

Arrowsmith Naturalists NEWSLETTER

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<http://www.arrowsmithnats.org>



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BULLETIN BOARD

Parking

If you find you have to park in the over-flow lot down the street from the school, be aware that the gates are locked at 9:30 p.m. One of our members found herself locked in and had to phone for a ride home.

No Smoking

Smoking is not allowed anywhere on school property

Sunshine

If you know of an Arrowsmith Naturalist, who is ill, in hospital or recently bereaved, please contact: Maggie Little, at (250) 757-2328 or at arrowsmithnats@gmail.com

Conference & AGM May 14-16, 2010; hosted by Kamloops Naturalist Club at Thompson Rivers University. Theme - Grasslands: Past, Present and Future. There is a discount for early registration before April 9th. For more information see:

<http://bcnature.ca/pages/conferences/conferences.html>

Conference & FGM Sept 30 - Oct 3, 2010; hosted by Langley Field Naturalist Society

President's Message

A belated "Happy 2010" to everyone and a sincere welcome, to the folks who have joined us in recent months. A "welcome back" also to all of you who continue to support the Arrowsmith Naturalists Club through your continuing membership.

The New Year brings with it some changes in the Club's Executive. Not only do you have a new President, but a new Vice-President, Treasurer and Director. It is gratifying to see that Bill Campbell has moved from Director to Vice-President, a position in which Pat Bourgeois served admirably for many years. Carol Anne Phillion has agreed to become our new Treasurer, a role which is a new "learning experience" for her. Lynn Bieber-Weir has joined the Executive as a Director, a position in which we are sure that she will make an important contribution.

Of particular importance to naturalists everywhere is the UN's designation of 2010 as the *International Year of Biodiversity*. For BC's naturalists, this designation is all the more poignant as we inhabit one of the planet's most ecologically diverse regions. Every day we are reminded of the fragile health of this natural environment. Perhaps no better indicator of this is the threat to one of our most famous keystone species - the Pacific salmon. We are in grave danger of losing this vital species, coupled with the peril that exists also for the whales, bears, wolves, eagles, ravens and countless other species (not to mention our forests) which depend on the health of the salmon. One of the best responses to this crisis (and others like it) which I have seen recently, comes from the newsletter of the Cowichan Valley Naturalists - and I leave their words with you.

Naturalists live in the midst of what is quickly becoming a global environmental crisis. Not surprisingly, new definitions are being forged for the 'modern' naturalist who must now take part in conserving the species and habitats he or she enjoys observing. They must take their knowledge of the natural world beyond just a personal interest and interpret it for the politicians and the public so that conservation may become a guiding principle rather than an afterthought.

Naturalists are those who speak for nature because nature cannot speak for itself.

The Arrowsmith Naturalist is published three times a year --- in February, June and October. Articles on birding, travel, botany and environmental matters are welcome by the end of the month prior to publication. The next deadline is May 2010, for the June 2010 edition.

Hand-written or typed articles are accepted. Some editing may be required for length or held off for another edition according to available space. E-mail articles to mmhillm@shaw.ca or send by mail to: 194 Valdez Ave, Qualicum Beach B.C. V9K 1R8
Editor: Margaret Hill

Arrowsmith Naturalists Officers and Contacts:

President: Dave Hutchings (250) 752-1613
Past President: Roger Simms
Vice President: Bill Campbell
Secretary:
Treasurer: Carol Anne Philion
Membership: Gail Armstrong
Directors: Lynn Bieber Weir; Tony Heal; Pam Helem, Allison Roberts
Programs: Pam Helem; Allison Roberts
Field Trips: Allen Gillespie
Promotion: Sallie Dabb
Refreshments: Alison Bakker
Young Naturalists: Alison Bakker
Conservation/Environment: Ronda Murdock
Web Site: David Helem
BC Nature: Pat Bourgeois

General Information:

An information pamphlet on Club membership is available at both of the public libraries, or write to Arrowsmith Naturalists, Box 1542, Parksville, B.C., V9P 2H4. Annual membership is \$35.00 per family, \$22.00 single or \$12.00 junior (up to 18 years). Membership includes monthly meetings (talks and/or slide shows), regular hikes (bird watching, botanical), BC Nature newsletter four times a year and the Club newsletter in February, June and October.

A reference copy of the current newsletter is available at each of the libraries at Parksville and Qualicum Beach.

“**Meetings and Outings**” information sheets are available at Mulberry Bush Book Store in Qualicum Beach and Parksville.

For Further Information: Please go to the **Website:** <http://www.arrowsmithnats.org>

BANDED GARDEN SPIDER

In September '09, while pulling Broom at the Englishman River Estuary, one of our ‘finds’ was a *Banded Garden Spider*. The species photographed was confirmed by Dr. Rob Cannings, Curator of Entamology at the Royal BC Museum.



The Banded Garden Spider, *Argiope trifasciata* - Family Araneidae or commonly known as the Orb weavers. "The body has a silvery sheen, which often adds to it's pale appearance. The one pictured might have recently moulted, which gives invertibrates a whitish colour until the new exoskeleton hardens" writes Rob Cannings.

It is widespread over much of southern BC. The Orb weavers often have very large abdomens which can be brightly coloured and patterned. They have 8 eyes, the middle 4 often forming a square. Males are often smaller than females. They make orb-like webs especially in the fall, often with a dense white stabilimentum (SEE P. 10) in the middle. Certain species do not make webs at all. Instead they ensnare moths after dark using a single thread, with a bead of glue on the end. Some tropical species make huge strong webs and have been known to catch and eat birds. The enormous webs of *Nephila* species are used as fishing nets in Papua, New Guinea.

A special thank you to Maggie Little for the photo and for contacting Dr. Cannings to ID this creature.

Parksville Qualicum Beach Christmas Bird Count -- 1991-2009 -- BCPQ

Compiled and Submitted by: Sandra Gray

As BCPQ compiler since 1998 I have often been asked “how does this year’s Count compare to other years?” ... now I have the answer in the table below. The increases in total species and individuals counted is noteworthy and reflects increased participation by experienced birders and the popularity of birding and feeding of wild birds in our community. As for weather ... we can be fairly sure it will be cloudy and that it will rain! We have postponed twice to a January date due to snow. Weather is always the major factor in determining what birds are seen, where they are, conditions of visibility and access. Usually the Count is held on the first Sunday of the ‘count window’, which is now permanently set at December 14 to January 5. An official Feeder count was started in 1998 (99th) within the Arrowsmith Naturalist Club, then opened up to the public in 2002 (103rd). The Feeder count has increased our totals every year and brings in many more participants. Hours of effort varies (driving & walking are combined) according to the number of field observers, weather and driving conditions which all have a serious influence on the count. The low, high and average numbers are in bold for clarity. See you next year!

COUNT #	TOTAL INDIVIDUAL BIRDS COUNTED	TOTAL SPECIES	# OF PARTICIPANTS *(hours of effort)	# OF FEEDER COUNTERS	WEATHER	DATE
92	18,740	93	19 - (43.3)		Partly cloudy	Dec 15, 1991
93	9,562	92	18 - (37.3)		Cloudy, light rain	Dec 20, 1992
94	15,398	94	38 - (74.1)		Cloudy, light rain	Jan 02, 1994
95	15,824	84	27 - (60)		Cloudy, AM light rain, PM heavy rain	Dec 17, 1994
96	16,723	94	25 - (57)		Cloudy, light rain	Dec 16, 1995
97	10,104	89	39 - (73.8)		Local fog	Dec 21, 1996
98	14,883	98	31 - (67)		AM clear, PM partly cloudy	Dec 20, 1997
99	21,441	104	36 - (78.5)	18	clear	Dec 19, 1998
100	22,470	93	37 - (64)	9	Partly cloudy, light rain	Dec 19, 1999
101	19,181	97	41 - (64)	4	AM partly cloudy, PM partly clear, none/light rain	Jan 05, 2001
102	29,280	109	46 - (84)	2	Cloudy, light to heavy rain	Dec 15, 2001
103	28,208	100	38 - (69)	25	Cloudy, light to heavy rain	Dec 14, 2002
104	33,512	116	46 - (91)	14	AM partly cloudy, light to heavy rain. PM partly clear, light rain.	Dec 14, 2003
105	28,975	108	42 - (78.5)	27	AM partly cloudy, none to heavy rain. PM partly clear, no rain	Dec 19, 2004
106	26,207	112	37 - (85.75)	20	AM fog, sun, part cloudy. PM sun, partly cloudy.	Dec 18, 2005
107	27,517	117	38 - (78.75)	23	AM partly cloudy, light snow overnight. PM partly cloudy.	Dec 17, 2006
108	26,202	112	42 - (77.25)	21	Cloudy, light to heavy rain.	Dec 16, 2007
109	19,020	107	33 - (68.25)	25	AM cloudy, light to heavy snow. PM partly clear, light to heavy snow.	Dec 14, 2008
110	26,503	115	40 - (97.75)	36	Cloudy, light to heavy rain.	Dec 20, 2009
averages	21,565	102	36	19	Cloudy, rain	

TURTLES, TURTLES EVERYWHERE

By: Micheline Messner

Mexico December 2009

Walking alone on the beach in the early morning in order to beat the hot Mexican sun and long before daybreak, I could only hear the silence of the night and the rolling sounds of the waves. It was still cool and the wind was calm. At this particular spot, where I had walked many mornings before and never notice anything out of the ordinary except sand, stones and some debris left by the tourists the day before. I saw something that I had only seen on TV or in books. Never in my wildest dream did I think that one day with my own eyes I would witness the hatching of baby turtles. There they were turtles, turtles everywhere and baby ones at that. No it was not a dream, it was for real. I could touch them and I could feel them. I watched for awhile and decided to help them a little...at least, the ones going the wrong way or the ones tangled in rubbish, fish lines, pop cans, cartons, birds, water snakes etc.

I believe they are Loggerhead. They are near extinction and the Mexican Government has introduced a restoration and conservation program to protect the endangered species.

One biologist is assigned to this project. Every morning on the sea shores, he looks for fresh nest eggs laid the night before. He then digs them up and transfers them to a new location which is under his surveillance. He normally puts 70 to 100 eggs per hill and waits for the hot sand to hatch them out. It can take 3 to 5 months depending on the weather and the warmth of the sand.

Because the biologist spoke Spanish it was difficult to really grasp what he was saying. I can not understand Mexican Spanish. Somehow I do very well with my Spanish in South America but not in Mexico. However, I did capture pictures of the hatching turtles and a protected area with my camera.

This trip to Mexico was sure a learning experience.



Loggerhead Turtle escaping a net equipped with [turtle excluder device \(TED\)](#)
(*Caretta caretta*)
Photo: NOAA

Baby Turtles Heading Towards the Water

See more pictures on page 5...



Turtles, Turtles Everywhere



Sand hills containing eggs.

The National Mexican Turtle Center is under the direction of the National Fisheries Institute.
 For information go to:
<http://www.tomzap.com/turtle.html>



Eggs destroyed by birds, snakes & raccoons.



Juvenile Green Sea Turtle



Screens around the sand hills protecting eggs from predators...mostly birds

TREE PLANTING AT THE ENGLISHMAN RIVER ESTURARY

By: Maggie Little

Photographs by: Martin Hill

The removal of broom plants has been maintained at a steady rate throughout the summer of 2009. A core group of 9 Arrowsmith Nats and the Volunteer Warden, Doug Herchmer, have been concentrating efforts along the east side of the circle path opposite the salt marsh lagoon area.



With direction from our Nature Trust contact, Chris, we participated in two separate reforestation plantings within the previously cleared areas. On October 23 and November 13, a record (14) Arrowsmith Nats, family members and even 2 grandchildren turned out to plant a variety of young evergreen trees. Nature Trust had purchased 38 x 5 gall trees for the first planting. Dave Helem had been donated 50 x 2 gall trees from the Friends of French Creek for the second planting. The weather couldn't have been better and it was socially as good as a picnic! We got the job done in record time.



Since then, Doug has labeled, numbered and measured each tree and we will monitor the rate of growth and success of this project for Nature Trust.

There are many reforestation projects occurring quietly within our area by many groups of volunteers. With the massive damage done to riparian areas, streams and wet lands, by logging companies and land developers, this leaves much work to be done as we attempt to reverse the legacy left by them.

The club stewardship group go out twice a month, the second and last Friday (weather permitting). For further information contact: Maggie Little, arrowsmithnats@gmail.com

Club History Notes: from the February 1976, Arrowsmith Natural History Society Newsletter, edited by:

Ernie Bates

"This club was formed in July of 1970, fashioned after the first Natural History Club which was active in the district nearly 45 years ago. My wife and I are the only members of the former Lark Natural History Club who now belong to the Arrowsmith Natural History Society.

The Lark Natural History Club had a membership of only 20; among them were botanists, a geologist and many young and enthusiastic members. Our mode of transportation was a flat deck truck which we sat on and dangled our feet over the side.

One of many expeditions was a back packing trip up the Cameron Valley into Labour Day Lake...we can now drive to within a half mile of this lake...up over Mount Moriarty and down the Englishman River to Craig's Crossing. There were thirteen members in the party who covered roughly 60 miles. We were away 13 days and it cost each of us 10 cents a day. Those were the 'Good Old Days!'

Another interesting trip was in to Rhododendron Lake to see Rhododendron Californicum. It was here it was first reported growing wild on Vancouver Island. This lake was then known as Kalmia, because of the profusion of Kalmia growing there. Its name was later changed to Rhododendron and it is now an Ecological Reserve.

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A very interesting trip was up the Englishman River, where fossil beds were discovered and explored and signs of the last ice age were very noticeable. We traveled on up to the two lakes at the south forks of Englishman River to view and photograph some of the largest Douglas Fir known on Vancouver Island. These magnificent trees survived the big fire of 600 years ago. Our journey took us up Rush Creek to Cedar Lake now known as Moriarty Lake, up over Mount Moriarty, down to Labour Day Lake and then down the Cameron Valley to the old Cowichan-Alberni Trail which was put through to aide the prospectors and early settlers, and so out to the Alberni Summit.

I am sorry to say all the records of this first club were destroyed. All we have are a few photographs and many happy memories."

WHY FORAGE FISH MATTER

From: Cowichan Valley Naturalists' Society Newsletter; Jan-Feb 2010

By: Ramona de Graaf

You have heard it before: "all things are connected."

Can you connect beach sand grains to the food chain of Pacific salmon, blue herons or killer whales? These species are some of the hundreds of predators that feed on the "forage fishes" of the sea. Herring are most familiar but surf smelt, Pacific sand lance and capelin are species that spawn on marine shorelines.

Let's go on a discovery of connections. Have you seen silvery surf smelt leaping at high tide? Using the beach surf, ripened female smelt rush to release their eggs. The one-mm eggs produce an anchor-grabbing membrane that catches pea-sized pebbles...a weight belt that tumbles the eggs to incubate in nurseries a few centimeters below the beach surface.

In winter, Pacific sand lance move to fine gravel/sand beach areas for spawning. After weeks below the surface, these tiny beach babies, only three-mm long, swim out with the ebbing tide.

From these little fishes, big things grow. The year round abundance of forage fish determines the



Pacific sand lance

survival of larger predators. For species of rockfish and salmon, estimates of their reliance on Pacific sand lance alone is 10 to 50 per cent of their diet.

Marine shore spawners face an uncertain future in BC. In terms of hectare, inter-tidal spawning beaches are one of the finite habitat types found in the Strait of Georgia. Shoreline alterations for human developments can result in the loss of spawning habitat. Recently, local communities have begun sampling beaches to document and protect crucial habitat.

As you enjoy your favourite ocean walk on the beach, remember to connect the role of our beaches in providing food for our marine food web, and remember the need to protect the spawning habitats at your feet.

Morton fills Civic Centre [Oceanside Star](#)

Saturday, January 30, 2010

Brad Bird

Close to 600 people packed the main hall in the Civic Centre Saturday to hear and see the leader of the fight to save wild salmon, Alexandra Morton. And she didn't disappoint. Inspired perhaps by the standing ovation she got in the Qualicum Beach facility before she even began, Morton delivered a strongly worded indictment of the effects fish farms are having on wild salmon stocks in B.C. and the world over.

But she had good news for most of those present, saying the farms - which spread fish-killing lice and disease - contain the seeds of their own destruction. "The fish farms themselves are killing themselves off," she said. "They're shutting themselves down." It would be nice if fish farms and wild salmon could co-exist, she said, for the sake of the people working the farms, but the science shows it can't be done. The wild salmon, which she called the lifeblood of the west coast, won't survive unless open-net farms cease to operate.

Closed-containment farming on land can work, in her view. The winner of a recent court case which wrested authority over fish farms out of provincial hands and placed it in federal jurisdiction, the author of five books and seven papers, Morton said an "enormous army" of people have taken up the cause of wild salmon and made the difference, and "their very biology depends on us now." She urged people to write their MPs relentlessly to oppose fish farms, which have depleted natural fish stocks in Norway, Ireland and Scotland as well as in Canada. The legal victory, which cost \$100,000, is just another step on the way, she said. "It's really now or never. This is not a dress rehearsal. These (wild) fish are going down," she said. "But we can turn it around."

Morton lives in Echo Bay in the Broughton Archipelago, near Port McNeill, surrounded by about 22 fish farms which she has documented are harming wild salmon stocks. Her home has become a stopping point for

various marine researchers. She raised her children there and has lived in that wilderness setting since about 1980. She began her talk by saying how some people suggest she is on a crusade. Others say she has a vendetta against the industry. "No," she tells them, she's just "a woman cleaning house." The power to change things isn't really with government, she said, but with each of us.

"The power of one is all we have, but we all have it." Speakers in support included Rafe Mair and local commercial fisherman Paul Kershaw. Mair said the anti-farming movement is on a roll, thanks to Morton's leadership. He called her a "great Canadian and a great person."

"We are now fighting to preserve the legacy (of wild salmon) and our children's inheritance," Mair said.

Kershaw said commercial fishing dries up wherever fish farms operate. Before the meeting, he wondered if people in Oceanside really cared about wild salmon and thought perhaps 100 people would show up. Almost 600 did.

"I'm so proud of Qualicum Beach right now," Kershaw said. Sandy Robinson, of Friends of French Creek Conservation Society, said he was pleased by Morton's speech. "It makes me angry, what is going on and what should happen and what has happened," he said. Dry-land containment farming must replace the netted containers in the ocean, he said. Others were also impressed. "It was very good," said Alan Deines. "Excellent," said Sharon, his wife. Politicians present included the NDP's Scott Fraser, Leanne Salter and Zeni Maartman. Barry Avis of Qualicum Beach was also there.

It was standing room only as people gathered around the perimeter of the large hall, which had more than 500 chairs out, an official said.

© Oceanside Star 2010



February to July, 2010 - ARROWSMITH NATURALISTS MEETINGS AND OUTINGS

Car-pooling is encouraged

For further information, please contact: Dave Hutchings (250) 752-1613

Please Note: Guests are most welcome. A Guest Waiver is available at time of outing and on the website www.arrowsmithsnats.org. The waiver must be signed before participating in an outing along with a \$1.00 fee. Give both read, signed form and fee to the outing leader.

Sun. Feb. 21st - Fanny Bay Conservation Area and Ships Point A walk along the dyke and shore-line for winter birds. Wear good footwear for mud. Meet at the Qualicum Beach Tourist Office at 9:30 a.m. or Sunny Beach Rd. in Qualicum Bay at 9:45. Bring lunch to eat on the spit. **Leaders:** TBA

Mon. Feb. 15th- General Meeting at Springwood Middle School, PV- 7:30 p.m. (Note the change from usual date.)

Speaker: Guy Monty, our local expert birdman will share his knowledge of the Brant Geese, whose annual stopover in the Oceanside area and their migration north has been a fascinating field of study for several years.

Sun. Feb. 21st - Fanny Bay Conservation Area and Ships Point: A walk along the dyke and shore-line for winter birds. Wear good footwear for mud. Meet at the Qualicum Beach Tourist Office at 9:30 a.m. or Sunny Beach Rd. in Qualicum Bay at 9:45. Bring lunch to eat on the spit. **Leaders:** TBA

Wed. Mar. 3rd - Wildwood Demonstration Forest: Wildwood is Merve Wilkinson's 60-year-old model of sustainable eco-forestry. Much studied, the forest is now preserved and administered by The Land Conservancy as both a heritage site and a working forest. This specially - arranged forest tour will be led by the TLC site manager, Jay Rastogi. However, there is a fee of \$7.00 for non-TLC members. Members are admitted free. Bring lunch or dine at the Crow and Gate Pub. Meet at Craig and Jensen at 9:30 a.m. or Arlington at 9:45. **Leaders:** Chris and Dave 752-1613.

Sun. Mar. 14th - Hamilton Marsh & Englishman River Falls Park: This is a birding and nature walk with trails both flat and uneven including some rise. Meet at Qualicum Beach Tourist Office at 9:30 a.m. Bring a bag lunch.

Mon. Mar. 22nd - General Meeting at Springwood Middle School, PV - 7:30 p.m.

Speaker: COLIN BARTLETT, all about the "birds and bees" - helpful hints for the enjoyment of attracting our local birds and Mason bees to share our gardens.

Wed. Mar. 24th - Columbia Beach & French Creek: Moderately high tide but good birding at various spots along the water's edge. Meet at Craig & Jensen in P.V. at 9:30a.m. Bring a bag lunch.

Sun. Apr 4th - Deep Bay: An easy birding and beach walk on a falling tide. In area which often yields a good variety of seabirds. Meet at Qualicum Beach Tourist Office at 9:30 a.m. Bring a bag lunch.

Wed. Apr. 14th - Buttertubs Marsh, Nanaimo: 2.4 km flat trail around one of most productive birding areas. The marsh is a man-made success, offering shelter to a variety marsh and song birds. Meet at Craig & Jensen in P.V. at 9:30 a.m. or Arlington at 9:45 a.m. Lunch at the Black Bear Pub.

Sun. Apr. 25th - St Peters Church & Mt Tzouhalem, Duncan: This is an opportunity to visit an historic

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church with a pastoral meadow/woodland grounds with an array of wildflowers, followed by a forest walk to a Garry Oak meadow ecological reserve. Meet at Craig & Jenson in P.V. at 9:30 a.m. or Arlington at 9:45 a.m. and bring along a bag lunch.

Mon. Apr. 26th - General Meeting at Springwood Middle School, PV - 7:30 p.m. Speaker:

Karen Barry, is the BC Programs Officer for Bird Studies Canada and will present information about several of the current surveys, in which volunteers can participate, such as Feeder-watch, coastal Bird Survey and the Beached Bird programs.

Wed. May 5th - The Abyss, Extension Ridge Trail: An easy forested walk with some rise along the river with the opportunity to see spring wildflowers, including orchids. Meet at Qualicum Beach Tourist Office at 9:30 a.m. Bring a bag lunch.

Sun. May 16th - Trent River Hike, Royston: This is a forested walk along trails with some rise. Meet at Qualicum Beach Tourist Office at 9:30 a.m. Bring a bag lunch.

Wed. May 26th - Little Aquarium Falls: Come out and enjoy a delightful hike to identify flowers and take in the scenery. This is a trail with some rise. Meet at Qualicum Beach Tourist Office at 9:30 a.m. Bring a bag lunch ready to picnic.

Mon. May 31st - General Meeting at Springwood Middle School, PV - 7:30 p.m. (Note the change from the usual date.) Speaker: Joe Crichton, will lead us, via his wonderful photos, on a bird-watching journey to the Tropics...why more species than in temperate zones, habitat diversity and speciation.

Sun. June 6th - Rogers Creek Trail, Port Alberni: This trail, with some rise, follows a picturesque river through the woods. Meet at Qualicum Beach Tourist Office at 9:30 a.m. Bring a bag lunch ready to picnic.

Wed. June 16th - Neck Point & Piper's Lagoon, Nanaimo: Come out to participate in seaside birding and Garry Oak meadow wildflower identification. Moderate walking with some rise Meet at Craig & Jenson in PV at 9:30 or Arlington at 9:45 a.m. Bring a bag lunch for a picnic.

Sun. June 28th - Paradise Meadows & Battleship Lake, Mount Washington: A lovely walk through mountain meadows on a boardwalk to see the flowers (hopefully) and then a moderate climb to an alpine lake. Gray Jays are usually plentiful...feeding them is discouraged. Part of the Paradise Meadows boardwalk is wheelchair accessible. Meet at Qualicum Beach Tourist Office at 9:30 a.m. Bring a lunch, sturdy footwear and dress in layers- just in case.

Mon. June 28th - General Meeting Springwood Middle School, PV - 7:30 p.m. TBA

Mon. July 26th - ANNUAL CLUB PICNIC: Location TBA

Mon. Sept. 27th - General Meeting Springwood Middle School, PV - 7:30 p.m. TBA



What is a *stabilimentum*? A web decoration or **stabilimentum** (plural: **stabilimenta**), is a conspicuous [silk](#) structure included in the webs of some species of [orb-web spider](#).

See website...

http://www.bugsinthenews.com/stabilimentum_and_some_notions_on%20function.htm