Table 3.—*Stratigraphic distribution of smaller Foraminifera in the San Luis Formation, south-central Oriente, Cuba*

	MIDDLE EOCENE		
	San Luis formation		
	31	46	47
Saccamina sphaerica M. Sars			
Ammodiscus incertus (d'Orbigny)			
Ammobaculites cubensis Cushman and Bermudez			
peñonensis Cushman and Bermudez			
sp			
Spiroplectammina carinata (d'Orbigny)			
mississippiensis (Cushman)			
sp			
Textularia dentimarginata Nuttall			
eocenica Gümbel			
flabelliformis Gümbel			
grenadana Hedberg			
lateralis Lalicker			
marielensis Lalicker and Bermudez			
zapotensis Cole			
sp		×	×
Vulvulina advena Cushman			
colei Cushman		×	
jarvisi Cushman			
pachyhellus Hadley			
pectinata mexicana Nuttall			
spinosa Cushman			
sp			
Verneulina cushmani Weinzierl and Applin			
pinarensis Cushman and Bermudez			×
sp			
Gaudryina (*Pseudogaudryina*) *guanajayensis* Bermudez			
Clavulinoides cubensis Cushman and Bermudez			×
eucarinatus Cushman and Bermudez			
excurrens Cushman and Bermudez			
guayabalensis Cole			
havanensis Cushman and Bermudez			
mariellinus Cushman and Bermudez			
Valvulina palmerae Bermudez			
Clavulina sp			
Valvulammina cubensis Cushman and Bermudez			
Dorothia asiphonia (Andrae)			
bradyi Nuttall			
colei (Nuttall)			
cylindrica (Nuttall)			
nuttalli Cushman			
principensis Cushman and Bermudez			
sp		×	×
Plectina cubensis Cushman and Bermudez			×
elongata Cushman and Bermudez		×	×
sp			
Karreriella arenasensis Cushman and Bermudez			cf
chapapotensis (Cole)			
cubensis Cushman and Bermudez			
mexicana (Nuttall)			
subcylindrica (Nuttall)			
Listerella caribaea Cushman and Bermudez			
gracillima Cushman and Bermudez			
(*Schenckiella*) *petrosa* Cushman and Bermudez			
Tritaxilina colei Cushman and Siegfus			
mexicana Cushman			
pinarensis Bermudez			
Quinqueloculina sp			
Massilina decorata Cushman			
Spiroloculina depressa d'Orbigny			
Sigmoilina schlumbergeri Silvestri			
sp			
Triloculina sp			
Pyrgo sphaerica (d'Orbigny)			
sp			
Ammosphaeroidina cubensis Bermudez			
Robulus alatolimbatus (Reuss)			
arcuatostriatus (Hantken)			
atlantisae Cushman			
calcar (Linné)			
gutticostatus (Gümbel)			
cocoaensis (Cushman)			
limbosus (Reuss)			
mexicanus (Cushman)			
propincuus (Hantken)			
pseudocultratus Cole			
pseudovortex Cole			
sp		×	×
Cristellaria crassa d'Orbigny			
Lenticulina arcuatostriata (Hantken)			
convergens (Borneman)			
guayabalensis Cole			
sublituus (Nuttall)			
theta Cole			
Astacolus crepidulus (Fichtel and Moll)			
Marginulina alazanensis Nuttall			
asperuliformis Nuttall			
cocoaensis Cushman			
fragaria texasensis Cushman and Applin			
laeviscula Cushman and Bermudez			
subbullata Hantken			
tenuis Borneman			
sp			
Dentalina bierigi Bermudez			
cooperensis Cushman			
halkyardi Cushman			
havanensis Cushman and Bermudez			
mucronata Neugeboren			
nasuta Cushman			
pulchrella Cole			
semilaevis Hantken			
soluta (Reuss)			
spinosa d'Orbigny			
sp. B, Cushman			
sp. D, Cushman			
sp		×	
Nodosaria jacksonensis Cushman and Applin			
longiscata d'Orbigny			
mexicana Cushman			
pyrula d'Orbigny			
soluta (Reuss)			
sp			×
Chrysalogonium elongatum Cushman and Jarvis			
laeve Cushman and Bermudez			
tenuicostatum Cushman and Bermudez			
sp			
Pseudoglandulina conica (Neugeboren)			
cubensis Cushman and Bermudez			
laevigata (d'Orbigny)			
ovata (Cushman and Applin)			
Saracenaria acutauricularis (Fichtel and Moll)			
arcuata hantkeni Cushman			
ornatula Cushman and Bermudez			
schencki Cushman and Hobson			
Vaginulina alazanensis Nuttall			
elegans mexicana Nuttall			
legumen elegans d'Orbigny			
sp			×
Frondicularia tenuissima Hantken			
sp			
Lagena acuticostata Reuss			
advena Cushman			
asperoides Galloway and Morrey			
cf. *Fissurina orbignyana caribaea* (Cushman)			
cf. *Fissurina romettensis* Seguenza, after Cole			
strummosa Reuss		×	
sulcata Walker and Jacob			
sp			
Guttulina sp			
Globulina münsteri (Reuss)			
Pyrulina cylindroides (Roemer)			
gutta (d'Orbigny)			
Glandulina radicula (Linné)		×	
Pseudopolymorphina decora (Reuss)			
Sigmomorphina cubensis (Cushman and Bermudez)			
Ramulina globulifera Brady			
sp		×	
Nonion chapapotense Cole			
florinense Cole			
hantkeni (Cushman and Applin)			
havanense Cushman and Bermudez			
micrum Cole		×	
sp			
Gümbelina cubensis Palmer		×	
goodwini Cushman and Jarvis			
venezuelana Nuttall			
sp			
Plectofrondicularia mexicana (Cushman)			
paucicostata Cushman and Jarvis			
trinitatensis Cushman and Jarvis			
vaughani Cushman			
Amphimorphina crassa Cushman and Bermudez			
tenuistriata Cushman and Bermudez			
Spiroplectoides cubensis Cushman and Bermudez			
Bulimina alazanensis Nuttall			
arkadelphiana midwayensis Cushman and Parker			
consanguinea Parker and Bermudez			
guayabalensis Cole			
inflata Seguenza			
impedens Parker and Bermudez			
jarvisi Cushman and Parker			
lirata Parker and Bermudez			
ovata d'Orbigny			
palmerae Parker and Bermudez			
pupoides d'Orbigny			
semicostata Nuttall			
sculptilis Cushman			
tarda Parker and Bermudez			
tuxpamensis Cole			
sp			
Entosolenia crumenata Cushman			
marginata (Walker and Jacob)			
Virgulina cylindrica Cushman and Bermudez			
zetina Cole			
sp			
Bolivina alazanensis Cushman			
byramensis (Cushman)			
malkinae Coryell and Embich			
marielina Cushman and Bermudez			
mexicana Cushman			
mexicana aliformis Cushman			
B. palmerae Cushman and Bermudez			
pisciformis Galloway and Morrey			
scabrata Cushman and Bermudez			
tectiformis Cushman			
sp			
Bifarina vicksburgensis (Cushman)			
Chrysalidinella cubana Cushman and Bermudez			
Uvigerina blancacostata Cole			
byramensis Cushman			
camagueyana Bermudez			
canariensis spinulosa Hadley			
curta Cushman and Jarvis			
danvillensis Howe and Wallace			
elongata Cole			
gardnerae Cushman			
gardnerae cubana Hadley			
havanensis Cushman and Bermudez			
longa Cushman and Bermudez			
denticostata Cushman and Bermudez			
mexicana Nuttall			
parvula Cushman and Thomas			
rippensis Cole			
spinicostata Cushman and Jarvis			
sp			
Angulogerina macgillavryi Pijpers			
muralis (Terquem)			
sp			
Pleurostomella alternans Schwager			
aragonensis Cushman and Bermudez			
bierigi Palmer and Bermudez			
cubensis Cushman and Bermudez		×	
jacksonensis Cushman and Applin			
rimosa Cushman and Bermudez			
tenuis Hantken			
sp			
Nodosarella acus Cushman and Bermudez			
constricta Cushman and Bermudez			
subtertenuata (Schwager)			
sp			
Ellipsonodosaria annulifera Cushman and Bermudez			
atlantisae hispidula Cushman			
cocoaensis Cushman			
decurta Bermudez			
nuttalli Cushman and Jarvis			
gracillima Cushman and Jarvis			
verneuili paucistriata Galloway and Morrey			
sp			
Ellipsoglandulina cubensis Cushman and Bermudez			
labiata (Schwager)			
Discorbis havanensis Cushman and Bermudez			
yeguaensis Weinzierl and Applin			
sp		×	
Lamarckina atlantica Cushman			
torrei Cushman and Bermudez			
Valvulineria cubensis Cushman and Bermudez			
palmarealensis (Nuttall)			
Gyroidina girardana (Reuss)			
guayabalensis Cole			
protea Cushman and Bermudez			
soldanii d'Orbigny			
soldanii octocamerata Cushman and Hanna		×	
sp			
Rotaliatina mexicana Cushman			
Eponides ecuadorensis (Galloway and Morrey)			
lateralis (Terquem)			
marielensis Cushman and Bermudez			
principensis Cushman and Bermudez			
repandus (Fichtel and Moll)			
rutteni Cushman and Bermudez			
umbonatus (Reuss)			
sp			×
Nuttallides trümpyi (Nuttall)			
Rotalia mexicana Nuttall			
mexicana mecatepecensis Nuttall			
Siphonina advena Cushman			
advena cubensis Cushman and Bermudez			
nuda Cushman and Bermudez			
tenuicarinata Cushman			
sp			
Cancris cubensis Cushman and Bermudez			
Baggina marielina Cushman and Bermudez			
Ceratobulimina declivis mexicana Cole			
Pulvinulinella cancellata Cushman and Bermudez			
Parrella mexicana Cole		×	×
Cassidulina crassa d'Orbigny			
havanensis Cushman and Bermudez			
labiata Cushman and Bermudez			
laevigata d'Orbigny			
carinata Cushman			
oblonga (Reuss)			
subglobosa Brady			×
sp			
Allomorphina trigona (Reuss)			
sp			
Chilostomella ovoidea Reuss			
sp			
Chilostomelloides oviformis Sherborn and Chapman			
Pullenia quinqueloba (Reuss)			
sp			
Globigerina apertura Cushman			
bakeri Cole			
bulloides d'Orbigny			
cretacea Cushman			
dissimilis Cushman and Bermudez			
inflata d'Orbigny			
mexicana Cushman			
orbiformis Cole		×	×
topilensis Cushman			
triloba (Reuss)			
yeguaensis Weinzierl and Applin	×		
sp		×	×
Hantkenina alabamensis Cushman			×
alabamensis primitiva Cushman			×
brevispina Cushman			×
(*Cribohantkenina*) *bermudezi* Thalmann			
(*Applinella*) *dumblei* Weinzierl and Applin			×
longispina Cushman			×
mexicana Cushman			
aragonensis Nuttall			
sp		×	×
Globorotalia aragonensis Nuttall			×
centralis Cushman and Bermudez		×	
cerroazulensis (Cole)			
cocoaensis Cushman			
crassata (Cushman)			×
densa (Cushman)			×
lehneri Cushman and Jarvis			×
palmerae Cushman and Bermudez			
spinulosa Cushman			×
sp	×		
Cycloloculina cubensis Cushman and Bermudez			
sp			
Anomalina alazanensis Nuttall			
bilateralis Cushman			×
corrugata Cushman and Bermudez			
costiana Weinzierl and Applin			×
dorri Cole			
grosserugosa (Gümbel)		×	
havanensis Cushman and Bermudez			
sp			
Planulina marielana Hadley			
suturata Cushman and Bermudez			
sp			
Cibicides cushmani Nuttall		×	
dickersoni Bermudez			
havenensis Cushman and Bermudez			×
mexicana Nuttall			
perlucida Nuttall			
pseudoungerianus (Cushman)			
pseudowuellestorfi Cole		×	
subtenuissima (Nuttall)			
trinitatensis (Nuttall)			
tuxpamensis Cole			
venezuelanus Nuttall			
sp			×
Gypsina globula (Reuss)			