

NEW FRESHWATER SHRIMP RECORDS FOR TOBAGO,
WEST INDIES, WITH A SUMMARY OF RECORDS
FOR THE LESSER ANTILLES
(Atyidae and Palaemonidae)

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Abstract.—Collections made on Tobago, W.I., in April 1978 increased the known freshwater shrimp fauna of that island to 10 species—*Atya innocous*, *A. scabra*, *Jonga serrei*, *Potimirim glabra*, *Xiphocaris elongata*, *Macrobrachium acanthurus*, *M. carcinus*, *M. crenulatum*, *M. faustinum*, and *Palaemon (P.) pandaliformis*. Before that time only 2 freshwater shrimp species were known from Tobago.

In April, 1978, several staff members¹ from the Chesapeake Biological Laboratory of the University of Maryland carried out a 2-week fisheries survey of near-shore and freshwater habitats on Tobago, West Indies. M. L. Wiley was primarily responsible both for collecting the decapods and sending them to Austin B. Williams of the National Marine Fisheries Service Systematics Laboratory, Washington, D.C. Subsequently, Dr. Williams made the freshwater shrimps available to me.

I thank Drs. Wiley and Williams; Mr. Hardy, who initiated the survey; and Mr. H. E. Wood, Senior Fisheries Officer, Ministry of Agriculture, Land and Fisheries Division, Port-of-Spain, Trinidad, who gave permission for the survey to be made.

Collections containing palaemonid and atyid shrimps were made at 6 localities (Fig. 1) on Tobago; night and daytime collections were made at Station C; and rotenone was used to aid in collecting at Station B.

The station localities are as follows:

- A.—Bloody Bay River, lower coastal lagoon just above beach. 6 April 1978. 11°18'N; 60°38'W.
- B.—Bloody Bay River at barrier beach pool (collected with rotenone). 15 April 1978. 11°18'N; 60°38'W.
- C.—Doctor's River, in small dammed pond near Speyside (collections made in daylight and at night). 9 April 1978. 11°18'N; 60°32'W.
- D.—Merchiston River, below Windward Highway down to barrier pool. 9 April 1978. 11°16'N; 60°32'W.

¹ J. D. Hardy, Jr., leader; L. Lubbers III; F. D. Martin; D. Shelton; and M. L. Wiley.

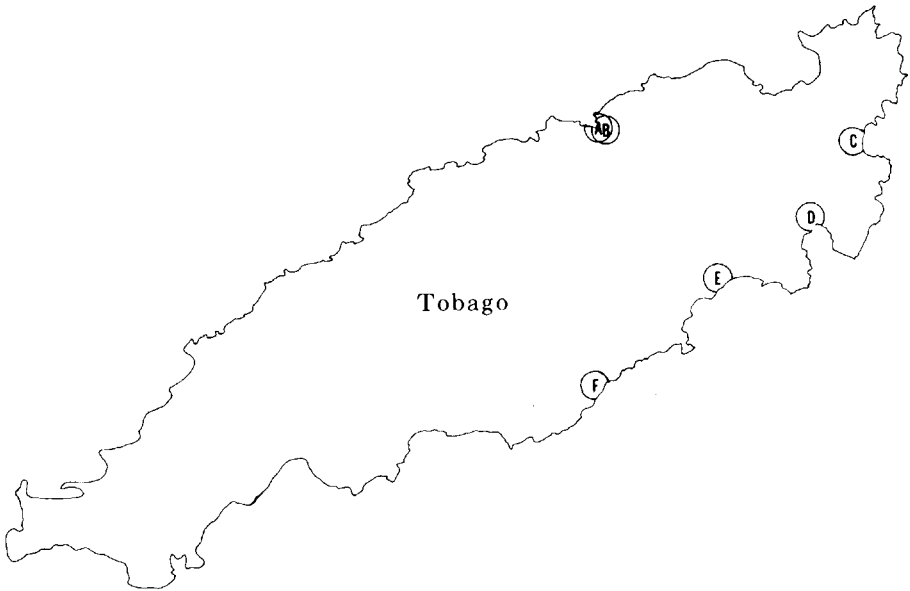


Fig. 1. Tobago, W. I., showing locations of collecting stations.

- E.—Roxborough River, about 1 mile N of windward Highway. 9 April 1978. $11^{\circ}14'N$; $60^{\circ}35'W$.
- F.—Goldsborough of Great River, just upstream of bridge at Windward Highway. 7 April 1978. $11^{\circ}12'N$; $60^{\circ}38'W$.

Some 200 specimens of caridean shrimps, representing 8 species in 6 genera, were collected from the 6 localities. Data concerning the species are given in Table 1.

When Chace and Hobbs (1969) summarized the available information on freshwater and terrestrial decapods of the West Indies, they mentioned *Macrobrachium faustinum* as the only freshwater shrimp having been recorded from Tobago. Later, a record of *Atya scabra* was discovered by Hobbs (Ortman, 1895), and this, together with the 8 species collected by the Chesapeake Biological Laboratory team, bring the island total of known caridean shrimp species to 10 (Table 2).

In discussing the Antillean distribution of the monotypic genera *Jonga* and *Micratya*, Chace and Hobbs (1969:20) surmised that those species reached the Greater Antilles from the Central American-Mexican region and spread southeastward. They based their reasoning on the observation that *Jonga* and *Micratya* were apparently absent from the lower islands of the Lesser Antillean chain and from South America. The new information does

Table 1.—Data on the 8 species of freshwater caridean shrimps collected on Tobago, W.I., in April 1978.

Species	Sex	Stations								Postorbital carapace lengths (mm)		
		A	B	C	D	E	F	Range	Means & standard deviations			
<i>Jonga serrei</i>	♂	—	2	5	—	—	—	—	—	1	2.25–3.50	2.68 ± 0.36
	♀ (total)	2	10	5	1	—	—	—	—	6	3.5–6.0	4.59 ± 0.71
	♀ (ovig.) juv.	(2)	(10)	—	—	—	—	—	—	—	3.5–4.75 3.0, 3.0	4.16 ± 0.45
<i>Potimirir glabra</i>	♂	—	—	19	—	—	—	—	—	—	3.75–4.75	4.07 ± 0.22
	♀	—	—	11	—	—	—	—	—	—	5.25–7.0	5.89 ± 0.62
<i>Xiphocaris elongata</i>	♂	—	—	5	—	—	—	—	—	—	9.5–11.5	10.60 ± 0.82
	♀	—	—	6	—	—	—	—	—	—	11.0–12.75	12.10 ± 0.55
<i>Atya innocous</i>	♂	—	—	4	—	—	—	—	—	—	17.0–29.0**	24.0 ± 4.6
<i>Macrobrachium carcinus</i>	♂	—	—	4	—	—	—	—	—	—	11.0–29.25	16.69 ± 7.4
	♀	—	—	2	—	—	—	—	—	—	12.0, 34.0	
	juv.	—	***	*	—	—	—	—	—	—	****	
<i>Macrobrachium crenulatum</i>	♂	—	—	2	—	—	—	—	—	—	17.0, 17.75**	
	♀	—	—	2	—	—	—	—	—	—	14.0, 16.75	
	juv.	—	—	*	—	—	—	—	—	—	****	
<i>Macrobrachium acanthurus</i>	♂	—	—	—	—	—	—	—	—	3	9.0, 12.75, 18.5	14.16 ± 3.58
	♀	—	—	—	—	—	—	—	—	6	10.0–21.0	
	juv.	—	—	*	—	—	—	—	—	—	****	
<i>Palaemon (P.) pandaliformis</i>	♂	—	—	—	1	—	—	—	—	—	4.0–6.0	4.56 ± 0.84
	♀ (total) ♀ (ovig.)	—	—	—	—	—	—	—	—	19 (4)	3.5–7.5 5.0–6.0	5.14 ± 0.75 5.38 ± 0.41

* 26 *Macrobrachium* sp. (juvenile or without chelae) collected in daytime; 25 at night.
 ** Largest specimens collected at night.
 *** 9 juvenile *Macrobrachium* specimens, possibly *M. carcinus*.
 **** 11 juvenile *Macrobrachium* specimens, possibly *M. acanthurus*.
 ***** 8 juvenile *Macrobrachium* sp. specimens.

Table 2.—Summary of freshwater shrimp records for the Lesser Antilles.

	<i>Atya imitans</i>	<i>Atya scabra</i>	<i>Jonga serrisi</i>	<i>Micratya procy</i>	<i>Palumirim potimirim</i>	<i>Palumirim americana</i>	<i>Palumirim klabera</i>	<i>Xiphovetis elongata</i>	<i>Macrobrachium acanthurum</i>	<i>Macrobrachium carolinum</i>	<i>Macrobrachium crumatum</i>	<i>Macrobrachium foerstianum</i>	<i>Macrobrachium heterochirus</i>	<i>Palaemon (P.) pondaicommis</i>	<i>Typhlatya minor</i>
St. Martin								●	●						
Barbuda															●
Montserrat	●														
Guadeloupe	●	□	□	□		□	□	□	□	●	□	●		□	
Dominica	●	●	●	●		●	●	●	●	●	●	●			
Martinique	●			●				●							
St. Lucia							●		●			●			
St. Vincent	●											●	●		
Barbados			●				●		●		●	●			●
Grenada									●	●	●				
Tobago	☆	▲	☆			☆	☆	☆	☆	☆	●			☆	
Trinidad		●			●				●	●			●		
Bonaire									●			●			
Curacao									●		●				
Aruba									●						

● Chace & Hobbs □ Lévêque ▲ Ortman ☆ New Tobago records

not dispute this conclusion as it relates to *Micratya*, but the occurrence of *Jonga* on Tobago leads one to believe that it may have entered the Antillean chain from either Central or South America. The presence of *Jonga* on an island so close to South America suggests that it may also be present, but overlooked, in the mainland waters of the continent.

Reports of the behavior of another shrimp (H. E. Wood, personal communication) found in areas away from the coastline, indicate that *Macrobrachium heterochirus* is, in all probability, also to be found on Tobago.

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