

BOOK REVIEW

Review on "Ecological Implications of Minilivestock"¹

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The book edited by Prof. M.G. Paoletti comprised of 29 articles on minilivestock. It is indeed a quite interesting book opening our mind that different people are exploiting different resources beyond our imaginations. The articles describe from all sort of consumed small invertebrates such as termite, honey pot ant, various forms of larvae such as of caddis fly, larvae of Dobson fly, instars caterpillar larvae, and also other insects such as locust, giant water bugs, crickets, gastropods, etc., include a number of small vertebrates such as frogs, birds, turtles, reptiles, rats, porcupines and others. This book is also well illustrated with interesting pictures of the subjects.

The book begins with an introductory article by M.G. Paoletti and A.L Dreon. It describes a large number of minilivestock which becomes the potential protein resource in some areas. They are largely consumed by people around the world and considered as alternative food resources. Although the kind of minilivestock described in this book is only a part of so many other consumable creature found in this planet, in fact it offers description on the varieties of different small animals either invertebrates or vertebrates which are quite familiar to different ethnic groups dispersed in this world. It is reasonable therefore that both expressed their concern on the possible extinction of species and the loss of traditional knowledge which are most of them not well recorded yet. In one hand there are so many tribal societies which are fast adopting new way of life and becoming alienated to their inherited customs and practices. They do not consume any more what they have traditionally consumes. In the other hand the massive mobilization of capital has destroyed the natural environment leading to the lost of the habitat of so many organisms formerly available as protein resources for the indigenous or tribal people.

This book is probably one of the rarest of the kind. The Paoletti and Dreon have rightly summarized their concerns on the inadequate understanding of local knowledge, on the possible extinction of species, and the arguments of why minilivestock is important.

The practice of consuming small creature probably has already taken place since the beginning of human long history. A long list of animals can probably still be deduced not only what the authors of the book have presented, but we also could enrich (our knowledge) from the fact that some of the Chinese restaurants still serve various plates of different animals as delicacy: meat of reptiles, monkeys, various sea creatures and even

¹ Edited by Maurizio G.Paoletti, 2005 Science Publ.,Inc., Enfield.

different insects. It is widely known that weevil Grubbs (see also Tomaseo-Ponzetta, page 441-458) or invertebrates in general are part of the traditional menu for the tribal societies in South East Asia and New Guinea. It is also rightly mentioned by Paoletti and Dreon (op.cite) in their article that various cultures adopted different and unfamiliar small animals are part of their food according to the availability in their surrounding. The concern of those two above authors on possibility of disappearance of local knowledge on minilivestock is quite accepted. The book is indeed a valuable contribution to the efforts of documenting such traditional practices and knowledge which now are still well observable and able to be recorded by the authors in different areas of the world.

The articles on edible insects such as described by Defoliart, Tomaseo-Ponzetta, Malaisse, van Huis, Tchibozo *et al.*, Mitsubashi, Ramos-Elorduy, Onore, Yen, etc., are offering the spectrum and variety of edible insects around the world. For many, insects or other arthropods are supposed to be beneficial for human food resources as well as medicinal ingredient (see for instance the article by Zimian *et al.*), but it should also be considered they commercial value for other domestic or pet animal (see Collavo *et al.* in this book).

What was mentioned by Jacques E. Hardouin (page 19-24) that the minilivestock breeding is a wonderful example for backyard or semi urban activities are probably executable by third world people? But acculturation with western culture and the propagation of what is considered to be hygienic, non hygienic, what is nutritious and non nutritious or what is proper and un-proper might pose problems.

Maggot which is filthy or disgusting for the westerner, it is now economically becoming important for bird lovers. Even the breeding of other different insect larvae, worms and caterpillars are of economic values to the pet lovers in Indonesia. Of course the practice is becoming a mean to conserve the species.

But the comment given by David Pimentel which expressed ".....Indeed, such minilivestock are already a part of many people's diet in various parts of the world to day." seems to give an erroneous idea, as if it gives the impression that the eating of all the creature shown in the book are only recently practiced. The adoption of modern education and imported religion to some of the Indonesian tribal societies has changed their food habit to some extent. The Mentawai people are still consuming the mollusk living in rotten wood on shore, but the Punan and the west Papuan have likely lost the custom to look for the same mollusk living in rotting wood, although in the past both ethnic groups consumed the same species.

With the flow of the new civilization from the West or probably also from the Middle east, or with the expanding of imported religions from outside have contributed to the adoption of so many taboo which are not relevant to resources availability in the environment. Such a behavior is likely contributed to the lost of the traditional custom of eating different protein resources, such as pork, rat, frog or even reptiles.

It should be noted though, that asking a question to school pupils or city inhabitants whether they are still familiar with traditional practice of eating something from the wood will certainly get a frustrating answer.

Personal communication held with dr. Suryadi of the Ministry of health of Republic of Indonesia, mentioned that a large number of school children of Papua (West Irian) for instance are suffering food deficiency because they don't have the opportunity to look for

extra food intake from the wood during the morning and day time. And of course their knowledge on various insects, reptiles and fruit or berries as food resources is rapidly fading. So it seems that gathering and foraging activities are mostly part of children and mother activities, so that it is rightly written by Tommasco-Ponzetta, in this book that children and women rely on small animals that are easily collected, although it should be mentioned particularly invertebrate. But either in Irian or even in small Island such as in Mentawai, west of Sumatra, weevil grubs are eaten and raised on a rotting sago trunk.

It is rightly mentioned by Leslie J. Elmslie (93-121) that eating snail might cause parasitic worm infestation which might lead to *meningo (en) cephalitis*. The case is different from what we observe in central Sulawesi, around the Lindu lake where *Schistosomiasis* is endemic: in which cases of elephantiasis are frequently reported.

There is a wide different appreciation among nation on the preference and food habit. The French and Italian can appreciate the snail, frogs and garlic, which are not quite appreciated by Anglo-Saxon descent (see Valerio Giaccone, page 579-on). The Scots however are known to eat haggis (the boiled sheep stomach), which is part of the internal organ which are daily consumed by South east Asian. It is true that historical, religious, geographical, social and economic factors can change dietary habits of population. There are people in Indonesia for instance that still consume, frog, reptiles (lizards and crocodiles), dog, horse, different wild pigs (swine), rat, monkey or different carnivore meats, and marine animals in general, including turtle. Those practices of consuming different animals either vertebrate or invertebrate are particularly still found among tribal societies. Only people adopted imported religion from the West or Middle east start limiting their of protein resources as rightly noted by Giaccone. In reality it shows that geographical setting with the available resources has contributed to the development of local people food dietary habit. If in the past the Romans consumed fermented fish, at present the Indonesian are still consuming either fermented fish (particularly anchovy) and shrimp or even fermented durian fruit (*Durio zibethinus*)

This book does not provide variety of minilivestock only, geographical distribution of different species in different continents, but it also provides with nutritious analysis of different minilivestock or small animals as written by Cerda *et al.*, (article 17) or by Zhenjun (article 24), Ramos-Alorduy (article 14), Bukkens (article 28) etc., which render the book quite informative..

The description of the medicinal use of different animals are also included in the book as written for instance by Yhoung-Aree and Viwatpanick (article 20) depicting for instance the eating pattern and cooking method of different insects, they also described the productive months of different insect in the continent S E Asia (pg 424).

It is certain that the kind of described nutritious minilivestock above is only a part of the existing actual specimens traditionally consumed by different tribal societies in the world. The book, however, offers already an interesting overview and a hint to many anthropologists, sociologists or even bio-scientists and medical doctors on the possibility for them to take account on various resources which are un common to the supposedly civilized citizens.

The book worth to be read by anthropologists, nutritionists as well as medical doctors operating in all under-developed (developing) countries. It gives a broader insight on the possibility of understanding why some small animals are eaten by locals.