

NOTES AND NEWS

FIRST RECORD OF A SPINDLE COWRY *CRENOVOLVA* (OVULIDAE, GASTROPODA) FROM BULLEJI, KARACHI, ON THE GORGONIAN CORAL *MURICELLA* SP. AND WITH A NOTE ON THEIR ASSOCIATION

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Attached to hard substrata on our shores occur the branching colonies of gorgonian corals of the genus *Muricella* (Fig. 1A, Pl. 1B, C, D). Since there is no report on this genus from Pakistan this report be taken as the first record from here. The family Ovulidae comprise several hundred species of marine gastropods, all of which appear to be obligate associates of cnidarians as stated by Robertson (1970) and Hadfield (1976); the present ovulid gastropod genus *Crenovolva* lives exclusively on the gorgonians (Morton, 1989). Tirmizi and Zehra (1984) recorded thirty-two families of gastropods from Pakistan, but not any representative of the Ovulidae, so the material at hand may be the first record from Pakistan. Since we are unable to reach to specific level the material is being reported as unspecified.

Crenovolva sp.
(Fig. 1, Pl. 1A)

Material:

1 live specimen, 8x3mm, on a living gorgonian (*Muricella* sp.) (height 12.9cm) Bulleji, Karachi, 18 November, 1998; 0.3m.

Description:

The shell (Fig. 1B, C) is cylindrical, elongated, thin and translucent and mantle tissues are reflected over it to obscure its outline (Fig. 1D). The aperture is long and narrow, the ends are bluntly rounded. The posterior end is longer. The outer lip is thin and the inner lip is rounded and smooth. The surface has fine spiral and axial striae.

Shell colour: Magenta.

Body colour: Magenta.

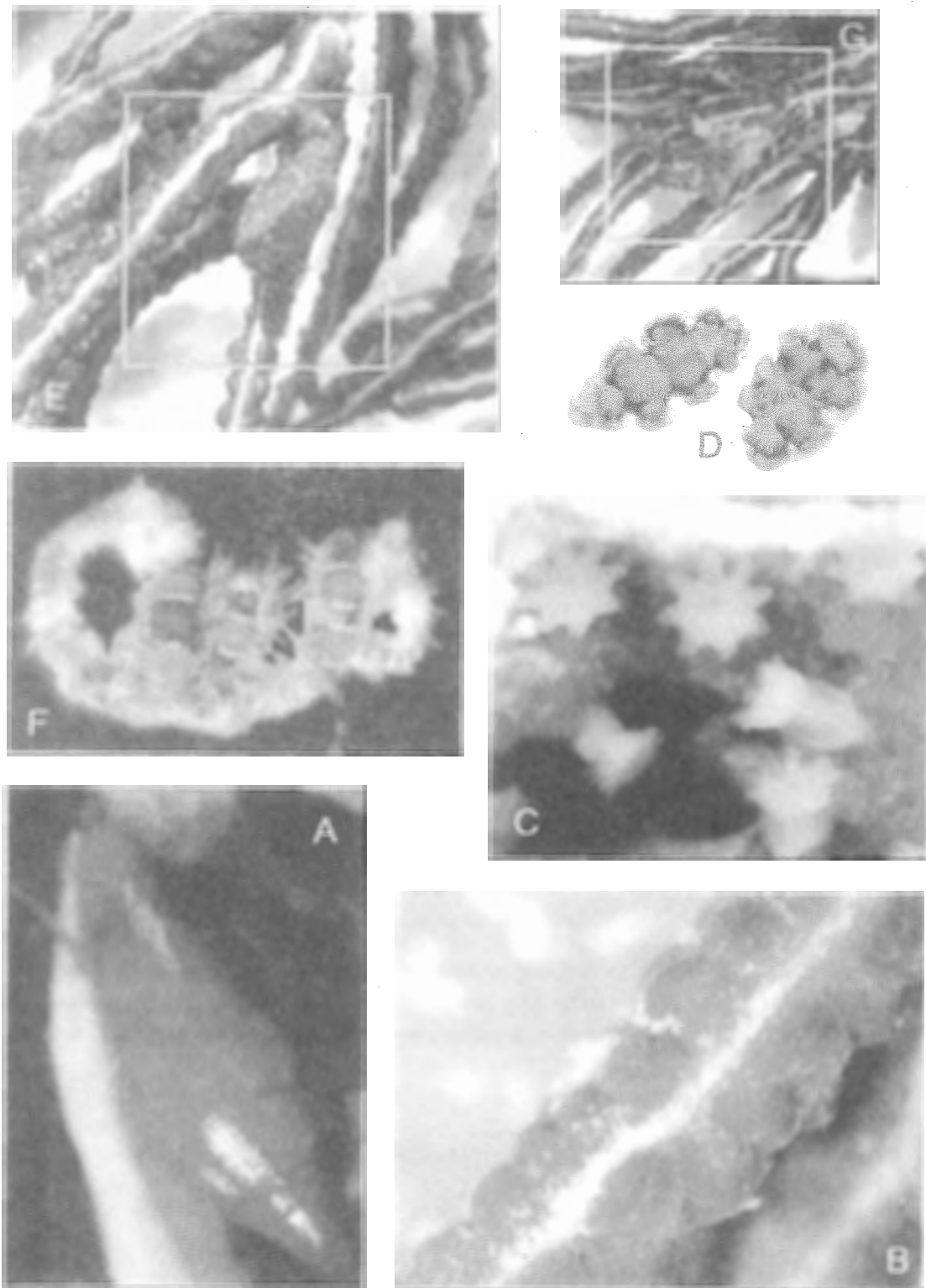
Mantle: Rounded dark red spots interspersed with white spots on papillae.

Foot: Magenta.

Siphon: Magenta.

Tentacles: Magenta with white tips.

Host colour: Verrucae white and magenta, polyps white.



Pl. 1. A. *Crenovolva* sp. on host (*Muricella*); B. *Muricella* branch; C. *Muricella* polyps, expanded; D. *Muricella* spicules; E. *Pteria chinensis* on host (*Muricella*); F. *Ophiothelia* sp. detached from host; G. *Cyphocarcinus sargassumi* on host.

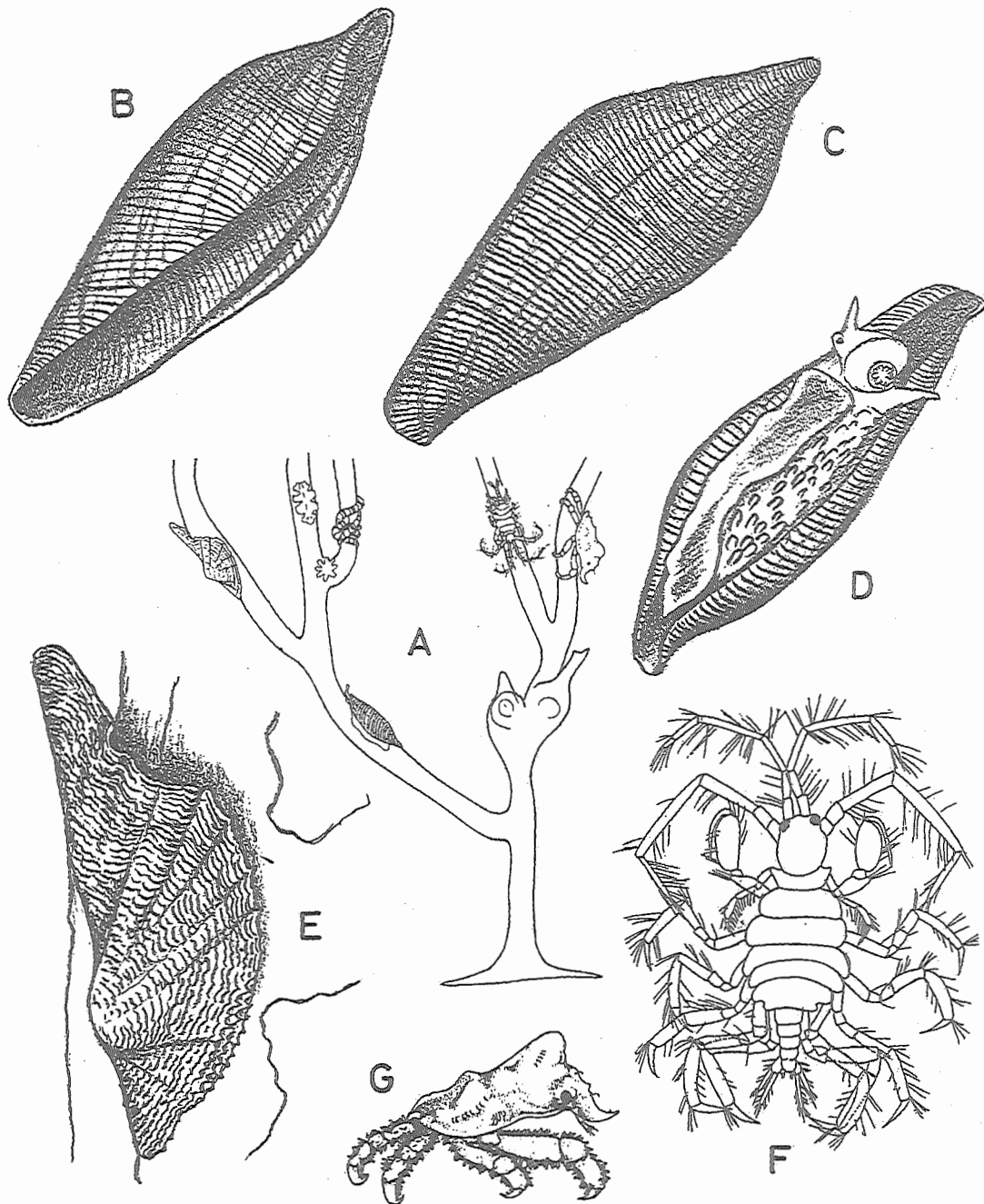


Fig. I. A. *Muricella* branch with associates; B,C. *Crenovolva* shell; D. *Crenovolva* animal; E. *Pteria chinensis*; F. *Laetmatophilus durbanensis* detached; G. *Cyphocarcinus sargassumi*.

Remarks:

Cumming (1997) described the colours of *Crenovolva striata* (Sowerby), *C. cuspis* Cate, and *C. platysia* (Cate) from Hong Kong. There is some resemblance in the Pakistani specimens of *Crenovolva* and *C. cuspis* Cate, the species is found in three morphs in Hong Kong and there is chance that the Pakistani material is another morph of *C. cuspis*. *C. cuspis* had different host in Hong Kong, the degree of host specificity is, however, not known for most ovulids (Cumming, 1997).

Note on association:

Though the colony of gorgonian offers relatively little shelter to the ovulid, when in motionless state on the gorgonian it was especially difficult to see *Crenovolva* as there is a correspondence between colour of its shell and colour of gorgonian host, both were magenta and white (verrucae and polyps were white). According to Morton, 1989 this camouflage is enhanced by the fact that the spindle cowry feeds on the gorgonian's tissues and obtains from its food, the pigment of the host which it transfers to its own shell and tissues but Patton, 1972 does not consider the incorporation of the host pigment in the shell as universal in the Ovulidae.

Among the associate ovulids which are obligatory associates of gorgonians Hadfield 1976 distinguished two distinct modes of feeding, (1) direct grazing on flesh of the host and (2) grazing on mucus, spicules shed by the host, surface debris, detritus and/or epiphytes on the host surface. This dichotomy creates two types of association between ovulids and their hosts, the first parasitic, the second commensal and when the snail feeds on its host flesh, it strips the skeleton bare.

Cumming (1997) studied two ovulid genera associated with gorgonians: *Phenacovolva* and *Crenovolva*. In his opinion the *Phenacovolva* has parasitic mode of feeding while the *Crenovolva* is commensal as it grazes on mucus and does not inflict wound. We did not find any sign of bare skeleton. The small scars caused by the removal of polyps were seen, they were filled by small yellowish eggs of some marine animal. It was not clear that the polyps are eroded due to abrasion by wave action or this erosion depends on biological factors. A study using marked individuals in the laboratory to observe feeding and exact interaction is necessary.

Several other animals live in association with species of gorgonians. In the present case one associate is a small specimen (10.5x4mm) of the winged oyster *Pteria chinensis* Leach (Pl. 1E, fig. 1E). The genus has been reported upon by Tirmizi and Zehra, 1982 but the species is being recorded from Pakistan for the first time (present report), and is known to attach to gorgonians and upon which it lives epizoically. It attaches by strong byssus threads and according to Morton, 1989 takes advantage of the moving branches to enhance its own filter-feeding activities. Presumably as these bivalves grow they bend the colony and either die or change position. Patton (1972), who studied *P. colymbus* observed that the attachment of the byssus weakens the underlying host coenenchyme. Several epizoic amphipod specimens (*Laetmatophilus* sp.) (Fig. 1F), two brittle stars (*Ophiothelia venusta*) (Pl. 1F), one majid crab (*Cyphocarcinus sargassumi* Kazmi) (Pl. 1G, fig. 1G), two annelids and one hydroid colony were also found on the gorgonian. The colony was not kept separate from other collection so except the bivalve and the brittle stars, there is a chance all the other animals took temporarily shelter on the gorgonian branches.

ACKNOWLEDGMENTS

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