

# DOOMERANGS

# Many Happy Returns

Newsletter of the United States Boomerang Association

Issue 75 Winter 1999

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Eight year-old Bart Flynn practicing before the Emmaus, Pennsylvania tournament.





**EDITOR**  
Tony Brazelton

**CONTRIBUTIONS**

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or by fax (no images by fax) to **(217) 244-8371 attn: Tony Brazelton**

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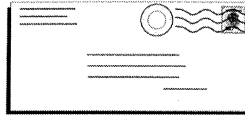
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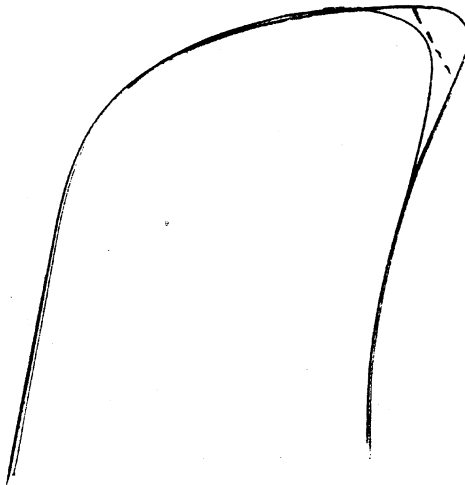
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# Letters

**T**he original design of the Gumby (aka Wishbone) had a sharp tip on the trailing edge of the top. This is not a problem when the boomerang is thrown normally. If however it is thrown upside down or like a Frisbee this point could cause some pain if the boomerang strikes a person. To reduce any chance of injury, simply make the modification noted in the drawing below. The change can be made in less than 90 seconds by cutting across the tip as per the



dotted line, and then filing to shape with a wood file. This modification will have no effect on the normal flight. If you would prefer you may send your Gumby to the address below and I will make the modifications free of charge and pay postage both ways.

Norm Kern  
1640 Haynes  
Birmingham MI 48009

**E**very hardwood boomerang maker has thought about the consequences of making booms out of rare natural materials. The following letter from Ted Bailey is one perspective on those concerns.

I grew up in Panama and spent most of my childhood in the jungle. Therefore, I can speak with some authority on the destruction of rare hardwood species. I used to have Coco Bolo trees close to my home

Quarterly  
Quote

“Sally Struthers and the Pope have more to do with the destruction of the rain forest than the boomerang maker does.”

- Ted Bailey, this issue page 2

when I was a child. They are magnificent large diameter trees with loads of insects and birds calling them home. A tropical rain forest is very much unlike the Northern deciduous forest that Americans and Europeans know. In the USA, the same tree species repeats every few yards. In the jungle, you can walk for hundreds of yards before you find another tree that is the same. Cut 20 of the same kind of tree down and you have eliminated this tree in a full square mile. Most jungle trees grow quickly up to 50 - 120 feet and they then bush out into a canopy. When one tree falls over, it takes a lot of other growth with it. This provides new space and sunlight for additional trees to grow.

When you clear cut the jungle, it only grows back very slowly from the edge of a mature forest. Most jungle trees have large spreading buttress roots for support because the soil is quite thin. In Panama, the population of humans has tripled since 1950 and there is no regulation of the slash and burn style farming that is used. Every thing is cut: premium Coco Bolo, Mahogany, Purple Heart, etc. along with the softwoods and brush and then everything is just piled up and burned. The ash is then spread out as a mulch and the farmer grows a single crop before the soil is depleted. In a few months, the soil turns from a rich black

humus to a sterile red clay. The resulting red clay then erodes away quickly or it becomes host to a stubborn tall and tenacious grass that doesn't condition the soil for further jungle growth. One jungle farmer probably destroys 100 times the amount of Coco Bolo in a single year than has ever been made into boomerangs. The tragedy from the mud slides that killed so many people in Honduras (Hurricane Mitch) this summer was made worse by the same slash and burn farming. The weak soil could not offer resistance to the flooding and the earth flowed.

It is good that the price of Coco Bolo is kept high to curb harvesting of the wood, but making a few booms has an infinitesimal effect on the destruction of the tropical rain forests. If you want to save these trees, don't send the poor farmers clothing, food and medicine. Send them Salt Peter and birth control pills instead. Give them an education to live in harmony with nature, not destroy it. These poor farmers have no family planning and the religious groups that interfere with their lives encourage high birth rates, rather than promoting quality of life. Central America has one of the highest birth rates in the world. Sally Struthers and the Pope have more to do with the destruction of the rain forest than the boomerang maker does.

The jungle has mostly disappeared from the region around the Panama Canal. I don't visit my childhood home anymore because it isn't a pretty site and the animals are gone with the trees. As a child, I saw jaguars, toucans, tapirs, macaws and a lot more in the jungle near my home. Now almost all are gone. Man's selfish carnage of the rain forest is what is wrong. Making a few rarewood booms helps to make others aware that these trees exist and that there is a problem. The solution is to stop the destructive farming practices, not by avoiding using these woods to make booms.

Ted Bailey  
Ann Arbor, Michigan



## PRESIDENT'S *PERSPECTIVE*

At the end of the 1900's, it is a good time to look back and to look forward. For those of you who attended the World Championships, I hope you took the time to meet some of the pioneers of our sport, people who blazed a trail that we now take for granted. People like Bob Burwell, truly one of the great design innovators and sportsmen in the world of boomerangs. Br. Brian Thomas, whose tireless dedication has helped keep the boomerang flame burning in Australia for more than two decades. Miles Jorgensen, a charter member of the Boomerang Association of Australia, which just published its 100th newsletter. From the US, Ted Bailey, Eric Darnell, Rusty Harding, Richard Harrison, and Larry Ruhf. And, of course, there are many, many others.

From a technology standpoint, the USBA started with a few different shapes and nearly 100% plywood construction. But even from the beginning, creative curiosity and competitive fires have driven designs and materials in all different directions at once. This dynamic aspect is unique to boomerangs and I am sure continues to be one of its great attractions.

Looking ahead, the USBA needs to serve an increasingly diverse membership whose core interests are as varied as the boomerangs they make and throw, as displayed this summer in Edwardsville. Our challenge is to recognize this diversity and celebrate it as conscientiously and safely as we can. The best way to do this is through our newsletter and our tournaments. Our national championships will include more time devoted to design and craftsmanship, with an opportunity for makers to throw their creations for all to enjoy. From the competitive side, the USBA Rules Committee is looking at ways to streamline tournament formats, without sacrificing the essential skills that are contested in an ever-improving international arena. We recognize that certain activities may run counter to the open, all-inclusive events we would like to offer the public. For these activities, we acknowledge them through *MHR* and hope that they will be organized and managed with 100% safety and fun in mind. We're all in this together and we will do our best to make everyone feel welcome.

Hope to see you on the fields in 1999!

John Flynn  
USBA President

# MHR Plastics Primer

## An Applied Glossary of Plastics

by Bill Rusky

**An Applied Glossary of Plastics** p. 3

by Bill Rusky

**Painting Plastics** p. 5

by the RangList

**T**here are 4 classes of materials that boomerangs are normally made from. They are: wood, metal, reinforced thermosets and thermoplastics. *Plastic* is the colloquial term for thermoplastic. A thermoplastic is essentially a frozen polymer. It can be re-melted and reformed. When a thermoset solidifies a chemical reaction takes place changing the material permanently. A thermoset will usually degrade with heat, you can't re-melt and reform it. Phenolic and epoxy are thermoset resins, ABS and polypropylene are thermoplastics. Some materials such as polyester and polyurethane have both thermoset and thermoplastic versions. The thermoset resins are usually too brittle to be used in boomerang making without being reinforced with paper, chopped fiber or some type of fabric. Thermoplastics though are often used in an unreinforced form.

I am going to give a description and comment on the ten types of plastics that I have used to make boomerangs. It is not a comprehensive list; I have not made boomerangs from polystyrene, PVC or polyethylene, but I know that others have.

My descriptions of ease of manufacture will be from the hobbyist's point of view,

i.e. someone who is using mostly or entirely hand tools and handsanding.

Sheetstock costs shown in Table 1 are approximate and should be used for comparison purposes only.

The two most important characteristics of plastics for boomerang use are stiffness and toughness (impact resistance). Unfortunately these two characteristics usually have an inverse relationship. I think that for boomerangs, stiffness is best defined by the flexural modulus (lb/in<sup>2</sup>). The greater (stiffer) the better.

Toughness is harder to define. There are several types of impact tests. For my discussions I will use the 1/8 inch notched Izod impact test ASTM D256 (ft•lb/in). The higher (tougher) the better. But I will also show the percent elongation at break; usually the higher this is the tougher the material is.

Many of the plastics are more durable than wood, especially in thin cross section boomerangs. In design, if you are using one of the lower stiffness plastics you should avoid acute angle V type and omega designs. The stiffer plastics are better for those designs; the less stiff plastics will work well for wide angle and tri-blader designs. Plastics

MATERIAL	ABS	ACETAL	ACRYLIC	NORYL	NYLON	PC	PEI	PP	PSU	UHMWPE
<b>Flexural Modulus Range (lbs/in<sup>2</sup>)</b>	130 000 - 440 000	380 000 - 490 000	320 000 - 550 000	325 000 - 345000	125 000 - 185 000	330 000 - 340 000	480 000 - 500 000	130 000 - 200 000	370 000 - 400 000	100 000 - 150 000
<b>Typical Flexural Modulus</b>	285 000	450 000	450 000	340 000	155 000	335 000	490 000	165 000	385 000	125 000
<b>Izod Range (ft.lbs/in)</b>	1.5 - 12	1.0 - 2.3	0.2 - 0.4	-	1.0 - no break	12 - 16	0.5 - 1.2	1.1 - 14	1.0 - 1.3	no break
<b>Typical Izod</b>	6.0	2.3	0.3	6.8	16	14	0.8	7.5	1.3	no break
<b>% Elongation</b>	1.5 - 80	10 - 75	2 - 7	30 - 35	150 - 300	100 - 150	60 - 80	200 - 700	30	250 - 525
<b>Specific Gravity (g/mL)</b>	1.05	1.41	1.19	1.06	1.15	1.20	1.27	0.91	1.24	0.94
<b>2' X 4' X 3/32"</b>	\$9	\$47	-	\$50	\$41	\$22	\$163	-	\$125	-
<b>2' X 4' X 1/8"</b>	\$12	\$60	\$22	\$69	\$55	\$22	\$220	\$10	\$172	\$26
<b>2' X 4' X 3/16"</b>	\$18	\$84	\$33	\$103	\$92	\$32	don't ask	\$14	-	\$31

**Table 1.** Properties and costs of ten plastics.

with higher specific gravity should be more wind resistant and ones with specific gravity less than 1.0 will float in water and are good for beach boomerangs.

Unlike wood, plastic doesn't need to be painted for protection, only for decoration and visibility. Many plastics can be polished to a beautiful shine, but this is not necessary for performance.

The plastics discussed are listed alphabetically. See Table 1 for the characteristics of each plastic. I will make some recommendations at the end.

### ACETAL (Delrin, Celcon)

Acetal cuts moderately well by hand and can be cut with power tools. Rough carving is harder to do than for ABS, but is surprisingly easy for a material as hard as acetal is. The finish carving is easy, the material comes out of the file easily. It is easy to sand. It polishes a little better than polypropylene and not as well as ABS.

If you buy a sheet of acetal make sure you get the Delrin (DuPont) brand, as it has the higher impact resistance. It comes in white and black. This material has a high density and should be good for wind resistant rangs.

Acetal can be used for trick catch, fast catch, Aussie round and sport booms. Acetal has better field tunability than polycarbonate but not as good as ABS or polypro-

pylene. While the Izod impact numbers are not exceptionally high, I think that acetal boomerangs are reasonably durable.

### ACRYLIC (Plexiglas, Lucite)

Acrylic is fairly hard to cut, hard to rough carve and moderately hard to finish carve. Sanding is moderately hard. Of all the plastics mentioned here acrylic can be polished to the best shine in my opinion.

Acrylic is stiff, but it has very poor impact resistance. It comes in clear, solid colors and transparent colors. My experience is that the clear is more impact resistant than the solid colors.

While acrylic could be used for competition boomerangs, I would recommend against it because in the heat of competition you are likely to break or chip an acrylic boomerang. I think acrylic is best used for showy recreational boomerangs. It is not very tunable in the field.

### ACRYLONITRILE-BUTADIENE-STYRENE (ABS)

I think that ABS is the easiest of the materials listed here to carve. I normally use a rotary Surform in a drill press for rough carving and hand files for finish carving. You can rough carve ABS fairly easily with a rasp. It

is easy to cut with a coping saw, but tends to melt when using a saber saw. It is easy to sand and can be polished fairly well.

ABS comes in white and black and often comes with one smooth side and one pebbly (haircell) side. ABS is not that scratch resistant, the haircell side is used for the outside of thermoformed luggage so that it is hard to see the scratches. You can make the haircell side the top or bottom either way works fine. As you can see from the table there is a lot of variation in the characteristics for ABS. This is because there are many different grades of ABS. Usually the grade that is available as sheetstock from plastic suppliers is a grade with high impact resistance and moderate to low stiffness.

ABS can be used for trick catch and fast catch type booms and for small recreational boomerangs. One property of ABS is that it is very tunable on the field, some plastics need to be heated, bent or twisted and then chilled in order to tune them properly. ABS boomerangs are fairly durable.

### NORYL EN265 (PPO/PS)

Noryl is a proprietary blend of polyphenylene oxide and polystyrene made by GE plastics.

Noryl is hard to cut by hand; I haven't tried cutting it with power tools. It seems to want to make your tools rust. It is hard to rough carve, moderately hard to finish

# PAINTINGPlastics

*ideas from the RangList*

Painting polypropylene boomerangs is easy. I use the following method for painting TriFly™s that I modify. First I sand them lightly to give the paint something to grip. Then I hit part of the boom with Kilz™ primer so any color I use shows up well. I then use my colors and clear on top of that. I have some TriFly™s banging around in my bag for several years that the paint hasn't come off yet. Without pre-sanding them it would flake off right away.

On booms from white polypropylene, I just skip the primer as the colors show up fine. As to the sanding being extra work, gee I have to sand plywood booms, why not plastic? In fact you don't have the trouble of "grain raising" as soon as the first coat of paint hits the boom. I notice that I don't need to do that extra sanding on the ABS plastic that I use.

*Dave Hendricks*

Painting polypropylene is not as hard as some say. You need two things that you can get at any auto paint store: a *cleaning agent* to remove any oil or residue and a *bonding agent*.

Apply the cleaning agent then wipe your boomerang dry with a cloth. Then apply bonding agent. Wait the specified drying time, then paint. The painting must be done very soon after the bonding agent is dry.

*Mark Weary*

In Sweden you can buy Primer for Plastic™ by a company named Auto-K it is a clear coat that makes any other spraypaint stick to any plastic. It is sold in stores that sell carpaint. Works great!

*Ola Wahlberg*

The RangList is an e-mail forum which hosts discussions on every imaginable topic related to boomerangs. To subscribe, go to [www.usba.org/RangList.html](http://www.usba.org/RangList.html) and follow the instructions there.

carve and sand. It polishes as well as polycarbonate.

You can get Noryl in any color you want as long as you want black. Actually it has a mottled appearance that disappears when you sand it but comes back if you polish it. A boomerang finish!

In the past I've used 1/4 inch Noryl for recreational and Aussie round boomerangs. I think that you could use lower thicknesses for trick catch and fast catch booms as well. Noryl is not very field tunable. Noryl boomerangs are fairly durable.

## NYLON 6/6 (Polyamide)

Nylon cuts moderately well by hand and can be cut with power tools. I consider nylon to be the hardest of the materials listed here to carve by hand. It is hard to sand. If you want to polish the boomerang to a shine I would say that nylon is the 2nd worst of the materials listed in terms of ability to be polished. Nylon can easily be colored with clothing dye.

As you can see in the table some of the properties of nylon are quite variable. There are many other types of nylon other than 6/6 and even within the 6/6 family there are

several different types. Moisture absorption greatly affects nylon. Nylon comes out of the mold or extruder very stiff with little impact resistance. After it absorbs moisture from the air for a few days it becomes much less stiff and increases its impact resistance. It comes in white or black. Get the white and dye it red.

While it may be hard to carve, nylon does make great trick catch boomerangs and you can make fast catch and recreational boomerangs from it also. Nylon has good field tunability. Nylon 6/6 boomerangs are very durable.

## POLYCARBONATE (PC, Lexan)

Polycarbonate is fairly hard to cut. I consider polycarbonate to be the second hardest material to carve by hand. PC likes to gum up your file. It really is nicer to have power tools to carve nylon and PC. It is hard to sand, but polishes nearly as well as acrylic; however it is not as scratch resistant as acrylic.

Polycarbonate comes in clear and colored versions.

You can make trick catch, fast catch, Aussie round and rec boomerangs from PC. Polycarbonate is not really field tunable. Boomerangs made from PC are very durable.

## POLYETHERIMIDE (Ultem 1000)

This material cuts easily with a saber saw. It is fairly hard to cut by hand. Rough carving is moderately hard, but finish carving isn't that bad at all. Ultem doesn't stick to the file much. Sanding is moderately easy and Ultem takes on a polish equal to or better than PC and is more scratch resistant than PC.

It comes in a transparent amber color; you should paint part of the boomerang for visibility. I consider Ultem and polysulfone to be exotic or semi-exotic plastics. They cost too much for making large volume runs, but you can afford to buy one sheet to make a limited number of boomerangs. Ultem is essentially the stiffest unfilled plastic that you can buy. There are other stiffer plastics, but they are either not available in the thin sizes good for boomerangs or are ridiculously high priced. Some grades of acrylic

are stiffer, but they have next to no impact resistance.

Ultem has a high elongation at break and a high tensile strength. This should result in high impact strength. But the notched Izod number is low. I have found that the un-notched Izod and tensile impact numbers for Ultem aren't bad. So what does it mean for a boomerang? I have chipped one boomerang when it hit a fence and I haven't broken any even though I've had one bury its wing 3 inches into the ground. Ultem is more durable than acrylic by much more than the Izod number would indicate, but I would still have to say that Ultem is in the bottom half or third of the materials listed here for impact resistance.

You can make trick catch, fast catch, Aussie round, recreational and MTA boomerangs from Ultem. I recommend that you use wood or thermoset laminates for MTAs, but I have made one from Ultem and got 19 seconds out of it. Ultem has very poor field tunability.

## POLYPROPYLENE (PP)

Polypropylene is a little harder to saw by hand than ABS and it is also a little harder to rough carve and it is more than a little harder to finish carve. Sanding is a little harder than ABS and polypropylene polishes slightly better than nylon but doesn't take on a real good shine. You should leave it rough if you want to paint it.

Make sure that you buy the stress relieved impact copolymer. Actually the stress relieving is like tempering and if you knew the time and temperatures you could stress relieve it yourself in an oven. You definitely don't want the homopolymer because it doesn't have the impact strength. You can see from the table that there is a wide range of some of the properties of polypropylene copolymers. A small amount of ethylene is polymerized with the propylene to create the PP copolymer, and differential amounts of ethylene affect the properties of the resulting copolymer differentially. Polypropylene comes in a translucent white. It is not very scratch resistant. I have made more boomerangs from polypropylene than any other material. I have never had one break, except one when it was being thrown by a guy in the bitter cold.

Polypropylene can be used for trick catch, fast catch, and small rec booms. PP is very tunable on the field and is very durable.

## POLYSULFONE (PSU, Udel)

Polysulfone cuts easily with a saber saw. It is fairly hard to cut by hand. Rough carving is slightly easier than with Ultem but finish carving is slightly harder because the material sticks to the file more. Sanding is moderately easy and polysulfone takes on a polish equal or better than PC. It doesn't accept dye very well but you can paint it.

Polysulfone comes in a lighter transparent amber than Ultem; it is almost clear.

Polysulfone can be used for trick catch, fast catch, Aussie round, and sport boomerangs. It is not field tunable. While the Izod impact number is low, I think that polysulfone boomerangs are reasonably durable.

## ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE (UHMWPE)

Polyethylene processes similar to polypropylene, but the finish carving and the sanding is more difficult. Polyethylene fuzzes up (i.e., grows hair when you sand it). I was unable to polish this material to any kind of shine.

Polyethylene comes in white. It is better to avoid acute angle (<90°) designs because of its low stiffness. Polyethylene is unbreakable, supposedly even down to -100 °F (-73°C).

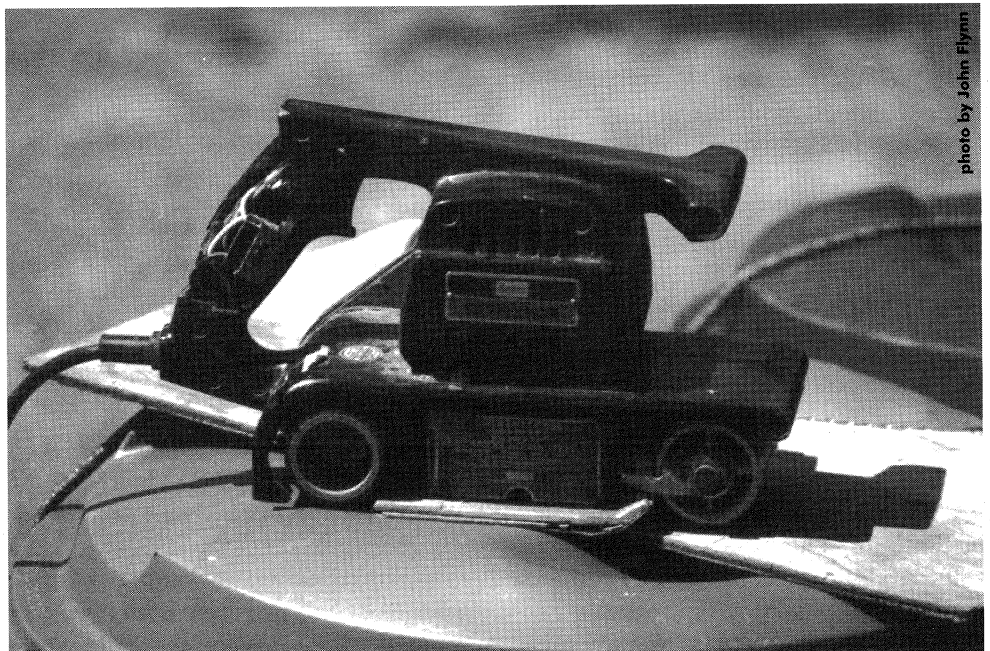
Although I've used polyethylene for various rec boomerangs in the past, I think that it is best suited to trick catch tri-bladers because of its low stiffness. It is very field tunable and very durable.

## RECOMMENDATIONS

I am still looking for the ultimate boomerang plastic. I haven't found it yet.

For trick catch, fast catch, endurance, accuracy and small recreational boomerangs it is a tie between ABS and polypropylene. I think I would give the nod to ABS if you are using all hand tools. You can't go wrong with either of these two; they are both inexpensive and easy to process.

For Aussie round, larger rec boomerangs and wind resistant versions of other types of boomerangs I would recommend polycarbonate first and acetal second, mainly because of the cost. If you are only using hand tools though I would recommend the acetal over the polycarbonate. Your arm will be glad you spent the extra money.



John Flynn's Sears Model #315.11721 sander that changed Fast Catch. 1981-1998. R.I.P.



# Boomerang Poetry

POETRY \* IN \* MOTION \* IN \* POETRY \* IN \* MOTION \* IN \* POETRY \* IN \* MOTION \* IN \* POETRY \* IN \* MOTION \* IN \* POETRY \* IN \* MOTION \*

## HAIKUS

Yellow boomerang  
How do you know the way home  
Gray sky no wind day  
*Steven Graham*

I want to go throw  
It has been snowing heavy  
Some other day then  
*Kendall Davis*

One listens closely  
A symphony in the air  
Wings whistling softly  
*Tom Conally*

Cold stiff hands working  
Fast over spinning grinder  
Boomerang making  
*Steven Graham*

A hurl-ed bent stick  
Races away with a swoosh  
Orbits gently back  
*Frank Harmuth*

The boomerang soars  
Awestruck, I watch its flightpath  
Sandwich catch, pure joy.  
*Kris Kemp*

Boomerang making  
Impatiently wait to test  
Way too much snow now  
*John Whitehead*

My body in flight  
Dances on wind, back to hand  
The circle complete.  
*Steve Sanders*

MTA soars high  
Floats into infinity  
Bye bye, MTA!  
*Steve Sanders*

The smell of plywood  
Sanding drum rotating fast  
New boom in my hands  
*Tom Conally*

Come back boomerang  
Precession is the master  
Like a tethered bird  
*Tom Conally*

Beginner's first throw  
First the wind-up, then the toss  
Oh no, layover!  
*Dave Hendricks*

## A SONNET

I threw a boomerang into the sky,  
It looked like it was going far away,  
But back to me the boom did turn and fly,  
(I must admit it helped a bit to pray...)

It hovered in the air; it seemed to stay  
Aloft to drop down to my waiting hands,  
I made sure there was no one in my way,  
Although my throws had drawn a group of fans.

I wondered if I'd take a little chance,  
A trick catch would be an impressive feat.  
I prepared myself and got into my stance,  
Prepared to fall upon my tender seat.

They saw the trick that I hoped to complete  
A soft, short gasp came from the smallish crowd  
The 'rang I would soon catch between my feet  
A catch, if made, would do me very proud.

But pride's a tricky thing I've often found,  
The boomerang did end up on the ground.

*Bart Lidofsky*

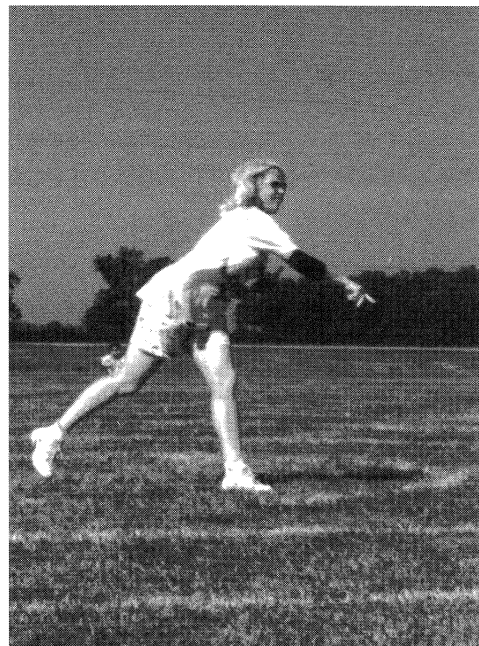
# MHR the best of 1998

## Awards

Although the 1998 boomerang spotlight was hogged by international team play, a few individuals radiated a light of their own. This is our annual effort to recognize those players and technologies who brought well-deserved attention to themselves this year.

**MHR's**  
**PLAYER OF THE YEAR:**  
**Betsylew Miale-Gix**

It is inescapably true that no one was more noticeable (by merit) than Betsylew Miale-Gix on US boomfields in 1998. She did everything and she did everything right. Betsylew's accomplishments in 1998 set her solidly into the elite of America's best boomerang players.



merang players.

She capture two USBA tournament titles in West Seattle and Salem. She played a crucial role in the respectable third place finish of Team United Blue at the 1998 Foster's World Championships and their US Team Cup championship earlier in the year. And to top it all off, Betsylew came away from the season with two USBA ratings titles in Accuracy and MTA; it's no surprise to find her rated fifth overall at the end of 1998.

A quick look down Miale-Gix's resume leaves one no less than severely impressed. Betsylew once held the world record in Aussie Round with an 89 - dreamy even by today's standards. Her other personal bests read like the world record list of only a few years ago. Fast Catch 18.12 s, Endurance 63, Accuracy 48, MTA 67.50 s. To help put things in perspective, the least impressive of Betsylew Miale-Gix's career accomplishments is that she is the women's world record holder in every event.

Betsylew used to be regarded as an Aussie Round queen. Then people started referring to her as a Fast Catch power. Then she became the world Accuracy champion. With each part of her game falling into place one by one, she is slowly coming close to what every player desires: a complete game. But at her current rate of improvement, don't be surprised if next year's Trick Catch champion is from Brier, Washington. (In your dreams Will!)

**HISTORY OF MHR AWARDS**

**Player of the Year**

- 1995 Adam Ruhf
- 1996 None Selected
- 1997 Michael Girvin
- 1998 Betsylew Miale-Gix

**Rookie of the Year**

- 1996 Jim Nieberding
- 1997 Mike Gabriel
- 1998 Jason Smucker

**MHR's ROOKIE OF THE YEAR:**  
**Jason Smucker**

In absence of any records to prove the contrary, we will claim here that Jason Smucker is the first player in history to win a USBA tournament title the first time competing in the Sport division. He did it by beating the likes of Don "Spike" Frazier, Mike Gabriel, Tony Brazelton and Mike Dickson in

*(continued on page 23)*

# 1998 SEASON OVERALL RATINGS

PLACE	PLAYER	# TOURN	ACC	AR	FC	END	MTA	TC	TOT PTS
1	Steve Kavanaugh	8	18	11	15.5	19	17	19	99.5
2	John Flynn	4		19	18.5	20	16	18	91.5
3	Scott Barrett	3		3	18.5	15	18	17	71.5
4	Tim Schallberger	4	14	17	15.5		13	11	70.5
5	Betsylew Miale-Gix	5	20	5	13	8	19.5		65.5
6	Mark Weary	3		15	10		19.5	20	64.5
7	Will Gix	5	4	18	11.5	9	6	14	62.5
8	Larry Ruhf	3	19	16	1	12.5		9	57.5
9	Mike Forrester	4	4	20	2	4.5	14	12	56.5
10	Eric Darnell	5	16	12	14	10	3.5	0.5	56.0
11	John Anthony	3	6	2	20	16	11		55.0
12	Adam Ruhf	2			17	18		15	50.0
13	Paul Gustafson	3	9	10	11.5	11	7.5		49.0
14	Chet Snouffer	2		8	9	1	2	16	36.0
15	Steve Cook	4		7		12.5	15		34.5
16	Barnaby Ruhe	2	12		3.5	17		0.5	33.0
17	Jim Jordan	5	4	13	6	6		3	32.0
18	Gary Broadbent	2	11		3.5	2	7.5	7	31.0
19	Doug DuFresne	3		9	7			13	29.0
20	Peter Ruhf	3		14			9		23.0
21	Mike Gabriel	2			8	3		8	19.0
22	John Gorski	2	13				5		18.0
	Tony Brazelton	4		4		14			18.0
24	Martin Wickstrom	3	17						17.0
25	Jason Smucker	2	10				3.5	3	16.5
26	David Hash	4	15						15.0
27	Gregg Snouffer	2				4.5		10	14.5
28	Mike Dickson	2	2	6				5.5	13.5
29	Craig Frazier	3					12		12.0
30	Don Frazier	4					10		10.0
31	John Koehler	2		1		7			8.0
32	Aaron Kaminsky	2	7.5						7.5
	Peter Caliandro	3	7.5						7.5
34	Dave Barrett	1						5.5	5.5
35	Tim Maultsby	4			5				5.0
36	Nobuyuki Iizuka	1						3	3.0
37	Dan Hellenberg	3	1						1.0
	Ray Laurent	1					1		1.0





E V E N T  
**REPORTS**

## 15th Annual Team Gel New Year Tournament

Oakland, California  
 January 1, 1999

On January 1, 1999, all the requirements were met to satisfy the dictionary definition of a perfect boomerang tournament. The 2 - 4 mph winds helped the celebrators gain multiple bullseyes and near motionless hovers. The 64 degree temperature was warm and allowed the boomerang revelers to throw in short sleeves. The soft green grass lessened the impact of the fantastic dives and hustled efforts. And then there was the tournament perfection requirement that there be an amiable mix of adults and kids, men and women, novices and experts. This requirement was met and surpassed by the 24 happy boomerang fans that graced Billy Martin Field on the first day of the year.

To maximize the inclusion, team events were contested. This team spirit was best embodied by the members of Team Arconaut, who not only drove all the way from Arizona for the event, but also created matching hand-drawn jerseys and matching costumes! The team games played were Team Accuracy/Hackuracy, Team Round Rang Realy, Team Whoa Nelly (Australian Round with Trick Catching), and Team Super Catch.

Because of the great weather and the learning atmosphere, the theme of the day was that people kept accomplishing things that they had never done before. Terry Bob and Francesca Ghelardoni made their first catches ever! Dave grover caught every throw he made in Super Catch! Brian Lilla made a stand up body catch! Then, after the last team event, nove Ben Tompkinswon the individual GLORP game with big smiles and determined effort!

The last event contested was Award Ceremony. Trophies, awards and piles of prize boomerangs were handed out to acknowledge everyone's enthusiasm for boomer-

angs and the New year! it was a dictionary-defined day and all went home happy. See you all next year on January 1, 2000!

*Michael 'Gel' Girvin*

## Weekend at Gary's Canton, Ohio December 12-13, 1998

If you hate yourself for missing this event, you are being too soft on yourself.

A quick review: First people compared each others collections and test threw some to decide on the days projects. Then a cycle of making and testing and fine tuning that lasted till dark. Everything was used at some point from metal to plastics (I can't remember/spell half of them) to several types of wood.

Then, after dinner, a viewing of several classic and new videos on boomerangs, that seemed to include every name I ever heard of related to boomerangs. Then a 2 hour review of Gary's and Dr. Fred's select private collection. After that, discussion and debate on several theories and topics related to boomerangs. This lasted till 4AM. This included little things like Rusty Harding sharing secrets that may have never been spoken before!

The next day started out the same as Saturday but mid-day, Gary lead the troops to the Frisbee golf course for Throwstick golf. Then more making, testing, laughing, eating, etc. . .

Oh and I forgot to mention, warm weather and gentle wind!

*William Sotak*

To make matters worse, Gary cleaned out the garage (excuse me, the ultimate boomerang building workshop) to an extent previously deemed impossible. There are numerous places I could spin around, a la Mary Tyler Moore about to throw my hat into the air, and hit nothing but air. We had eight makers working independently in that shop most of the day Saturday, at the same time, nobody running into each other or even dimming the lights by the electrical drain (are you listening, Dave?). I gave one-on-one training to two local hoodlum-type

ne'er-do-wells who ventured into the shop, and each of them made seven booms that day (with them never having touched most of the machines before). It was free, I might add. I'm sorry, what was your excuse again?

Gary told me first thing Friday, "Fred, the bandsaw blade's brand new, and it's bi-metal. Ought to be no problems there." Sunday, I was cutting out an Aussie round boom for Gary Jr. (can you call him Jr. if he's already taller than his dad by 15 years of age?), and I noticed the bandsaw was very resistant to cutting 6mm plywood, and was throwing out small brown and black particles onto the wood. These are signs of burning, which means the blade is shot. I asked Gary what happened. He looked at me with a long face and said, "Yeah, those guys kept cutting out all those circuit boards and phenolic stuff." We actually burnt out a bi-metal blade in 3 days, and Friday was a light day! And, Gary missed most of Saturday by having other family obligations; that blade would have been toast in one full day with him there!

Okay, you may have missed the first one. Winds were fantastic, and the company and graciousness of the host were tremendous, as always. If you can find a boom building festival and toss-a-thon as good as this anywhere, get there. I had a great time.

*Fred Malmberg*

## 11th Annual Turkey Toss

Livonia, Michigan  
 November 28, 1998

Imagine you're a turkey. It's the day after Thanksgiving and you're still alive. You thought your troubles were over. But no, here come 22 kylie! You have stumbled into Waki Klak at the 11<sup>th</sup> annual Turkey Toss! No one hits you on the first round but before it's over, you will be pummeled 14 times. People of all ages will be overjoyed just to have their kylie land near you. (Actually, no turkeys were harmed in the contesting of this tournament. The simulated turkey was provided by Jim, Kent and Paul Sprague, complete with a rolling golf ball eye, and glittering feathers.) Logan Broadbent won the event with 2 turkey hits and accuracy

# TOURNAMENT SCORES

points in 5 frames. Gary Broadbent Sr., Bill Rusky, and Clint Frysinger also had 2 turkey hits but had fewer accuracy points. Ted Bailey finished 5th with no hits but accuracy points in 7 of the 10 frames. His kylie resembled a club more than a kylie, but Ted was very accurate at 30 meters.

The weather was more like September than November. Winds were light, sun was bright, temperature in the 60's. 22 throwers journeyed from Pennsylvania, Ohio and Connecticut to Michigan to throw boomerangs and kylie. In just three hours boomerang position, kylie distance, You Miss-You Out, and Waki Klak were contested, scores were tallied, and trophies were awarded.

In You Miss-You Out, each thrower attempts to hit a 16 square foot target from 20 meters with a kylie. Each gets 3 attempts. Only 5 of the 22 missed on all three attempts, so 17 throwers went on to 30 meters where 9 throwers hit. Having almost half the field moving on to 40 is unusual. Only Gary Broadbent Sr. and Jeff Heindrichs hit at 40, but for the first time in competition someone, in fact both hit at 50 meters. Gary Broadbent then did the unthinkable; he hit at 60 meters on his third attempt!

In boomerang position, each thrower has four throws. They attempt the catch the first throw. If they catch they may take a step toward the start point, otherwise they make the second throw from where the boomerang lands, and so on. The object is to end up at the start point. Gary Broadbent did so successfully without even needing the final one step benefit. Ted Bailey and Bill Harbowy both made it back to the start point using a final step, thus tying for second. We threw in groups of 7.

For the third time in as many years the Turkey Toss winner was Jeff Heinrichs. Each year the winner must return with the traveling trophy so it can be given to the next winner. Jeff has faithfully returned with the trophy after his wins but has won it so many times now that it was retired in his possession. He pledged to create the next traveling trophy. The Junior division was won by Logan Broadbent, who is no stranger to the winners circle for Junior kylie events.

Norm Kern

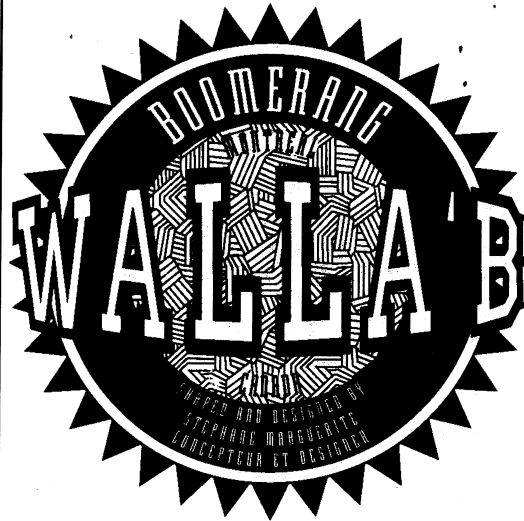


2nd Jeff Heinrichs, 3rd Jim Sprague, 4th Gary Broadbent, Sr., 5th Clint Frysinger. **You Miss - You Out:** 1st Gary Broadbent, Sr., 2nd Jeff Heinrichs, 3rd Matt Soloman & Ted Bailey, 5th Jim Sprague & Tim Davis. **Waki Klak:** 1st Logan Broadbent, 2nd Gary Broadbent, Sr., 3rd Clint Frysinger & Bill Rusky, 5th Tim Davis. **SENIOR OVERALL:** 1st Jeff Heinrichs, 2nd Bill Harbowy, 3rd Ted Bailey & Gary Broadbent, Sr., 5th Clint Frysinger. **JUNIOR OVERALL:** 1st Logan Broadbent, 2nd Nate Harbowy, 3rd Matt Solomon, 4th Brittany Broadbent, 5th Darcy Haley.



**11th Annual Turkey Toss  
Livonia, Michigan  
November 28, 1998**

**Boomerang Position:** 1st Gary Broadbent, Sr., 2nd Ted Bailey & Bill Harbowy, 4th Logan Broadbent, 5th Paul Sprague. **Kylie Distance:** 1st Bill Harbowy,



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M A R G U E R I T E

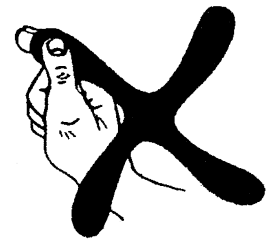
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# NEWS

## Work on USA 2000 Team Selection Format Nears Completion

The USBA board of directors will employ a new system for selecting the US Team to compete in the 2000 championships in Melbourne, Australia, with the stated goal of winning the competitions.

While the details of the new system are still being finalized, a basic outline follows. When the procedure is finalized, domestic USBA members will be sent the complete guidelines for Team Selection '99.

A four- or five-day training camp (time and place to be announced) will be the setting for the team trials. A coaching staff of Eric Darnell, Barnaby Ruhe and Larry Ruhf will hand-pick two top teams, and the USBA Board will select a third team of younger, promising throwers, with an eye on future world championships. An additional one or two free-forming teams, approved by the USBA Board, will be allowed to participate, the exact number to be announced in the

guidelines mailing. Three US teams will be allowed to participate in Australia.

The objective is to have a focused, working camp, emphasizing skills, strategy, and

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**"The 2000 US Team will be chosen based on performances in team events, not individual events."**

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camaraderie. All teams will compete in team events designed to mimic a World Cup, with the coaches free to adjust rosters as needed. After the final day of team competition, the coaches will submit their rosters

to the USBA board, which will notify all participants of the results. No team positions are final until the camp is completed.

Team events to be contested may include Team Relay, Team Endurance Relay, Team Super Catch, Team Aussie Round, Team Trick Catch, Team Accuracy and Team MTA 100 as they were contested at the '98 World Cup. If you need a copy of these rules, visit [www.usba.org/rules.html](http://www.usba.org/rules.html) or send a self-addressed stamped envelope with \$0.77 postage to USBA Team Rules, 2405 Lawndale Drive, Champaign IL 61821.

The 2000 US Team will be chosen based on performances in team events, not individual events. The coaching staff's sole directives are to assemble the best possible US team to win the 2000 World Championships and lay the groundwork for future top US Teams.

## "My wife left me, my dog bit me, and I broke my boomerang."

At the taping of the Billy Ray Cyrus Christmas show on *Prime Time Country* (taped in November 1998 for The Nashville Network), boomerang guru Rusty Harding of Carthage, Tennessee gave Billy Ray six Roomerangs made by Gary Broadbent for Billy Ray's six children that were there. Rusty also gave Billy Ray's wife, Trish, one as well.

Rusty first met Billy Ray Cyrus in June 1998 when he was on *Prime Time Country* to promote his new album. When Cyrus and host Gary Chapman learned that Rusty was a boomerang maker, they both showed in-

terest. Seeing an opportunity to get some celebrities interested in the sport, Rusty promised each of them a boomerang.

Rusty gave Gary Chapman his in August. Billy Ray was on a world tour then so Rusty gave Cyrus his *Achy, NO Breaky* boomerang (a *Napoleon's Hat* with a special paint job: pink hearts, some broken just a little, on a metallic blue background) when he came back for the Country Music Awards in late September.

Since then, Rusty Harding given most of the people at TNN boomerangs.

## NOTICE TO FOREIGN NEWSLETTER EDITORS

As of November 1, 1997, all foreign newsletter editors participating in the *MHR* newsletter exchange program should be sending their newsletters to USBA Newsletter, 2405 Lawndale Drive, Champaign IL 61821, USA.

The *BBS Journal* and *Käyräkkö* have graciously complied. If you are in charge of the mailing list for any of the other foreign boomerang association publications and you have not already done so, please begin sending your publication to the new address. We appreciate your cooperation in this matter.

Likewise, if you are a member of the foreign newsletter exchange program and your *MHR* is not being sent to the proper address, please contact me and I will make the necessary changes.

Tony Brazelton  
MHR editor



# BOOM fragments

With the election of Tony Brazelton to Treasurer in November, the USBA membership database and USBA Store were moved from Delaware, Ohio to Champaign, Illinois. All correspondence and transactions regarding membership and the USBA store (as well as Many Happy Returns) should now be addressed to USBA, 2405 Lawndale Drive, Champaign IL 61821. Phone (217) 352-6184, fax (217) 244-8371, and e-mail [usba-pr@usba.org](mailto:usba-pr@usba.org).

Ted Bailey's Fall 1998 Boomerang Auction closed on November 15. Two hundred items were auctioned, but none for more than \$634. That price was fetched by a mint condition Al Gerhards strip laminated *White Lightning* long distance hook. Twenty-five other boomerangs sold for \$100 or more.

Ted's biannual auctions (the Fall '98 auction was his sixth) have grown with every iteration. They are arguably the biggest boomerang marketplace on the planet. It is clear that boomerang and boomerang paraphernalia collecting is alive and well.

Auctions are a great way to try to snatch up quality booms at bargain prices as well as liquidate unwanted or redundant booms from your collection. One never knows what a particular boomerang will go for in a particular auction, so it doesn't pay to assume Gary Broadbent will outbid you.

Ever wondered what your boomerangs are worth? Here's what buyers paid for some well known booms in the Fall auction: Willi Urban *Sport Comeback* \$32, Fridolin Frost *Ice Runner* \$40, Mickey Kinley *Boomalum Omega* \$53, Rusty Harding *Hurricane Hook* \$58, Lorin Hawes *Silky Spinner* \$63, Volker Behrens *Challenger V* \$69, Al Gerhards strip laminated traditional \$72, Bob Burwell *Small Hook* \$105, Herb Smith Paxolin *Sussex Hook* \$113, Volker Behrens *Challenger III* \$124, Herb Smith *Bluebird* \$135, Herb Smith *Classic Hook* \$196, Bill Onus *Whalebone* traditional \$250, Herb Smith *Columbia Hook* \$255.

Ted's seventh boomerang auction is already underway. Hot items always seem to find their way into Ted's auctions and this

## M. H. Rchives

*The who, what, when, where, and how of yesteryear*

### 5 Years Ago

"Three world records were set at the first Arizona tournament, held in Phoenix on October 16. First, Michael Girvin started the sequence by setting a new world record in Doubling (new USBA rules) with 17 catches. Then, Will Gix, with a score of 91, broke the world record score of 90 points in Australian Round, previously set by Brother Brian Thomas nearly 10 years ago.

Will's record was short-lived though. Only a few minutes later, Mark Weary scored an incredible 92 points to take first place in the event and the current world record mark. Both Will and Mark were using the Aussie Round boomerang *Phenolic Sunshine* made by Michael Girvin."

MHR #57 Winter 1994

### 10 Years Ago

"The Rules Committee is spending the Holiday Season fine tuning the rules for 1989. Items that the committee are addressing include 'clean' catches for Consecutive Catch and Doubling. Also under consideration are 'count-up' formats for the above two events. This would allow each competitor to throw a certain number of times regardless of any drops, and the total score (for example: 8 out of 12) would be their score. In the case of ties for top score, the surviving throwers would go to the familiar single elimination format now used in Consecutive Catch and Doubling, where, if you drop, you are 'out'."

MHR #37 Winter 1989

one is no exception. It's too late to submit items for this auction, but you can still bid. There are many ways to get your auction list and bid sheet. Go to [users.aol.com/tbrang2/auction.html](http://users.aol.com/tbrang2/auction.html), e-mail Ted at [tbailey@ic.net](mailto:tbailey@ic.net), call him (734-971-2970), or write him at PO Box 6076, Ann Arbor MI 48106.

In the book *The Spiritual Tourist: A Personal Odyssey Through the Outer Reaches of Belief* by Mick Brown (Bloomsbury Publishing, New York, 1998), the author visits spiritual sites and people (gurus and such). While visiting Madras, India, exploring the philosopher, Krishnamurti, he was on the beach and "...a pedlar moved among the crowds selling food and plastic toys, including an ingenious catapulting boomerang. I bought one, found a space on the sand and sent the boomerang soar-

ing into the sky and circling over the crowd, until a group of small boys confiscated it for their own pleasure." Submitted by Neil Kalmanson.

The "What's Hot" section of the Technology section of the Sunday, January 3, 1999 *Atlanta Constitution* cited a website called the World Wide Web of Sports ([www.tns.lcs.mit.edu/cgi-bin/sports](http://www.tns.lcs.mit.edu/cgi-bin/sports)). "Nothing fancy to look at here, but there are certainly lots of categories, from Baseball to Boomerang (really), Cricket to Climbing, Rugby, Rowing and Squash." It should be noted that in 1996 USBAonline web author Tony Brazelton pestered the people at WWWOS for three weeks before they agreed to list boomerangs as a sport. Submitted by Neil Kalmanson.

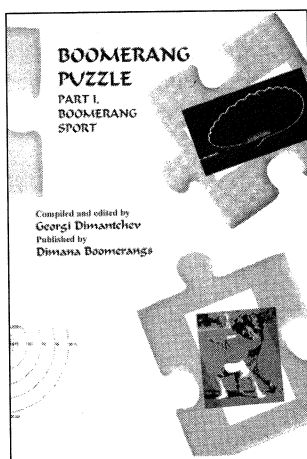


# REVIEW

## BOOKS

# The Comprehensive Boomerang Almanac You Wish You Got for Christmas

by Tony Brazelton



*Boomerang Puzzle, Part 1:  
Boomerang Sport*  
Georgi Dimantchev  
Copyright 1998, self-published  
221 pages  
US\$28.00

Every now and then someone writes a book about boomerangs, usually with the intent of supplying the general public with general information about the sport and dispelling myths. But recently, a few dedicated individuals have begun writing or compiling books for boomerang players and makers. Fred Malmberg has been writing an encyclopedia on boomcrafting techniques for several years and others are working on treatises of boomerang aerodynamics and design.

Georgi Dimantchev's *Boomerang Puzzle, Part 1: Boomerang Sport* is a boomerang almanac. It is difficult to describe what an invaluable reference tool this book is without simply listing its contents. So I'll do just that.

The first part of the book ("Chapter 1: Chronology") takes up about half of its 221 pages. The majority of Chapter 1 is a chronology of boomerang competition. It lists the results of every national championship and international competition complete with team rosters and other pertinent information about the event such as date, place, and important developments in the

evolution of the rules.

The Chronology also describes every important landmark in the history of the modern world's involvement in the sport. From Captain Cook's first account in 1770 to the formation of the BAA and the USBA to the publication of important books, Dimantchev puts all of this information at our fingertips for easy reference.

"Chapter 2: Competitions" recaps the results of every major national and international event in table form for fastest reference and comparison.

Every world record ever set and several other notable feats are presented in "Chapter 3: Records." There is so much data here that one could perform meta-analyses in multiple ways and be entertained for weeks. I graphed all the world records for each event as a function of time in order to chart our evolutionary progress. I may publish this in a future issue of MHR. But in the meantime, buy the book and do it yourself. It's fascinating!

Another chapter of the book describes leaps in boomerang technology and show-

cases important designs in the context of who did what with them. Other chapters list the history of top finishers in national ratings as well all the national records that have been kept. The extensive bibliography points you to earlier books and articles and the two appendices list boomerang patents and still more boomerang-related records and feats.

*Boomerang Puzzle* is sparsely illustrated with low-resolution bitmapped images. But graphics are hardly an integral part of a dense reference treasure such as this.

When I first received this book from Georgi, I thumbed through it. That thumbing-through immediately led to three hours of engrossed reading. This is truly an amazing resource and the boomerang world owes a huge thank you to Georgi Dimantchev for making it available.

*Boomerang Puzzle* is available directly from Georgi Dimantchev for US\$28.00, which includes shipping and handling. Write to him at Hipodruma 139-A-A-23, 1612 Sofia, Bulgaria.

ONLINE ORDERING

# Rediboom Does Exactly That in Less than a Week

by Tony Brazelton

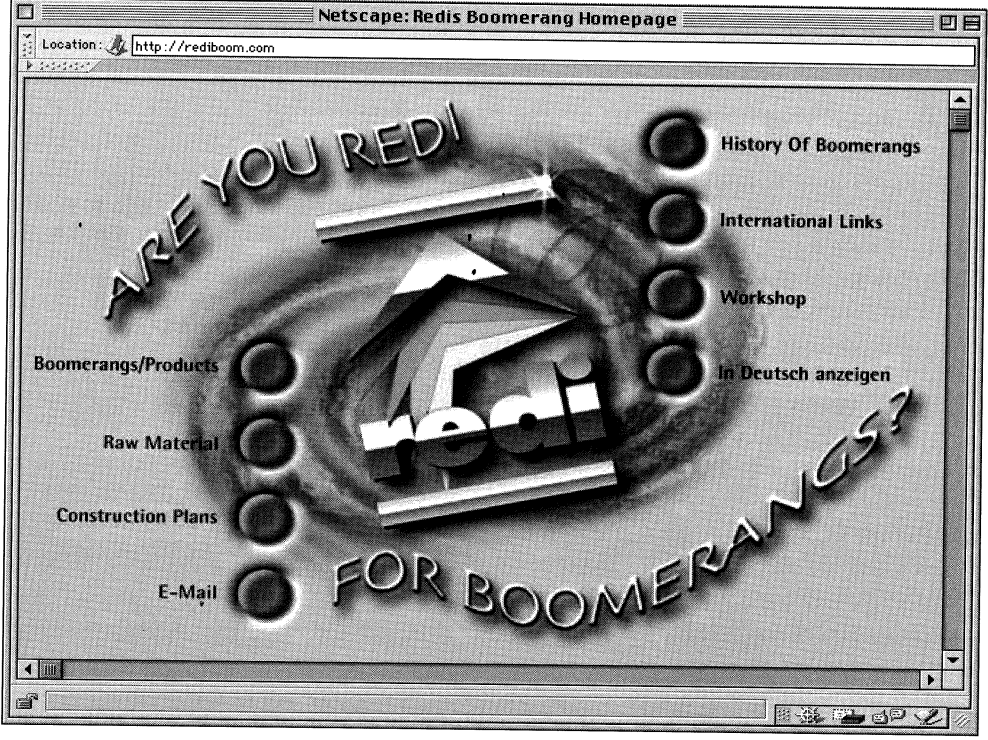


**P**ossibly the only thing which comes close to the thrill of throwing boomerangs is buying more of them. And when something comes along that makes it easier to do so, it's worth mentioning.

For the most part, boomerang businesses have lagged behind other industries in taking full advantage of the internet as a marketplace.

Dietmar Reinig, on the other hand, is right on top of things. His company, Rediboom, based in Lautertal, Germany, offers the world easy access to merchandise previously only readily available to Europeans.

Visit Rediboom's website at rediboom.com, then place your order. A confirmation e-mail asks for your credit card number and the transaction is complete with your reply. I received my order (one Trickstar Fuzzy Aussie Round boom) in Illinois in six days! Dietmar's customer service is second to none in politeness, speed and



concern. My order was accompanied by generous freebies, including decals and an

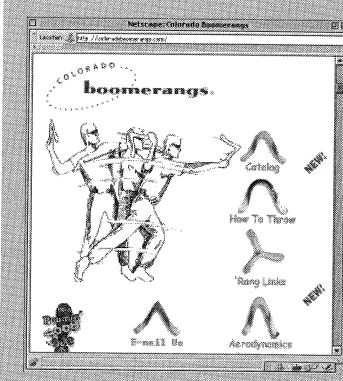
adorable little refrigerator magnet guy pictured at the beginning of this article.

Rediboom carries Fridolin Frost's Trickstar brand of boomerangs, including nine beginner models and five comp booms.

A great gift idea is Rediboom's Do-It-Yourself Kit which includes everything you need to make your first boomerang. I mean *everything!*

Rediboom also stocks aircraft grade Finland birch plywood in every thickness and ply number. Wood isn't the only material available; Polypropylene, Paxolin, fiberglass, and PVC are stocked as well.

Overseas shipping can be pricey, but Rediboom's merchandise is so inexpensive, the final bill seems quite reasonable.



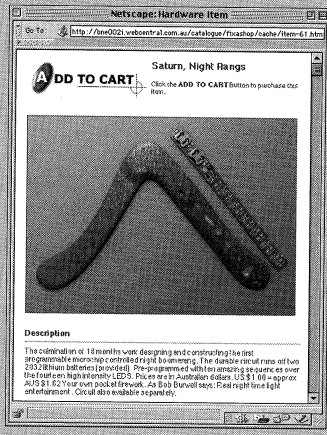
## Other Boomerang Dealers with Online Credit Card Ordering

### Colorado Boomerangs <coloradoboomerangs.com>

Place your order with your credit card while at their website. Colorado Boomerangs carries a wide variety of sticks and accessories.

### Fixashop <bne002i.webcentral.com.au/catalogue/fixashop>

Did you know you could buy David Schummy's famous Buzzwhip long distance boomerang and high-tech Saturn night rang with a credit card on the web? You can! David offers other comp booms here as well.



# Plan Thickness Conversion Table

Idea used with permission from the *BBS Journal*.

**W**e've all done it at least once. You have a plan of a boomerang you want to make but not the right material. You impatiently forge ahead anyway, hoping for the best. But our first test flight proves what we feared might happen: it just doesn't fly. Maybe you used a thinner material and the boom just washes out in mid-flight. Or maybe you used a thicker material and the most obvious flight problem is gravity.

If fractions hurt your brain and the last time you used a calculator was to do your 1997 taxes, the Plan Thickness Conversion Table may be just what you need to help you keep failed boomerang-making efforts to a minimum.

This table (below) can be used to convert the dimensions of a boomerang design that you would like to make into the dimensions you will need if you want to make that design from a material of different thickness.

Let's say for example that you wanted to make the Accuracy

boomerang pictured on page 21 of this issue but you didn't have any of the specified 4.0 mm plywood. You look around the garage and you can find is a moldy slab of 3.0 mm. No worries. Simply use the table to look up the amount you need to reduce the overall size of the plan in order to make a smaller version of the same boomerang. Take the plan to the photocopier, punch in the number on the table, and voilà: a plan that will work with the material you have on hand.

The "Plan Thickness" on the table is the thickness specified on the plan. The "Working Thickness" is the thickness of the material you will be working with.

One caveat though: this only works for materials of similar densities. For example, don't try to convert 4 mm polypropylene to 3 mm G10 fiberglass.

So now nothing is holding you back from making those wonderful minis or other new creation- not even math.

		WORKING THICKNESS (mm)									
		1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
PLAN THICKNESS (mm)	1.5	100	115	129	141	153	163	173	183	191	200
	2.0	87	100	112	122	132	141	150	158	166	173
	2.5	77	89	100	110	118	126	134	141	148	155
	3.0	71	82	91	100	108	115	122	129	135	141
	3.5	65	76	85	93	100	107	113	120	125	131
	4.0	61	71	79	87	94	100	106	112	117	122
	4.5	58	67	75	82	88	94	100	105	111	115
	5.0	55	63	71	77	84	89	95	100	105	110
	5.5	52	60	67	74	80	85	90	95	100	104
	6.0	50	58	65	71	76	82	87	91	96	100

# MHR Exclusive: Georgi Dimantchev's Kamtchia

This plan is for a right-handed boomerang. Use the mirror image of this plan to make a left-handed boomerang.

**Material:** 3.2 mm paper phenolic.

**Carving:** As shown. Extensive undercutting as shown. Three 5 mm holes in the elbow as shown. Weights are 7 mm in diameter and span the thickness of the boom.

**Weight:** 50 g (with embedded weights).

**Range:** 50 meter elliptical flight.

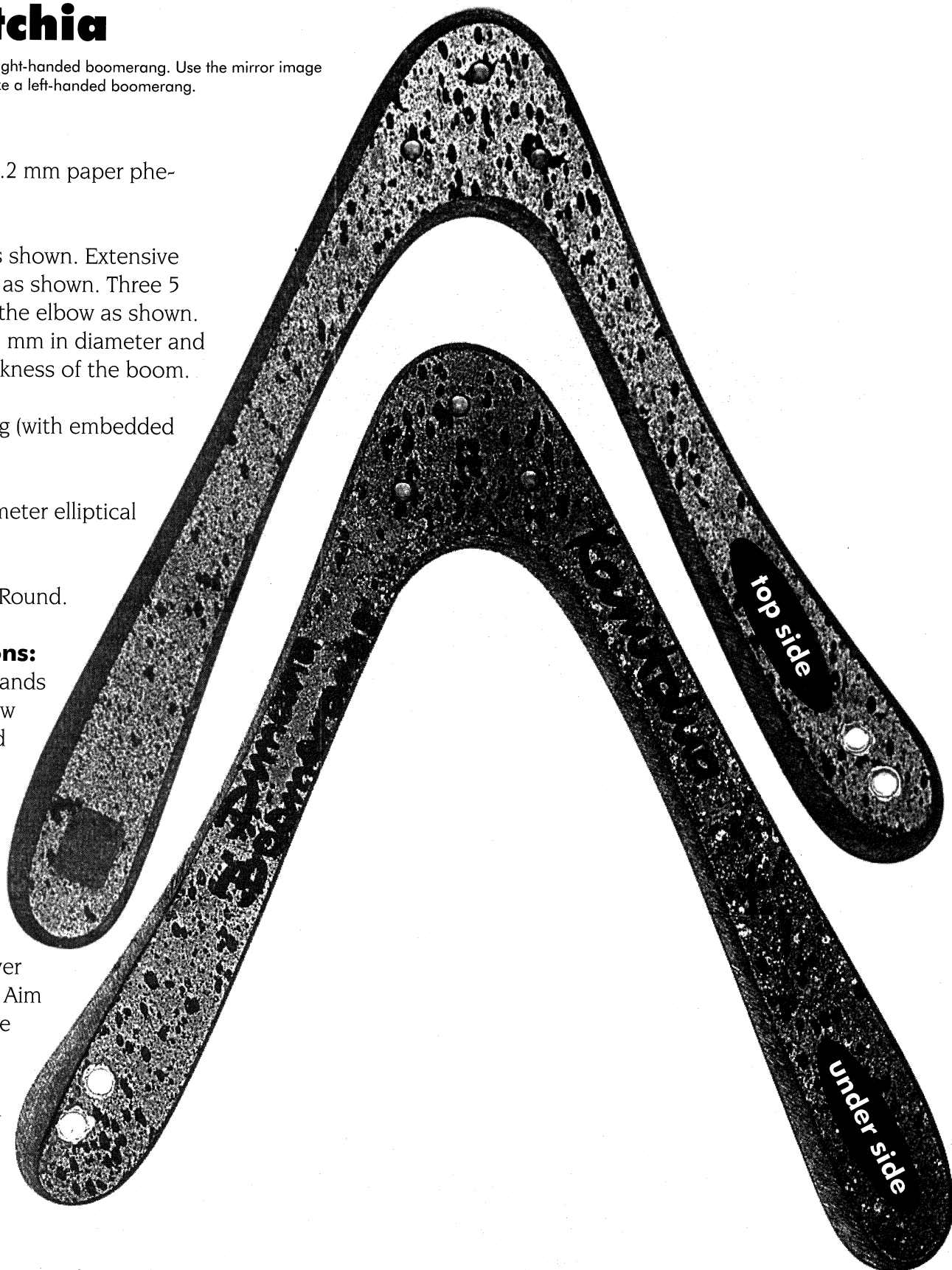
**Use:** Aussie Round.

**Modifications:**  
Add rubber bands near the elbow for more wind resistance.

**Tuning:**  
Flat.

**Throw:** 45 - 60° off wind.  
30 - 40° layover from vertical. Aim 20 - 30° above horizontal.

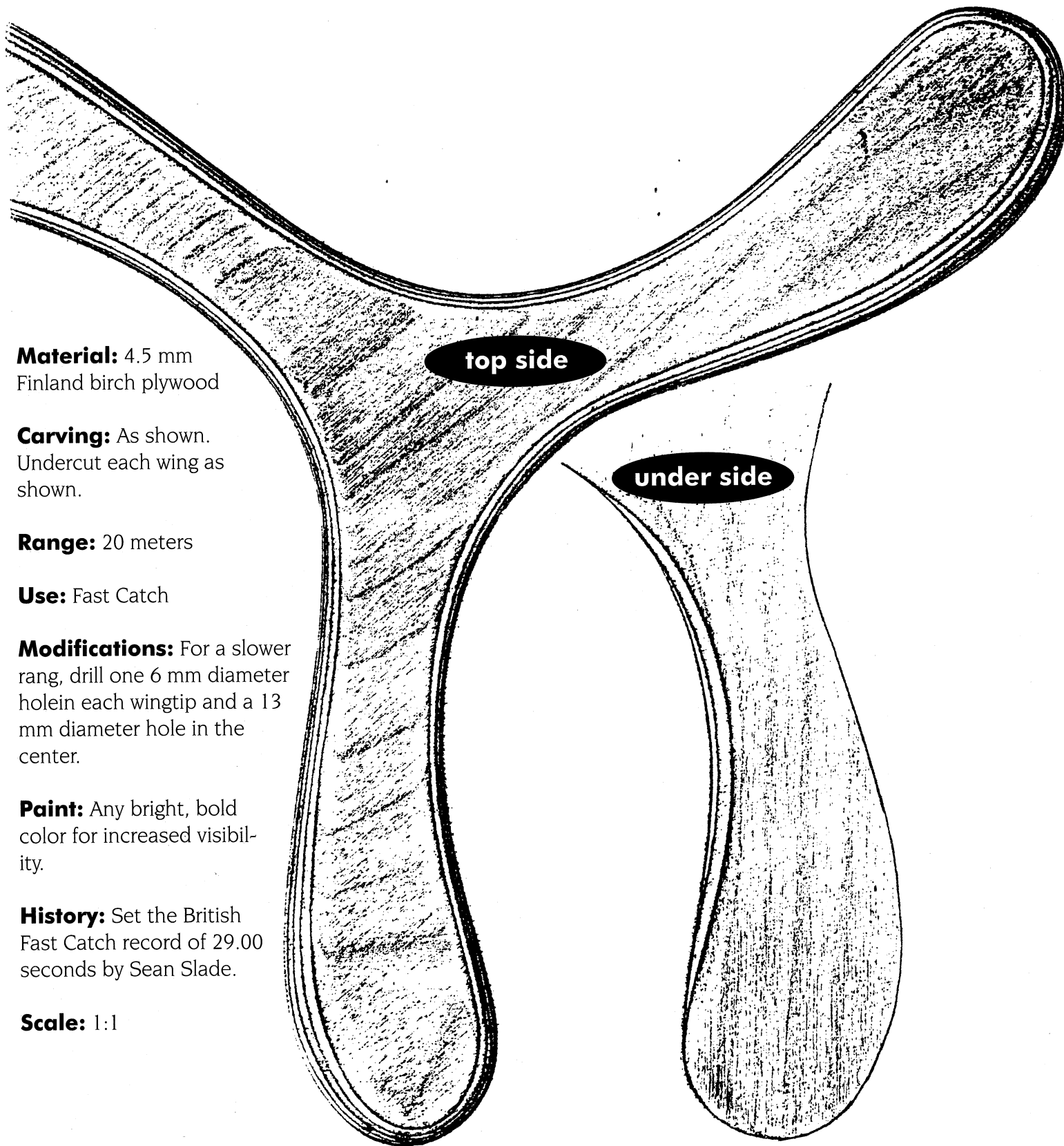
**Scale:** 1:1.41 (87.7%)



# Fast Catch Boomerang

Reprinted with permission from the *BBS Journal*  
Design submitted by Sean Slade via Timo Lieber

This plan is for a right-handed boomerang. Use the mirror image of this plan to make a left-handed boomerang.



**Material:** 4.5 mm  
Finland birch plywood

**Carving:** As shown.  
Undercut each wing as shown.

**Range:** 20 meters

**Use:** Fast Catch

**Modifications:** For a slower range, drill one 6 mm diameter hole in each wingtip and a 13 mm diameter hole in the center.

**Paint:** Any bright, bold color for increased visibility.

**History:** Set the British Fast Catch record of 29.00 seconds by Sean Slade.

**Scale:** 1:1

# Accuracy Boomerang

Reprinted with permission from the *BBS Journal*  
 Design by Maurizio Saba

This plan is for a right-handed boomerang. Use the mirror image of this plan to make a left-handed boomerang.

**Material:** 4.0 mm Finland birch plywood

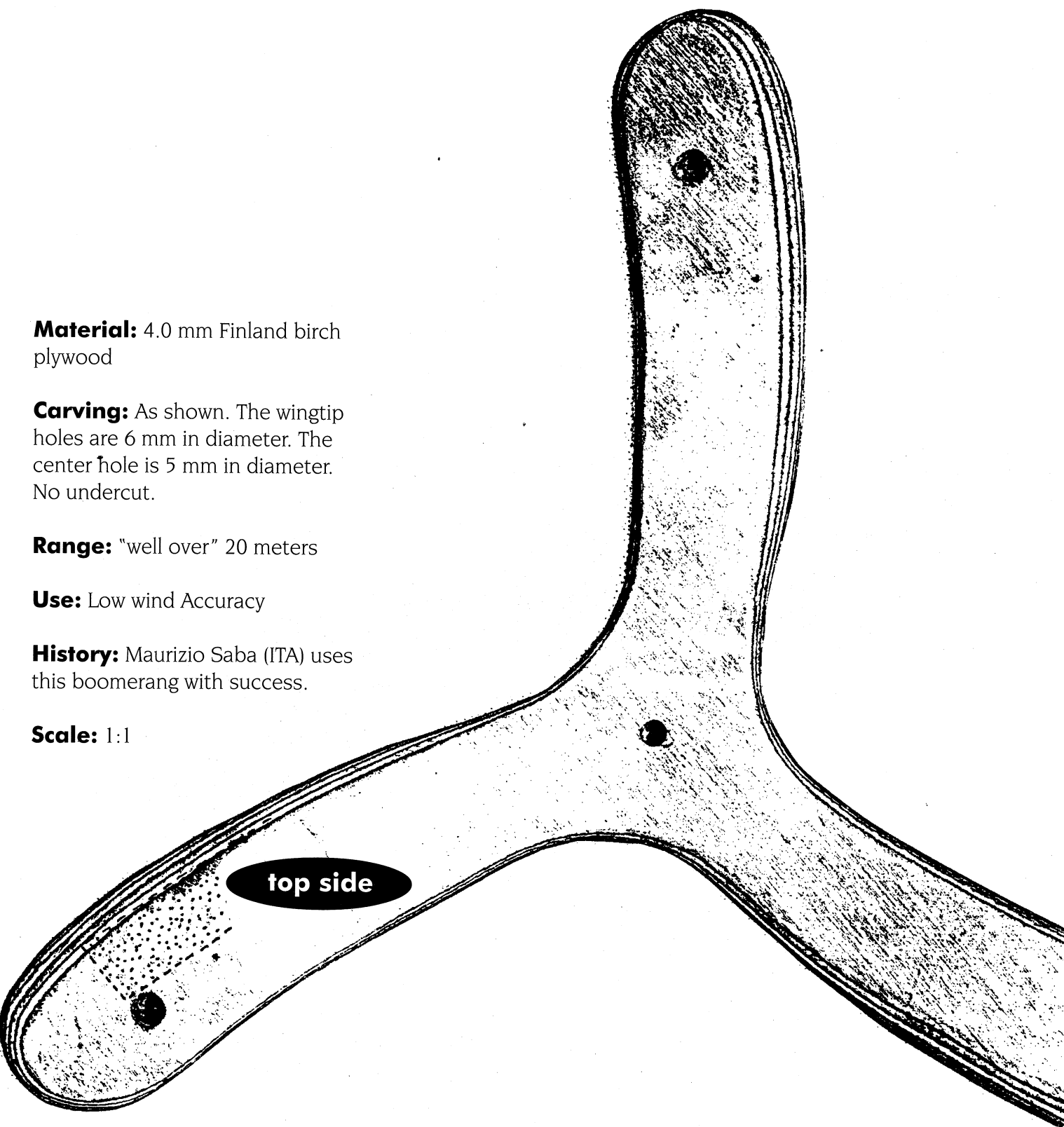
**Carving:** As shown. The wingtip holes are 6 mm in diameter. The center hole is 5 mm in diameter. No undercut.

**Range:** "well over" 20 meters

**Use:** Low wind Accuracy

**History:** Maurizio Saba (ITA) uses this boomerang with success.

**Scale:** 1:1



top side

# THE USBA STORE

2405 Lawndale Drive Champaign IL 61821 [www.usba.org /USBAstore.html](http://www.usba.org/USBAstore.html)

## How to Order

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### Questions?

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[usba-pr@usba.org](mailto:usba-pr@usba.org)

## CLOTHING

◆USBA Eagle T-shirts \$12.00 members, \$15.00 nonmembers (L, XL, XXL)

## LITERATURE

- ◆1996 USBA Competition Rulebook \$2.50
- ◆*About Boomerangs: America's Silent Sport*, Kelly Boyer Sagert (PLANT\*Speak Publishing, 1996) \$28.00
- ◆Individual back issue of MHR (issues available: 26, 28, 29, 31, 32, 33, 52, 53, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 73, 74) \$2.50
- ◆Get one set of ALL available MHR back issues for only \$25.00!

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M. Hedberg & L. Sandifer Mall of America Minneapolis MN  
PO Box 6076 Ann Arbor MI 48106  
Rich Harrison 1806 N. 3rd St. Monroe LA 71201  
Gary Broadbent 3204 38th St. NW Canton OH 44718  
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D.J. Helfer PO Box 101 North Charleroi PA  
Stuart Jones 195 E. 5th St. #605 St. Paul MN 55101  
Dave Boehm PO Box 17385 Euclid OH 44117  
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John Cryderman 136 Thames St. Chatham, ON N7L 2Y8 Canada  
Kelly Leggette 7180 Lakemond Ct. Villa Rica GA 30180  
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Tony Gembeck PO Box 5241 Portland OR 97208  
Thomas Risher Box 4734 Whittier CA 90607  
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Chet Snouffer PO BOX 664 Delaware OH 43015  
1545 E. Market St. York PA 17403  
Kendall L.Davis 932 21st Street Rock Island IL 61201  
Doug DuFresne PO Box 25577 Portland OR 97225  
John Derden 451 Colegrove Dr. Swainsboro GA 30401  
T.W. Smith PO Box 11332 Eugene OR 97440  
G. Snouffer & R. Tilford 340 Troy Rd Delaware OH 43015  
Peter Ruhf 6550 Meeting House Rd. New Hope PA 18938  
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(514) 597-1333 fax same number, boomerangs

Attention manufacturers and retailers: Any USBA member who manufactures or distributes boomerangs or related products or services may be listed free of charge as a service to our members. Send description to: Boomsmith Listings c/o USBA 2405 Lawndale Drive Champaign, IL 61821 or fax to (217) 244-8371 attn: Tony Brazelton or E-mail [usba-pr@usba.org](mailto:usba-pr@usba.org)



# Calendar of Events

## USBA Sanctioned Tournaments

**3/27-28**

### Kitty Hawk Kites South Tampa Bay Boom Season Kickoff

Bradenton, Florida

USBA rated tournament starts at 10 am on Saturday the 27th. Sunday the 28th is FunDay SunDay starting at noon. Contact Steve Kavanaugh. Phone: (941) 741-8371. E-mail: teamgel@aol.com

**9/4-6**

### 5th Annual Illinois Open Champaign, Illinois

Fifth straight year of fun in the sun with perfect wind. This is Labor Day weekend so you can come for the BBO Saturday night, stay for the tournament Sunday, and stick around for fun and games Monday. Contact Tony Brazelton. Phone: (217) 352-6184. E-mail: brazelto@uiuc.edu.

### US Open

Date & Place TBA

The USBA Board of Directors is still taking bids to host the US Open. If you have a suitable field and would like to host the US Open, contact John Flynn. Phone (802) 296-7244. E-mail: activermont@cyberportal.net

To petition the USBA to sanction a tournament or other event, contact John Flynn. Phone (802) 296-7244. E-mail: activermont@cyberportal.net

## Other USBA Events

**5/22**

### 10th Annual Toss Across America

A boomfield near you!

The USBA's premier grassroots effort is in its tenth year. Contact Betsylew Miale-Gix to find out where is the closest TAA to you or to learn how to host your own. Phone (425) 485-1672. E-mail: bmgbooms-showdog@worldnet.att.net

### US Team Trials and Training Camp

Date & Place TBA

See article on page 14 for details.

## Other Events in the US

None Scheduled

## MHR Awards

(continued from page 8)

Champaign, Illinois last September. Wow. Not bad considering that not only was this his first time competing with the big boys and girls, but also his fifth tournament ever!

In fact, Jason won both USBA tournaments in which he competed this year (Jason captured the Open division title at the Delaware, Ohio tournament). Not a bad average.

At Smucker's second USBA tournament in St. Louis in 1997, he was dubbed the "Sandbagger", winning almost every event in the Open division to capture the title. In his only other tournament that year was the US Open. He finished third in a tough crowd of 26.

Jason also has his finger on the pulse of the true nature of our unique sport. "My primary goal at every tournament is to have fun and to help other people have fun. Help-

ing others reach their potential gives me the greatest thrill."

Jason Smucker is a member of an emerging new breed of boomers: natural Trick Catchers, quick to learn every other event. With prospects such as Smucker, Mike Gabriel, Scott & Dave Barrett, Aron McGuire, and Aaron Kaminsky, the future of the US Team looks very bright indeed.



# Regional Clubs and Contacts by State

[www.usba.org /clubs.html](http://www.usba.org/clubs.html)

AZ	Phoenix	Desert Ranglers	Mark Weary & Don Monroe	4026 East Cholla Canyon Dr. Phoenix AZ 85044	(602) 759-3973
CA	San Diego		John Weigel	1323 La Mesa Ave. San Diego CA 91977	(619) 462-4379
	SF Bay Area	Bay Area Boomerang Club	Michael Girvin	2124 Kittredge St. #61 Berkeley CA 94704	(510) 658-2469
	Santa Barbara		Erik Fields	1501 Clifton St. Santa Barbara CA 93103	(805) 564-4840
	Santa Cruz		Brad Westervelt	Voicemail 800-286-6310, box 748	(408) 338-0818
	Southern	Southern California Boomerang Alliance	Steve Conaway	169 Cook Drive Fillmore CA 93015	(805) 524-2913
	Southern		Paul W.K. Rothmund	533 South Hudson Apt. #1 Pasadena CA 91101	(626) 584-1807
CO	Aurora		Richard Pollock-Nelson	2530 S Ouray Way Aurora, CO 80013-1576	(303) 368-5933
CT	Madison	The Wandering Nutmeg Boomerang Society	Paul D. Sprague	782 Boston Post Rd. Madison CT 06443	(203) 245-8211
	Shelton	Team Gel East	John "Moleman" Anthony	21 Huntington Ave. Shelton CT 06484	(203) 924-6735
FL	Merritt Island	Flite Stix Boom Slingers	Rich Surace	855 E Crisafulli Rd. Merritt Island FL	(407) 452-3963
	Orlando		Carl Morris	2602 Breezewind Dr. Orlando FL 32839	(407) 859-1319
	Southwest Florida		Jeff Sullivan	1715 SE 12th Terrace Cape Coral FL 33990	(941) 458-5514
GA	Atlanta	Atlanta Boomerang Society	Frank Golder	#2 Capitol Square rm 370 Atlanta, GA 30334	
	Swainsboro	South Georgia Boomerang Club	John Derden	131 College Cir. Swainsboro GA 30401	(912) 237-7831
IL	Champaign	Illini Boomerang Club	Tony Brazelton	2405 Lawndale Dr. Champaign IL 61821	(217) 352-6184
	Waterloo		"Chicago" Bob Leifeld	P.O. Box 242 Waterloo, IL 62298	(618) 939-9023
MD	Rockville		Jim Nieberding	Rockville, MD 20853	(301) 933-1073
MI	Ann Arbor		Ted Bailey	PO Box 6076 Ann Arbor, MI	(734) 971-2970
	Birmingham		Norm Kern	1640 Haynes Birmingham, MI 48009	(248) 645-9308
	Lansing	Mid Michigan Boomsling Club	Steve Collins	4820 Hillcrest Okemos, MI 48864	(517) 349-5234
MN	Mnpls/St Paul	Boomerang Organization Of Minnesota (BOOM)	Stuart Jones	195 E. 5th St. Apt. 605 St Paul, MN 55101	(612) 228-1393
MO	St. Louis	St. Louis Boomerang Club	Tom Fitzgerald	1159 Holly River Dr. Florissant, MO 63031	(314) 839-1684
NM	Albuquerque	Sandia Boomerang Club	Steve Sanders	10408 Woodland, NE Albuquerque, NM 87111	(505) 294-8842
OH	Ashland		Dwight Souder	453 Parkwood Dr. Ashland, OH 44805-4135	(419) 281-4565
	Canton	Gary Broadbent's Boom Shop	Gary Broadbent	3204 38th St. NW Canton, OH 44718	(330) 492-RANG
	Columbus	There And Back Again Boomerang Club	Bob Lackey	31 E Dodridge Columbus, OH 43202	(614) 263-6840
	Delaware	Free Throwers Boomerang Association	Chet Snouffer	PO Box 664 Delaware, OH 43015	(740) 363-8332
	Delaware	U.S. Head to Head Boomerang Tournament Organization	Gregg Snouffer	340 Troy Rd. Delaware OH 43015	(740) 363-4414
	Euclid	Cleveland Boomerang School	Dave Boehm	PO Box 17385 Euclid, OH 44117	(216) 289-6324
OK	Oklahoma City		Joel Bussey	1516 Southern Heights Ave. Norman, OK 73072	(405) 447-2117
	Bartlesville		Steven Graham	924 Yale Drive Bartlesville, OK 74006	(918) 333-0730
OR	Portland		Tim Schallberger	4740 SW Hamilton St. Portland, OR 97221	(503) 241-9618
PA	610 area code		Dave Hendricks	1086 E Gordon Street Allentown, PA 18103-2208	(610) 434-7305
TN	Knoxville	Boomerang Club at the University of Tennessee (BCUT)	David Martin	2912 McNutt Avenue Maryville, TN 37804-2537	(423) 687-3179
TX	Houston	Boomerang Association of Texas	Greg Corum	3233 Magnum Rd. Apt 184 Houston TX 77092	(713) 681-0837
	Tyler		Pat Steigman	Tyler, TX 75703	(903) 581-5556
UT	Sandy	Wasatch Boomerang Club	Jim Miller	2095 E. 10095 South Sandy, UT 84092	(801) 942-6943

In the next issue of

## Many Happy Returns

**SPRING  
1999**

- **Review of Handheld Anemometers**
- **Plans!**
- **1999 Competition Rules Changes (if any)**
- **Much, much more!**

Submit your materials **now** for inclusion in the Spring issue of *MHR*. See inside back cover for details.

## Tired of Waiting for your MHR?

*MHR* is normally shipped via bulk rate mail, which saves the USBA about \$700 per year. However, if you live far from the shipping point, you could be waiting up to five weeks for your *MHR*! Some members have already solved this problem by subscribing to the **MHR Express Service!** It's easy! If you live in the US, simply send a \$0.77 stamp along with your current address to the *MHR* office in Champaign, Illinois. Your *MHR* will be sent **First Class** and will arrive just a few days after it comes off the presses. You may do this one issue at a time or send in as many stamps as you wish **Express** mailings. Send in four stamps - get one year of **Express MHRs**. For your convenience you may also add \$3.08 to your renewal dues and receive one full year of newsletters mailed first class.



# the United States Boomerang Association

## GENERAL INFORMATION

The USBA is a non-profit organization whose goal is to promote the art, craft, sport and poetry of boomerangs through events, competitions, and information distributed through the quarterly newsletter, *Many Happy Returns*.

## USBA BOARD OF DIRECTORS

### President

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Mike Dickson (330) 499-9848

Keith Mullinar (860) 986-6396

Larry Ruhf (413) 323-4340

Chet Snouffer (740) 363-8332

## GENERAL CONTACT INFO

### Address

USBA  
PO Box 182  
Delaware OH 43015

### Website

[www.usba.org](http://www.usba.org)

### E-mail

[usba-pr@usba.org](mailto:usba-pr@usba.org)

## MEMBERSHIP INFORMATION

USBA membership entitles you to four issues of the quarterly newsletter *Many Happy Returns*, reduced entry fees for USBA-sanctioned tournaments, discounts on plywood from Anderson Int'l., discounts on books, and early notice of special offers.

Non-USBA members may receive one free trial issue by submitting the form on the left or by visiting the website.

Check your newsletter address label for issue of expiration. Membership status inquiries should be addressed to the **Treasurer**.

## VOLUNTEER OPPORTUNITIES

Want to help out the USBA but don't want to run for a seat on the Board of Directors? The Board and its committees periodically need help stuffing envelopes, conducting surveys, writing and proofreading articles for *Many Happy Returns*, and various other odd jobs. If you would like to help out as a volunteer, feel free to contact any board member.

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# Tips for Submitting Articles to MHR

Each issue of *Many Happy Returns* has a subset of themes which are relevant to the time of year that the issue is published. Persons contributing to MHR may wish to keep these themes in mind when deciding on the appropriate issue to which to submit one's writing. Please also keep in mind that contributions need not be limited to these themes. Details for submitting text and graphics can be found inside the front cover.

## WINTER Deadline

January 1

### Themes

- Making boomerangs
- Calendar

## SPRING Deadline

April 1

### Themes

- Making boomerangs
- Comp preparation
- Calendar

## SUMMER Deadline

July 1

### Themes

- Comp technology
- Event summaries
- Calendar

## FALL Deadline

November 1

### Themes

- Event summaries
- Calendar



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