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The Occurrence  
of *Anodonta woodiana* Lea, 1837  
in Indonesia  
(Pelecypoda: Unionidae)

BY

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THE FRESHWATER MUSSEL *Anodonta woodiana* Lea, 1837, is native to China and Taiwan. At present it may be found in some localities in Java and other islands in Indonesia. Its occurrence was first discovered in 1970 in the fishponds of the Inland Fisheries Research Institute at Bogor, West Java, after the introduction of two cultivated fish species from Taiwan, the silver carp (*Hypophthalmichthys molitrix* (Valenciennes)) and the Nile tilapia (*Tilapia niloticus* (Linnaeus)) in 1969.

Judging from the life cycle of the Unionidae, the only plausible explanation is that it has been carried in a larval stage. *Hypophthalmichthys molitrix* and *Tilapia niloticus* seem

to be the host fishes and responsible for carrying the mussel. Apparently these fishes have been parasitized by the glochidia of *Anodonta woodiana*. While being bred in the Fishery ponds the glochidia have developed into young mussels, freed themselves from the fishes to live as ordinary mussels. The new habitat has proved to be suitable for the mussels; they thrive and multiply.

In 1972 a number of the mussels have been released in the ponds of the Bogor Botanical Garden, which are inhabited by several native fish species. The fishes seem to be suitable as host for the glochidia. The mussels propagate luxuriantly in the ponds. The broad oval shell is olivaceous green to dark green, ornamented with dark green rays; sculptured by irregular strong concentric folds. The umbo is inflated, reddish brown and sculptured by 3-4 undulating loops in the young shell. The nacreous inside is pinkish white to orange, especially below the umbo. Hinge teeth are absent; on some shells, however, the part below the umbo may be somewhat dilated as a pseudocardinal tooth. Many specimens attain over 150 mm in length. A specimen collected in February 1979 measures: length 266 mm, height 127 mm and breadth 60.7 mm. This is the largest freshwater bivalve ever recorded from Indonesia.

Conforming with the purpose of the importation of the two cultivated fish species, to increase the animal protein production, numbers of specimens have been introduced in several localities in Java, Sumatra, Sulawesi (Celebes), Nusa Tenggara Islands (the Lesser Sunda Islands) and the Moluccas. This may open the way to the mussel for a wider range of distribution, and this is proved by the fact that specimens of *Anodonta woodiana* have been collected from Manado in North Sulawesi, Kendari in Southeast Sulawesi and from Lombok Island in the Nusa Tenggara Islands, after the introduction of the fishes. This occurrence changes the known range of distribution of the family Unionidae in the Indonesian Archipelago. Unionid mussels were previously not present in Bali and the islands between the Wallace and Lydekker Lines (two faunal lines in the Indonesian Archipelago, the fauna between which has Asian and Australian affinities), Sulawesi, the Nusa Tenggara Islands and the Moluccas. Towards the east the unionid mussels are recorded again from Misool Island and New Guinea. If the introduction of the fishes proceeds to other islands of the archipelago, it is not impossible that in the long run *A. woodiana* will spread much further.

The occurrence of *Anodonta woodiana* in Indonesia, however, is economically considered to be profitable, since freshwater clams and mussels are traditionally consumed by local people as an additional source of animal protein or as a delicacy.

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