THE SPECIES LILY

The Newsletter of the Species Lily Preservation Group Affiliated with the North American Lily Society



SLPG GOALS

- * Growing as many species lilies as possible, especially those rare and in danger of extinction.
- * Making excess species bulbs available to members.
- * Collecting, preserving, planting, growing and distributing species seed.
- * Collecting all possible information on each species: its habitat, distribution, cultural needs, etc.
- * Disseminating cultural information on each species.
- * Assembling a slide and photo record of all species lilies.
- * Identifying areas where specific species grow and seeking protection for these areas.

SLPG Contacts

Barbara Small
President/ Newsletter Editor
80 Mule Deer Court
Reno, NV 89523
775-345-9870
Randbsmall@yahoo.com

Vijay Chandhok Secretary 115 Woodhaven Drive Pittsburgh, PA 15228 Vc2m@mac.com

June Taylor Membership 3286 4th Street Biggs, CA 95917 530-868-1000 pimleyta@cncnet.com

David Sims Conservator P.O. Box 82 Bonners Ferry, Idaho 83805 davidsims@verizon.net Katherine Andersen Vice President 2565 Charlestown Road Phoenixville, PA 19460 ksa2006@verizon.com

> Ted Sobkowich Treasurer Box 166 Hazelridge MB R0E 0Y0 Ts23@mts.net

Nigel Strohman Conservator P.O. Box 846 Neepawa, MB R0J 1H0 nigel@lilynook.mb.ca

Table of Contents		
Letter from the President	4—5	
Thank you Lily Nook	6	
Lily Seed Germination and Planting Lily Seeds Darm Crook Northwest Territories, Canada	7—15	
Various Lilium Species Germination Styles Darm Crook Northwest Territories, Canada	16—20	
Propagating Lilies from Leaf Cuttings Kevin Fry Alberta, Canada	21—22	

Special Thanks to Cover Designer/Photographer David Sims Proofreaders Janice Kennedy and June Taylor

Board of Directors

Paul Machado (2009) 19811 Crane Ave. Hilmar, CA 95324

Nigel Strohman (2010) P.O. Box 846 Neepawa, MB R0J 1H0

SandyVenton (2011) 203 Vernon Rd. Winnipeg, MB R3S2W1 Jim Ault (2009) 165 Adler Drive Libertyville, IL 60048

Art Evans (2010) P.O. Box 186 Gravette, AK 72736

Kevin Fry Box 32, Suite 103, RR 1 Stony Plain, AB T7Z 1X1

Letter from the SLPG President

Greetings, species lily lovers,

First of all, I want to apologize for the lateness of this second edition of *The Species Lily* for 2008. The editor was unable to do the newsletter, so the job has once again fallen to me (I thought my trips to the printer and post office were over). To make up for this problem, all of you will receive both this newsletter and Volume I of 2009. If you haven't renewed, we would be pleased if you would. You'll find a renewal form enclosed with this letter if your membership has expired. In addition, you'll find a listing of all members as of 2009 printed as a separate booklet Virginia Howie did the original drawing which will appear on the cover. Please let our membership chair June Taylor know if any of the information is incorrect or has changed. She's very good at corresponding with members, but she says that sometimes the e-mail messages bounce back. See her contact information on page two.

Secondly, I want to thank all of you for your efforts on behalf of the SLPG. Despite the death of our mentor Edward McRae, the group continues to flourish with new conservators David Sims and Nigel Strohman. They are building a fine base which will enable them to offer us new species lily bulbs within a few years. I want to renew my call for each of you to "adopt" a species lily or more. As a proud parent, you would choose any lily or lilies which grow well in your area, propagate it/them, and provide the bulbs to the conservators to offer to the members. At the summer meeting of the SLPG I will propose a way to make adoption profitable for you by allowing you to earn credit from the conservators.

We must all do our jobs to preserve and even renew lilies in the wild. For example, the area just west of our home has been plagued with huge wildfires — burning 113,914 acres in five

separate fires since 1960. Under the Healthy Forest Restoration Act of 2003, the US Forest Service will thin the conifer forest, enhance aspen stands and remove small trees and brush. I think that's great, but I have contacted the Forest Service to make sure that in their zeal the workers don't stomp on the L. x crystalense that grows in the area. There must be large or small projects where you live that will soon endanger native lily populations. Some purists believe that to scatter species lily seed is messing with nature, but nature sometimes needs a little help. Shasta City, the original L. shastense are almost all gone because children play in the creek where they grew. Those seeds which June Taylor and I scattered above the original area are thriving because they're surrounded by branches. At the end of the season, when the native species seeds are ready, collect them for the seed exchange, but also plant a few in nearby areas. You'll be proud when you see them bloom in a few years.

Thank you too, NALS and ORLS for providing time in the summer schedule of events not only for a general meeting but also for a time for the SLPG board to meet.

One of the most important goals of the SLPG is to collect, preserve and grow species seed. To that end, you'll find this issue devoted to how to do just that, and the covers depict some of the very easiest species to grow by seed. In addition, Kevin Fry's article may prompt you to try your hand at multiplying species lilies in a new way.

My very best to you all, and get out to view those species lilies in the wild.

Barbara

Julius Wadekamper's Lilies Benefit the SLPG

Thank you Lily Nook!

A few years ago, the SLPG received a donation from The Lily Nook in memory of Julius Wadekamper, one of the original fouders of the Species Lily Preservation Group. They plan to make this donation continuing: The Lily Nook will donate 10% of the money they receive for each lily registered by Julius. One painless and pleasant way to support our group is by purchasing the following lilies as they become available:

Buffy	Dandy Lion	Doctor Yu
Hot Fudge	Maple Cream	Miss Alice
Peach Pie	Portrait	Pumpkin Pie
Purple Reign	Purple Shadows	Raspberries and Cream
Red Satin	Seashell	Serenity
Snow Angel	Soft Moonbeam	Sparkling Waters
Speckled Blaze	Spring Star	Star Search
Stardom	White Prince	Willow Wood
Wine and Roses	Winnie	

[Editor's Note: Although much of this information below regarding seed germination may be familiar to you, Darm has categorized it beautifully and given us complete detail. He has a unique perspective since his growing zone (Canadian zone 1) has severe growing conditions. The article following this one ("Various lilium species germination styles") is a real winner for those of us who find the only source of many lilies is through seed exchanges.]

Lily Seed Germination and Planting Lily Seeds

Darm Crook Northwest Territories, Canada

Definitions

Epigeal = above: cotyledon grows above ground.

Hypogeal = below: cotyledon never appears above ground.

Cotyledon = the first growth stage of the lily seed's embryo. An epigeal germinating lily's cotyledon looks much like a blade of grass.

Type - as it refers to a species lily. The species lily known by its given name - example L. davidii = type. L. davidii var. willmottiae and L. davidii var. unicolor are not considered type; they are varieties of the species.

Germination forms. There are basically four various forms of lily seed germination patterns. Inside of those forms there are variations that affect the seeds' ability to germinate.

- 1a. Immediate epigeal. A seed germinates reasonably quickly at temperatures of about 18C. [65F.] and upon germination sends up a cotyledon which is followed shortly by true leaves. Some lilies can germinate and send up a cotyledon within nine days of planting while others can take over ninety days to do so. Lilies that take a long time to germinate and send up a cotyledon generally take another forty-five to sixty-five days before they start sending up true leaves. Lilies that germinate quickly will generally start sending up true leaves within thirty to forty-five days.
- **1b.** Variation of immediate epigeal. Some lily species will germinate reasonably quickly but the cotyledon will die back before any true leaves are put forward. For these, upon the cotyledon dieback, give them a three-month cold period [can be longer] at 2C.[35F.] When planted out after the cold period, they will send up true leaves in about three weeks. I simply encase the 4 1/2 inch geranium pot, in which I grow the seedlings, in a zip-lock baggie, seal the baggie and place it in the lily fridge.
- 2. Delayed epigeal. A seed germinates only after an extended length of time, first in a reasonably warm, barely moist incubation period followed by a cold period. Some species may even require a second warm period to germinate and a second cold period before they sprout their cotyledon. These alternating warm cold periods are around three months each but can be longer. Some species types that have this form of germination have varieties that germinate as immediate epigeal.
- **3a.** Immediate hypogeal. A seed germinates in temperatures around 18C. [65F.] and the cotyledon never grows above the soil's surface. Some of the lilies that germinate in this manner will send up their first true leaves within 30 to 45 days of planting. Other lilies can take six months or more. No cold or dormant period is needed by these type of lilies before they send up true leaves.

- **3b.** Variation of immediate hypogeal cool germination. Lilies require cool temperatures of 9C. [48F.] to 11C. [52F.] to germinate and send up their first true leaves. Lilies that require these types of germination conditions may never germinate if held at other temperatures.
- 4a. Delayed hypogeal. A lily seed germinates at temperatures of around 18C. [65F.] in dark conditions. After a three- to fourmonth incubation period and before they will send up true leaves, these lilies require at least a three-month cold [dormant] period at a temperature right around 2C. [35F.]. I have found that delayed hypogeal seeds which are given a four-month incubation period have more foliage growth their first summer and much better first winter survival rates than delayed hypogeal lily seeds that are given only a three-month incubation period. The ones that receive a four-month incubation period also come to flower a year or two ahead of the ones given a three-month incubation period.
- **4b. Variation of delayed hypogeal.** Inside this group [delayed hypogeal] there are species where seeds from the same pod will germinate as immediate as well as delayed hypogeal. From a lily that should be delayed hypogeal germination I have had up to seven percent of the seed germinate as immediate hypogeal some years and other years as low as one percent. The delayed hypogeal seedlings that germinate as immediate hypogeal usually outgrow their siblings and flower a year or two earlier; thus they are well worth watching for when germinating delayed hypogeal lilies. Depending on which species it is, delayed hypogeal germinating lilies can take three to seven years from seed to flower.

Planting and germination of the various lily- germinating patterns

Immediate epigeal

1. Direct outdoor sowing

Depending on your climatic ratings, good germination rates can be had by direct sowing about a week before your spring's last expected frost date. Plant the seed 1/8 to 1/4 inch deep and keep the soil moist. In my Canadian zone 1, very few immediate epigeal lily seedlings mature enough in one growing season from directly planted seed to survive their first winter. With this method, the immediate epigeal seedling survival rate for me is one out of twelve. [Editor's note: If you live in a less-hardy zone, you will have much more success.]

2. Direct sowing in pots under lights over the winter

The soil I use for starting all of my lily seedlings is our regular top soil, very high in humus, well-draining, and a 6.5 ph. For lilies that require an alkaline based soil, I amend this soil with the addition of lime. Other planting mediums can produce good results as evidenced by other people's successes, but I can't comment on these other mediums as I have never used them. The drawback with the soil I use is that it does grow a covering of peat moss which can prove difficult if not impossible for late germinating seeds to push the cotyledon through. The same difficulty can be had by the first few true leaves a seedling sends up. The growing of peat moss on the pots can be controlled somewhat with a thin coat of canary or budgie gravel placed over the planting medium's surface.

I plant nine seeds 1/4 inch deep per each 4 1/2 inch geranium pot. Very seldom do all nine germinate, and there is generally some loss upon planting out and some first year winter kill. But even if there isn't any loss, nine seedlings can grow in this crowded condition quite comfortably until the fall of their first flowering. When planting the seedlings out, do not disturb the bulbs or root system; to do so sets the first flowering back at least one full year. If planted as per my system, most immediate epigeal seeds planted in November of 2006 will flower for a first time in 2008. I make an initial watering that will totally saturate the planting medium just prior to planting the seeds. After that they get watered every second day, but not to a saturation point. Starting three weeks after the first true leaves have been sent up, I embark on a fertilizing program. Using a 10-10-10 or 20-20-20 water-

soluble fertilizer at one half the manufacturer's recommended dosage for indoor plants, I fertilize the seedlings once every three weeks. If your seedlings' true leaves start yellowing, overwatering is most likely the problem. Once the seedlings get planted out, there is no further fertilizing for that growing season. For my growing conditions, planting the seeds in early- to mid-November gives me the best results for first winter survival rates. Planting the seeds a month earlier causes the seedlings to get too large by the time they can be planted out; planting a month later increases my first year's winter kill substantially. To fine tune your planting time, some experiential sowing should be conducted and detailed records of the results kept. People in Canadian zone 2 have good first winter survival results planting their seeds in early January, in Canadian zone 3, people have good first winter survival results planting in late February or early March. My seedlings are planted out starting the day following our last expected frost date, June 12th. With this method of planting, my immediate epigeal first winter seedling survival rate is eleven out of twelve.

Note * For any new cross that I have tried, the initial planting will only be nine seeds and other seeds from the cross will be frozen as backup. Once the seedlings flower, if I like the results I will plant more of the seeds, but if I don't like the results I may never plant the remaining seeds.

3. Zip-lock baggie sowing

Using this system for immediate epigeal germinating seeds, the initial seed sowing is less work but over the long run it is more work. However, with this system you will know every seed in your pots is growing when you pot up the germinated seeds. Thus I generally only pot up seven seedlings per 4 1/2 inch geranium pot.

When sowing, place a handful of planting medium in a zip-lock baggie and make it just moist by dribbling in a little water. Once

you're satisfied with the moisture content of your planting medium, drop your seeds in on top of the medium, seal the baggie, roll it up and lay it under lights. Keep a watch on the baggie contents to ensure mildew isn't growing and to catch your seeds once they germinate. If your planting medium is too wet, the seeds will swell but will not germinate; instead, they will simply disappear. If condensation forms on the inside of your baggie, it is a sign that your planting medium is too wet. Two to three days after a seed has germinated, pluck it from the baggie and pot it up with the cotyledon exposed to the light. Ensure your potted medium is moist but not saturated. The advantage for me with this system is that all the seedlings are potted are up and growing before any peat moss starts to form on the planting medium's surface in my pots. In many cases the first true leaves will also have started to surface before the peat moss grows, and the seeds generally germinate a bit quicker in a baggie versus those planted in a pot.

Delayed epigeal seeds in baggies

I have found this type of germination pattern to be the most problematic. The only way I have managed to germinate these seeds is as follows:

Prepare a zip-lock baggie as per immediate epigeal germination above except with these kind of seeds you want to ensure they are embedded in your planting medium, not on top of it. This method seems to help prevent the seeds from rotting. Place the baggie under lights or in the dark at temperatures of about 18C. [65F.] for a three- to four-month incubation period. Check on them periodically to ensure your baggie isn't growing a mildew culture and to provide an air change. After this incubation period, give them at least a three-month cold period at about 2C. [35F.] and then plant them out. Ensure you plant any un-germinated seeds as well as those that have germinated. About three weeks after being planted out, any seeds that had germinated will send up their cotyledon. Those that had not germinated will germinate through the summer and send up their cotyledon the following spring.

Immediate hypogeal seeds in baggies

Plant these seeds using any of the methods for immediate epigeal germination. The results will be much the same except it is a true leaf that appears above the soil, not a cotyledon. If using the ziplock baggie method, the germinated seeds should be left in the baggie until the true leaf sprouts but must be potted up soon thereafter.

Variation - immediate hypogeal- cool germination

1. Direct sow outdoors

Plant the seeds about 1/4 inch deep three months or a bit more before the first frost that will penetrate your soil's surface. Keep the soil moist throughout the summer, watering as required. The following spring your seeds will send up their first true leaf. I get excellent germination rates using this method, but the first winter after they have had a summer's growth above ground, my losses are extremely high. In a higher zone rating the losses would probably drop significantly.

2. Zip-lock baggie planting

Prepare a baggie as per the immediate epigeal germination process except make the planting medium a little wetter. Drop your seeds on the planting medium's surface seal and roll up the baggie, then place it under lights at 18C. [65F.] for a maximum of five days or until the seeds start to swell up, whichever comes first. Once the seeds start to swell up, you have to get them out from under the lights and lower the baggies' moisture content or you will lose the seeds. While under lights, your planting medium should be damp enough to cause a bit of condensation to form in the baggie [a friend of mine labeled this cold steam when he first tried this method].

After the five-day or seed-swelling incubation period under lights,

lower the moisture content in your baggie by adding a little more dry planting medium and place the baggie in a fridge set at 9C. [49F.] to 11C. [52F.]. Should condensation continue to form in the baggies after they are placed in the fridge, continue to lower the baggies' moisture levels by the addition of more dry planting medium; alternatively you can leave the baggie open for a day or two in the fridge or seal a Kleenex in the baggie and remove it a couple of hours later. During the time period your baggies are in the fridge, check them weekly to provide an air change and ensure mildew isn't growing.

Every two and a half weeks, warm your seeds up at room temperatures for a twelve-hour period and then return them to the fridge. I do this by unplugging the fridge and leaving its door propped open. You should start getting germination within thirty to thirty-five days. but even when they have germinated leave them in the baggie in the fridge. Only after your seeds have sprouted a true leaf and have started to develop roots can they be potted up under lights. This can take four months and maybe longer from the time of germination.

Once potted up they can be grown under lights until it's time to plant them out. Ensure to harden them off before planting them out. If you don't, the sun will scorch them and your seedlings will be lost.

Delayed hypogeal

This method of germination is the easiest one there is.

1. Zip-lock baggie germination

Prepare your zip-lock baggies and treat them exactly the same as the immediate hypogeal cool germination process for the first five days. After five days or when the seeds start to swell, whichever comes first, lower your moisture content in the baggies and place them in a dark area that is around 18C. [65F.]. If your moisture content is too high, your seeds may never germinate. Once a week check your baggies to ensure no mildew is growing and provide an air change. After a three- to four-month incubation time period [so long as the seeds have germinated], give the bulbs at least a three-month [or longer] cold [dormant] period at temperatures of 2C. [35F.]. I use the four-month incubation time period as the resulting seedlings do far better than those given a three-month incubation period. Three weeks before your last expected spring frost date, remove the bulbs from their cold period and plant them about 3/4 of an inch deep. The date of planting the bulbs out until the first true leaves start poking through the soil will be about three weeks. Some types of lilies that germinate as delayed hypogeal are very slow to germinate; those should be given the three-month incubation period counting from the time the given seed lot started to germinate, not from the time they were planted.

2. Direct planting

Three to four months before the frost will penetrate your soil's surface, plant your lily seeds about 1/4 inch deep. Throughout the summer keep the soil moist. The following spring your bulbs will send up their first true leaves. First winter's survival rate after the first sprouting will vary from one species to the next. For example, using this planting system in my area, *L. martagon*, *L. canadense* and *L. tsingtauense* have excellent first winter survival rates, but *L. hansonii* and *L. michiganense* have poor first winter survival rates. So if you are not sure about your winter conditions and have a limited supply of seeds, it is best to plant using the baggie method; that way you can ensure your seedlings have a little more maturity before they have to face their first outdoor winter.

[Editor's note: The lilies on the cover, *L. pumilum* (front) and *L. amabile* var. *luteum* (top back) and *L. concolor* (bottom back) are among the most available and easiest immediate epigeal species lilies to grow from seed. Give Darm's methods a try!]

Various Lilium Species Germination Styles

Darm Crook Northwest Territories, Canada

In this article I will attempt to outline the methods of germination used by the various *Lilium* species I have grown. Obviously it will not be all-inclusive as I have not grown every species. I will also give the time period from date of planting to germination. This time period, however, can vary a lot from one planting to another as many factors have an effect on the seeds' ability to germinate in a timely fashion. Some of these factors are the condition of the seed, the age of the seed if it has not been kept frozen after proper drying, the amount of moisture (too much or too little) and the temperature.

The following species germinate as **immediate epigeal** and produce their cotyledon over the time frames given. There will be a few seeds in almost every seed lot that germinate slower than these time frames. As a rule, with immediate epigeal germinating lilies the first true leaf will emerge about four weeks after the cotyledon.

- L. amabile and its varieties 8 to 20 days.
- L. bukozamense 10 to 35 days.
- L. catesbaei 12 to 18 days.
- L. cernuum and its variety alba 10 to 30 days
- L. callosum 15 to 30 days.
- L. candidum 17 to 30 days.
- L. concolor and its varieties 12 to 35 days.
- L. davidii and its varieties 12 to 20 days.
- L. duchartrei 10 to 30 days.
- L. fargesii 90 to 150 day spread in seed germination all from the same batch. After 25 days incubation in a baggie at + 18C., the

seeds were then treated to regular temperature swings from + 4C. to +18C.

L. formosanum var. pricei - 18 to 25 days.

L. henryi - 60 to 75 days. Fresh seeds may germinate faster.

L. lancifolium - 10 to 17 days.

L. lankongense - 15 to 35 days.

L. longiflorum 15 to 25 days.

L. lophophorum - 12 to 30 days.

L. mackliniae - 20 to 50 days.

L. maculatum [Wilsonii] and variety flavum - 15 to 35 days.

L. maculatum var. davuricum - 40 to 60 days with the first true leaf taking another 90 days to make an appearance.

L. maculatum var. monticola - 25 to 35 days.

L. majoense - 14 to 25 days.

L. nanum and its variety *flavidum* - 15 to 20 days. Once germinated, these seedlings need a 10 to 14 hour day at + 18 to + 20C. And then a 10 hour night at temperatures around + 10C. Without the cool night, the seedlings will simply collapse.

L. oxypetalum and its variety insigne - 10 to 25 days.

L. papilliferum - 8 to 15 days. Once germinated, quite dry conditions are required or the bulbs will be lost.

L. philadelphicum - 12 to 25 days.

L. philippinense - 20 to 30 days.

L. pumilum and strains - 9 to 14 days.

L. regale - 12 to 30 days.

L. rosthornii - 22 to 60 days. L. rosthornii seeds will germinate faster if exposed to light; however, during their first year the seeds that are not exposed to light once germinated will outgrow those that were germinated by being exposed to light. L. rosthornii seeds need more moisture than the average immediate epigeal seed to germinate well.

L. sargentiae - 25 to 35 days.

L. sulphureum - 8 to 20 days (if indeed these seeds were *L. sulphureum* and not hybrid seed).

L. taliense - 10 to 20 days.

L. taliense var. kaichen - 20 to 30 days.

L. wallichianum - 20 to 35 days.

L. wardii - 20 to 30 days.

The following species seeds germinate as **delayed epigeal**, with some anomalies between the type and varieties. These lilies are in my opinion the hardest ones there are to germinate.

L. leichtlinii - I have had little to no success with this lily's seeds, having germinated only two seeds after 63 days — then I lost them.

L. leichtlinii variety maximowiczii - The majority of this variety's seeds germinate as immediate epigeal in 17 to 30 days. The few that don't germinate as immediate epigeal can be given a cold period of three months or so and then planted out and they will germinate and come up the following year.

L. pyrenaicum - I have found that a few seeds will germinate within 60 days after being frozen for a couple of weeks; the majority will not. After a three-month incubation period at temperatures around 15C., I give them a three-month period at +2C. and then plant them out germinated or not. The ones that had germinated will sprout their cotyledon shortly after being planted out. The rest that are viable will sprout their cotyledon the following spring. Thus they germinate through the summer. It seems as if this lily's seeds may require two cold periods before they will properly germinate and sprout their cotyledon.

The following species seeds germinate as **immediate hypogeal**. They will sprout their first true leaf within the time frame given.

- L. brownii 60 to 90 days.
- L. bukozanense 20 to 35 days.
- L. dauricum 25 to 35 days.
- L. dauricum var. alpinum 12 to 25 days. Once germinated these seedlings require dryer conditions than the type or they will be lost.

The following species seeds are **immediate hypogeal**, cool germination. If held at temperatures of 9 to 11C. they will sprout their first true leaf about 60 to 80 days after the seed has germinated and the bulb is well formed. If held at warmer or colder temperatures the seeds may never germinate, but if they do, the true leaf may never sprout. The planting medium should be just moist. If it's too wet the seeds will refuse to germinate. They should not be potted up until the true leaf is sprouted and a root system has at least started to develop. The species seeds which I have grown will germinate as follows:

L. bolanderi - 30 to 60 days.

L. columbianum - 30 to 60 days. Some of its seeds will germinate as delayed hypogeal.

L. humboldtii - 30 to 60 days.

L. kelloggii - 35 to 90 days.

L. pardalinum - 30 to 75 days.

L. parryi - 45 to 80 days.

L. parvum - 30 to 60 days. Some of its seeds will germinate as delayed hypogeal.

L. pitkinense - 30 to 60 days.

L. rubescens - 40 to 80 days.

L. washingtonianum - 40 to 75 days.

L. wigginsii - 30 to 70 days.

[Editor's note: In U.S. zone 4, I plant all these seeds in the autumn, using pots in a cool greenhouse. They all seem to sprout at the same time in the spring. In U.S. zone 9, I planted them in the autumn in pots outside. They all sprouted together in the spring. Before I knew any better, I planted some seeds from the RHS seed exchange in the spring. Nothing happened until the following spring when they sprouted and grew twice as strong as those planted in the fall.]

The following species lilies are **delayed hypogeal** germination. They will sprout their first true leaf only after a three-month cold period. The true leaf will be put up within a three-week period from the time the bulb is planted out. It is well worth watching these seeds on a regular basis as some may germinate

as immediate hypogeal, and the very odd one as immediate epigeal. The species with this type of germination will germinate as follows:

L. auratum - 30 to 40 days.

L. bulbiferum - 30 to 40 days.

L. bulbiferum var. croceum - 30 to 40 days with about 30 percent of the seeds from most seed lots germinating as immediate hypogeal.

L. canadense and its varieties - 40 to 60 days.

L. distichum - 20 to 30 days.

L. hansonii - 25 to 35 days with the odd seed germinating as immediate hypogeal.

L. japonicum and its varieties - 25 to 50 days.

L. ledebourii - 40 to 60 days.

L. martagon and its varieties - 16 to 30 days. Many L. martagon seed lots from the same pod will have seeds that will germinate as immediate hypogeal as well as delayed. From year to year the percentage of seeds that germinate as immediate hypogeal has varied for me from a low of one percent to a high of seven percent. They are well worth watching for as they come to flower at least a year ahead of their siblings. Martagons will even produce the odd seed that germinates as immediate epigeal.

L. medeoloides - 25 to 35 days.

L. michiganense - 40 to 60 days.

L. monadelphum - 30 to 40 days. Some of these can be forced into immediate epigeal if they are potted up a couple of weeks after germination with the cotyledon exposed to light, but it is hardly worth the effort as the losses are high. Many of these seedlings have long cotyledons for a delayed hypogeal germinating seed; thus, I had to try to force them into an epigeal growing pattern.

L. superbum - 30 to 60 days.

L. szovitsianum - 50 to 80 days. The odd seed will germinate as immediate hypogeal.

L. tsingtauense - 25 to 35 days.

Propagating Lilies From Leaf Cuttings - Part 1

Kevin Fry, Alberta

The idea sprang from an article back in mid June 2008 on rooting lily leaf cuttings of *lilium longiflorum*. Unfortunately, I cannot find the original article to give you a better idea and a reference from how this idea started. What I can do is give you some of my thoughts and an idea of what I tried and will try again this season.

First there are a number of species lilies that produce stem bulblets to give us inspiration: *L. sargentii*, *L. tigrinum* and a handful more. In that very spot where these bulblets grow early in each season there is a lot of cell growth and multiplication. This growth can be used to some advantage by taking the leaf and a very small bit of the stem. Early in the season all lilies are in a rush to get growing and show off their colours. A clean leaf then treated with rooting hormones can be tricked into growing small bulblets and a few roots much in the same way that we coax lily scales to develop new bulbs.

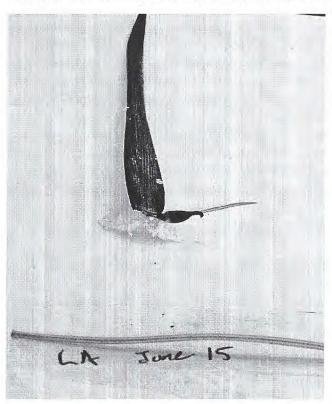
I started with a few leaves dipped in rooting hormone and placed them into damp perlite in a re-sealable plastic bag. I then moved them off to a spot that got good light and sort of forgot about them as I rushed off to different lily shows. But I kept enough of an eye on them so that they did not dry out too much.

The first trial run was done in mid-June and the martagon lilies were soon to bloom. The Asiatics were not far behind and the L.A. hybrids were not far off after the Asiatics. Within about four to five weeks the martagon lilies coloured and withered away to nothing more than compost. In weeks six and seven the Asiatic lilies soon followed, but the L.A. hybrid leaves were still green. Upon checking the L.A. hybrids, I found the first tiny little bump was showing. It took about two more weeks for that little bump to

gain some size, send out a root and then really take off growing.

This was the first test run and it showed me that the method could be done. My thought is that this season it would be best to try earlier in the season before the flower bulbs start to show. This should be the most active growing cycle and give me a better chance at coaxing little bulblets from the base of the leaves. This season I am planning on trying this method on a larger scale with different species and hybrid lilies. I am looking forward to seeing what other lilies this trick can work on and if there are better times of the plant's growing cycle or how this system can be improved upon.

So by this fall I will be looking forward to sharing more details, thoughts and musings of propagating by lily leaf cuttings.



The Species Lily page 22

SLPG Business

SLPG wishes to thank the Mid Atlantic Regional Lily Society for its generous gift of \$500.00 in memory of Edward McRae.

There are currently 163 members of the SLPG from 10 countries.

The United States bank account, which handles membership dues from the US and pays for the newsletter, has \$3,169.94.

Don't forget the annual meeting on June 25, 2009 at 2:30 p.m. You are also welcome to attend the Species Board of Directors meeting on June 26, 2009 at 4:30 p.m.

All SLPG members who are not members of the NALS may purchase species seeds from the NALS seed exchange during the time of offering to NALS members. If you donate seed you will receive an advance notice.

Royal Horticultural Society Lily Group Alisdair Aird, England

The RHS Lily Group has several hundred members in various countries. Its main activity is a good seed distribution (stronger on lily species than hybrids), with non-lily species as well. US members must apply for a permit to import the seeds. Google USDA and type in "Importation of small lots of seeds." You will find the correct form there. The Group produces *Lilies and Related Plants*, successor to the *Lily Yearbook*, every two years, and a short quarterly newsletter. In the UK, the Group runs an annual bulb auction each autumn and arranges garden visits, displays and lectures. It has expert advice panels and hosts an occasional International Lily Conference. The annual subscription is £10.00 (or £30.00 for three years). The Group accepts credit cards for those not in the UK. Further information from Mrs. Rose Voelcker, Lanjique, 32380 St Leonard, Gers, France; phone 003305062043076; email rvlanjique@wanadoo.fr.

