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Insects Intercepted on Wood Articles at Ports-of-Entry in the United States: 1985-1996

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Of the more than 2000 exotic insects now established in the United States (US Congress 1993), more than 400 feed on trees and shrubs (Haack et al. 1997b, Mattson et al. 1994, Niemela and Mattson 1996). Several of these exotic insects have greatly altered forest ecosystems in the US (Campbell and Schlarbaum 1994, Ciesla 1993, Liebhold et al. 1995, Wallner 1996).

As world trade continues to grow, the threat of new introductions also increases. Aquatic organisms often move in the ballast water of ships while land organisms usually move with the cargo (US Congress 1993). Many tree-infesting insects enter the US each year on wood articles such as crating, pallets, and dunnage (i.e., the wood braces used to support cargo). Two recent introductions in the US—an Asian long-horned beetle, *Anoplophora glabripennis,* and the pine shoot beetle, *Tomicus piniperda*—were probably both the result of infested wood articles being shipped to the US (Haack et al. 1997ab). In this paper, we summarize data on the types and origins of insects that have been intercepted on wood articles at US ports-of-entry during 1985-1996. For more details, see Haack and Cavey (1998).

The APHIS Database. Since 1985, the USDA Animal and Plant Health Inspection Service (APHIS) has maintained a national computerized database of pests intercepted at US ports-of-entry, i.e., the Port Information Network (PIN) database. APHIS collects data on intercepted pests considered to be of quarantine significance. Pests are intercepted on commodities such as fresh fruit, vegetables, cut flowers, seeds, and wood articles. For each interception, APHIS records several items such as the organism, year, country of origin, and port-of-entry. For insects associated with wood articles, the type of article (e.g., crating, dunnage, pallets, lumber, poles, woodenware) as well as the commodity being shipped are usually recorded. When an insect is collected as a larva, it may only be identified to order, family, or genus level.

The risk that exotics pose can only be minimized through rigorous inspections, regulations, surveys, and management.

Types of Intercepted Insects. APHIS made 5885 interceptions of exotic insects on wood articles at US ports-of-entry during 1985-1996. These insects were intercepted at 95 different ports throughout the US. The five ports where the most interceptions were made were Houston (13% of 5885); Miami (11%); New Orleans (8%); Savannah (8%); and Brooklyn (7%). Interceptions were made on wood articles from 87 countries worldwide. These insects represented at least 10 orders, 54 families, and 204 genera (Table 1). Coleoptera represented nearly 94% of all interceptions (5513). This is not surprising given the large number of bark- and wood-infesting beetles worldwide, and the fact that they commonly infest live trees, recently cut logs, and even lumber (Haack and Slansky 1987). The next most commonly intercepted insect orders were Heteroptera (= Hemiptera in earlier nomenclature; 2.5%), Isoptera (1.4%), Hymenoptera (1.2%), and Lepidoptera (0.7%). Together, the Collembola, Diptera, Homoptera, Orthoptera, and Thysanoptera represented only 0.5% of all interceptions (Table 1); these insects that were likely just hitchhiking, and not directly associated with the wood articles.

The relative ranking of interceptions by insect order was similar for each world region (Table 2). For example, Coleoptera ranked first, and Isoptera and Hymenoptera usually ranked second and third. As many as eight insect orders were intercepted from Europe and Asia, but only one from the Caribbean (Table 2).

The most commonly intercepted families of Coleoptera were the Scolytidae (72%

of the 5513 beetle interceptions), Curculionidae (12%), Cerambycidae (7%), Bostrichidae (5%), and Buprestidae (2%). Similarly, siricids were the most commonly intercepted Hymenoptera (70% of 69 interceptions), whereas cossids were the most commonly intercepted Lepidoptera (14% of 42). Such findings are not unexpected given that each of these families contains many species that inhabit bark and wood.

Most of the intercepted scolytids were true bark beetles. Adult bark beetles construct tunnels under the bark and lay eggs along the gallery walls. Bark beetles are among the first insects to attack the trunks and branches of newly felled trees (Haack and Slansky 1987). Given that (1) recently cut trees are often used for dunnage and wood packing materials and (2) that bark removal is not always complete, it is easy to understand why scolytids dominate the list of intercepted insects on wood.

At the generic level, the most commonly intercepted Bostrichidae were *Stephanopachys* (86 interceptions), *Sinoxylon* (33), and *Heterobostrychus* (18). Similarly, the most commonly intercepted buprestid genera were *Buprestis* (36), *Melanophila* (28), *Agrilus* (27), and *Chrysobothris* (7). The most common cerambycid genera were *Monochamus* (173), *Xylotrechus* (80), *Trachyderes* (15), *Saperda* (14), and *Callidium* (11). Similarly, the most common curculionid genera were *Pissodes* (274), *Hylobius* (175), and *Sitona* (115). The 15 most common scolytid genera were *Ips* (702), *Pityogenes* (502), *Hylurgops* (251), *Hylurgus* (190), *Tomicus* (146), *Hypothenemus* (124), *Dryocoetes* (113), *Hypocryphallus* (92), *Scolytus* (81), *Hylastes* (80), *Orthotomicus* (59), *Taphrorychus* (57), *Crypturgus* (45), *Polygraphus* (44), and *Phloeosinus* (42).

Relatively few Bostrichidae, Buprestidae, Cerambycidae, and Curculionidae were identified to species because mostly larval forms were collected. However, many Scolytidae were identified to the species level because adults were often obtained. The adult bark beetles that are intercepted can be either the parent adults (the ones that constructed the tunnels and laid the eggs), or their progeny. Many bark beetles have short generation times of only 1-2 months, so complete development can occur while the cargo is being packaged and transported.

The 20 most commonly intercepted scolytid species are listed in Table 4. Except for *Phloeosinus rudis*, which is native to Japan and Korea, the other 19 bark beetles have relatively large geographic ranges, typically covering much of Europe and Asia (Wood and Bright 1992). Although these 20 scolytids have frequently entered the US, only *Tomicus piniperda* and *Pityogenes bidentatus* have definitely become established in the US (Mattson et al. 1994, Wood and Bright 1992). However, six of the others scolytids listed in Table 4 have become established elsewhere in the world (Marchant and Borden 1976, Wood and Bright 1992): *Pityogenes chalcographus, Ips erosus, Hylurgus ligniperda, Hylastes ater, Phloeosinus rudis,* and *Polygraphus poligraphus.*

It should be noted that the scolytid *Dryocoetes autographus* is native to North America, Europe, and Asia; however, North American populations are considered genetically distinct from Eurasian populations (Wood and Bright 1992). Most of the highly intercepted scolytids listed in Table 4 infest pine (*Pinus*), which is grown nearly worldwide and is commonly used as dunnage and for packing materials.

Geographic Origins of Intercepted Insects. The intercepted insects were from 87 different countries (Table 1), representing all major world regions (Tables 2, 5). This phenomenon reflects the large number of countries from which the US imports, e.g., 174 countries in 1995 (US Bureau of the Census 1996). Considering the various world regions, Europe ranked first as the source of the most intercepted insects, with Asia second, and South America typically third (Table 5). For this analysis, we considered Russia as part of Asia because most Russian interceptions originated from Siberia. Although Europe ranked first, Asia is quickly gaining and will likely overtake Europe soon. China and Russia are mostly responsible for this rapid increase in interceptions from Asia (Table 6), which reflects the dramatic increase in US imports from China and Russia (Table 7). For example, China ranked 18th in total exports to the US in 1985, but ranked 4th in 1995.

Considering individual countries, most interceptions were on shipments from Italy (23%), followed by Germany, Spain, Belgium, France, India, United Kingdom, China, Russia, and Brazil (Table 6). Over the 1985-1996 period, Italy ranked first in 11 of 12 years, whereas the percentage of annual interceptions that Germany, Spain, Belgium, France, and the United Kingdom represented has tended to decrease during 1985-1996. By contrast, the annual percentage that China and Russia represent has steadily increased (Table 6). For example, China increased from 1.2% of all interceptions in 1985 to 21.2% in 1996. Similarly, Russia increased from 0% in 1985 to 11.2% in 1996.

Each of the 10 countries listed in Table 6 are major trading partners with the US. For example, in 1995, China ranked 4th in total value of all products exported to the US behind Canada (1st), Japan (2nd), and Mexico (3rd). Similarly, in 1995, Germany ranked 5th, United Kingdom 7th, Italy 11th, France 12th, Brazil 16th, Belgium 22nd, Russia 26th, Spain 27th, and India 30th (US Bureau of the Census 1996).

Wood Articles Associated with Intercepted Insects. Overall, 49% of the 5885 interceptions occurred on crating, 36% on dunnage, and 6% on pallets. No specific type of wood article was recorded for about 3% of the interceptions. Other wood articles that commonly contained insects were live trees, logs, lumber, poles, furniture, and woodenware. Inspections of crating and dunnage can be made with relative ease compared with pallets, which may help explain the much higher interception rates on crating and dunnage. The most common type of infested wood article and the types of commodities most often associated with the infested wood are listed for 10 selected countries in Table 8.

Explaining the Downward Trend. The annual number of insect interceptions on wood articles has tended to decrease during 1985 to 1996 for most areas of the world, particularly Europe (Table 5). This may seem inconsistent given that US imports increase almost every year (Table 7, bottom row). One important factor leading to fewer interceptions is that many exporters have switched from using recently cut trees to make packing materials to now using older or kiln-dried wood, metal, and other non-wood packing materials, which usually do not support insects.

A second reason involves the dramatic increase in US imports of perishable goods (e.g., fresh food and cut flowers) that far exceeded APHIS staffing increases during the 1980s and 1990s. Because of their perishable nature and potentially higher risk for pest introductions, these products usually command more immediate attention by APHIS inspectors than does cargo that may be associated with infested wood (e.g., heavy equipment, parts, and quarry products). In such cases, less time is available for thorough inspections of dunnage and the wood packing materials.

Another important event was a change in US import regulations in 1995 (USDA APHIS 1995). This regulation required that imported logs, lumber, and other unmanufactured wood articles be "totally free from bark and apparently free from live plant pests" or be certified as treated for wood pests by the exporting country. Since this regulation became effective in August 1995, pest interceptions from wood materials have decreased substantially because (1) APHIS inspectors only need to find bark, rather than a live insect, to require treatment, and (2) exporter compliance with the regulation all but eliminates insects that are dependent on bark.

Summary. Because of the many pests associated with unprocessed wood packing materials, efforts should be made to find alternatives or to at least require that such material be chemically treated, kiln dried, or somehow processed to render it unsuitable for insects. The North American Plant Protection Organization, NAPPO, is now contemplating new standards on wood packing materials entering North America. However, until the movement of unprocessed wood is dramatically reduced, introductions of new forest pests will likely continue. If new introductions are caught relatively early, aggressive eradication programs can prevent large-scale infestations. The risk that exotics pose can only be minimized through rigorous inspections, regulations, surveys, and management.

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Table 1. Number of intercepted insects, insect families, insect genera, and countries and continents of origin for insects intercepted on wood articles at US ports-of-entry, 1985 to 1996, by insect order (Source: USDA APHIS database, Riverdale, Maryland).

Insect order	No. of interceptions	No. of families	No. of genera*	No. of countries	Region of origin (highest source to lowest)**
	All interceptions (1985-1996)				
Coleoptera	5513	12	127	79	Europe >Asia >SA >CA > Africa >Car > ME >Oceania
Collembola	1	1	1	1	SA
Diptera	8	2	2	4	Europe > Asia = CA > Car
Heteroptera	148	6	25	13	Europe > Asia > SA > Africa > CA = Car
Homoptera	6	5	6	4	Europe = Asia = CA
Hymenoptera	69	5	8	19	Europe > Asia > CA > SA = Oceania
Isoptera	85	3	13	30	SA > Asia > Europe > CA > Car > Africa > Oceania
Lepidoptera	42	16	17	21	Europe > Asia = CA > SA > Africa > Car = Oceania
Orthoptera	8	2	2	6	CA > Europe > Car = SA
Thysanoptera	5	2	2	3	Asia > Europe = Africa
All insects	5885	54	204	87	Europe > Asia > SA >CA > Africa >Car> Oceania> ME

* Values may underestimate the true number of genera because some insects were not identified to genus.
**CA = Central America including Mexico; Car = Caribbean Islands; ME = Middle East, Oceania = Pacific islands, Australia, and New Zealand.

Table 2. Number of insect interceptions on crating, dunnage, pallets, and wood/lumber at US ports-of-entry, and relative ranking of the intercepted insect orders by world region, 1985-1996 (Source: USDA APHIS database, Riverdale, Maryland).

Region of origin *	Number of interceptions: Total	Crating	Dunnage	Pallets	Lumber	Intercepted insect orders (most to least)**
Africa	60	25	13	0	8	Col > Het = Iso = Lep > Hym = Thy
Asia	947	491	316	49	26	Col >Iso >Hym=Lep >Het >Thy >Dip =Hom
Central America	104	25	6	1	21	Col > Iso = Lep > Hym > Orth > Dip = Het
Caribbean	25	5	2	2	9	Col
Europe	4266	2145	1615	248	39	Col >Het >Hym>Lep>Iso>Dip = Orth > Thy
Middle East	9	4	1	1	1	Col > Iso
Oceania	10	3	2	0	2	Col > Iso > Hym = Lep
South America	317	156	67	46	29	Col > Iso > Het = Lep > Collembola = Orth
Unknown	147	11	119	5	3	Col > Iso > Hym >Het = Lep = Orth

*Asia includes Russia; Central America includes Mexico; Oceania includes all Pacific islands, Australia, and New Zealand.
**Insect orders: Col = Coleoptera; Dip = Diptera; Het = Heteroptera, Hom = Homoptera, Hym = Hymenoptera, Iso = Isoptera, Lep = Lepidoptera, Orth = Orthoptera, and Thy = Thysanoptera.

Table 3. Families of insects intercepted on wood articles at US port-of-entry, 1985 to 1996, by insect order and insect family (Source: USDA APHIS database, Riverdale, Maryland).

Coleoptera (5513, 21)*
Bostrichidae (158, 6, 22)**
Buprestidae (104, 5, 20)
Cerambycidae (373, 8, 41)
Chysomelidae (18, 5, 5)
Curculionidae (769, 6, 45)
Dermestidae (3, 1, 2)
Elateridae (3, 2, 2)
Lyctidae (68, 5, 8)
Platypodidae (7, 3, 6)
Scarabaeidae (4, 4, 4)
Scolytidae (3979, 8, 72)
Tenebrionidae (6, 4, 5)

Collembola (1, 0)
Sminthuridae (1, 1, 1)

Diptera (8, 4)
Agromyzidae (1, 1, 1)
Tephritidae (3, 2, 2)

Heteroptera (148, 0)
Coreidae (1, 1, 1)
Cydnidae (2, 1, 1)
Lygaeidae (132, 5, 9)
Miridae (1, 1, 1)
Pentatomidae (11, 3, 4)
Pyrrhocoridae (1, 1, 1)

Homoptera (6, 0)
Aphididae (1, 1, 1)
Cercopidae (1, 1, 1)
Diaspididae (2, 2, 2)
Membracidae (1, 1, 1)
Pseudococcidae (1, 1, 1)

Hymenoptera (69, 3)
Apidae (1, 1, 1)
Chalcididae (1, 1, 1)
Cynipidae (1, 1, 1)
Formicidae (15, 4, 7)
Siricidae (48, 4, 10)

Isoptera (85, 0)
Kalotermitidae (64, 7, 23)
Rhinotermitidae (17, 7, 13)
Termitidae (4, 3, 4)

Lepidoptera (42, 1)
Arctiidae (1, 1, 1)
Cossidae (6, 3, 6)
Coleophoridae (1, 1, 1)
Gelechiidea (3, 2, 3)
Geometridae (1, 1, 1)
Lasiocampidae (1)
Noctuidae (4, 3, 4)
Nymphalidae (1, 1, 1)
Oecorphoridae (2, 2, 2)
Olethreutidae (2, 2, 2)
Psychidae (2, 2, 2)
Pyralidae (4, 4, 4)
Riodinidae (1, 1, 1)
Sesiidae (1, 1, 1)
Tineidae (6, 3, 4)
Tortricidae (2, 2, 2)

Orthoptera (8, 0)
Acrididae (2, 1, 1)
Gryllidae (6, 5, 5)

Thysanoptera (5, 0)
Phloeothripidae (2, 2, 2)
Thripidae (3, 1, 1)

* Numbers in parentheses following each insect order (in bold) represent the total number of interceptions for that order and the number of interceptions that were identified only to the order level.
** Numbers following each insect family represent (left to right) the total number of interceptions for that particular family, the total number of world regions or continents represented, and the total number of countries of origin represented. Total number of interceptions was 5885.

Table 4. The 20 most commonly intercepted scolytids on wood articles at US ports-of-entry during 1985 to 1996, including number of interceptions, number of countries of origin, common host tree, and the four countries from which the most interceptions were made (Source: USDA APHIS database, Riverdale, Maryland).

Scolytid species	No of interceptions	No. of countries of origin	Common host tree	Top 4 countries (highest to lowest)
*Pityogenes chalcographus**	424	24	*Pinus*	Germany, Italy, Russia, Belgium
*Ips (Orthotomicus) erosus**	340	19	*Pinus*	Spain, Italy, China, Portugal
Hylurgops palliatus	233	18	*Abies*	Germany, Belgium, United Kingdom, Italy
Ips typographus	192	20	*Picea*	Italy, Germany, Russia, Belgium
*Hylurgus ligniperda**	153	12	*Pinus*	Italy, Portugal, Spain, Chile
Ips sexdentatus	126	10	*Pinus*	Italy, Spain, France, Belgium
*Tomicus piniperda**	117	16	*Pinus*	France, United Kingdom, Spain, Italy
*Hylastes ater**	40	8	*Pinus*	Spain, Germany, United Kingdom, France
*Polygraphus poligraphus**	34	7	*Picea*	Italy, Germany, Belgium, Russia
Pityogenes bistridentatus	30	6	*Pinus*	Spain, Italy, France, Israel
*Pityogenes bidentatus**	22	6	*Pinus*	Spain, Italy, France, Israel
Taphrorychus bicolor	22	5	*Fagus*	Belgium, Germany, Finland, France
*Phloeosinus rudis**	21	1	*Chamaecyparis*	Japan
Dryocoetes villosus	20	5	*Alnus*	Belgium, Germany, France, Italy
Orthotomicus laricis	20	8	*Pinus*	Italy, France, Germany, Spain,
Crypturgus mediterraneus	19	5	*Pinus*	Portugal, Spain, Italy, France
Ips acuminatus	16	6	*Pinus*	Italy, Spain, France, Russia
Taphrorychus villifrons	16	4	*Quercus*	Belgium, France,Germany,Latvia
*Dryocoetes autographus**	12	7	*Picea*	Belgium, Germany, France, Italy
Scolytus intricatus	12	4	*Quercus*	Belgium, France, Germany, Italy

* = Scolytids that have been introduced into other countries.

Table 5. Number of insect interceptions on wood articles at US ports-of-entry for the years 1985-1996 by world region of origin (Source: USDA APHIS database, Riverdale, Maryland).

Region of origin*	Number of insect interceptions 85-96												
	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	Total
Africa	6	4	9	4	4	5	9	3	5	6	1	4	60
Asia	85	111	71	53	53	22	20	37	71	148	208	68	947
Central America	9	10	8	6	7	3	8	8	15	11	12	7	104
Caribbean	2	3	4	1	3	1	3	1	2	2	2	1	25
Europe	745	613	509	431	408	209	251	234	322	236	220	88	4266
Middle East	1	0	0	0	1	0	1	1	3	0	1	1	9
Oceania	0	0	1	0	1	1	1	2	0	1	0	3	10
South America	32	59	53	38	28	8	7	20	24	30	13	5	317
Unknown	16	33	22	11	6	7	18	9	7	10	6	2	147
All countries	896	833	677	544	511	256	318	315	449	444	463	179	5885

*World regions as defined in Table 2.

Table 6. Number of insect interceptions on wood articles at US ports-of-entry for the years 1985-1996 for the top 10 countries from which the most interceptions were made (Source: USDA APHIS database, Riverdale, Maryland).

Country of origin	Number of insect interceptions 85-96												
	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	Total
Italy	240	139	146	152	185	57	53	75	139	59	49	43	1337
Germany	147	138	69	67	67	45	46	31	48	45	43	13	759
Spain	121	93	128	89	19	13	11	17	19	16	13	14	553
Belgium	61	93	43	27	33	26	47	33	25	11	18	2	425
France	45	26	27	27	32	14	27	10	21	18	29	4	280
India	33	41	27	15	32	9	3	12	17	9	24	5	227
United Kingdom	25	14	28	12	18	13	22	27	26	18	19	0	222
China	11	10	5	8	3	3	2	14	33	37	52	38	216
Russia	0	8	10	6	4	2	3	3	11	50	72	20	189
Brazil	10	30	27	19	7	7	4	15	18	18	9	1	165

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On a Hunch or Just a Coincidence?

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An Associated Press article appeared in The Daily Tribune newspaper (Royal Oak, MI) on 15 August 1997 stating:

It had just rained when she walked through the sand, leaving three little footprints on her way downhill to the water. "Her heel landed here and her arch curled up," said paleontologist Lee Berger.

That was 117,000 years ago, making the footprints the oldest find of an anatomically modern human, Berger said.

The ancient footprints, discovered by geologist David Roberts, were preserved in a ledge of sandstone at the edge of Langebaan Lagoon, near the Atlantic coast, in southwest South Africa about 60 miles north of Cape Town . . .

Roberts made the discovery in September 1995 after finding an ancient stone core whose flakes were used by early man for scouring and other tasks. He went looking for traces of its maker "on a hunch."

Isn't that amazing? On a hunch he found ancient footprints of a modern *Homo sapiens*, or so their claim indicates.

I went looking for the tawny emperor, regal fritillary and zebra swallowtail, or possibly the hackberry emperor in Branch County, MI, on 14 August 1997. I had previously caught the regal fritillary in 1947 and the tawny emperor in 1949 (both were Branch County location records at that time) and the zebra swallowtail in 1950. Were these three species still present in 1997? Or would a hackberry emperor be a new Branch County record.

My wife, Grace, and I drove south from Pentwater spying out habitats along state routes M-31, I-96 and M-131 and then east along M-60 to Union City in Branch County. This was an area where I often visited and collected in my youth and where my grandparents had a farm east of Union City. I traveled east on the old Creamery Road to the South County Line Road of Calhoun County, which is also known as Wagner Road in Branch County. My eyes were glued on the road and roadway ahead in anticipation of any "lep" that I might discern. A small dark spot soon appeared on the south side of the road not far ahead. Over the years, my eyes had been trained to distinguish butterflies on the road from other foreign objects. I slowed as I approached and said to my wife, "That butterfly appears to be a tawny emperor." I then applied the brakes and passed by the insect, which did not take flight.

Getting out of the car with net in hand, I stealthily approached the creature, which appeared to be a possible road kill. But there was some movement as I neared the insect. Dropping the net over and capturing this butterfly was easily done. Returning to the car with the butterfly being held with forceps, I showed my wife and exclaimed, "I believe this is a hackberry butterfly!" Lo and behold, further scrutiny and comparison with a plate in my field guide, provided the true identification.

On a hunch, not unlike the footprints in the sand, would you believe that I had been traveling on this particular day, on this particular road, at this particular time of day in order to sight and capture a hackberry emperor (*Asterocampa celtis* Boisduval & Leconte)? This is a new Branch County location record!

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Table 7. Value of all general imports into the United States from the top 10 countries from which the most interceptions were made on wood articles at US ports-of-entry for the years 1985-1996.

	US imports in billions of dollars*				
Country	1960	1975	1985	1990	1995
Italy	1.7	5.9	12.4	13.6	15.2
Germany	3.9	12.8	25.8	30.0	34.2
Spain	0.4	1.9	3.2	3.5	3.6
Belgium	1.5	2.8	4.3	4.9	5.6
France	1.7	5.2	12.1	14.0	16.0
India	1.0	1.5	2.9	3.4	5.3
United Kingdom	4.3	9.0	19.0	21.7	25.0
China	0.01	0.4	5.0	16.2	42.3
Russia	0.1	0.6	0.5	1.2	3.7
Brazil	2.4	3.6	9.6	8.5	8.2
All countries	62.7	233.4	440.4	529.2	691.5

*Source: US Bureau of the Census, "Statistical Abstract of the United States" for the years 1961 to 1996. Dollar values were adjusted for inflation to 1992.

Table 8. Most common type of infested wood article and most common commodities associated with the insect-infested wood for the top 10 countries from which the most interceptions were made on wood articles at US ports-of-entry for the years 1985-1996 (Source: USDA APHIS database, Riverdale, Maryland).

Country	Most common infested wood article	Most common associated commodities
Italy	Crating	Tiles and marble
Spain	Crating	Tiles and marble
India	Crating	Ironware and machine parts
China	Crating	Woodenware, tiles, and marble
Brazil	Crating	Doors, tiles, and lumber
Germany	Dunnage	Machinery, machine parts, and steel
Belgium	Dunnage	Steel
France	Dunnage	Aluminum and machinery
United Kingdom	Dunnage	Steel
Russia	Dunnage	Aluminum and machinery