a number of problems are unsolved, further detailed studies will be required on the physiology and ecology in reproductive function of the ice-goby, a species which shows a peculiar pattern of gonadal cycle among the teleostean fishes.

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ハゼ科魚類の一生における器官組織の変化—II. シロウオの下垂体標的器官 田村 栄光・本間 義治

小型の年魚であり、春季に産卵のため遡河するシロウオの生活形をよりよく理解する目的で、前報（視床下部一下垂体系）に引続き本種の一生にわたる材料を採集して、下垂体の標的器官のうち、甲状腺、間腎組織（副腎皮質）、両生殖腺を選び組織学的変化を追跡観察した。甲状腺は、腹大動脈に沿ってその前部に散在している汧胞群よりなり、海で生育しているものでは機能が低下している。ついで、遡河初期の先発群の甲状腺は比較的活動が高いが、後続群では遡河末期に至る群ほど低くなるので、浸透圧調節に関与しているとは思われない。一方、産卵場の個体では最高の亢進状態に達していたが、雌の方で雄に比しより激しい退行蕩費像を示した。間腎組織の増大には、生殖腺の成熟に伴う目立った変化が認められないが、産卵場の個体では退行像を示した。シロウオ卵巣卵の発育は同時的であり、遡河後産卵場に至るまでの間に急速に成熟する。放卵後の卵巣には多数の排卵痕がみられるが、黄体が完成しないうちに斃死してしまう。精巣は管状で、貯精囊などの付属腺をもたず、精虫の発達は同時的ではないが、産卵場において完熟する。しかし、雄魚の死後にも精巣腔中に相当数の残存精虫が認められた。

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