Micronesica 23(2): 93–118, 1990

Chamorro Fish Names[1]

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Abstract—Over 260 names in the Chamorro fish nomenclature system show influences from Spanish, English, Japanese, Polynesian and Philippine languages. Some of the names of local origin are translatable and describe aspects of the fishes that the islanders found important or interesting. The near absence of locally derived names for pelagic and deepwater species is unique in Micronesia and is possibly the result of a change in subsistence patterns that occurred during the early colonization of the Mariana Islands.

Introduction

The indigenous inhabitants of the Mariana archipelago in Micronesia, the Chamorros, were skilled fishermen (Driver 1983) and they had a detailed nomenclature for the fishes they caught. The islanders' economy was profoundly affected by colonization (Carano & Sanchez 1964) and today the Chamorros do not depend on the sea as in prehistoric times, though subsistence fishing is still a part of some households. Present Chamorro fish names indicate the economic importance of each family of fish and record European influences on native fishing practices.

The earliest mention of Chamorro fish names was in 1602 by Fray Juan Pobre de Zamora, who included three terms in his manuscript (Driver 1983). Several 19th century reports mention a few fish names also (Villalobos 1833, Chaco Lara 1885, Olive Y Garcia 1984). Ibañez del Carmen (1865) in his Spanish-Chamorro dictionary gave several names, most of which are still in use today. Seale (1901) included 33 vernacular names in a systematic account of Guam fishes. The names were provided by Safford who later prepared a list containing 64 names (Safford 1905a). Von Preissig (1918) included most of these in a Chamorro-English dictionary. The Chamorro-Castellano dictionary by de Vera (1932) included native names for 55 species. An account of Guam fishes published by Bryan (1938) included many of the native names listed by Safford. F. C. C. Goo & A. H. Banner (unpubl.[2]) compiled 80 names taken from Von Preissig, Safford and Seale; this list contains many duplications and several misleading descriptions. F. P. DeLeon (unpubl.[2]) listed 112 local and scientific names; Kami *et al.* (1968) and Kami (1971, 1975) gave 78 local names provided by DeLeon. Topping *et al.* (1975) in their Chamorro-English dictionary listed 125 fish names, including Kami's list and many new names. There are occasional inaccuracies; native names were sometimes assigned to fishes not found in Micronesia. P. D. McMakin (unpubl.[2]) listed 106 names taken mostly from DeLeon (unpubl.).

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[1] This paper won the 1990 Micronesian Studies Essay Contest sponsored by Micronesian Area Research Center.

[2] Copies of these unpublished reports are available in the library of Micronesian Area Research Center, Univ. Guam.

Vernacular names in Amesbury & Myers (1982) also largely follow DeLeon. A list of Chamorro fish names from the northern Marianas was prepared by Aldan (unpubl.), for the CNMI Fish & Wildlife Division and names of offshore fishes have been collected from Tinian and Rota (Micronesian Archeological Research Services, unpubl.). Several other publications and reports mention Chamorro fish names (Amesbury *et al.* 1979, Amesbury *et al.* 1986, Thompson 1987).

Despite the many lists of Chamorro fish names, none contain more than half of the total recorded terms. The list below, of 270 entries, is a compilation of the available material written in the last 150 years. The inaccuracies of older lists have been corrected and all names are written, many for the first time, using the orthography adopted by the Marianas Orthography Committee and found in Topping *et al.* (1975).

The list is also the result of interviews with Chamorro fishermen from Guam, Rota and Saipan. One hundred and twenty-three names were collected including 11 that do not appear in other works. Most interviews on Guam took place during or after fishing trips. Otherwise, fishermen were asked to identify fishes from color photographs.

Very little has been written about the origins or translations of Chamorro fish names. In Micronesia only Belauan and Satawalese fish names have been examined in this regard (Helfman & Randall 1973, Johannes 1981, Akimichi & Sauchomal 1982). In this paper introduced names are commented upon and translations are included for 38 native terms.

In the following lists Chamorro fish names derived from other languages are followed by a letter indicating their origin: (S), Spanish; (E), English; (J), Japanese; (H), Hawaiian and (F), Filipino. Foreign fish names with Chamorro modifiers are listed as foreign; Chamorro fish names with Spanish derived modifiers are listed as Chamorro.

The fish's common English name and Latin binomial are listed after the Chamorro name. If the fish name is found in other works, then an abbreviation of the author's name follows the binomial: A, Amesbury and Myers, 1982; AL, Aldan 1989; DL, DeLeon 1965; DR, Driver 1983; G, Goo & Banner 1963; KM, Kami *et al.* 1968 and Kami 1971, 1975; M, McMakin 1977; MI, Mic. Arch. Res. Serv. 1989; S, Safford 1905a; TP, Topping *et al.* 1975; V, de Vera 1932. Chamorro fish names collected by the author of this paper are followed by the letters, KR.

Reef associated species are defined as fishes living inshore to a depth of 90m. Pelagic and deepwater species are those fishes living in open ocean or living at depths greater than 90m. Depth values were taken from Amesbury & Myers (1982). The usually-pelagic flyingfishes (Exocoetidae) are included among the inshore species in this list because they are frequently seen in the shallow lagoons of Guam and Saipan.

Reef Associated Species

á'aga	many wrasses (Labridae) A DL KM KR M S TP
ababang	butterflyfishes (Chaetodontidae), angelfishes (Pomocentridae), moorish idols (Zanclidae) A AL DL G KM KR M S TP V
ababang amariyu	yellow tang (*Zebrasoma flavescens*), yellow butterflyfish (*Chaetodon auriga*) M TP

ababang gupalao	moorish idols (Zanclidae), false moorish idols (*Heniochus* spp.) A DL G KM KR M S TP
ababang lonnat	spotted butterflyfish (*Chaetodon lunula*) A M
ababang pintado	a butterflyfish (*Chaetodon* sp.) G S
ababang rayao	striped butterflyfishes (*Chaetodon* spp.), moorish idol (*Zanclus cornutus*) AL M
afula'	stingrays (Dasyatidae) A DL KR TP
agua	mature milkfish (*Chanos chanos*) A DL KM KR M TP
aguas	immature mullets (Mugilidae) A AL DL M S TP
aguas pakyo	batfish (*Platax obicularis*) AL
alamen	silvermouth (*Aphareus furcatus*) AL
aletses	round herring (*Spratelloides delicatulus*) DL G KM M TP
alon finu	blackspot barracuda (*Sphyraena forsteri*) AL
alon laiguan	small schooling barracudas (*Sphyraena* spp.) TP
alon le'u	graceful lizardfish (*Saurida gracilis*), a small barracuda (*Sphyraena* sp.) KR TP
alu	barracudas (*Sphyraena* spp.) A AL KM KR M MI TP V
aluda	stocky hawkfish (*Cirrhitus pinnulatus*) G TP
alulou	cigar wrasse (*Cheilio inermis*) S
amadeo (S)	flag-tailed grouper (*Cephalopholis urodeta*) AL
anaha	immature rudderfishes (Kyphosidae) DL
atinget	barred flagtail (*Kuhlia mugil*) A AL KM M TP
atot (F)	blennies (Blennidae), mudskipper (*Periopthalmus koelreuteri*), gudgeons (Eleotridae) KM TP
atuhong	large bumphead parrotfish (*Bolbometapon muricatus*) A DL KR M

atulai	small bigeye scad (*Selar crumenophthalmus*) A AL DL KM KR M MI TP V
bábasbas	a goatfish (Mullidae) TP
bangus (F)	milkfish (*Chanos chanos*) A KR M
ba'yak	trumpetfish (*Aulostomis chinensis*), flutemouth (*Fistularia commersonii*) A G KM M S TP V
ba'yak amariyu	yellow trumpetfish (*Aulostomis chinensis*) KR
bonita (S)	fusiliers (*Caesio teres, Pterocaesio tile* and *P. chrysozona*) A DL KM KR M
bu'a	onespot snapper (*Lutjanus monostigmus*) AL DL G KM M S TP V
bu'an pento	onespot snapper (*L. monostigmus*) AL
bueli	lyretail trout (*Variola louti*) AL
buka dutse (S)	sixfeeler threadfin (*Polydactylus sexfilis*) DL G KM KR M S TP
buninas	blue-lined snapper (*Lutjanus kasmira*) KR TP
butete (S)	pufferfishes (Tetraodontidae) A DL G KM KR M TP V
buteten malulasa (S)	smooth pufferfishes (*Arothron hispidus* and *A. nigropunctatus*) M TP
buteten pento (S)	sharp-backed pufferfishes (*Canthigaster* spp.) TP
buteten títuka' (S)	spiny pufferfish (*Diodon hystrix*) A DL KM KR M S TP
cha'lak	squirrelfishes (*Neoniphon* and *Sargocentron* spp.) A DL G KM KR M S T V
dafa	a small blue parrotfish (Scaridae) DL G S V
dagge'	immature rabbitfishes, 5-10 cm (Siganidae) AL DL G KM KR M TP V
danglon	boxfishes (Ostraciidae) A G M S

disu'	large parrotfishes (Scaridae) KR
doddo	sergeant damselfishes (*Abudefduf* spp.) DL KR M TP
eguan	immature goatfishes, 10-20 cm (Mullidae) DL KR
fáfa'et	red snapper (*Lutjanus gibbus*), a grouper (Serranidae), bigeyes (Priacanthidae) DL KM KR M TP
faha	sharp-backed pufferfishes (*Canthigaster* spp.), any filefish (Monocanthidae) DL KM KR M
fanihin tasi	eagle rays (Myliobatidae), batfishes (Platacidae), manta ray (*Manta alfredi*), stringrays (Dasyatidae) A DL G KR M S TP V
faya	immature milkfish (*Chanos chanos*), anchovies (Engraulidae) A TP
fomho'	damselfishes (Pomocentridae) A DL G KM KR M S TP V
fomhon gadudok	clownfishes (*Amphiprion* spp.) DL KM M S TP V
fomhon payao	spotted damselfishes (*Pomocentrus* spp.) M
fumo	medium bumphead parrotfish (*Bolbometapon muricatus*) DL
funai	blue-lined snapper (*Lutjanus kasmira*) DL KM KR M TP
gadao	groupers (Serranidae) A DL G KM KR M S TP V
gadao alutong finu	marble grouper (*Epinephalus microdon*) AL
gadao maluslus	blue-spotted grouper (*Cephalopholis argus*) AL M
gadao mama'te	greasy grouper (*Epinephelus tauvina*) TP
gadao matingon	lyretail trout (*Variola louti*) DL KR
gadao pentu	spotted groupers (Serranidae) M
ga'das	wrasses (*Cheilinus* spp.) DL KM KR M S TP
gadu	a wrasse (*Cheilinus* sp.) DL S V

gaga	flyingfishes (Exocoetidae) A DL DR KM KR M MI S TP V
gepan	mature rudderfishes, less than 20 cm (Kyphosidae) DL
giñu (J)	silversides (Atherinidae) TP
ginyo (J)	silversides (Atherinidae) TP
gogunafun	jobfish (*Aprion viriscens*) MI
gasgasnafun	jobfish (*A. viriscens*) MI
guaguas	soapfishes (*Gerres* spp.) DL G KM KR M TP
guaknas	whitebar surgeonfish (*Acanthurus leucopareius*) G M TP
gualik	yellow longnose parrotfish (*Hipposcarus longiceps*) DL
guasa'	immature unicorn tangs (*Naso* spp.) DL G KM KR M TP V
guihan pabu	lionfishes and turkeyfishes (*Pterois* spp.) TP
guili	rudderfishes (Kyphosidae) A DL KM KR M TP V
guilen puengi	dark rudderfish (Kyphosidae) DL KM M TP
gulafi	yellow longnose parrotfish (*Hipposcarus longiceps*) DL KR
gurutsu (J)	silvermouth (*Aphareus furca*) A
hachuman	scads (*Decapterus* spp.) DL KR M MI TP V
hagi	leatherback jack (*Scomberoides lysan*) DL G TP V
hagon faha	long-nosed filefish (*Oxymonocanthus longirostris*) A DL G KM KR M S TP V
haiteng	large bigeye scad (*Selar crumenopthalmus*) A KR TP
hakmang	moray eels (Muraenidae), snake eels (Ophichthidae) A G KM KR M S V

hakmang attilong	a black eel S V
hakmang kulales	a snake eel (*Myrichthys* sp.) TP
hakmang lisayu	spotted snake eel (*Myrichthys maculosus*) A G KM M TP
hakmang pakpada	moray eels (*Echidna* spp.) G TP
hakmang palus	moustache conger eel (*Conger cinereus cinereus*) DL
hakmang titugi'	snowflake moray eel (*Echidna nebulosa*) G
halu'on unai	reef sharks (Carcharhinidae) TP
halu'u	sharks (Lamniformes) A DL KM KR M S TP V
hamala	spotted sweetlips (*Plectorhinchus picus*) A KM KR V
hamoktan	white-spotted surgeonfish (*Acanthurus guttatus*) AL DL G KM M S TP
hankot	halfbeaks (Hemiramphidae) A DL G KM KR M S TP V
hangkot abaniku	trumpetfishes (Aulostomidae) M
hangon	orangespine unicornfish (*Naso lituratus*) A AL DL G KM KR M TP
higum	A wrasse (Labridae) KR G S V
hiteng	rabbitfishes, more than 20 cm (Siganidae) AL G KR S TP
hiting fade	gold-spotted rabbitfish, more than 20 cm (*Siganus punctatus*) AL M
hiting kalau	forktail rabbitfish, more than 20 cm (*S. argenteus*) DL KR
hiyok	striped tang (*Acanthurus lineatus*) A AL DL G KM KR M S TP V
hugupau	many kinds of surgeonfishes (Acanthuridae) A AL DL G KM KR M S TP V
hugupau amariyu	yellow tang (*Zebrasoma flavascens*) G S V

hugupau asut	blue hepatus tang (*Paracanthurus hepatus*) AL
hugupau attilong	striated tang (*Ctenochaetus striatus*), black tang (*Acanthurus nigroris*) AL
hugupau chokolati	brown tang (*Zebrasoma scopa*) AL
hugupau donkolo	white-barred surgeonfish (*Acanthurus blochii*), yellowfin tang (*A. xanthopterus*), surgeonfishes (*A. dussumieri* and *A. nigricauda*) AL
hugupau rayao amariyu	whitecheek surgeonfish (*A. nigricans*) AL
i'e'	immature skipjacks, less than 10 cm (Carangidae) A DL KM KR M MI TP
kabayon tasi (S)	thorny seahorse (*Hippocampus histrix*) TP
kadrau (S)	manta ray (*Manta alfredi*) DL
kahao	soapfishes (Leiognathidae) DL KM M
kaka'ka'	onespot snapper (*Lutjanus monostigmus*), flame-tailed snapper (*Lutjanus fulvus*) A AL DL G KM KR M S TP V
katsunesitu (S)	immature sharks (Lamniformes) DL TP
kichu	convict tang (*Acanthurus triostegus*) A AL DL KM KR M TP V
kilu'us	hammerhead shark (*Sphyrna lewini*) KM M
koneta (S)	trumpetfishes (Aulostomidae), flutemouths (Fistularidae) A
lacha	seagrass parrotfish (*Leptoscarus vaigiensis*) DL
laggua	parrotfishes, more than 50 cm (Scaridae) A DL KR M TP V
lagguan agaga'	red parrotfishes (Scaridae) DL
lagguan asut	blue parrotfishes (Scaridae) DL
lagguan disu'	large longnose parrotfish (*Hipposcarus longiceps*) KR

lagu	a bream (Nemipteridae) DL KM M TP
laiguan	any mullet (Mugilidae) A DL G KM KR M TP V
laiguan agaga'	yellow-tailed mullet (*Liza vaigiensis*) DL
laiguan anga	yellow-tailed mullet (*L. vaigiensis*) AL KR
laiguan asut	a mullet (Mugilidae) AL
laiguan spit	a mullet (Mugilidae) KR
laiguan ugis	a mullet (Mugilidae) DL
lalacha' mamate	tripletail wrasse (*Cheilinus trilobatus*) KM M TP
lanse	cardinalfishes (Apogonidae), bronze sweeper (*Pempheris oualensis*) A DL G KM KR M S TP V
laolao	silversides (Atherinidae) KR
lapulapu (F)	honeycomb grouper (*Epinephelus hexagonatus*) KR
lessok	a squirrelfish (*Sargocentron* sp.) G TP
lililuk	grey emperors (*Lethrinus elongatus, L. rubrioperculatus* and *L. xanthochilus*) DL G KR V
lililuk mañagu	grey emperors, deep bodied indivs. (*Lethrinus* spp.) KR
loru (S)	parrotfishes (Scaridae) G S V
macheng (F)	blennies (Blennidae), gobies (Gobiidae) A G KR M S TP
machara	striated surgeonfish (*Ctenocheatus striatus*) AL
mafute'	emperors (*Lethrinus nebulosus, L. harak*) A DL G KM KR M S TP V
magaham	a parrotfish (Scaridae) G S
malakapas	soapfishes (*Gerres* spp.) A
mamagas	bigeyes (Priacanthidae) A DL KM M TP

mamulan	mature skipjacks, more than 90 cm (Carangidae) DL KM KR M TP
mañahak	immature rabbitfishes, less than 5 cm (Siganidae) A DL G KM KR M S TP V
mañahak ha'tang	immature scribbled rabbitfish, less than 5 cm (*Siganus spinus*) A DL KR
mañahak lesu	immature forktail rabbitfish, less than 5 cm (*S. argenteus*) A DL KR
menis	sprats (Dussumierinae) DK KR
matan hagon	large-eyed emperor (*Monotaxis grandoculus*) A DL KM KR M TP
ñotak	peppered moray eel (*Sideria picta*) TP
nufo'	stonefishes and scorpionfishes (Scorpaenidae) A DL G KM KR M S TP
ñufo'	stonefishes and scorpionfishes (Scorpaenidae) KR TP
nufo' pabu	lionfishes and turkeyfishes (*Pterois* spp.) A DL G KM KR M TP
oda'	striated surgeonfish (*Ctenochaetus striatus*) TP
pachak	immature blue bumphead parrotfish (*Bolbometapon muricatus*) DL
pakang	bigeyes (Priacanthidae) AL
palaksi	many kinds of wrasses (*Cheilinus* spp.); any parrotfish, less than 50 cm (Scaridae) A DL G KM KR M TP
palometa (S)	darts (*Trachinotus* spp.) G KR
pausadang	bigeyes (Priacanthidae) AL
pegge'	immature mullets (Mugilidae), any small fish A AL TP
pi'os	shovel-nosed mullet (*Chaenomugil leuciscus*) AL TP
pipipu	lizardfishes (Synodontidae) A G M V

pompano (S)	darts (*Trachinotus* spp.) KR
pulan	tarpon (*Megalops cyprinoides*) DL G KM M TP V
pulang aguas	milkfish (*Chanos chanos*) M
pulonnon	any triggerfish (Balistidae) A DL G KM KR M S TP V
pulonnon apaka dalalak-ña	white-tail triggerfish (*Melichthys vidua*) AL
pulonnon attilong	black triggerfish (*Pseudobalistes fuscus*) AL
pulonnon kora'ling	barred filefish (*Cantherhines dumerilii*) AL
pulonnon lagu	wedge piccasofish, more than 30 cm (*Rhinecanthus rectangulus*) G M TP
pulonnon matingon	spotted triggerfish (*Balistoides viridescens*) A
pulonnon salape'	clown triggerfish (*Balistoides conspicillum*) AL
pulonnon sanhalom mamate	piccasofish (*Rhinecanthus aculeatus*) AL
pulonnon sasadu'	large triggerfishes, more than 30 cm (Balistidae) AL M TP
pulonnon tahdong	gilded triggerfish (*Xanthichthys auromarginatus*) AL
pulos	needlefishes (Belonidae) A DL G KM KR M TP V
sagámilon	squirrelfishes or soldierfishes (Holocentridae) AL DL G KR M S TP V
sagámilon attilong	black soldierfish (*Myripristis adusta*) AL
sainan guili	black snapper (Macolor spp.) AL
sakmoneten acho' (S)	a goatfish (*Parupensis* sp.) KM TP
sakmoneten amariyu (S)	yellow goatfish (*P. cyclostomus*) KR M
sakmoneten lasu lahi (S)	a goatfish (*Parupensis* sp.) DL
sakmoneten le'ao (S)	striped-tailed goatfish (*Upeneus* sp.) DL KM M TP
sakmoneten maninen (S)	red goatfish (*Mulloides vanicolensis*) DL KM M TP

sakmoneten pento (S)	dash and dot goatfish (*Parupeneus barberinus*) AL
sakmoneten Santa Maria (S)	white-lined goatfish (*P. ciliatus*) AL KR
sakmoneten tahdong (S)	yellow goatfish (*P. cyclostomus*) AL
sakmoneti (S)	mature goatfishes, more than 30 cm (Mullidae) A AL DL G KM KR M S TP V
sakmonetiyos (S)	mature goatfishes, 10-20 cm (Mullidae) DL KR
sakmoniu (S)	marbled grouper (*Epinephelus microdon*) DL KR
saksak	soldierfishes (*Myripristis* spp.) A AL DL G KM KR M S TP V
saksak fetda	a squirrelfish (*Sargocentron* sp.) TP
saksak sumalo'	a soldierfish (*Myripristis* sp.) TP
sali	a bream (Nemipteridae) G KR
saligai	yellow-spotted emperor (*Gnathodentex aurolineatus*) A DL G KM KR M TP
sa'mon (S)	jobfish (*Aprion viriscens*) MI V
sapisapi (F)	bronze sweeper (*Pempheris oualensis*) DL G S V
sapsap (F)	slipmouths (Leiognathidae) A
sasadu'	large triggerfishes, more than 30 cm (Balistidae) DL KR M
sassa	unidentified fish TP
sata	brown surgeonfish (*Ctenochaetus striatus*) TP
satan apaka' dalalak-ña	whitetail surgeonfish (*Acanthurus nigricans*) TP
seyun	rabbitfishes, 10-20 cm (Siganidae) A AL DL G KM KR M TP V
sihek	black and white monacle bream (*Scolopsis lineatus*) A DL G KM KR M S TP V

sisi'ok	longjaw squirrelfish (*Sargocentron spiniferum*) A AL DL G KM KR S TP
soplan di Kristo (S)	flounders (Bothidae) KR
soplan Yu'us (S)	flounders (Bothidae) KR
tabi'	gold-spotted rabbitfish (*Siganus punctatus*) KR
tagafen saddok	river snapper (Lutjanus argentimaculatus) DL KM KR M TP
tagafi	red snapper (*L. bohar*) A DL KM KR M
tailas	black jack (*Caranx lugubris*) MI
tampat	flounders (Bothidae) A DL G KM KR M S TP V
tangison	giant wrasse (*Cheilinus undulatus*) A DL KM KR M TP
tarakitiyu (S)	immature skipjacks, 10-25 cm (Carangidae) DL KM KR M TP
tarakiton amariyu (S)	golden trevally (*Gnathodon speciosus*) AL
tarakiton attilong (S)	black jack (*Caranx lugubris*) AL MI
tarakiton tailas (S)	bigeye trevally (*C. sexfasciatus*) AL MI
tarakiton tahdong (S)	black jack (*C. lugubris*) MI
tarakitu (S)	mature skipjacks, 25-90 cm (Carangidae) A AL DL G KM KR M MI S TP V
tarakituyan (S)	immature skipjacks, 10-25 cm (Carangidae) KR MI
tasin guaguan	immature giant wrasse (*Cheilinus undulatus*) DL KR
tátaga'	mature unicornfishes (*Naso* spp.) A AL A DL G KM KR M S TP V
tátaga' halu'u	humpnose unicornfish (*N. tuberosus*) KR TP
tátaga' tahdong	smoothhead unicornfish (*N. hexacanthus*) AL

tátaga' ulu	humpnose unicornfish (*N. tuberosus*) KR
tatalun	blue-spotted wrasse (*Anampses caeruleopunctatus*) S V
tatanum	long-nosed wrasse (*Gomphosus varius*), clown coris (*Coris aygula*) KR S V
ti'ao	immature goatfishes, less than 10 cm (Mullidae) A AL DL G KR M S TP V
titugi	moray eels (Muraenidae) A DL G KM KR M TP
títuka'	spiny pufferfish (*Diodon hystrix*) M
toriyu (S)	boxfishes (Ostraciidae) A DL G KM KR M S TP V
tuchingon	a large blue parrotfish (Scaridae) DL
ulon matiyu na halu'u	hammerhead shark (*Sphyrna lewini*) TP
ulon tasi	saltwater eels (Anguilliformes) G
uku (H)	jobfish (*Aprion viriscens*) A

Pelagic and Deepwater Species

abuninas	onaga (*Etelis coruscans*) KR
achemsom	small rainbow runner (*Elagatis bipinnulatus*) KR MI
aknu	thresher shark (*Alopias pelagicus*) KM M
batu	blue marlin (*Makaira mazara*) DR
bonito (S)	skipjack tuna (*Katsuwonis pelamis*) A AL KR M MI
botague'	dolphinfish (*Coryphaena hippurus*) DR
buninas	deepwater snappers (*Etelis* and *Pristipomoides* spp.) AL MI
buninas agaga	ehu snapper (*Etelis carbunculus*) MI
buninas rayao amariyu	gindai snapper (*Pristipomoides zonatus*) MI
buri' (J)	rainbow runner (*Elagatis bipinnulatus*) AL MI

dofen (E)	dolphinfish (*Coryphaena hippurus*) MI TP
ehu (J)	ehu snapper (*Etelis carbunculus*) A MI
gindai (J)	gindai snappers (*Pristipomoides amoenus* and *P. zonatus*) A KR MI
guihan layak	sailfish (*Istiophorus platypterus*) MI
kachu' (J)	tunas (Scombridae) KR M MI TP
kalikali (H)	yellowtail kalikali (*Pristipomoides auricella*) A
kawakawa (H)	mackerel tuna (*Euthynnus affinis*) A KR
lehi (H)	silvermouth (*Aphareus rutilans*) A KR
mahimahi (H)	dolphinfish (*Coryphaena hippurus*) A KR TP
makuro' (J)	yellowfin tuna (*Thunnus albacares*), mackerel tuna (*Euthynnus affinis*) AL KR MI TP
marlin (E)	marlins (*Makaira mazara* and *M. indica*) KR MI TP
onaga (J)	onaga (*Etelis coruscans*) A MI KR
opakapaka (H)	pink opakapaka (*Pristipomoides filamentosus*) A KR MI
rainbow runner (E)	rainbow runner (*Elagatis bipinnulatus*) KR TP
saba (J)	mackerel tuna (*Euthynnus affinis*) AL MI
sailfish (E)	sailfish (*Istiophorus platypterus*) KR MI TP
saoara' (J)	wahoo (*Acanthocybium solandri*), billfishes (Istiophoridae) AL MI TP
taghalar	marlins and sailfish (Istiophoridae) AL
tosun	wahoo (*Acanthocybium solandri*) DL KM M MI V
tuna (E)	tunas (Scombridae) KR MI TP
uahu (E)	wahoo (*Acanthocybium solandri*) KR MI TP

Freshwater Species

hasule	freshwater eels (*Anguilla* spp.) DL KM KR S
ito' (F)	catfish (*Clarias batrachus*) KR TP
talapia (E)	tilapia (*Oreochromis mossambicus*) KR TP
umatan	river flagtail (*Kuhlia rupestris*) DL KR M TP

Discussion

Like other Pacific islanders, the Chamorros group fishes according to appearance, habit and size (Tinker 1944, Elbert 1947, Helfman & Randall 1973, Randall 1973, Elameto 1975, Randall & Sinoto 1978, Jensen 1977, Johannes 1981, Akimichi & Sauchomal 1982, Randall & Egaña 1984). Trumpetfish (*Aulostomis chinensis*) and flutemouth (*Fistularia commersonii*) are both called *ba'yak,* coconut leaf midrib, because of their similar elongated appearance. The cardinalfishes (Apogonidae) and the sweepers (Pempheridae) differ in appearance, but are called *lanse* by some fishermen. Both are nocturnal fishes that can be found in secluded crevices in the reef during the day.

An economically important species is sometimes given several names depending on its size. Four size classes are recognized for rabbitfishes (Siganidae), jacks (Carangidae), goatfishes (Mullidae) and some species of parrotfish (Scaridae). Two or three size classes are recognized for fishes such as milkfish (*Chanos chanos*), rudderfishes (Kyphosidae), unicornfishes (*Naso* spp.), sharks (Lamniformes) and mullets (Mugilidae).

Conversely, entire taxonomic families of fishes having no food value or interesting traits are given only one name. These fishes include cardinalfishes (Apogonidae), blennies (Blennidae), gobies (Gobiidae), gudgeons (Eleotridae), wormfishes (Microdesmidae) and boxfishes (Ostraciidae). No Chamorro names were collected for rarely encountered fishes such as pearlfishes (Carapodidae), flashlightfishes (Anomalopidae) and prettyfins (Plesiopidae).

No fisherman knew all of the listed names. Fishermen from the northern Marianas used more indigenous terms for offshore fishes and made finer distinctions among non-food species than did fishermen from Guam. The name of a fish sometimes varied between islands; fishermen from northern and southern Guam sometimes had different names for the same fish. Two hundred and sixty-eight fish names presently used by Chamorro fishermen were compiled. This number compares with approximately 104 Saipanese Carolinian names collected by Elamato (1975), 336 Belauan names by Helfman & Randall (1973) and 400 Satawalese names by Akimichi & Sauchomal (1982). At least two Chamorro fish names taken from the literature (Driver 1983) are no longer used. Both terms refer to offshore species: *botague,* blue marlin (*Makaira mazara*), and *batu,* dolphinfish (*Coryphaena hippurus*).

More than 25% of the Chamorro fish names are derived from foreign languages, mostly Spanish (Table 1), while less than 5% of names from other Micronesian islands are so derived. Since specialized vocabularies are less readily altered by invaders than everyday

Table 1. Currently used Chamorro fish names. Number of names and percentage (in parentheses).

Habitat	Language						Total
	Chamorro	Spanish	Filipino	Japanese	Hawaiian	English	
Reef	189(80)	36(16)	6(2)	3(1)	1(1)	0	235
Pelagic/Deepwater	9(31)	1(3)	0	8(28)	5(17)	6(21)	29
Freshwater	2(50)	0	1(25)	0	0	1(25)	4
All Habitats	200(74)	37(14)	7(3)	11(4)	6(2)	7(3)	268

language, the profusion of borrowed terms indicates the profound changes that have occurred in Chamorro society as a result of foreign contact.

Spanish Fish Names

There are 38 Spanish derived fish names used in the Marianas and all, with one exception, refer to reef associated species.

The Mariana Islands were once possessions of Spain and used as a resupply point along the galleon trade route between Mexico and the Philippines (Guzman-Rivas 1960). Spanish and Philippine fish names were probably adopted as marriages between island women and Spaniards, Mexicans or Filipinos became frequent (Safford 1905b).

Flounders (Bothidae) are most frequently called *tampat* in Chamorro. Sometimes they are referred to as *soplan Yu'us,* God's leftovers, or *soplan di Kristo,* Christ's leftovers. These names come from the Spanish terms, *sopla de Dios* and *sopla de Christo.* The names refer to the belief that Jesus Christ threw a leftover piece of fish into the sea where it changed into a flatfish. The descendants of this fish have been flat and devoid of much flesh ever since.

Trumpetfish (*Aulostomis chinensis*) and flutemouth (*Fistularia commersonii*) are sometimes called *koneta* in the Marianas and the Philippines because of their elongated trumpet-like appearance. *Corneta* means trumpet in Spanish.

Pufferfishes (Diodontidae and Tetraodontidae) inflate when alarmed in order to lodge themselves securely into crevices or present their bodies as too large a meal to would-be predators. This habit prompted the name *butete,* a word derived from the Spanish, *botellón,* a large rounded flask. The name is also used in the Philippines and Mexico (Thomson & McNibbin, 1976).

Large skipjacks (Carangidae) are called *tarakito* in Chamorro. The use of this name in the Caribbean and in at least 7 languages in the Philippines (Herre & Umali 1948, Panganiban 1972) indicates that it is probably Spanish in origin.

Kadrau is from the Spanish word, *cuadrar,* to form a square, and is listed by DeLeon (unpubl.) as being a Chamorro name for manta ray (*Manta alfredi*). Fusiliers (*Pterocaesio* spp.) go by the name of *bonita,* pretty, in Spanish. The only pelagic fish having a Spanish name, skipjack tuna *(Katsuwonis pelamis*), is called *bonito.* This name is also used by American sports fishermen on Guam and could have been adopted recently.

Goatfishes (Mullidae) are called *sakmoneti* in Chamorro. This name is derived from the Spanish, *salmonete* (Org. Eco. Co-op. Dev. 1968). The name has been borrowed in

other places besides the Marianas. Goatfishes are called *saramonet* in South Africa and *salmonete* in Tagalog and some islands of the Caribbean.

Kabayon tasi (*Hippocampus hystrix*) is from the Spanish word *caballo,* or horse, and the Chamorro word *tasi,* or sea. Seahorses are rare in the Marianas and the name seems to be a recent translation of the English term.

Boxfishes (Ostraciidae) are called *toriyu* by the Chamorros. The Spanish word *torillo* means little bull and refers to the horns sported by many of these fishes.

Threadfins (*Polydactylus sexfilis*) are called *buka dutse* from the Spanish, *boca dulce* which means sweet taste. *Loro* is used by some Chamorro fishermen for parrotfishes (Scaridae). *Loro* is also the Spanish word for parrot. Darts (*Tracinotus* spp.) are called *palometa.* This name is also used for similar fishes in Spain, Mexico and South America. Sometimes another Spanish name, *pompano,* is also used on Guam.

Philippine Fish Names

Chamorro fish names derived from Philippine languages are restricted to shallow water reef species and to an introduced freshwater catfaish (*Clarias batrachus*). Chamorro and the Philippine languages belong to the Austronesian family of languages and have many similarities (Topping *et al.* 1975). Thus, it is difficult to tell if the name has been borrowed unless other obviously Chamorro names are also used for the fish in question.

Milkfish *(Chanos chanos*) are called *bangus* in the Marianas. The name is Filipino, indeed, even fishermen pointed this out. The fish is also called by the Chamorro names, *faya,* when small and *agua,* when full grown. Blennies (Blennidae) and Gobies (Gobiidae) go by the name of *macheng,* a Philippine word for monkey. The term refers to their monkey-like face. Some blennies and the mudskipper (*Periopthalmus koelreuteri*) are also called *atot,* another Philippine name.

The name of the bronze sweeper (*Pempheris oualensis*) was the subject of much disagreement among the fishermen interviewed. It is a common nocturnal species growing to 20 cm that is found in crevices and caves during the day. Many fishermen called it *lanse,* a name used for cardinalfishes (Apogonidae). Others called it by a Philippine name, *sapi-sapi.* This word means kite and refers to the fish's flat triangular appearance.

A small common grouper (*Epinephalus hexagonatus*) is sometimes called *lapulapu,* a Philippine name. This name has also been recorded from Yap (Marine Resources Management Division, unpubl.). However, Falanruw (pers. comm.) states the name may have been used only because the informant was describing the fish to a non-Yapese speaker.

Some Chamorro fish names may represent cognates with the Philippine languages, but until they are compared with reconstructed Proto-Austronesian terms, their exact affinities remain uncertain. *Ti'ao,* immature goatfishes (Mullidae), is also used in Visayan. *Ababang,* butterflyfishes (Chaetodontidae), are called by a similar name in Tagalog. These names may have been borrowed during the Spanish colonial period, a time when many Filipinos immigrated to Guam.

Hawaiian Fish Names

Hawaiian and other Polynesian languages also belong to the Austronesian family of languages, though they are more distantly related to Chamorro than the Philippine dialects (Clark 1979). Three names are possibly cognates with Polynesian and other Pacific lan-

guages. Bigeye scad (*Selar crumenophthalmus*), *atulai* in Chamorro, is called *ahtol* in Kosraean, *akuli* in Hawaiian, *akula'* in Marshallese, *ature* in Tahitian, Rapanui and Maori, and *atula* by older fishermen on Tamatam in the Carolines. The Chamorro word for mature milkfish (*Chanos chanos*) is *agua*. This word sounds like the Hawaiian name for the same fish, *awa;* the Tongan, *ava;* Fijian, *yawa;* Satawalese, *waawa;* Gilbertese, *awatai* and Trukese, *ach*. Chamorros call scorpionfishes (Scorpaenidae), *nufo'* or *ñufo'*. This word is similar to the Tongan and Samoan, *nofu;* Tahitian, Rapanui and Hawaiian, *nohu;* Pohnpeian, *nehu;* Gilbertese, *nou;* Ratak chain Marshallese, *no'* and Satawalese, Puluwatese and Yapese, *noow*.

Hawaiian fish names used by Chamorros have been recently borrowed, probably from the American sports fishermen now fishing in Guam's waters. All of the names refer to pelagic or deepwater species. These are *kalikali,* a snapper (*Pristipomoides auricilla*); *opakapaka,* a snapper (*P. filamentosus*); *mahimahi,* dolphinfish (*Coryphaena hippurus*); *uku,* jobfish (*Aprion viriscens*); and *kawakawa,* mackerel tuna (*Euthynnus affinis*).

Japanese Fish Names

Japanese names in the Chamorro fish nomenclature system total 11 and are nearly equally divided among reef and offshore species. Some terms for open water fishes were borrowed from American sports fishermen familiar with those Japanese fish names commonly used in Hawaii. Names for reef fishes and other pelagic species could have been adopted by local fishermen during the Japanese occupation of Micronesia. During this time offshore fisheries were exploited, but unlike Belau where local labor was used (Johannes 1981), Japanese fisheries in the Marianas imported workers from Okinawa (Bower 1953). Never the less, an equal number of Japanese derived names for open water fishes are currently in use on Guam and Belau. Several more Japanese fish names are used on Saipan, Tinian and Rota where Japanese influence on the language was greater.

Japanese fish names used in the Marianas and Hawaii are *gindai* (*Pristipomoides amoenus* and *P. zonatus*), *ehu* (*Etelis carbunculus*), *onaga* (*E. coruscans*) and *gurutsu* (*Aphareus furcatus*).

Tunas (Scombridae) are called *kachu'* which comes from the Japanese word for tunas, *katsuo*. This name is also used in Belau and Kosrae. Some tunas, especially mackerel tuna (*Euthynnus affinis*), are called *makuro'* in Chamorro, from the Japanese, *maguro*. This name is widely borrowed in Micronesia; it is also used in Belau, Pohnpei, and the Caroline atolls.

Chamorro Fish Names

The majority of local fish names are derived from Chamorro, the indigenous language of the Mariana Islands. Translations were obtained for 38 of these terms.

Some fishes have been named for the sound they make when alarmed. Immature skipjacks (Carangidae) are called *i'e'*, a word that imitates their squeaking. One-spotted snapper (*Lutjanus monostigmus*) and flame-tailed snapper (*L. fulvus*) are called *kaka'ka'*, also because of a sound they make. *Kaka'* is the sound of a throat clearing and *kaka'ka'* is one who clears one's throat. The Chinese least bittern (*Ixobrychus sinensis*) is called *kaka'* for the same reason.

A few fishes are named because of their taste. Bigeyes (Priacanthidae) are sometimes

called *fáfaet* meaning salty one. In Rota, these fishes are called *pausadang,* urine-smell. Striated surgeonfish (*Ctenochaetus striatus*) in Rota are called *oda',* meaning soil or dirt, because of their muddy taste.

Some names refer to a fish's physical characteristics. Mature bumphead parrotfish (*Bolbometapon muricatus*) have a supraorbital hump and are called *atuhong* in Chamorro. The name comes from the word *tuhong,* meaning hat. Immature bumphead parrotfish have smaller humps and are sometimes called *pachak,* meaning small or underdeveloped.

Large longnose parrotfish (*Hipposcarus longiceps*) have a hump above the maxillae. They are called *disu'* which means a swelling or knot on the head. Other small parrotfishes (Scaridae) and many kinds of wrasses (*Cheilinus* spp.) are called *palaksi,* slippery, because they are difficult to hold. Giant or napoleon wrasse (*C. undulatus*) are called *tangison* in Chamorro. The name is derived from the word *tanges,* to weep, and refers to the marks under its eyes which suggest it is crying. In the Philippines, the name is applied to much smaller wrasses (*Pteragogas flagellifera* and *Epibulus insidiator*) which do not have these marks (Schroeder 1980).

Chamorro fishmen call large-eyed emperor (*Monotaxis grandoculus*) *matan hagon* which means to have an eye like a leaf. Some fishermen thought that the name was once *matan haggan* which means turtle-faced. Indeed, the blunt snout of this fish does give it the appearance of a turtle. Boxfishes (Ostraciidae) are sometimes called *danglon,* the name of a heavy bag which these fishes resemble. Goatfishes (Mullidae) possess barbels beneath their lower jaws and are sometimes called *bábasbas* from *batbas* which means whiskers.

Large skipjacks (Carangidae) are called *mamulan,* like a moon, in reference to the round silvery form these fishes present to spearfishermen when viewed at night. *Mamulan* also means to watch over, as a mother watches over her children. For this reason some fishermen suggested that these fishes were so named because they are the "mothers" of the smaller skipjacks.

Precolonial Chamorros called blue marlin (*Makaira mazara*) *batu,* a name that is no longer used (Driver 1983). On Saipan the name has been replaced by the term *taghalar* which means magnificent or awe-inspiring.

Several Chamorro fish names refer to spines or fins and their effect on human flesh. Squirrelfishes (*Neoniphon* and *Sargocentron* spp.) have a sharp spine on their gill covers and one fronting the anal fin. Consequently the Chamorros have named these fishes, *cha'lak,* to make a small cut in the flesh. Longjaw squirrelfish (*Sargocentron spiniferum*) have longer preopercular spines and are called *sisi'ok,* one capable of stabbing. *Sihek,* meaning to stab or pierce, is the name of black and white monacle bream (*Scolopsis lineatus*). The name refers to its sharp spiny fins. The Micronesian kingfisher (*Halycon cinnamomina*) is called *sihek* because of its long pointed beak. Spiny pufferfish (*Diodon hystrix*) are covered with bony spines that stand erect when the fish inflate. For this reason they are sometimes called *títuka'* meaning thorny. Most species of mature unicornfishes (*Naso* spp.) have a horn above their eyes from which they receive their English name. Mariana islanders, however, found the razor-edged caudal spines a more name-worthy attribute. They call these fishes *tátaga',* one who cuts or slices. Immature unicornfishes are called *guasa',* to sharpen, in reference to the smaller, less dangerous spines on their caudal peduncle.

Other fishes have names that describe their habits. Humpnose unicornfish (*N. tuberosus*) is called *tátaga' halu'u,* shark *tátaga'*, because of its lazy head-wagging style of swimming. Its supraorbital hump has also earned it the name, *tāaga' ulu,* head *tátaga'*. Sleek unicornfish (*N. hexacanthus*) are caught in deeper water and are called *tátaga' tahdong,* deep *tátaga'*. Grey emperors (*Lethrinus* spp.) are noted for their ability to tear through a net or break a line when hooked. Because of their great strength, the Chamorros call these fishes *lililuk*. The name is derived from the word for metal, *lulok*. *Lililuk mañagu* means the *lililuk* giving birth and is used to describe deeper bodied grey emperors (usually *L. xanthochilus*). Bird wrasse (*Gomphosus varius*) are known as *tatanum,* meaning to plant by digging in the ground. The fish use their long snout to probe for small invertebrates, thus appearing to be planting. Tripletail wrasse (*Cheilinus trilobatus*) are referred to as *lalacha' mamati* meaning one who slides around in shallow water. The name refers to their habit of slinking around coral mounds to avoid detection.

Large rabbitfishes (Siganidae) often swim in small schools and are called *hiteng* which means a small bunch or group. *Hiteng* is also the name of a plant, the-star-of-Bethlehem (*Hippobroma longiflora*). As small fry, rabbitfishes (Siganidae) are called *mañahak* and are harvested by the bucketful in March and April. When the fishes grow slightly larger and switch to a diet of macroalgae, they are no longer eaten whole and are called *dagge'*, overripe, like an overripe taro crop.

Medium-sized rudderfishes (Kyphosidae) are called *gepan,* meaning one who jumps. A few fishermen thought that the name for large triggerfishes (Balistidae), *sasadu'*, was originally *sasaddok* which means to habitually go to the river. Large triggerfishes (*Balistes viridescens* and *Pseudobalistes flavimarginatus*) prefer deep sheltered water, such as that found in rivermouth channels.

Some Chamorro fish names were adopted during historic times: *guihan pabu* (*Pterois* spp.) means turkey fish and *ulon matiyu na halu'u* (*Sphyrna lewini*) means hammerhead shark. Three other Chamorro fish names may also be recent translations of English terms. *Guihan layak* (*Istiophorus platypterus*) means the sail fish and *fanihin tasi,* ocean bat, is used to describe batfish (*Platacidae*). Butterflyfishes (*Chaetodontidae*) are called *ababang* meaning butterfly.

Development of the nomenclature

On other Pacific islands where the borrowing of fish names occurs, introduced terms are more often used for offshore species than inshore ones, but not to the extent found in the Marianas. There is a marked difference between the percentage of foreign language derived names for reef associated fishes (20%) and pelagic/deepwater species (69%). In addition Spanish and Filipino terms are almost entirely used for inshore species (98%), whereas Japanese, Hawaiian and English names are used more frequently for offshore fishes (83%) (Table 1). In the following paragraphs, I venture several possible explanations for these trends.

One possibility is that as inhabitants of high islands, the Chamorros depended less heavily on marine resources than their atoll dwelling neighbors and thus never developed an extensive vocabulary for offshore fishes until recently. However, it is probable that in precontact times, the Chamorros caught and had names for strictly pelagic species just as other Micronesians do today (Elbert 1947, Randall 1955, Abo *et al.* 1976, Lee 1976,

Jensen 1977, Rehg & Sohl 1979, Falanruw & Faimau, unpubl.). Most of the Mariana Islands are surrounded by narrow fringing reefs and inshore fishing grounds were limited (Thompson 1941). Prior to colonization there was no reliable terrestrial protein source (Micronesian Archeological Research Services, unpubl.). As a result, prehistoric inhabitants of the Mariana Islands placed considerable emphasis on open water fishing (Davidson & Leach 1988). Vertebrae from pelagic fishes belonging to the families Carangidae, Coryphaenidae, Istiophoridae and Scombridae have been excavated from precontact village sites in northern Guam (Athens 1986, Kurashina *et al.*, in press), Rota (Takayama & Egami 1971), Saipan (Spoehr 1957) and Pagan (Egami & Saito 1973). An early account of a shipwrecked sailor who lived among precolonial Chamorros describes the islanders trolling for dolphinfish (*Coryphaena hippurus*), blue marlin (*Makaira mazara*) and other large fishes (Driver 1983).

Historical and archaeological evidence indicating that Chamorros fished for deepwater snappers (*Pristipomoides* and *Etelis* spp.) is more difficult to obtain. Because of the lack of comparative material, the bones of deepwater Lutjanidae have not yet been identified from Mariana archaeological material (Davidson pers. comm.). No mention of deep-dwelling snappers is made in early manuscripts. However, traditional fishing methods and local names for these fishes exist throughout the Pacific, suggesting that like offshore trolling, deepwater bottomfishing was also practiced in the Marianas.

The loss of names may have accompanied the near annihilation of Chamorro people that marked the beginning of colonization. There was a sharp decline in the Chamorro population due to epidemic disease and armed conflict (Carano & Sanchez 1964). In efforts to eliminate resistance, the Spanish killed Chamorro men in great numbers (Safford 1905b). This, no doubt, altered or even eliminated some fishing practices. However, since other islands in Micronesia have also suffered drastic reductions in population as a result of foreign contact (Lee 1976, Hunter-Anderson 1983), yet retain a majority of pelagic fish names, this view may not entirely account for the high percentage of introduced terms.

Open ocean voyaging is essential to a tradition of offshore fishing. Sailing skills disappeared in the Mariana Islands under Spanish colonial rule (Barratt 1983). When hostilities lessened and the remaining islanders were concentrated on Guam, the Spanish destroyed many of their large canoes (Garcia 1985) and introduced agriculture and animal husbandry (Carano & Sanchez 1964). As a result, the Chamorros became less dependant on marine resources and the skills needed to obtain them. By the close of the 18th century, Chamorros no longer made ocean going canoes (Sanchez 1989) and the Spanish had to rely entirely on Carolinian sailors and canoes to maintain communication between the islands of the Marianas (Barratt 1988). It is likely that oceanic fishing and fish names met a similar demise. These events also account for the scarcity of Philippine and Spanish borrowed names for pelagic and deepwater fishes.

If the Chamorros ceased offshore fishing in the manner described, there should be no native names for pelagic or deepwater fishes. Yet some exist. A few of these appear to be recent terms (i.e., *taghalar* and *guihan layak*). The remaining Chamorro offshore fish names are an indication that an abbreviated tradition of oceanic fishing survived under Spanish rule. The custom of open ocean trolling in small paddling canoes rapidly declined during the late 19th century (Villalobos 1833, Olive Y Garcia 1984). At the turn of this century, Safford (1905a) wrote that the practice was nearly obsolete.

It is difficult to isolate the processes affecting the changes in Chamorro fish nomenclature. The high rate of borrowing compared to other Micronesian fish vocabularies suggests a unique cause. The most obvious possibilities involve an historic disruption of fishing patterns. Davidson & Leach (1988), however, noticed a marked decrease in the number of pelagic fish bones recovered from late prehistoric cultural deposits on Rota. Although there was not enough evidence to draw any firm conclusions, the authors suggested the apparent change may indicate that a considerable restriction in big game fishing had occurred. It will be interesting to see if the observed patterns of bone deposition and the current poverty of Chamorro offshore fish names are related.

Though the Mariana islanders have largely switched to a market economy, there will always be Chamorro fishermen. Their names for the local fishes have changed greatly since the arrival of the Europeans and it is likely that they will continue to do so. Some young Chamorros use the names, red snapper (*Lutjanus* and *Sargocentron* spp.), helicopterfish (*Pempheris oualensis*) and grouper (Serranidae) when speaking in their native language. Perhaps some of these names will supplant the current locally derived names, though one hopes not.

Acknowledgments

I thank first Señot Jesús (Kadi) Manibusan and his family for teaching me many things about fishing, fish names and Chamorro hospitality. Many other fishermen also generously contributed names and translations. I thank Frank S. Quenga for introducing me to a beautiful language. Dr. Steven S. Amesbury, Marjorie G. Driver, Dr. C. Lynn Raulerson and Dr. Rebecca A. Stephenson, all from the University of Guam, provided much help and I am grateful.

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