

*Con affetto  
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Boll. Pesca Piscic. Idrobiol. 1975, 30, 2

**CONSIDERAZIONI FAUNISTICHE E DINAMICHE  
DI POPOLAZIONE DI ALCUNI MOLLUSCHI VIVENTI  
NEI FONTANILI LOMBARDI (\*)**

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## RIASSUNTO

Vengono esaminate le malacofaune dei fontanili della valle del Ticino, in sponda lombarda, nella fascia tra Turbigo e Abbiategrasso. Si fornisce una descrizione di ogni fontanile e l'elenco dei Molluschi viventi. Nelle considerazioni faunistiche si esaminano le associazioni più frequenti in rapporto al grado di evoluzione trofica dei fontanili e le varianti che di caso in caso riducono, o aumentano il numero di specie presenti. Si sono studiate le dinamiche di popolazione di quattro specie; quelle di *R. peregrina* e *P. planorbis* non si discostano dagli schemi proposti per altri ambienti e da vari AA. In *A. fluviatilis* si nota uno svincolamento del ciclo vitale da ritmi stagionali precisi. Per *T. fluviatilis* le dinamiche e le medie della popolazione evidenziano brusche e ampie fluttuazioni nella distribuzione delle mode di grandezza.

## RÉSUMÉ

On étudie la faune des Mollusques qui vivent dans les « fontanili » de la vallée du Tessin, du côté gauche, en Lombardie, situés entre Turbigo et Abbiategrasso (fig. 1). Pour chaque fontanile il y a une description du milieu (Annexé 1) et la liste des Mollusques collectés (tab. 2). On examine les peuplements les plus fréquents par rapport au degré d'évolution trophique des fontanili et les modifications locales qui comportent une diminution ou une augmentation du nombre des espèces.

La dynamique de population pour quatre espèces a été réalisée: chez *R. peregrina* et *Pl. planorbis* (fig. 4-5) on n'aperçoit aucune différence avec les schémas proposés pour d'autres écosystèmes et par d'autres Auteurs. Chez *A. Fluviatilis* (fig. 3-6) on remarque un détachement du cycle vital des rythmes saisonniers exacts. Pour *T. fluviatilis* (fig. 8) la dynamique et les moyennes de la population montrent des fluctuations soudaines et importantes dans la distribution des tailles.

## SUMMARY

Further studies on Molluscs living in Lombard « fontanili » have made it possible to check some faunistic populations observed in former times in other parts of the region. It has been confirmed that only a minority of the studied environments have kept their almost uniform chemico-physical features (mainly temperature) (group A), while others more or less feel the effect of a more advanced trophic level (groups B-C). As some « fontanili » are no longer used for irrigation, it is often not possible to study them (group E). The malacofauna feels these changes and reflects a quasicrenobitic environment with a specific and numerical scarcity, and an eutrophic and more evolved ecosystem with greater variety and abundance.

The group of «fontanili» situated between Turbigo and Castelletto confirms, with a general lower abundance of species, both the recent formation (as deduced from the cartography of about fifty years ago) and a relative environmental uniformity. We cannot exclude an ancient connection with the River Ticino because of the exceptional presence of *Theodoxus fluviatilis* in a «fontanile» (Staz. 7). In these «fontanili», too, *Unio* and *Anodonta* are missing, and we tend to ascribe the cause of their lack to the scanty exchange and contributions of fishfauna from water systems inhabited by Unionids and therefore to the non-carriage of glochidia. In fact in «fontanili» live little-moving fishes, like *Phoxinus phoxinus*.

Population dynamics of *Radix peregra* and *Planorbis planorbis* agree with the patterns of life cycle usually known for the Pulmonates; no second annual generation occurs in late summer or autumn and we note only a prolongation of oviposition after August. The two species have an annual life cycle.

For *Ancylus fluviatilis* there is a noteworthy difference from hitherto studied life cycles in Europe and, on the whole, similar to those of other Pulmonates.

In station 30 there is a release of oviposition and births from chemico-physical (mostly thermal) bonds, which usually lead the life cycles with seasonal rhythms, and reveal the times of growth and reproduction. Here, on the contrary, there is a series of generations free from one another and in every time of the year the population is composed of newborn, growing, adult and already reproduced individuals. The extreme chemico-physical uniformity of Staz. 30 permits *A. fluviatilis* to have a life cycle free from seasonal influences.

For *Theodoxus fluviatilis*, as the species lives two years, we can deduce only a few considerations from the data collected: the most important oviposition period occurs between June and September; the young appear mostly in September; part of the adults die after winter. Furthermore, we think that there is a bad variability of the eggs and a strong mortality among the young in autumn.