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2001 CAPS Project Summary Report; Exotic Defoliator Diagnostic Resources Development

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Background

CAPS exotic pest detection and delimiting surveys between 1994 and 2000 have detected and delimited the presence of a number of exotic and potentially damaging pests of tree-fruit and caneberry crops, row crops, nursery stock, ornamental plantings, and native plants in Western Washington. In the course of these surveys, critical identification resources have been developed and/or compiled to facilitate identification of economic pest species new to the region. Examples would include; *Pandemis heparana*, *Pandemis cerasana*, *Clepsis spectrana*, *Archips podana*, (and 10 other economic species). These existing resources, as well as additional identification materials created for other new exotic detections are potentially a valuable resource for pest managers, researchers, and regulatory programs. The production and distribution of digital graphic resources to identify established exotic defoliator pests new to the U.S. (now in Western Washington) would serve future survey work and management activities to reduce or avoid economic damage from established introduced exotic pest species.

2001 Project Objective

- Create new digital graphics files and modify existing files of graphic reference information for identification of exotic defoliator moth species found in Washington State.

Project Methods and Materials

Digital graphics were captured using a Nikon 990[®] or Nikon 995[®] digital camera, hand-held or mounted on various compound or dissecting microscopes. Graphics files were created and saved in JPG compacted-file format, usually set on the highest quality setting. Individual graphics files were named for the pest species pictured, along with a short descriptive term for the insect part or position. Standardized picture formats were used, to allow comparison of similar views or structures between species, and picture names also include short descriptive codes for format. In some cases file names also reflect reduced image size where necessary for picture clarity. File format naming codes included the following;

full (spread wing) position

half (one side of full spread format)

nat (“natural” folded wing position) – either **side** or **back** views

gen (slide mounted genitalia, as **Fgen** for female and **Mgen** for male)

larva (immature stage)

med (medium / reduced picture size)

thumb (thumbnail view, very small reference-link size)

Additionally, some picture file names contain numbers, used for duplicate pictures (of the same format) to show variation in structures within a species.

Species included in the exotic defoliator series include; *Archips fuscocupreanus* (apple tortrix), *Carcina quercana* (oak skeletonizer), *Archips podana* (European fruit tree tortrix), *Chloroclystis rectangula* (green pug moth), *Clepsis spectrana* (straw-colored tortrix), *Croesia holimiana* (“golden leafroller”), *Enarmonia formosana* (cherry bark tortrix), *Gypsonoma aceriana* (European poplar shoot borer), *Hedya nubiferana* (green budworm), *Hemithea aestivaria* (European emerald), *Notocelia cynobatella* (European rose bud borer), *Notocelia rosaecolana* (European rose shoot borer), *Pandemis cerasana* (barred fruit tree tortrix), *Pandemis heparana* (dark fruit tree tortrix), *Recurvaria nanella* (lesser bud-worm), *Swammerdamia pellcaria* (apple skeletonizer), *Yponomeuta malinellus* (apple ermine moth), and *Yponomeuta padellus* (cherry ermine moth).

Project Results

A total of 342 graphic files were created or modified for this project, which are provided on a compact disk (CD), available (on request) from WSDA. Copies of the project CD will also be provided to the USDA APHIS Washington State, Regional, and National offices, as appropriate, and may be available for further distribution from USDA APHIS. If possible, graphic image browsing software will also be included on the project CD, to allow “stand alone” access to the project graphics (i.e. no additional PC software needed for image file viewing on Windows-based PC’s).

Additionally, other WSDA digital graphic files, with information on other (long established) exotic and native defoliator species found in Washington State may also be included on this project CD as appropriate and as file space allows.

A list of image files created for this project is included as an appendix to this summary report.

This project was a cooperative effort of the Washington State Department of Agriculture, Agriculture and Agri-Food Canada, and the USDA Animal and Plant Health Inspection Service (APHIS). Funding for field and lab support staff was provided in part by a Cooperative Agricultural Pest Survey (CAPS) grant from the USDA APHIS Western Region (#01-8553-0249-CA)

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Appendix: Exotic Defoliator Diagnostic Resources - Image File List (File name, size (in kb), and creation date).

Archips fuscocupreanus dor nat med.jpg	308,916	9/7/01	Chloroclystis rectangulata half thumb.jpg	31,576	9/6/01
Archips fuscocupreanus dor nat thumb.jpg	28,382	9/6/01	Chloroclystis rectangulata half.jpg	359,807	9/13/01
Archips fuscocupreanus dor nat.jpg	424,137	9/6/01	Chloroclystis rectangulata head thumb.jpg	39,769	9/6/01
Archips fuscocupreanus full med.jpg	521,547	9/6/01	Chloroclystis rectangulata head.jpg	580,537	7/20/01
Archips fuscocupreanus full thumb.jpg	26,078	9/6/01	Clepsia spectrana fem gen med.jpg	137,470	9/13/01
Archips fuscocupreanus full.jpg	294,722	3/14/00	Clepsia spectrana fem gen thumb.jpg	9,058	9/6/01
Archips fuscocupreanus half med.jpg	431,610	9/13/01	Clepsia spectrana fem gen.jpg	1,795,864	8/31/01
Archips fuscocupreanus half thumb.jpg	35,611	9/6/01	Clepsia spectrana halfspread thumb.jpg	31,520	9/6/01
Archips fuscocupreanus half.jpg	905,290	7/20/01	Clepsia spectrana halfspread.jpg	190,873	9/13/01
Archips fuscocupreanus head med.jpg	764,230	9/13/01	Clepsia spectrana MGen med.jpg	324,377	9/13/01
Archips fuscocupreanus head thumb.jpg	40,339	9/6/01	Clepsia spectrana MGen thumb.jpg	19,487	9/7/01
Archips fuscocupreanus head.jpg	2,256,077	7/20/01	Clepsia spectrana MGen.jpg	529,301	8/31/01
Archips fuscocupreanus lat nat thumb.jpg	20,762	9/6/01	Clepsia spectrana side med.jpg	394,182	9/7/01
Archips fuscocupreanus lat nat.jpg	279,315	9/17/99	Clepsia spectrana side thumb.jpg	23,587	9/7/01
Archips fuscocupreanus mgen med.jpg	308,845	9/13/01	Clepsia spectrana side.jpg	183,092	7/16/01
Archips fuscocupreanus mgen thumb.jpg	23,131	9/6/01	Clepsia spectrana back thumb.jpg	32,531	9/7/01
Archips fuscocupreanus mgen.jpg	913,594	8/31/01	Clepsia spectrana back.jpg	143,032	7/20/01
Archips fuscocupreanus larvae thumb.jpg	30,204	9/6/01	Clepsia spectrana Full thumb.jpg	24,130	9/17/01
Archips fuscocupreanus larvae.jpg	526,545	8/25/01	Clepsia spectrana Full.jpg	112,005	9/7/01
Archips fuscocupreanus larvahead full.jpg	26,647	9/6/01	Clepsia spectrana half med.jpg	320,261	9/7/01
Archips fuscocupreanus larvahead.jpg	61,203	8/25/01	Clepsia spectrana half thumb.jpg	32,224	9/7/01
Archips podana dor nat thumb.jpg	22,648	9/6/01	Clepsia spectrana half.jpg	174,207	7/13/01
Archips podana dor nat.jpg	226,696	9/13/01	Clepsia spectrana head med.jpg	470,451	9/7/01
Archips podana head med.jpg	540,207	9/13/01	Clepsia spectrana head thumb.jpg	29,441	9/7/01
Archips podana head thumb.jpg	40,024	9/6/01	Clepsia spectrana head.jpg	180,947	7/13/01
Archips podana head.jpg	1,368,613	7/20/01	Clepsia spectrana natback med.jpg	247,586	9/7/01
Archips podana lat nat med.jpg	234,466	9/6/01	Clepsia spectrana natback thumb.jpg	23,063	9/7/01
Archips podana lat nat thumb.jpg	16,981	9/6/01	Clepsia spectrana natback.jpg	582,536	8/29/01
Archips podana lat nat.jpg	516,591	7/13/01	Croesia holmiana fgen med.jpg	150,870	9/25/01
Archips podana male gen thumb.jpg	17,715	9/6/01	Croesia holmiana fgen thumb.jpg	9,464	9/25/01
Archips podana male gen.jpg	294,071	9/13/01	Croesia holmiana fgen.jpg	667,200	9/25/01
Carcina quercana dor nat med.jpg	331,220	9/13/01	Croesia holmiana half thumb.jpg	31,675	9/7/01
Carcina quercana dor nat thumb.jpg	30,963	9/6/01	Croesia holmiana half.jpg	287,991	8/29/01
Carcina quercana dor nat.jpg	392,299	7/20/01	Croesia holmiana half med.jpg	561,191	9/7/01
Carcina quercana full med.jpg	469,517	9/13/01	Croesia holmiana natback med.jpg	338,478	9/7/01
Carcina quercana full thumb.jpg	30,256	9/6/01	Croesia holmiana natback thumb.jpg	29,035	9/7/01
Carcina quercana full.jpg	344,661	9/6/01	Croesia holmiana natback.jpg	531,557	9/7/01
Carcina quercana half thumb.jpg	32,065	9/6/01	Croesia holmiana natside med.jpg	363,970	9/7/01
Carcina quercana half.jpg	372,020	9/6/01	Croesia holmiana natside thumb.jpg	21,686	9/7/01
Carcina quercana head med.jpg	539,134	9/13/01	Croesia holmiana natside.jpg	354,739	8/29/01
Carcina quercana head thumb.jpg	29,875	9/6/01	Croesia holmiana full thumb.jpg	22,872	9/7/01
Carcina quercana head.jpg	231,094	7/20/01	Croesia holmiana full.jpg	185,959	9/7/01
Carcina quercana larva thumb.jpg	26,133	9/6/01	Croesia holmiana full med.jpg	434,825	9/7/01
Carcina quercana larva.jpg	106,790	8/25/01	Croesia holmiana full thumb.jpg	23,652	9/7/01
Carcina quercana larva1.jpg	61,163	8/25/01	Croesia holmiana full.jpg	815,775	8/29/01
Carcina quercana larva2 med.jpg	886,270	9/13/01	Croesia holmiana half thumb.jpg	31,050	9/7/01
Carcina quercana larva2 thumb.jpg	33,139	9/6/01	Croesia holmiana half2.jpg	155,565	7/16/01
Carcina quercana larva2.jpg	676,385	8/25/01	Croesia holmiana larva med.jpg	571,317	9/13/01
Carcina quercana larvae thumb.jpg	29,339	9/6/01	Croesia holmiana larva thumb.jpg	23,663	9/7/01
Carcina quercana larvae.jpg	243,189	9/13/01	Croesia holmiana larva.jpg	549,704	8/25/01
Carcina quercana larvalface med.jpg	722,092	9/13/01	Croesia holmiana mgen3 med.jpg	384,650	9/25/01
Carcina quercana larvalface thumb.jpg	24,155	9/6/01	Croesia holmiana mgen4 med.jpg	1,841,263	9/28/01
Carcina quercana larvalface.jpg	1,432,235	8/25/01	Croesia holmiana mgen4 thumb.jpg	12,367	9/28/01
Chloroclystis rectangula full med.jpg	811,574	9/13/01	Croesia holmiana half1 med.jpg	450,637	9/7/01
Chloroclystis rectangula full thumb.jpg	28,492	9/6/01	Croesia holmiana half1 thumb.jpg	33,522	9/7/01
Chloroclystis rectangula full.jpg	2,358,223	8/29/01	Croesia holmiana half1.jpg	489,385	8/29/01
Chloroclystis rectangula larva med.jpg	614,990	9/6/01	Croesia holmiana head thumb.jpg	36,771	9/7/01
Chloroclystis rectangula larva thumb.jpg	28,782	9/6/01	Croesia holmiana head.jpg	306,158	9/7/01
Chloroclystis rectangula larva.jpg	406,468	8/25/01	Enarmonia formosana fgen med.jpg	181,751	9/25/01
Chloroclystis rectangula larva thumb.jpg	21,850	9/6/01	Enarmonia formosana fgen thumb.jpg	11,189	9/25/01
Chloroclystis rectangula larva.jpg	185,153	8/25/01	Enarmonia formosana fgen.jpg	693,692	9/25/01
Chloroclystis rectangula natural full.jpg	76,074	8/25/01	Enarmonia formosana full med.jpg	609,725	9/14/01
Chloroclystis rectangulata full thumb.jpg	26,153	9/6/01	Enarmonia formosana full thumb.jpg	26,182	9/14/01
Chloroclystis rectangulata full.jpg	303,835	7/20/01	Enarmonia formosana full.jpg	624,259	9/14/01

Enarmonia formosana half med.jpg	677,880	9/7/01	Notocelia cynosbatella damage thumb.jpg	26,339	9/14/01
Enarmonia formosana half thumb.jpg	33,277	9/7/01	Notocelia cynosbatella damage.jpg	825,129	8/26/01
Enarmonia formosana half.jpg	809,020	7/16/01	Notocelia cynosbatella half med.jpg	443,330	9/14/01
Enarmonia formosana half1 med.jpg	437,865	9/7/01	Notocelia cynosbatella half thumb.jpg	29,804	9/14/01
Enarmonia formosana half1 thumb.jpg	38,280	9/7/01	Notocelia cynosbatella half.jpg	999,303	9/14/01
Enarmonia formosana half1.jpg	544,465	7/16/01	Notocelia cynosbatella head1 med.jpg	616,796	9/14/01
Enarmonia formosana head2 med.jpg	131,667	9/7/01	Notocelia cynosbatella head1 thumb.jpg	34,988	9/14/01
Enarmonia formosana head2 thumb.jpg	34,727	9/7/01	Notocelia cynosbatella head1.jpg	1,345,362	9/14/01
Enarmonia formosana head2.jpg	131,747	9/13/01	Notocelia cynosbatella larva med.jpg	347,767	9/14/01
Enarmonia formosana larva thumb.jpg	26,012	9/7/01	Notocelia cynosbatella larva thumb.jpg	33,719	9/14/01
Enarmonia formosana larva.jpg	120,283	8/25/01	Notocelia cynosbatella larva.jpg	450,579	8/25/01
Enarmonia formosana larva1 med.jpg	332,093	9/7/01	Notocelia cynosbatella mgen.jpg	227,215	10/16/99
Enarmonia formosana larva1 thumb.jpg	19,389	9/7/01	Notocelia cynosbatella mgen1 med.jpg	351,427	9/28/01
Enarmonia formosana larva1.jpg	269,036	8/25/01	Notocelia cynosbatella mgen1 thumb.jpg	10,243	9/28/01
Enarmonia formosana larvahead thumb.jpg	35,466	9/7/01	Notocelia cynosbatella mgen1.jpg	1,234,315	9/28/01
Enarmonia formosana larvahead.jpg	238,107	9/7/01	Notocelia cynosbatella plant14 thumb.jpg	35,805	9/14/01
Enarmonia formosana lat nat med.jpg	629,307	9/7/01	Notocelia cynosbatella plant14.jpg	193,366	8/25/01
Enarmonia formosana lat nat thumb.jpg	27,363	9/7/01	Notocelia cynosbatella plant15 med.jpg	367,539	9/14/01
Enarmonia formosana lat nat.jpg	684,304	9/15/99	Notocelia cynosbatella plant15 thumb.jpg	27,908	9/14/01
Enarmonia formosana mgen med.jpg	431,471	9/28/01	Notocelia cynosbatella plant15.jpg	603,373	8/25/01
Enarmonia formosana mgen thumb.jpg	11,384	9/28/01	Notocelia cynosbatella plant18 med.jpg	358,584	9/14/01
Enarmonia formosana mgen.jpg	1,295,764	9/28/01	Notocelia cynosbatella plant18 thumb.jpg	34,234	9/14/01
Enarmonia formosana closeup thumb.jpg	38,972	9/7/01	Notocelia cynosbatella plant18.jpg	663,128	8/25/01
Enarmonia formosana closeup.jpg	524,549	8/25/01	Notocelia cynosbatella plant19 med.jpg	668,586	9/14/01
Enarmonia formosana head ps.jpg	127,770	9/11/01	Notocelia cynosbatella plant19 thumb.jpg	35,879	9/14/01
Enarmonia formosana head thumbps.jpg	17,669	9/11/01	Notocelia cynosbatella plant19.jpg	887,644	8/25/01
Gypsonoma aceriana full medps.jpg	499,990	9/11/01	Notocelia cynosbatella pupa thumb.jpg	32,426	9/14/01
Gypsonoma aceriana full.jpg	890,676	9/11/01	Notocelia cynosbatella pupa.jpg	366,965	8/25/01
Gypsonoma aceriana full thumb.jpg	24,391	9/11/01	Notocelia cynosbatella side thumb.jpg	27,956	9/12/01
Gypsonoma aceriana half thumb.jpg	36,426	9/11/01	Notocelia cynosbatella side.jpg	178,696	9/12/01
Gypsonoma aceriana half.jpg	447,401	9/14/01	Notocelia cynosbatella full2 med.jpg	447,882	9/12/01
Gypsonoma aceriana head med.jpg	586,995	9/11/01	Notocelia cynosbatella full2 thumb.jpg	21,840	9/12/01
Gypsonoma aceriana head thumb.jpg	47,210	9/11/01	Notocelia cynosbatella full2.jpg	824,388	8/29/01
Gypsonoma aceriana head.jpg	858,961	7/20/01	Notocelia rosaecolana head2 med.jpg	389,533	9/12/01
Gypsonoma aceriana Side Nat .jpg	431,104	9/11/01	Notocelia rosaecolana head2 thumb.jpg	35,804	9/12/01
Gypsonoma aceriana Side Nat b.jpg	156,396	7/16/01	Notocelia rosaecolana head2.jpg	420,881	10/16/99
Gypsonoma aceriana Side Nat thumb.jpg	24,493	9/11/01	Notocelia rosaecolana mgen2 med.jpg	372,908	9/25/01
Gypsonoma aceriana male gen med.jpg	345,198	9/11/01	Notocelia rosaecolana mgen2 thumb.jpg	12,646	9/25/01
Gypsonoma aceriana male gen thumb1.jpg	15,545	9/20/01	Notocelia rosaecolana mgen2.jpg	1,634,290	9/25/01
Gypsonoma aceriana male gen.jpg	449,058	8/31/01	Notocelia rosaecolana side1 med.jpg	174,267	9/12/01
Hedya nubiferana half med.jpg	464,038	9/20/01	Notocelia rosaecolana side1 thumb.jpg	43,403	9/12/01
Hedya nubiferana half thumb.jpg	36,462	9/20/01	Notocelia rosaecolana side1.jpg	301,861	10/16/99
Hedya nubiferana half.jpg	818,398	9/13/99	Pandemis cerasana fgen med.jpg	153,004	9/12/01
Hedya nubiferana lat nat med.jpg	666,768	9/14/01	Pandemis cerasana fgen thumb.jpg	15,980	9/12/01
Hedya nubiferana lat nat thumb.jpg	25,627	9/14/01	Pandemis cerasana fgen.jpg	1,272,220	9/12/01
Hedya nubiferana lat nat.jpg	595,452	9/13/99	Pandemis cerasana full2 med.jpg	898,631	9/12/01
Hedya nubiferana mgen med.jpg	429,821	9/14/01	Pandemis cerasana full2 thumb.jpg	21,903	9/12/01
Hedya nubiferana mgen thumb.jpg	15,370	9/14/01	Pandemis cerasana full2.JPG	1,390,415	8/29/01
Hedya nubiferana mgen.jpg	727,883	8/31/01	Pandemis cerasana full3 med.jpg	681,969	9/12/01
Hemithea aestivaria Full med.jpg.jpg	522,734	9/14/01	Pandemis cerasana full3 thumb.jpg	24,998	9/12/01
Hemithea aestivaria Full thumb.jpg	27,131	9/20/01	Pandemis cerasana full3.JPG	1,338,711	9/12/01
Hemithea aestivaria Full.jpg	1,733,564	7/20/01	Pandemis cerasana half med.jpg	491,728	9/12/01
Hemithea aestivaria half med.jpg	385,760	9/14/01	Pandemis cerasana half.JPG	1,003,303	8/29/01
Hemithea aestivaria half thumb.jpg	28,321	9/14/01	Pandemis cerasana half3 med.jpg	419,693	9/12/01
Hemithea aestivaria half.jpg	385,760	9/14/01	Pandemis cerasana half3 thumb.jpg	33,354	9/12/01
Hemithea aestivaria head med.jpg	471,773	9/14/01	Pandemis cerasana half3.JPG	823,441	7/17/01
Hemithea aestivaria head thumb.jpg	37,571	9/14/01	Pandemis cerasana head med.jpg	364,106	9/12/01
Hemithea aestivaria head.jpg	741,560	7/17/01	Pandemis cerasana head thumb.jpg	25,695	9/12/01
Notocelia cynobattella larva2 med.jpg	638,183	9/14/01	Pandemis cerasana head.jpg	194,318	9/12/01
Notocelia cynobattella larva2 thumb.jpg	30,657	9/14/01	Pandemis cerasana nat back thumb.jpg	26,739	9/12/01
Notocelia cynobattella larva2.jpg	577,355	9/14/01	Pandemis cerasana nat back.jpg	82,232	9/12/01
Notocelia cynobattella larva4 med.jpg	495,809	9/14/01	Pandemis cerasana mgen1 med.jpg	304,347	9/28/01
Notocelia cynobattella larva4 thumb.jpg	42,344	9/14/01	Pandemis cerasana mgen1 thumb.jpg	14,523	9/28/01
Notocelia cynobattella larva4.jpg	791,620	9/14/01	Pandemis cerasana mgen1.jpg	1,001,895	9/28/01
Notocelia cynobattella larva5 med.jpg	389,007	9/14/01	Pandemis heparana back5 med.jpg	287,207	9/12/01
Notocelia cynobattella larva5 thumb.jpg	33,058	9/14/01	Pandemis heparana back5 thumb.jpg	22,993	9/12/01
Notocelia cynobattella larva5.jpg	373,904	9/14/01	Pandemis heparana back5.jpg	838,419	9/12/01
Notocelia cynosbatella damage med.jpg	373,292	9/14/01	Pandemis heparana fgen med.jpg	153,894	9/12/01

Pandemis heparana fgen thumb.jpg	10,128	9/12/01	Yponomeuta malinellus half.jpg	861,202	9/12/01
Pandemis heparana fgen.JPG	310,967	9/12/01	Yponomeuta malinellus head med.jpg	513,560	9/12/01
Pandemis heparana head med.jpg	102,848	9/12/01	Yponomeuta malinellus head thumb.jpg	33,876	9/12/01
Pandemis heparana head thumb.jpg	28,998	9/12/01	Yponomeuta malinellus head.jpg	1,055,857	7/17/01
Pandemis heparana head.jpg	228,989	9/12/01	Yponomeuta malinellus nat side thumb.jpg	27,192	9/12/01
Pandemis heparana larva4 thumb.jpg	14,328	9/12/01	Yponomeuta malinellus nat side.jpg	234,752	7/5/01
Pandemis heparana larva4.jpg	52,914	8/26/01	Yponomeuta padellus plant thumb.jpg	39,026	9/12/01
Pandemis heparana larva5 thumb.jpg	20,778	9/12/01	Yponomeuta padellus plant.jpg	285,517	8/26/01
Pandemis heparana larva5.jpg	66,065	8/26/01	Yponomeuta padellus plant1 thumb.jpg	36,688	9/12/01
Pandemis heparana larva6 thumb.jpg	14,337	9/12/01	Yponomeuta padellus plant1.jpg	553,567	9/12/01
Pandemis heparana larva6.jpg	53,985	8/26/01			
Pandemis heparana larva7 thumb.jpg	21,023	9/12/01			
Pandemis heparana larva7.jpg	71,922	8/26/01			
Pandemis heparana larva8 thumb.jpg	18,879	9/12/01			
Pandemis heparana larva8.jpg	48,313	8/26/01			
Pandemis heparana side5 med.jpg	284,998	9/12/01			
Pandemis heparana side5 thumb.jpg	16,091	9/12/01			
Pandemis heparana side5.jpg	458,732	9/12/01			
Pandemis heparana1 mgen med.jpg	217,577	9/25/01			
Pandemis heparana1 mgen thumb.jpg	15,090	9/25/01			
Pandemis heparana1 mgen.jpg	901,748	9/25/01			
Pandemis heparana half med.jpg	306,658	9/12/01			
Pandemis heparana half thumb.jpg	34,633	9/12/01			
Pandemis heparana half.jpg	565,065	8/29/01			
Pandemis heparana full med.jpg	587,997	9/12/01			
Pandemis heparana full thumb.jpg	23,415	9/12/01			
Pandemis heparana full.jpg	986,767	9/12/01			
Recurvaria nanella full med.jpg	460,795	9/12/01			
Recurvaria nanella full thumb.jpg	20,596	9/12/01			
Recurvaria nanella full.jpg	431,080	9/12/01			
Recurvaria nanella half med.jpg	650,064	9/12/01			
Recurvaria nanella half thumb.jpg	29,661	9/12/01			
Recurvaria nanella half.jpg	598,108	9/21/00			
Recurvaria nanella head med.jpg	616,610	9/12/01			
Recurvaria nanella head thumb.jpg	37,658	9/12/01			
Recurvaria nanella head.jpg	246,593	9/12/01			
Recurvaria nanella nat dorsl med.jpg	301,171	9/12/01			
Recurvaria nanella nat dorsl thumb.jpg	25,829	9/12/01			
Recurvaria nanella nat dorsl.jpg	315,493	9/12/01			
Recurvaria nanella nat side med thumb'.jpg	21,715	9/12/01			
Recurvaria nanella nat side med.jpg	361,909	9/12/01			
Recurvaria nanella nat side.jpg	176,672	9/21/00			
Swammerdamia pellicaria half thumb.jpg	41,746	9/12/01			
Swammerdamia pellicaria half.jpg	139,954	7/20/01			
Swammerdamia pellicaria head.jpg	429,159	9/12/01			
Swammerdamia pellicaria med.jpg	327,879	9/12/01			
Swammerdamia pellicaria thumb.jpg	29,215	9/12/01			
Swammerdamia pellicaria back2 med.jpg	793,312	9/12/01			
Swammerdamia pellicaria back2 thumb.jpg	23,901	9/12/01			
Swammerdamia pellicaria back2.jpg	2,052,152	8/26/01			
Swammerdamia pellicaria full thumb.jpg	22,895	9/12/01			
Swammerdamia pellicaria full.JPG	305,928	7/17/01			
Swammerdamia pellicaria larva thumb.jpg	26,028	9/12/01			
Swammerdamia pellicaria larva.jpg	137,963	8/26/01			
Swammerdamia pellicaria larva1 med.jpg	1,030,682	9/12/01			
Swammerdamia pellicaria larva1 thumb.jpg	41,300	9/12/01			
Swammerdamia pellicaria larva1.jpg	3,080,955	8/26/01			
Swammerdamia pellicaria lat nat.jpg	66,945	6/27/99			
Swammerdamia pellicaria thumb.jpg	37,118	9/12/01			
Swammerdamia pellicaria .jpg	133,639	8/26/01			
Yponomeuta malinellus back med.jpg	177,661	9/12/01			
Yponomeuta malinellus back thumb.jpg	19,535	9/12/01			
Yponomeuta malinellus back.jpg	1,000,541	9/12/01			
Yponomeuta malinellus full med.jpg	404,710	9/12/01			
Yponomeuta malinellus full thumb.jpg	18,761	9/12/01			
Yponomeuta malinellus full.jpg	1,235,387	7/17/01			
Yponomeuta malinellus half med.jpg	477,292	9/12/01			
Yponomeuta malinellus half thumb.jpg	26,472	9/12/01			