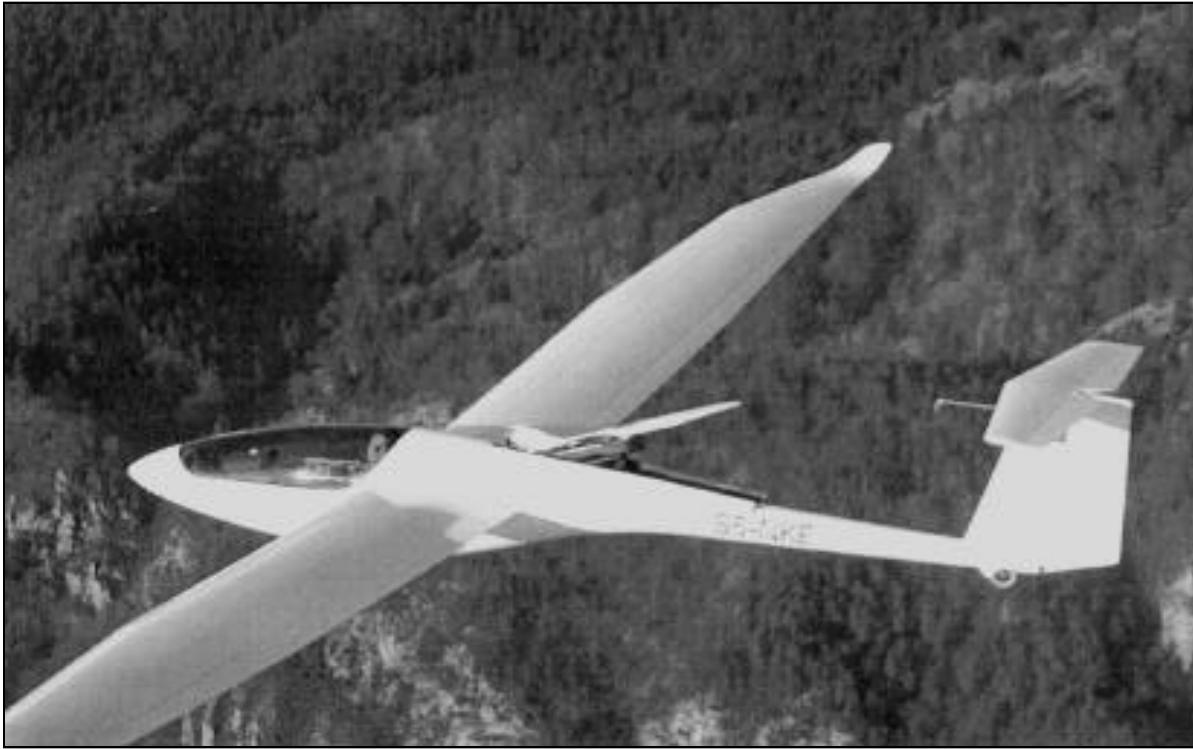

APS NEWS

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September-October 2003



Flying the Apis M

By Robert Mudd

In April of 2003 I visited the AERO '03 Aviation Exhibit in Friedrichshafen, Germany. Albastar had the first production Apis M on display there. The Apis M is the project of Franci Popit a clever and hard working young engineer. I was very impressed with the improvements he made from the prototype I saw last year while visiting the Albastar factory in Slovenia. As I had flight time in the Apis 13 meter and 15 meter gliders; I wondered how the weight of the engine installation would affect the handling. The weight increase was about 100lbs. That's an increase of almost 30%. I have since learned that it is of no concern, the glider flies just as great as its non-powered brothers.

Once in Slovenia Franci gave me some hands-on instruction in the details of engine extension, retraction and operation in prototype Apis M. After several cycles on the ground and some note taking I was ready for my first flight. I watched as Bostjan Pristavec did a take off and landing. I could see the acceleration was quite rapid and realized I must be prepared for that. I got comfortable in the cockpit and the engine started without any problem. Half throttle and some left rudder provided a gentle turn to line up on the runway. I continued pushing the throttle forward. Aileron control came quickly as did rudder and elevator control. A bit of forward stick and the tail came up. I was now at full throttle and accelerating rapidly. Lift off was at 38kts with the flaps at +5 deg. I was told to climb out at 46kts. That was not so easy to do the first time. I leveled off a bit to let the glider accelerate and quickly exceeded the recommended climb speed. A bit more back stick corrected climbing speed.

The engine provides so much thrust that the recommended climb speed gives a rather nose high attitude. However the rate of climb is strongly positive and fully equal to the claimed 885fpm. This is a little rocket and out climbs any tow plane I have used. Pattern altitude was quickly reached and exceeded as I turned toward the nearby mountains. I was not wearing any hearing protection. A good headset, one with active noise canceling, will be a big help. The rudder and elevator are quite powerful during the powered climb. The full span flapperons provided more than adequate roll control. I continued the climb and reviewed the shutdown procedures. I did not to rush the sequence neither did I want to loose too much altitude while retracting the engine for the first time.

Continued on Page.....2

APIS M..... *Continued from Page 1*

After placing the throttle to idle for 10 seconds, I turned off the ignition. Wow! quiet, I am flying a glider after all. After flipping the switch to begin the retraction sequence, a glance in the convex mirror showed the prop needed a bit of turning for the retraction to continue. I increased speed to about 48kts. and the prop slowly rotated to vertical. As the locking roller moved into place to hold the prop, the retraction continued and I soon hear the welcome sound of the engine bay doors closing. I am now flying a clean glider. Turns, stalls and just playing around shows me that the extra weight is not going to be any problem. Yes, the weight is there all right but with 132.sq.ft. of wing area and my weight the wing loading is still below 5lbs.sq.ft. It flies like the other Apis gliders I have flown. Crisp controls, powerful rudder and just plain fun. I had been a bit concerned about the rudder. On my 13-meter Apis the rudder is very powerful. I had flown a 15-meter Apis but could not recall how effective the rudder was with the additional 2 meters of span. A bit of pressure on the rudder pedal brought instant yaw, very crisp. It is easy to control the yaw string, if it is not centered during a turn.

I worked a bit of ridge lift climbing until I was just under the clouds that hid the mountain's peak. I then flew to the up wind leading edge and located some wave. A further climb put me well above the clouds, and I was able to relax and enjoy the view. It was quite windy aloft and the numerous mountain peaks provided interesting airflow patterns. I was careful not to get too far downwind of any peaks. To get comfortable with air starts, I flew out over the valley to have plenty of altitude above the ground in case I got it wrong. I took a deep breath and flicked the switch. The electric screw jack started and the air noise increased as the aft fuselage doors opened. In the mirror I can see the pylon coming up to the upright position. Ignition ON, set the throttle at 1/2 and squeeze the primer bulb, press the starter switch and the engine came to life with out any hesitation. I let it warm up then added full throttle to climb a bit. Do I remember the stopping and retraction sequence? Let's see, idle, ignition off, retract switch, a bit of speed to align the prop and the mast disappears out of sight. I am flying a sailplane again. Simple. Several more start and stop sequences and it quickly became second nature.

The landing was anticlimactic. With flaps set to full and the air brakes extended a spot landing made followed by short roll out off the grass runway. I then extended and started the engine and taxied back to the parking area. No hassles, no pushing and grunting just smooth power that gets you into the sky and back again safely and simply.

Robert Mudd is the USA Dealer for Apis Sailplanes. He can be reached at <Apisgliders@aol.com>

Depending on the EU, Robert estimates a cost of \$48,000 for an Apis M delivered to an East coast port including trailer, VHF radio and basic instruments.



Robert Mudd prepares for his first Apis M flight

APIS M SPECIFICATIONS

Full Span Flapperons +10/-6 deg; Schempp-Hirth Type Air brakes; Automatic Controls Hookup; Wing Weight - 83lbs; Forward Hinged Canopy; In Flight Adjustable Rudder Pedals; TOST Nose Hook; 39.6 hp 2-cylinder, 2-stroke Rotax 447 Power plant; Metal Tube Trailer; The Glider is available in Kit Form.

Span-15-Meters; Empty Wt- 425lbs; Max Gross Wt-661lbs; Useful Load- 236lbs; Wing Area- 132 sqft; Max wing Loading- 5lbs/sq/ft; Stall Speed@+10Flap Max Gross Wt-29kts; Zero Flap Max Gross Stall Speed-34kts; VA-72kts; Vne-121kts; L/D 40:1 @ 49kts. Min Sink- 115fpm; Takeoff Rate of Climb-750fpm



Alisport's New 13-Meter SILENT 2

WING DESIGN AND CONSTRUCTION: The wings of the new SILENT 2 have been completely redesigned to meet improved performance objectives; they have an elliptical platform, large removable winglets, and an increased wingspan of 13 meters. The wing geometry is unique in that it varies non-linearly from the root to the tip, both in overall plan form shape and in wing section profile. Creation of these unique wings was possible due to the use of new computer simulation methods for the wing structural and aero elastic analyses as well as the availability of a large multi-axis CNC milling machine for production of molds accurately replicating the computer generated airfoils. The oven-cured wing structure includes extensive use of carbon-fiber. The sandwich skins use vacuum-bagged carbon fabric for both the exterior and interior layers while the tapered I-beam wing spar uses pultruded carbon rods for the caps. Even with the increased span, the wings are significantly lighter than the earlier fiberglass wings, keeping the inertia low and the roll rate high (not to overlook easier handling during assembly).

OTHER IMPROVEMENTS: In addition to the 13m carbon-fiber wings, the SILENT 2 has a host of evolutionary improvements to the fuselage. Changes include a new flapperon linkage system for increased motion, trim system located on the joystick for one-hand operation, smaller elevator, second-generation engine, increased cockpit room, and improved cockpit structure. Both the maneuvering speed (VA) and the never-exceed speed (VNE) are higher than the standard SILENT.

STATIC TESTING: Static tests to the maneuvering limit loads were successfully completed. The geometry of the static loading equipment is not entirely rigid and correctly simulates the wing's connection with the fuselage. Both the [bending](#) and [torsional](#) deflections were as calculated, providing high confidence in the ultimate strength of the wings. A third set of production wings has also been produced and will be tested to ultimate loads to confirm the theoretical values.

FLIGHT TESTS: Initial flight tests with the 13m carbon fiber wings have been successfully completed and the new wings are exceeding expectations. Tests confirm shorter take-off distance, increased power-on climb rate, attached airflow at low speeds (visualized via tuft testing), excellent stability in thermals, very smooth ride in turbulence, a stall speed below 41 mph with landing flaps, and a vastly superior glide ratio. Initial tests to quantify sink rates and glide ratio have been performed and the polar looks excellent. Comparative tests against a highly modified racing Glasflugel standard Libelle (profiled wings with winglets) have been performed and the SILENT 2 was able to equal the 15-meter Libelle in every respect. This included a 186mi side-by-side comparison flight with national champion pilots flying the both the Libelle and the SILENT 2. Overall, it looks like a "home run" for the Alisport engineers and technicians.

PRODUCTION: Series production of the SILENT 2 will begin in the second half of 2003 with first deliveries in early autumn. Purchase reservations are being accepted. Each reservation is assigned a serial construction number and the price is fixed. The delivery time is 3-4 months from the order confirmation. A quick-build kit version of the SILENT 2 is also available. The estimated price of a ready to fly Silent 2 delivered to an East Coast port is EU 56,000 with trailer, radio and basic instruments. More Info: <info15@alisport.com> or 931-224-8343.

Submitted by Leo Benetti-Longhini. More on Page 4.....

The Strong Euro and

The Used Sailplane Market

It has taken only a few years for the Euro (EU) to climb past the dollar. Today at between 1.16 and 1.18 dollars to the EU we have seen a 25-30% rise since 2002 in the cost of a new European built sailplane including trailer, basic instruments, radio and delivery to an East Coast port. Check out these price comparisons * for a US port delivered new ship:

	2002	2003
	EU .85/\$	EU 1.18/\$
15-meter STD class sailplane	\$50,500	\$63,000
15/18-meter motorglider	\$107,000	\$133,750

* Prices above do not reflect a GPS Flight Director but do include a trailer, radio, 02 and basic instruments.

The question is how does this affect the prices of used sailplanes in the USA? Of course a lot depends on what prices were paid for the ships at the time of US delivery. Also the US economy, buyer confidence, age and condition of the ship must be taken into consideration. There is much in favor of buying a used sailplane in today's market as the hassles of importing, taxes, FAA sign off are history and the transaction is face to face in dollars. Below are some estimated prices for used sailplanes that take into account the rise of the EU. The sale prices are based on used sailplane prices found in Soaring Magazine. I have averaged out asking prices for each type of ship and then applied a factor of 1.015 which is the average increase in the EU between 2002 and 2003. These estimated selling prices are strictly hypothetical and represent one man's opinion.

15-meter standard class	\$35,500 to \$43,600
15/18-meter racing class	\$65,600 to 74,000
15/18-meter motorglider	\$70,000 to \$111,700
20-meter 2-place motorglider	\$137,000 to \$147,000

The fact remains that the new "light" sailplanes now appearing on the market will have a lasting impact on the marketability of the new and now very expensive super ships. At present exchange rates a new "light" motorglider with basic instruments including a radio and a trailer averages out to \$50,000 to \$55,000 delivered to an East Coast port. *Submitted by Pete Williams*

FAA Funding Approved for New Light-Sport Aircraft (LSA) Category

In May 2003 funding was approved to establish an LSA Operations Program Office to implement the final rule sometime later this year. The rule will allow pilot certificates with reduced requirements including the use of a driver's license in lieu of a medical certificate but LSA pilots would be under greater flight limitations. The LSA category proposed maximum takeoff weight would be 1,232lbs with a top speed of 115kts.

Ed. Note: This new category is for powered aircraft designated LSA. For the USA also SOARING CAMP AT ALAMOGORDO a glider including an auxiliary motor for use without a current flight medical certificate.

Continued from page 3.....

SILENT 2 SPECIFICATIONS & PERFORMANCE

WING SPAN.....	13M (42.65ft)
WING AREA.....	94.72 sq/ft
EMPTY WT.....	385.8 lb (no fuel)
MAX PAYLOAD.....	231.48 lb
MAX T.O. WT.....	661.37 lb
MAX G LOADS.....	+4.6/-2.65 G (81 kts)
	+4.0/-1.5 G (118.8 kts)
FLAPPERONS.....	0 to + 10 degrees
AIR BRAKES.....	Conventional
STALL	40.4 mph
Vne.....	118.8 kts
MANEUVERING.....	81 kts
MAX L/D at 49.5 kt.....	39:1
MIN SINK at 46 kts.....	118fpm
TAKEOFF DIST.....	459ft (paved surface)
RATE OF CLIMB.....	492 fpm
LANDING DIST.....	328 ft
WING LOAD AT MGW.....	6.97 lb/sq/ft

The engine is Alisport A302efi 28hp single cylinder 2-stroke with mapped fuel injection, electronic ignition, starter and flywheel generator with a counter-balanced mono-blade propeller.



THE ASA SOARING CAMP AT ALAMOGORDO

1-13 June 2003

By Rick "FD" Howell

The first Aux-powered Sailplane Association camp has successfully been completed at Alamogordo, NM. We had sixteen participants for our first camp. Half of the gliders had motors and half were pure gliders. Bernie Gross and the White Sands Soaring Association provided tows for those who needed them. The airport is not busy and with a 7000ft x 150ft runway the launches are very comfortable. The weather is always a favorite topic and ours was great. We flew every day from the first through the thirteenth of June. Thunderstorms did bring an early end to two days, but we needed the rest. The lift was always stronger over the Sacramento Mountains that lie just east of the White Sands Regional Airport. 7-8 knot lift was common with an occasional 12-14 knots reported to 18,000 ft.

I have always advocated that these events be vacations also and my wife, Pat, tries to make me have fun away from the airport. We rented a house in Cloudcroft with Bob & Mildred Kibby, Bernie Gross, Andre de Baghy, and Steve Michalik. Cloudcroft is about 9000 ft. ASL. Temperatures were very pleasant from the 40's at night to 70's daytime (20_ cooler than the valley). The house was in the woods, so on our walks we saw deer, elk, and an occasional turkey or porcupine. My wife and I played in a charity golf tourney with Mike Evans and club tow pilot Wayne Markland. We didn't win, but we were not last either. Playing golf at 9000 ft. is an experience. We also visited White Sands National Monument and walked in the sand and on the way home went to Carlsbad Caverns National Park and spent the day in the cool caverns. I am practicing being retired and seeing the sights.

The SOARING was great. I have lost track of the 500km flights that were flown, but more than 20 would not be an exaggeration. Here are some of the highlights: John Bourland: Flew 261 miles @ 99.5 mph on his first day. Steve Michalik: Flew a 200 mile out & return in his new Discus CS. He used every thermal for the first 80 miles and then learned to fly straight ahead for the last 120 miles. Mike Anderson, John Bourland, Bernie Gross, Barry van Wickevoort Crommelin, Bob Kibby, Mike Anderson, club members Alwin Kroh, Tom Kelly, and Bill Elliot: All flew out & return flights of 500km or more, on the same day. Alwin and Bill: 1000km flights. Rick Howell: 750km triangle to Fort Sumner, Santa Fe, and return. My first 750km flight.

Bernie Gross: New Mexico state record for single-place motorgliders. Out and return distance and free out and return distance of 366 miles. Rick Howell: New Mexico state record for single- place motorgliders. 300km triangle speed at 86.5 and distance around a triangle of 212.4 miles. Tom Kelly: New Mexico state record for 15 meter gliders. Free out and return distance of approx. 320 miles. Andre de Baghy and club member Guenter Bertram: Completed Gold distance flights. Andre completed both silver and gold badges. Mike Reyes: Accomplished his gold altitude in his first thermal on his first tow. Rick Howell and Bernie Gross: We flew "FD" 68.8 hours and covered 4743km in 11 days. Barry van Wickevoort Crommelin: Flew 5000km during the camp. George Sanders: Stayed an extra day for a 500km flight. He was about 3miles short. We hope he will be back to complete 500km next year.

AWARDS

Beautifully painted wine bottles were presented to the following:

Bernie Gross: Two New Mexico State motorglider records. He also provided his Pawnee towplane for the camp.

Rick Howell: Two New Mexico State motorglider records and his first 750km triangle.

Barry van Wickevoort Crommelin: Most distance flown....5000km.

Andre de Baghy: Completed his Silver and Gold badges.

Alwin Kroh: 1000km flight. It's a beautiful sight to see the Nimbus returning as the sun sets. Alwin was of great assistance during our camp and has shown that long distance flights are possible out of Alamogordo on a regular basis.

The White Sands Soaring Association: We would not have had our first camp without the assistance of the club. They made their clubhouse available, oxygen was free, tiedowns were only \$3/night (paid to the city), tows were available when Bernie was too busy, members helped with everything and the dinner on our first Friday at the club was great. I only asked that a donation be presented to the club.

We also presented a picture to the club to add to all of their hangings. The caption is "Until you try to fly, you'll never know what it is like to soar". I suggested that the caption be changed to "Until you soar, you'll never know what it is to fly". The picture will be a place for all of us to list our great flights at Alamogordo.

*Alamogordo-White Sands Regional airport is 4 mi. SW of the city. Coordinates: N32-50.40 W105.-59.43
Elev: 4200msl Main Runway: 3-21, 7006 X 150*

Continued on Page 6.....

Alamogordo continued from Page 5.....

THIS EVENT may become an annual event (open to all gliders) sponsored by the WSSA (White Sands Soaring Association). Early June is a great time to fly in New Mexico and the club is interested in having an annual event at this time. If you would be interested in attending next year please contact the club. For more club info see the web site: <http://www.netmdc.com/~geo/WSSA.htm> The best e-mail contact is George Fish: geo@netmdc.com For more browsing pleasure check out the On-Line contest from the 1st-13th June for some of our flight files. <http://www.onlinecontest.org/>
We will be back in the future.....hope to see you there!!

Alamogordo ASA 2003 Participants List

7E	Ventus2	Anderson, Mike
MD	ASW-27	Bourland, John
EB	304CZ	de Baghy, Andre
YG	Ventus bT	Evans, Mike
FD	Ventus bT	Gross, Bernie
		Howell, Rick
2BK	Discus 2T	Kibby, Bob
H3	DG-500	Medley, John
	Discus	Michalik, Steve
ZO	ASH-25	Nelson, Stan
	Ka-6	Reyes, Mike
GS	DG-400	Sanders, George
KB	ASW-27	van Wickevoort, Barry
9D	DG-400	Whitesell, Al

Below: On high final for runway 21. Flaps down, gear down and air brakes extended.



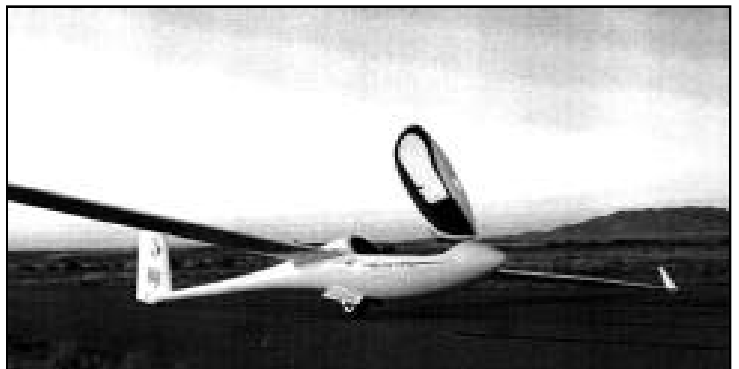
Right: Pilot's delight: climbing in an 8.5 kt thermal!!



Some of the Alamogordo group get together after soaring. L toR: Andre de Baghy, Bob Kibby, Pat and Rick Howell, Mildred Kibby, Bernie Gross and Kyle and Barry van Wickevoort with "Isabel", their dog. Group photo above by Mildred Kibby. All other photos by Barry van Wickevoort.



Below: Barry van Wickenvoort's ASW-27 rests on the tarmac after a day's flight



LIGHT SPORT AIRCRAFT RULE SIGNED BY FAA

By Jim Short August 05, 2003

The FAA, mindful of the trend toward simpler, lower-cost airplanes, rotorcraft, powered parachutes and sailplanes announced last week that the long-awaited LIGHT SPORT AIRCRAFT RULE has been signed by the FAA, and is awaiting concurrence by the Department of Transportation and the Office of Management and Budget. These reviews are to be completed within 90 days in each case, and the DOT has specifically stated that their 90-day review will be completed in a "much shorter" time period. It is likely that the Final Light Sport Pilot Rule will be published within six months.

SSA has made considerable written and verbal input to the initial proposal for the Light Sport Aircraft (LSA) rule and it is hoped that the final rule will encompass the requests of SSA and its members. Pilot certification regulations are ready to go and Practical Test Standards and written test questions are completed. This information will be published when the final regulation is released.

Design and quality standards for new "Light Sport Aircraft – Gliders" are being developed by SSA and interested industry committee members within the framework of the ASTM (American Society of Testing and Materials). ASTM will be the holder of the standards when developed, unlike the current FAA regulations that are controlled by FAA. SSA's Jim Short attended an LSA meeting at Oshkosh that provided an update on the various portions of the Light Sport Aircraft development. Members wanting to know more or to help on the standards development within SSA should contact Jim <short@megsinet.net> for more information and thoughts on how to help. Other SSA'ers involved in the standards effort include Gene Hammond (subcommittee Secretary) and Dan Armstrong.

Editor's Notes: Some of the sailplanes that may be affected by the Light Sport Aircraft Rule are the Apis series, TST-10 Atlas and other TesT sailplanes and motor gliders, Russia AC5 and 5M, Alisport's Silent series, Carat Motorglider and others.

IGC World Membership Declines

According to a report by John Roake, IGC Chairman of the Membership Committee, during the period 1990-2002 the world membership (32 countries) has declined 14,504 from 132,361 to 117,857. During that same period the USA IGC membership declined from 20,066 to 19,600. Only Belgium, Finland, Ireland and Poland posted increases.

Source: Gliding Magazine

Out of the 16 ships entered only 1,2,3,5 and 12 were not ASA members. The winner, Natalie Luebben, was from Germany. There were 14 retractable engine self-launchers and two motorgliders. The aerial shots below show Jim McCann soaring in his Ximango and Neal Olshan and Russ Husted enroute flying a Diamond Katana Xtreme HK36TC.



Image by Neal Olshan



Image by Jim McCann

ASA Mission

The Auxiliary-powered Sailplane Association, Inc. was founded in 1988 as a non-profit organization to encourage the design, development and safe use of motorgliders, self-launching and sustainer engine sailplanes.

ASA Membership

Membership in ASA is open to anyone interested in powered sailplanes. Write or call: Brian Utley, ASA Membership Chairman, 9541 Virginia Ave. South Bloomington, MN 55438 Pho: 952-941-5683
Email: <Utleyb@aol.com> USA Dues: \$20-1 yr, \$38-2 yrs, \$55-3 yrs.
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