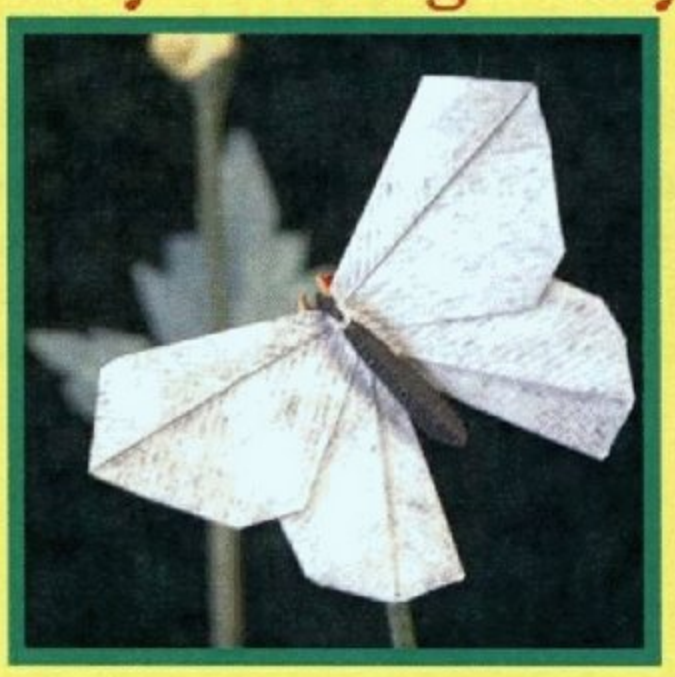


Michael G.
LaFosse's

Origami Butterflies

A Field of Discovery Through a System of Design



by Richard L. Alexander & Greg Mudarri

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INTRODUCTION

WHAT'S SO SPECIAL ABOUT ORIGAMI BUTTERFLIES?

There are many reasons we are fascinated by origami butterflies, but the simplest is that butterflies are beautiful. Beauty alone, however, does not explain our fascination. Surely, there must be more to it.

Everybody can relate to the butterfly. They are found on every continent, except Antarctica, and they are as varied and as interesting as you can imagine.

Learning the lesson of metamorphosis, the transformation from caterpillar to butterfly, is one of life's most basic experiences. How could anyone that witnesses the emergence of a beautiful, delicate, winged creature from a chrysalis or cocoon not be thoroughly amazed and captivated by the changes that must have taken place inside? This metamorphosis has been used to symbolize any profound growth, maturation, or change. It also symbolizes freedom or emancipation. In fact,

it embodies the feeling of joy we get from escaping confinement of any sort. All of us can relate to the exhilaration of finally having enough physical space, or emotional elbow room, to stretch our wings and let our human spirits soar.

Origami, or paper folding, is a metamorphic art. From a single sheet of paper, a beautiful object emerges with only folding – no cutting, no glue. Unlike applying paint to canvas or chipping away stone, with origami, nothing is added nor removed, simply transformed.

That does not mean that it is easy. The transformation of a single piece of paper in the hands of an origami master into a beautiful origami butterfly is often the result of intense, mental concentration. As the origami butterfly takes shape, the transitional forms are less than elegant, but in a few minutes, the magnificent result of so much hidden thought, planning, and skill emerges.

Butterflies are pollinators, and have become a symbol of communication and sharing. Origami is a quiet and peaceful activity. The gift of an exquisitely-folded origami butterfly says a lot!

About This Book

This book describes Michael G. LaFosse's system for folding an unlimited variety of origami butterflies. What is a system? A system is simply a collection of items, components, or decisions that depend upon each other. Few origami animal models, but many modular creations, are developed as a system. Modular progressions, such as those folded and displayed at origami conventions by Michael Naughton, of Turner's Falls, Massachusetts, and others, show intermediate models as steps between two extremes, usually by altering a single variable.

Michael G. LaFosse's origami butterfly design system has always been fascinating to me, since my study of biology at Cornell University focused on the field of Systems Ecology, and all of my employment since then has involved analyzing, improving and developing new systems.

It was logical for me to put Michael's approach in print as a system, rather than publishing stand-alone diagrams of individual models without the context of explaining their underlying similarities. In one sense, the LaFosse origami butterfly design system (he has also called it his Field of Discovery) is refreshingly straightforward, since it is sequential and one-way. Many origami models are learned by following. Michael wants people to understand what is going on, and impart their own choices, and not just to copy his exact moves. And unlike struggling to understand complex ecological, or human bio-feedback systems, taking charge of these techniques for making a series of beautiful, and often unique, origami butterflies can be fairly easily understood by most people, even at a young age. Each step presents choices which result in different outcomes. Explore this system to discover patterns and properties that please you. It helps to color certain sections of the folded butterfly, then open it to see where those fields originated in the square.

HISTORY

Michael G. LaFosse grew up in Fitchburg, Massachusetts. His parents, grandparents, aunts and uncles encouraged the LaFosse children to make things, and Michael was particularly good at making things of paper. He devoured the origami books at his local libraries, folding the models and making his own modifications. In 1970, an article reprinted in Readers Digest about the works of Origami Master Akira Yoshizawa transformed this avid teenage paper folder into an origami artist. Luckily, Fitchburg was a paper-making town, so Michael was able to glean sufficient information about the paper making processes, and the materials to make whatever types, weights, and colors of paper he needed for his art. The Boston area also had several artist/paper makers, including the Koretsky's of Carriage House Papers, and Rugg Road Paper, both then located at the Brickbottom artist space in Somerville.

The origami books at the time had referenced the Origami Center of America, operated by Lillian Oppenheimer from New York City. In 1977, when Michael was in his second year of college, he accompanied a friend to New York, and while there, called, then paid a visit to Lillian. A short time later, he went to New York alone to show her his own origami creations: a realistic bat, orchid, horseshoe crab, his complex praying mantis, and several lifelike birds. Lillian was so taken by his work that she called several friends to come to the Center to see the works and fold with Michael. He spent a week on Lillian's couch, and met Michael Shall, who taught him how to fold Akira Yoshizawa's butterfly from a waterbomb base. During this visit, LaFosse created his famous hummingbird. He also met Alice Gray, the noted entomologist from the American Museum of Natural History. As he and Alice rode the subway to the Museum, Michael folded his first origami butterfly from an 8 ½" x 11" rectangle. Alice said it was nice, but suggested he fold it from a square.

At this time, Michael's complex models were dismissed by many whose conception of origami was limited to two dimensions. Michael Shall considered LaFosse's works as "paper sculpture", not origami, so the two ceased communication until 1992. Even so, LaFosse was still actively creating origami, and even published a book of drawings to fold his F-14 Tomcat Fighter origami jet airplane.

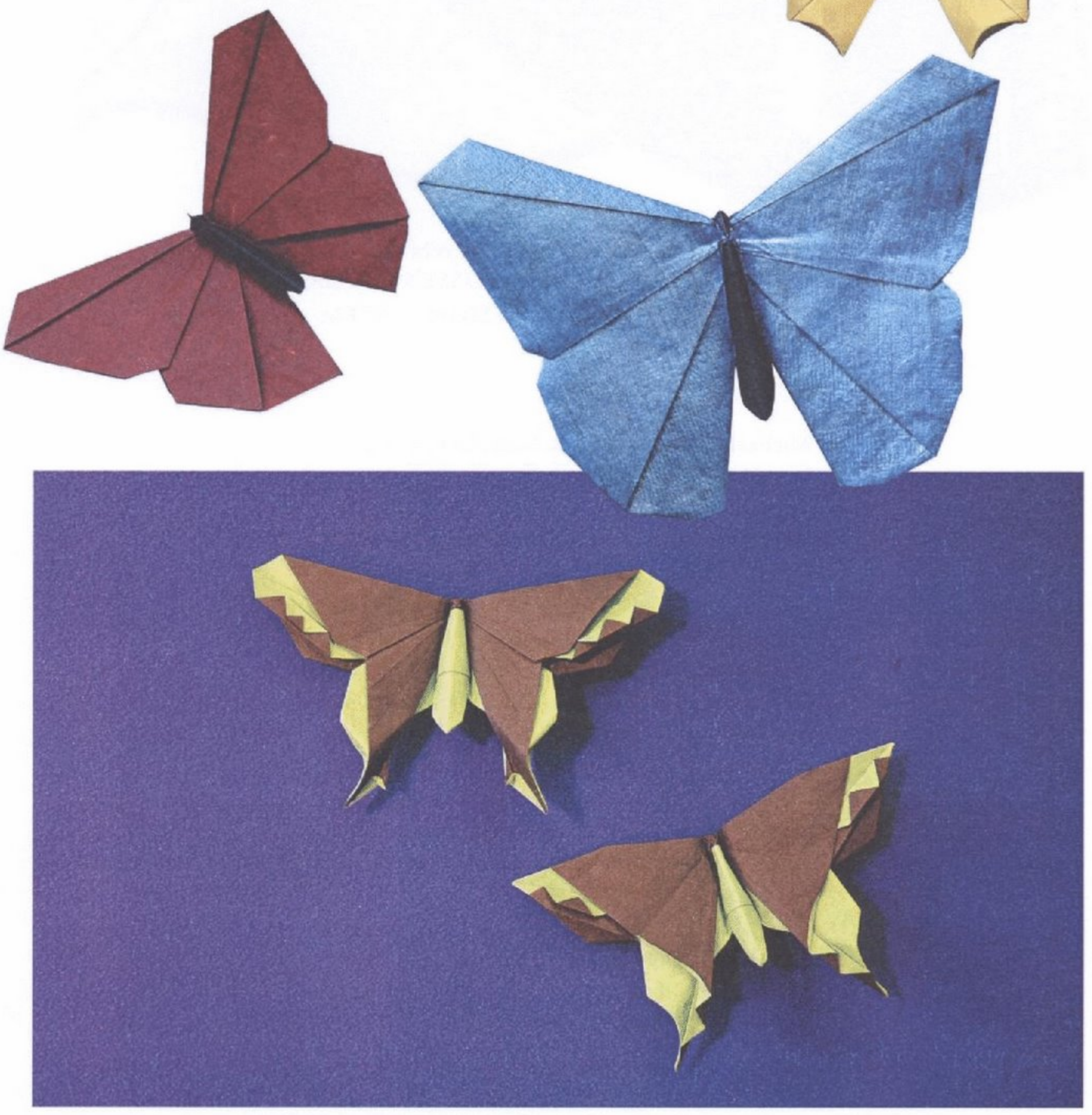
I met Michael in 1988, when he was working as a chef. I remember seeing piles of crumpled paper in his apartment, and was overwhelmed by the beauty and complexity of his origami masterworks that he showed me, each nestled in clouds of tissue paper in a collection of oversized cardboard shoeboxes. I thought immediately that this work was spectacular, and that he was likely pushing the envelope of the art. Soon Michael was working with me as an environmental training consultant, and together we were producing exhibits of his work, videotaping his model folding sequences, and making paper in my garage. Michael made an out-of-the-blue call to Lillian, who invited him to attend a Master Class being given by Akira Yoshizawa in Ossining, New York. (It is there that we also met Joyce Saler, who shared fascinating conversation with us as we rode back to Massachusetts together. It has been my experience that every Yoshizawa-attended event generates considerable follow-up discussion

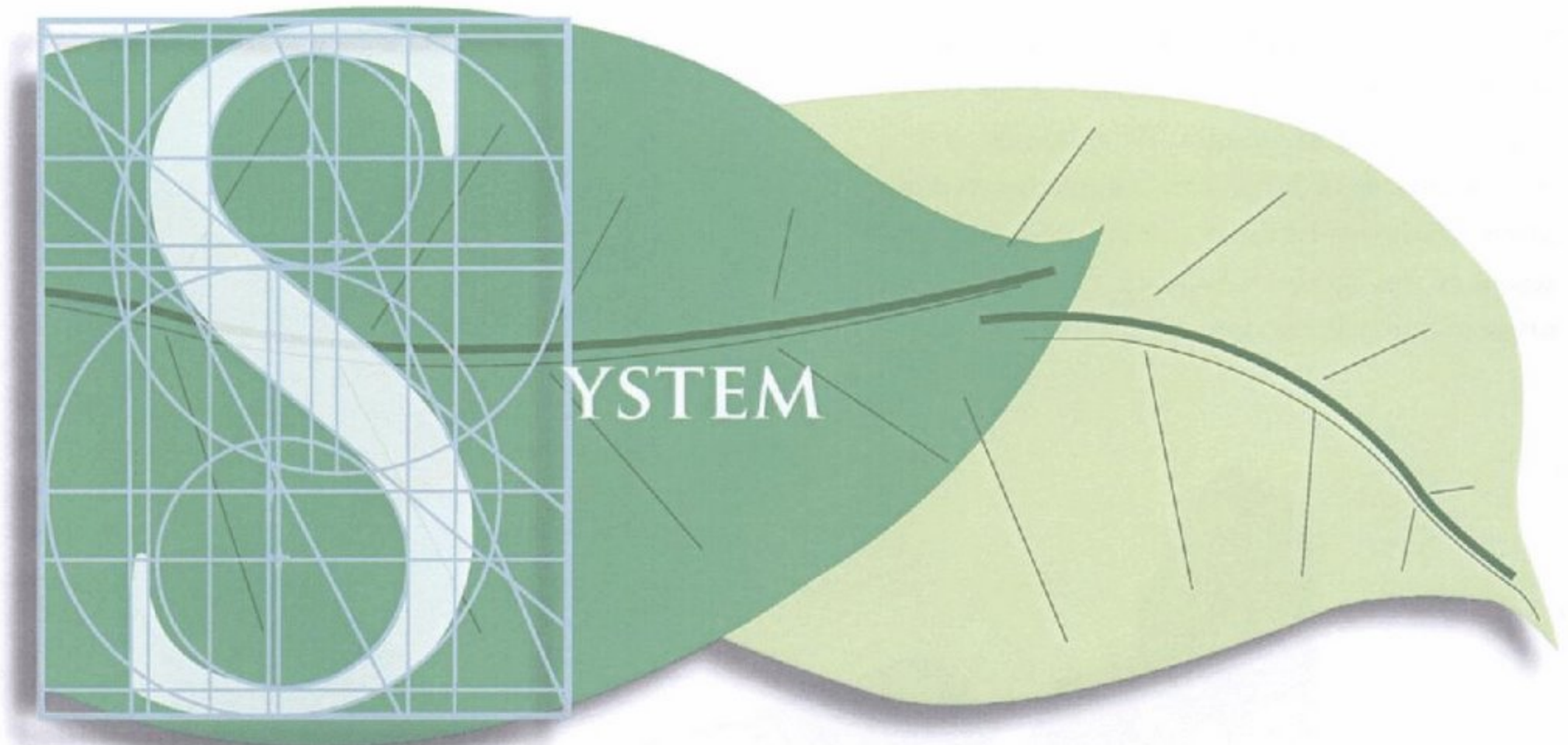
with wonderfully embellished stories, such as his dressing up as Father Christmas in Charlotte, or his chastising a folder for selecting pink foil for his origami ram!)

The 1992 Convention of the Friends of the Origami Center, held at a New York City public school on the Upper East Side, was actually our first origami convention. One of the more colorful displays at the Convention's exhibition area was a set of several variations of framed origami butterflies folded by Russell Cashdollar, a Smithsonian Museum employee. Seeing these butterflies prompted Michael to recall the original model he had folded for Alice, and his resulting exploration of his butterfly base system, so we videotaped his methods, to enable him to draw handouts for a few models.

In 1994 we set up a two-floor show of his origami masterworks at Lasell College's Yamawaki Art & Cultural Center in Newton, Massachusetts which included several butterflies folded from his handmade papers. In October, J. C. Nolan diagrammed many of the butterflies, using our videotape, *Origami Butterflies & Moths* which we published and sold directly. This video not only showed several of his favorite, clever variations that would empower a beginning folder with a versatile design toolbox of techniques to recombine for hundreds of butterfly variations, it gave them close-ups of Michael working the details - shaping, curling, and tweaking the models in a masterful way. Michael became a regular origami instructor at schools, libraries, and quite frequently at the Butterfly Place in Westford, Massachusetts, run by George Leslie and his family. His origami butterflies were also featured in retail store window displays, such as a series for Saks Fifth Avenue in New York City in 1995, and more recently for Hermes.

In 1996, Michael and I opened the Origamidō Studio, where we made handmade paper much more easily and frequently. We mounted and framed dozens of butterflies suitable for weddings, anniversaries, or birthday celebrations, and the scraps of our special handmade papers became origami butterfly earrings and pins.





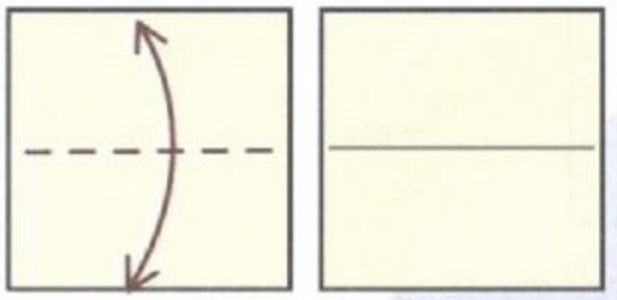
SYSTEM

Discover Your Own Designs Through LaFosse's Origami Butterfly Design System.

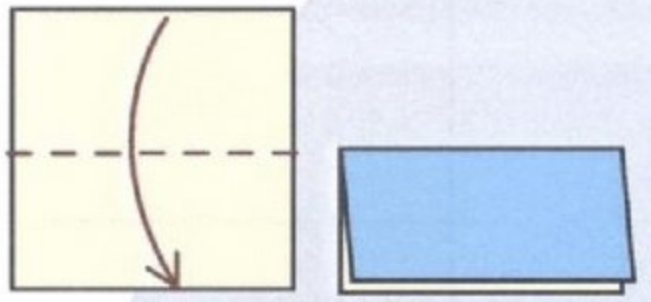
Michael LaFosse's origami butterfly system is based on sequentially squashing rectangular proportions, so there are many possible ways to handle the extra paper available when starting from a square. Some can be temporarily stored in the wingtips, then pulled out to form beautiful color-change patterns. Some can be used to produce a segmented abdomen. Some can be rolled beneath the forewings to accentuate the separation of fore and hindwings. The LaFosse Moth begins with a blintz to provide even more extra paper for later use in exotic treatments. There are an unlimited number of choices that can be combined in different ways throughout the process of folding the rest of the model.

Have fun by experimenting with the variables of this system and open your mind and hands to the endless possibilities of paper folding.

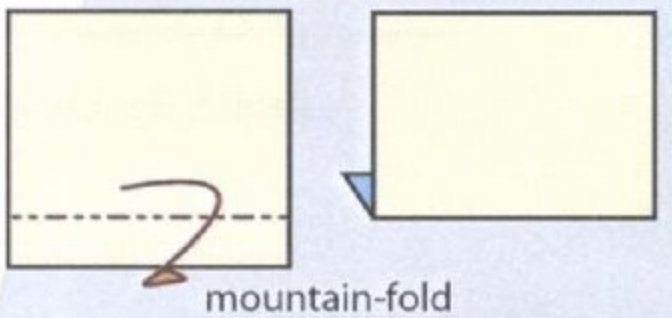
Diagram Key



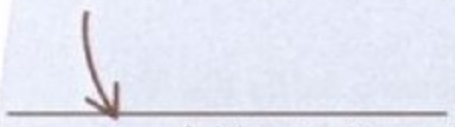
fold and unfold



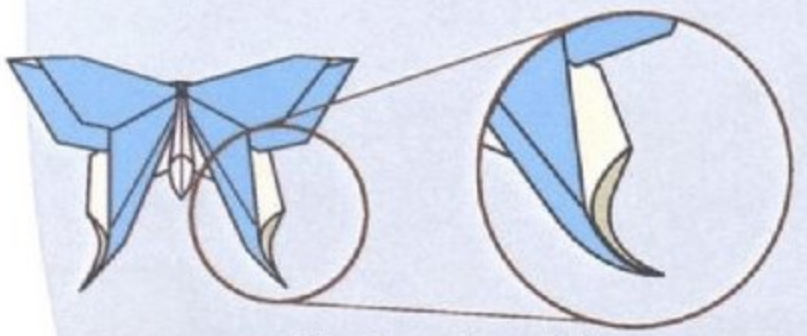
valley-fold



mountain-fold



fold to indicated line



magnification of model

turn model over

rotate model

apply pressure in direction shown: squash fold, inside-reverse fold, etc.

pull-out paper

introductory folds
Refer to page **18** for techniques on how to start your origami butterflies.

squash-folding
Refer to page **22** to go through the procedure of squash folding that is used in almost all of LaFosse's butterflies in his system.

wing-notch technique
Refer to page **27** to perform this technique.

butterfly head style #1
Refer to this technique on page **28**.
It is used in most of LaFosse's butterflies.

head style #2
This variation is shown on page **29**.

abdominal taper
Refer to page **30** for details on this folding technique.

Michael G. LaFosse's

Origami Butterfly Base

I PAPER DIMENSIONS *pg. 13*

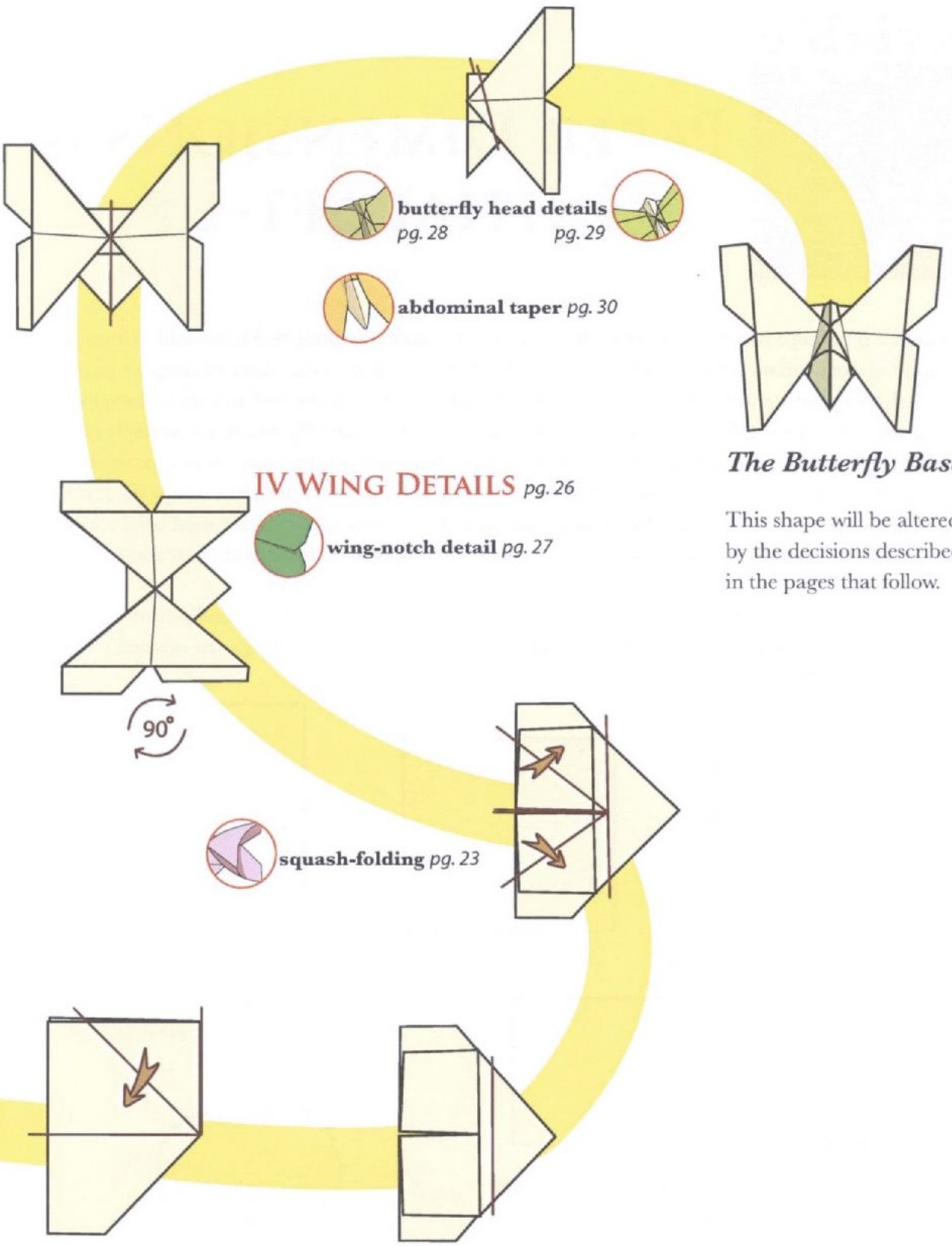
establish Horizon Line

II MARGINS *pg. 16*

introductory folds *pg. 18*

III COLOR CHANGE *pg. 24*

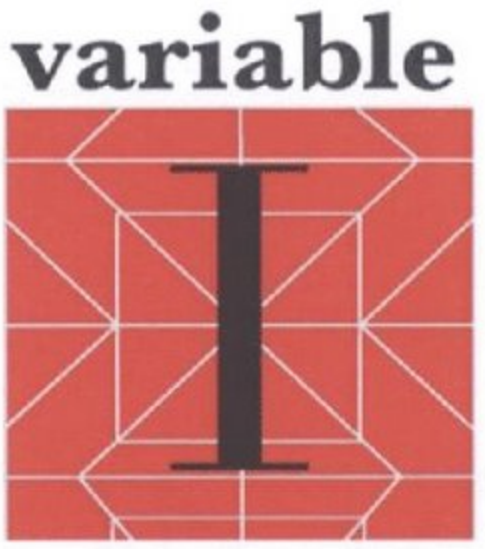
squash-folding *pg. 22*



Abdominal/Head Delineation Fold

The Butterfly Base

This shape will be altered by the decisions described in the pages that follow.

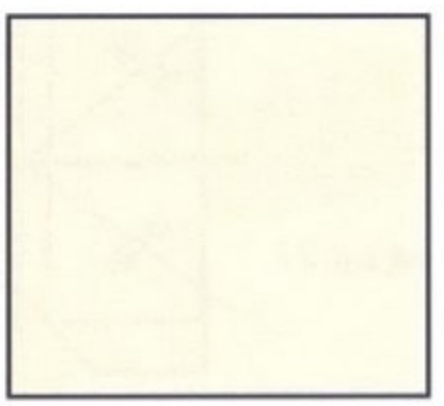


Paper Dimensions & Initial Set-up

Paper choice is perhaps the most important decision. Certain butterflies look best when folded from paper in an optimal size window. For paper of a particular thickness, there will be an optimal range of sizes. Different shapes produce wonderful variants and possibilities for additional detail and color-change effects. Although most origami models today begin with a square, Michael's butterfly system is essentially based on variable rectangle shapes often generated from a square. Since the first few steps usually generate a non-square rectangle, why not start there? Explore. Use what you have-- reycled photo magazines, colorful candy wrappers, even promotional artwork (aka junk mail). Use what you have never tried before. High quality handmade papers will also allow you to turn flaps and pockets inside out without tearing.

This starting variable will effect the subsequent stages, so have fun and enjoy the serendipity of the outcomes. Below are only a few possibilities of paper dimensions to try. The intrigue of origami is found in its endless possibilities, limited only by your mind.

square

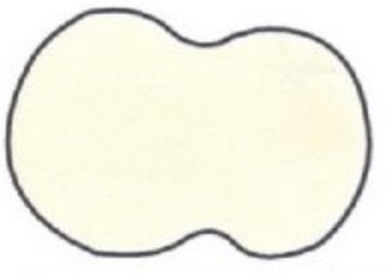


random rectangles

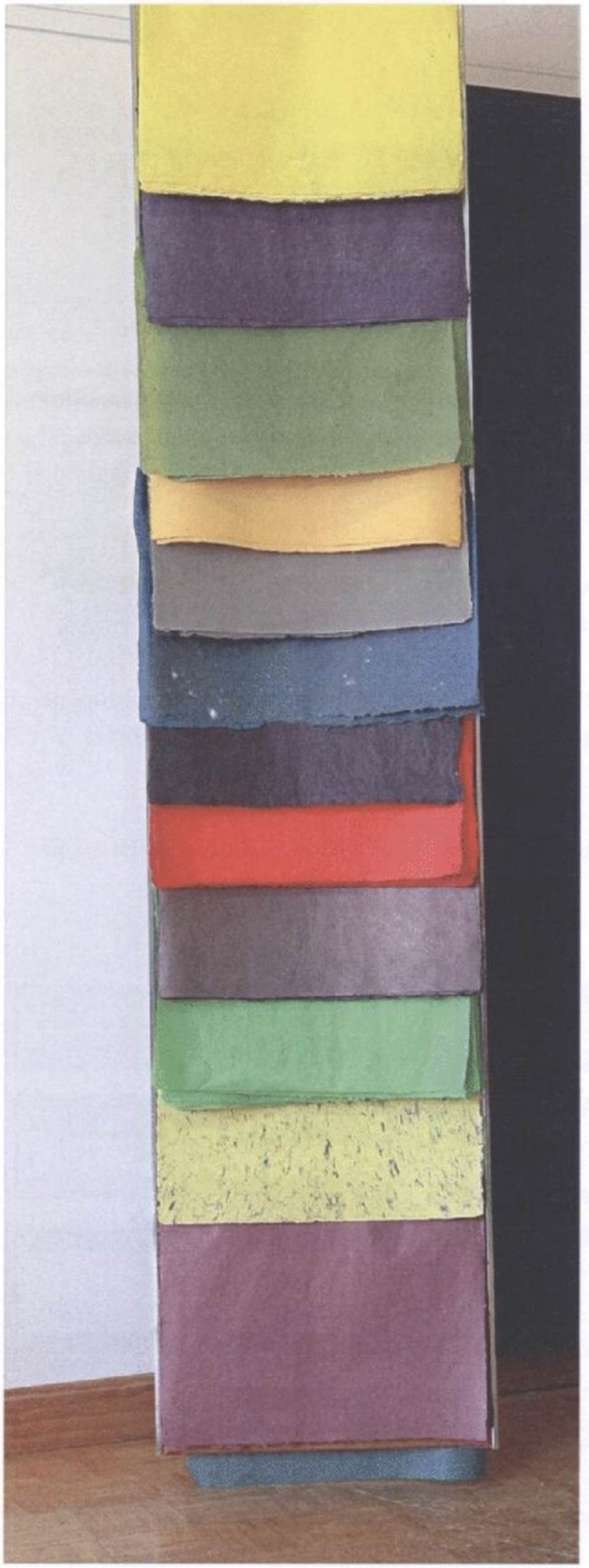
Common office papers, such as 8.5" x 11", A4, A3 size papers, etc.

2 x 1 , other specifically-proportioned rectangles

paper money of any nation

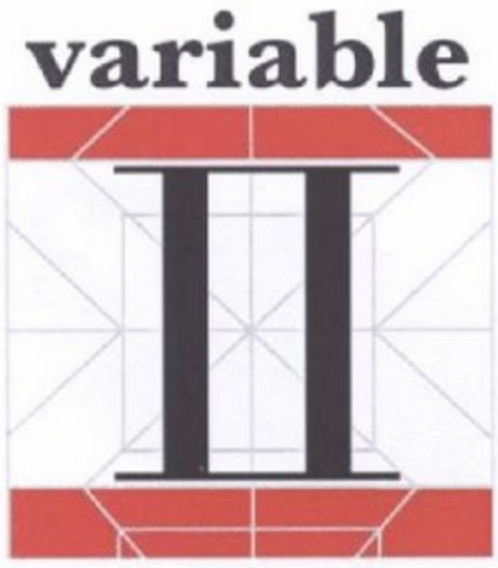


circular, hex, octagonal, or free-form, abstract shapes, etc.



A display rack of hand-made paper at Origamido Studio.

It is true that paper makes all the difference. A variation on Michael's "Alexander Aztec Swallowtail" (above), the "LaFosse Moth" (below), and "The Temko" (bottom) are shown here in handmade duo papers.



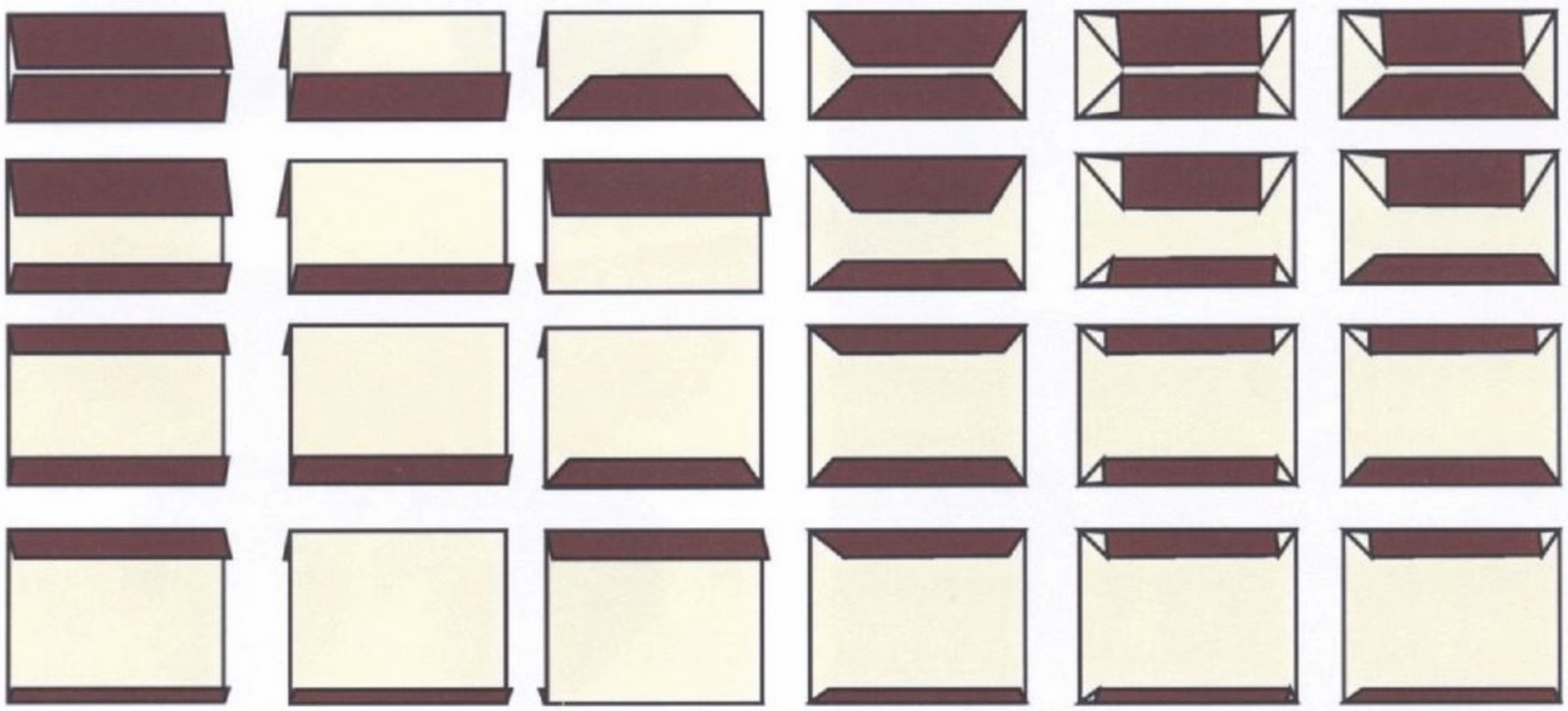
Upper & Lower Margins (Flaps & Corners)

After the preliminary decisions (paper type, size, shape and color) have been made, an astounding amount of variation is derived from just the initial folds. In this butterfly system, the first fold (horizon), usually made by folding the paper in half,* will become the butterfly's "waistline" and a portion of the length of the abdomen.

Subsequent margins, from fold(s) made parallel, and toward the horizon (whether forward or backward) will be called "introductory flaps", and provide the palette for diversity.

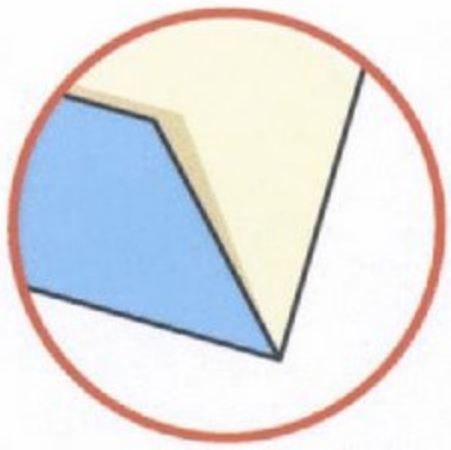
There are many ways to form margins.The edges could meet the horizon, be folded in at any fraction, or be placed either on the front or folded to the back. The butterfly folding method is often made easier by tucking in all or at least some of the corners.

Corner treatments could be either mountain or valley-folds, and there is no reason to limit yourself to 45 degree angles. Endless possibilities? Yes, endless!

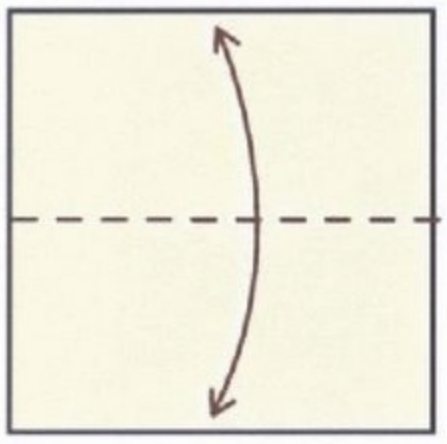


* You do not have to fold the paper in half! Try different ratios and angles.

These early steps determine many possible outcomes! Observe the initial set-up decisions (left), and the resulting bases (right), for many of Michael LaFosse's favorite models.

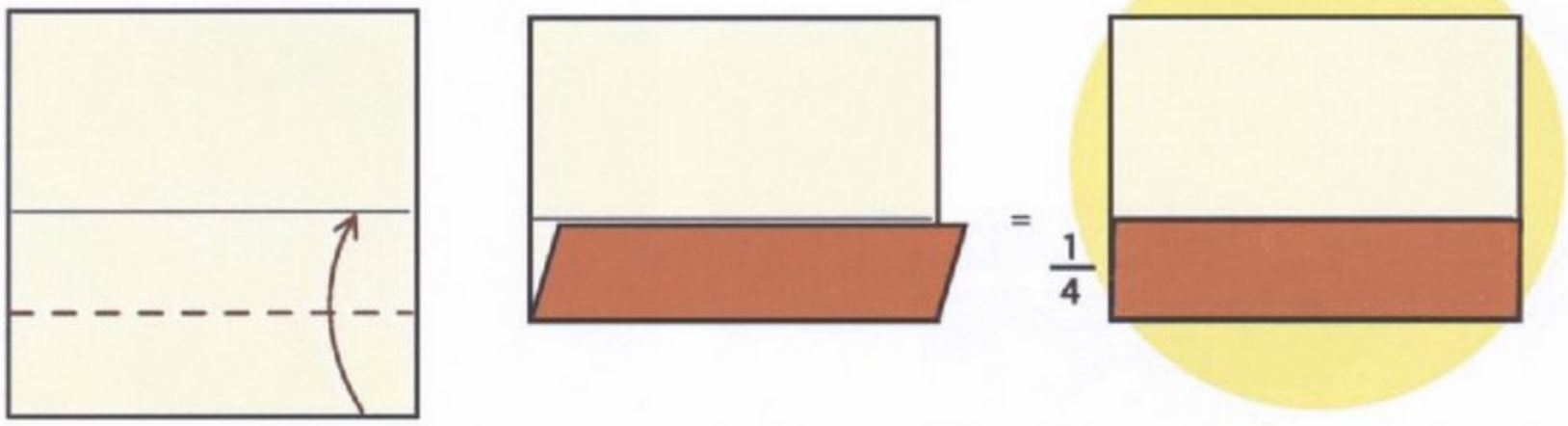


introductory folds

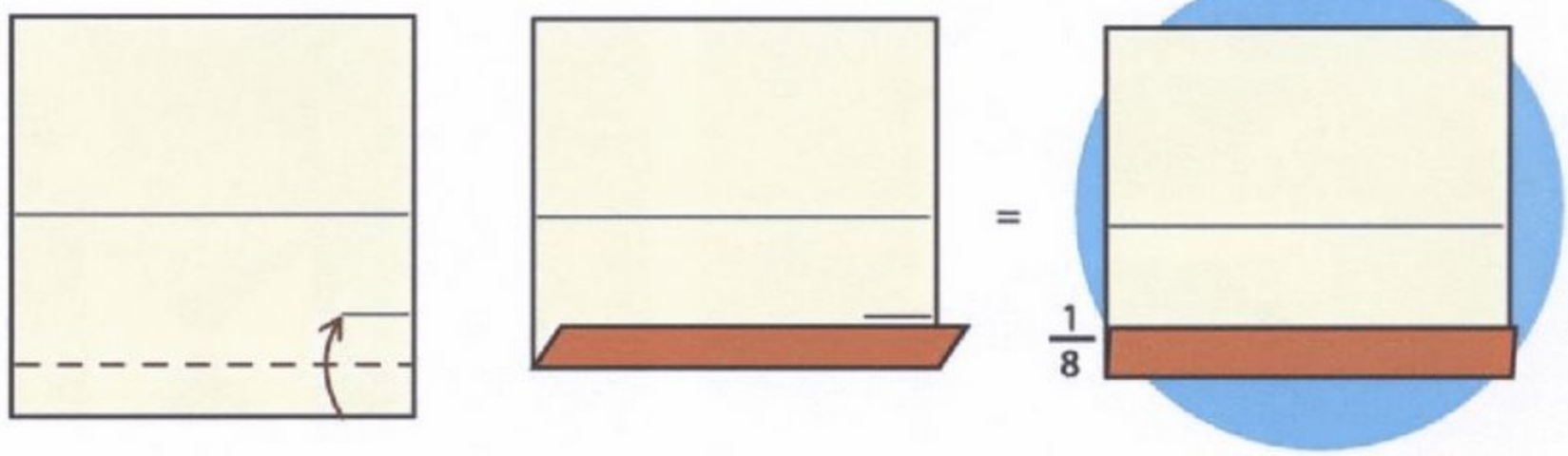


$\frac{1}{2}$

The first fold will almost always be a "book fold". Fold the paper in half with the opposite edges touching, just as you would close a book. This forms the horizon, or waistline, of the butterfly. (When you begin to design your own butterflies, explore what happens when you fold the paper not exactly in half.)

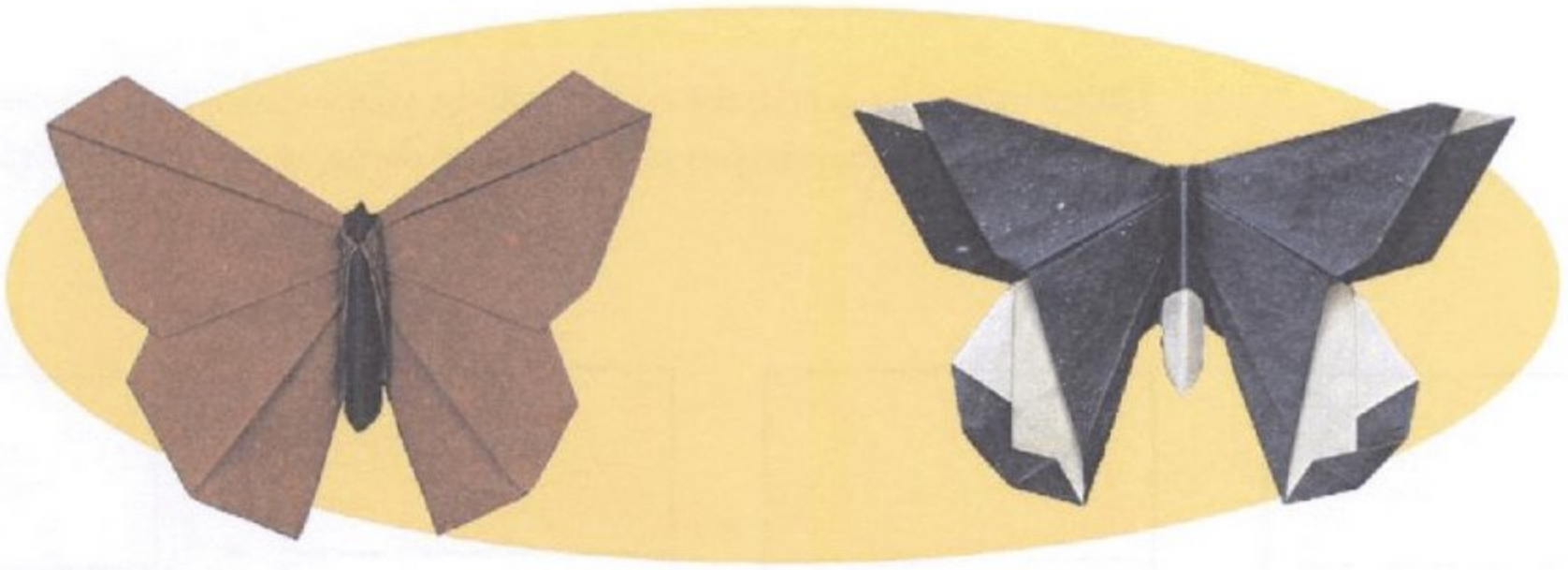


$\frac{1}{4}$

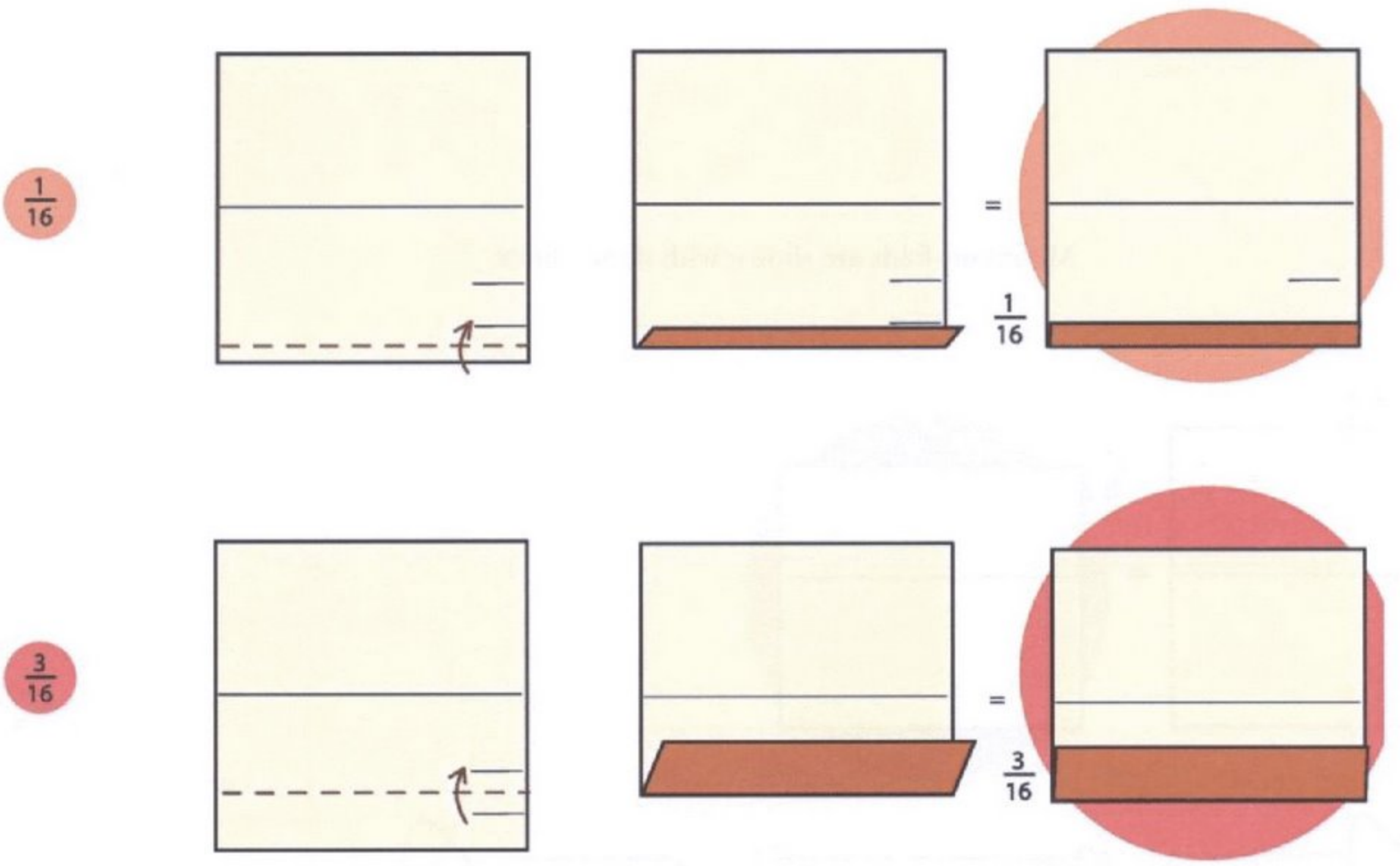


$\frac{1}{8}$

When trying to obtain a fold where you only need a reference point to find the correct measurement, make a "pinch" mark at the edge (or edges), instead of a full crease. Shorter fold-overs often require marking both sides for accurate symmetry.

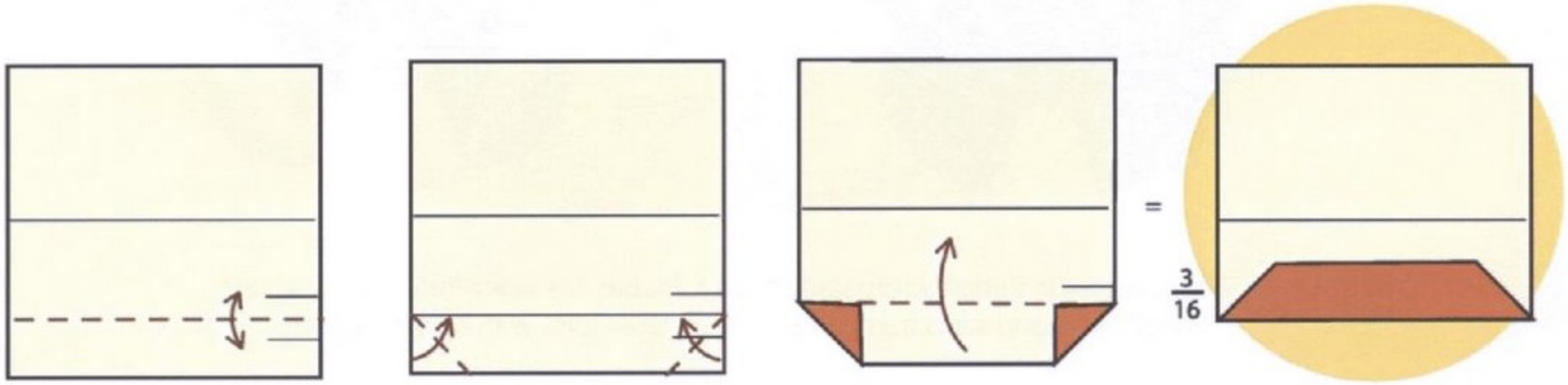


The Origamido Butterfly (left) starts from a double, 1/4 valley-fold (cupboard fold).
"The Lillian" (right) starts from 1/8 and 3/16 valley-folds with beveled edges.

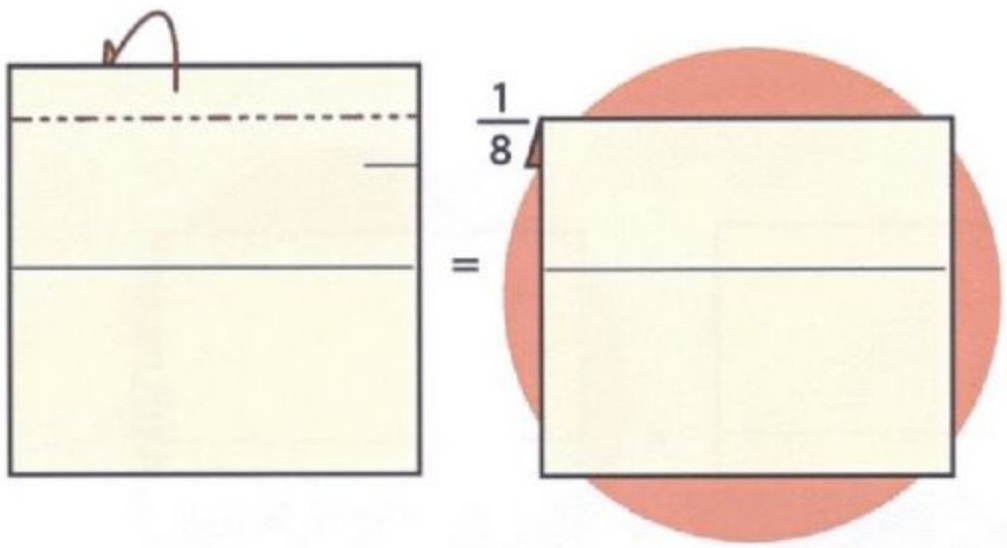


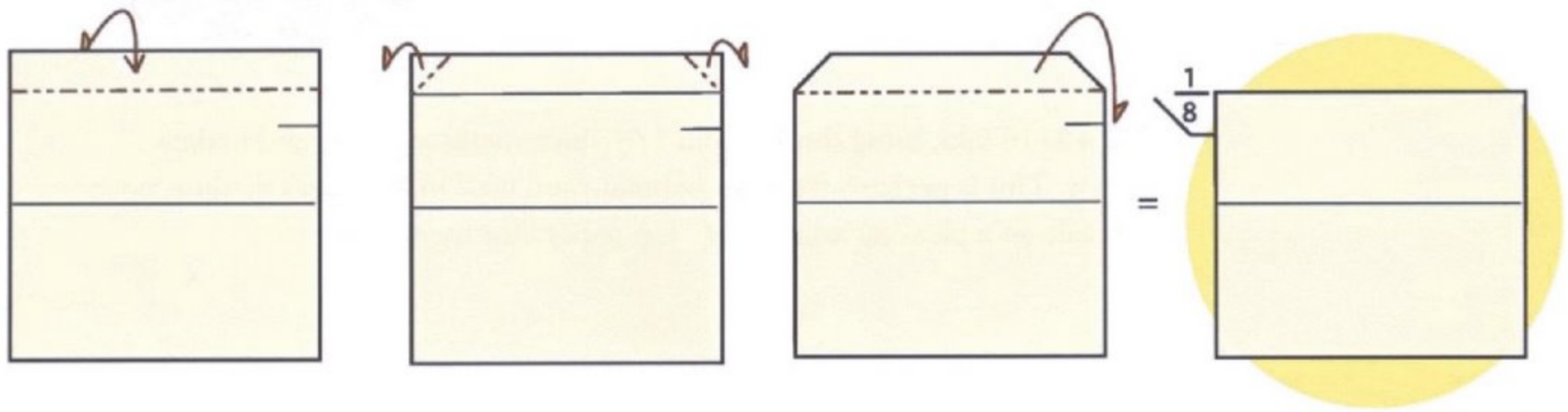
For a 3/16 fold, bring the 1/4 and 1/8 pinch marks together and make a crease. This is perhaps the most popular ratio used in Michael's designs, since it results in a pleasing amount of "top paper" for the wings.

Unless otherwise noted, the corners will be valley-folded to the crease, creating 45-degree angle bevels (you may wish to experiment with other angles).



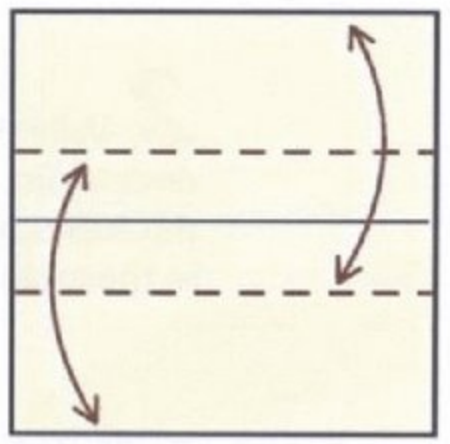
Mountain-folds are shown with dotted lines:



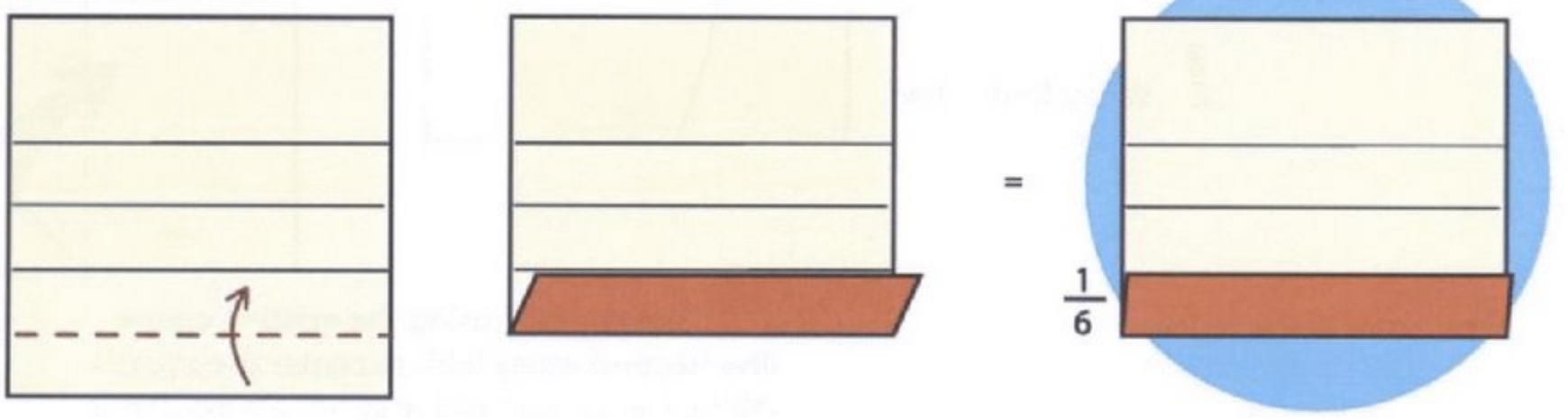


When you experiment with the LaFosse origami butterfly design system, try some initial folds based on proportions other than one half.

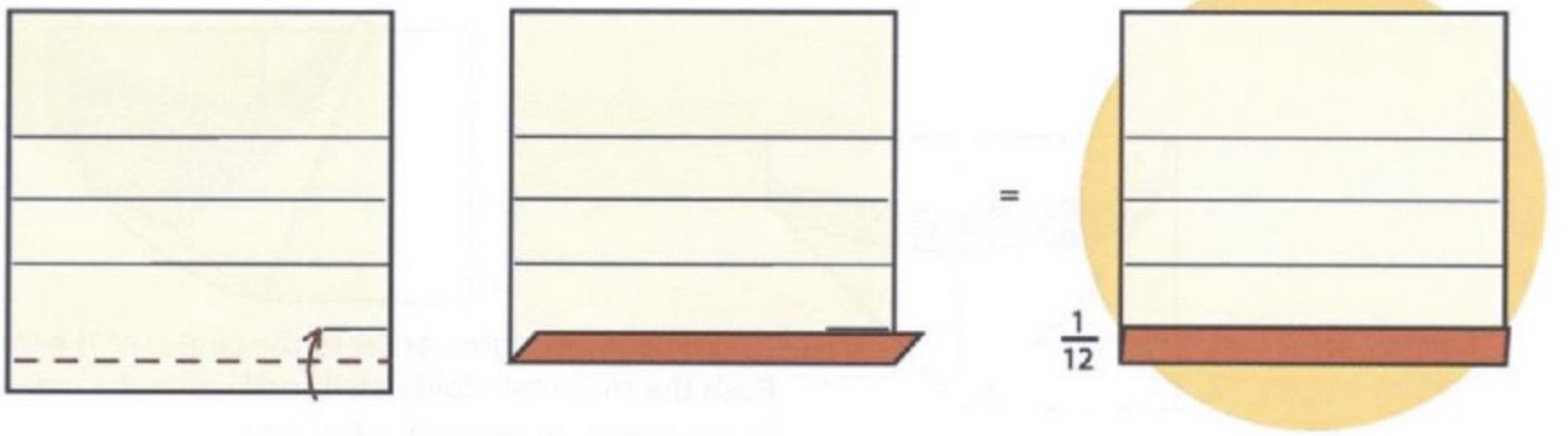
$\frac{1}{3}$

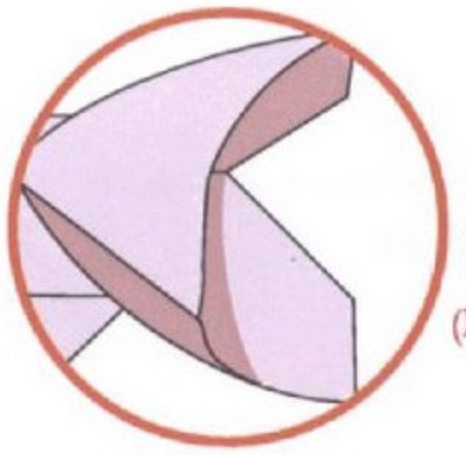


$\frac{1}{6}$



$\frac{1}{12}$

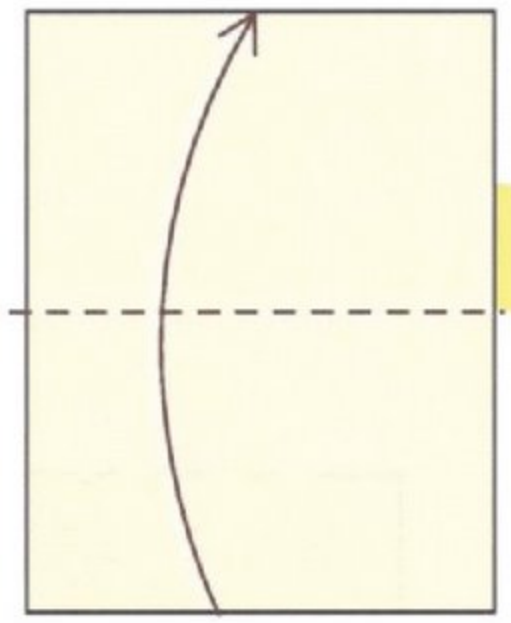




squash-folding

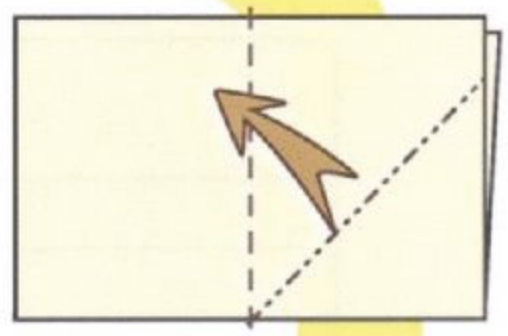
(Michael G. LaFosse's original 8.5" x 11" origami butterfly design.)

This series of squash folds is used in a majority of Michael LaFosse's designs within his butterfly system, so take the time to master and memorize this series of folds carefully.

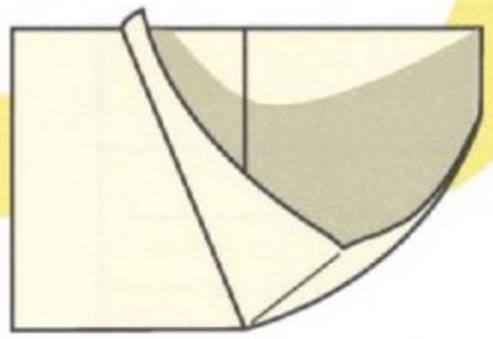


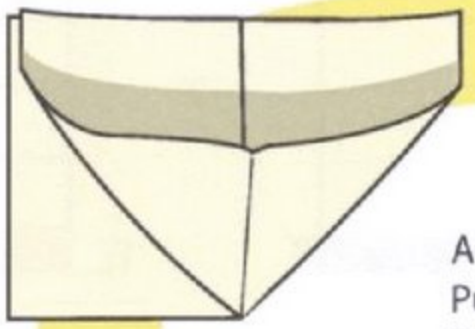
1 Valley-fold in half.

2 Valley-fold in half once again, then stand this half up, perpendicular to the table.

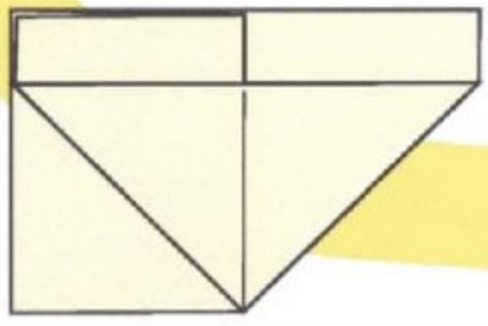


3 Squash-fold, using the existing crease line (second valley fold) to center the squash. (Note: This second line may not always divide the paper exactly in half.

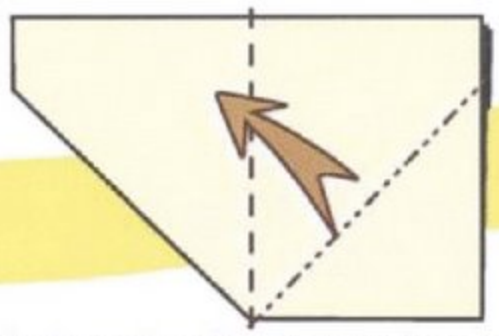




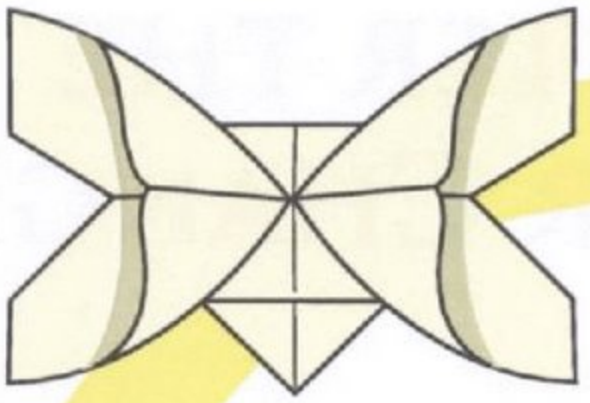
Align the lower right corner to the center of the top. Push the mountain fold flat, directly over the crease line made in the second valley fold.

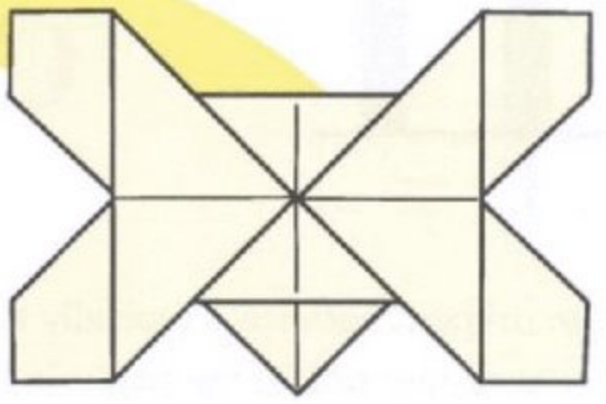


4 Turn over.

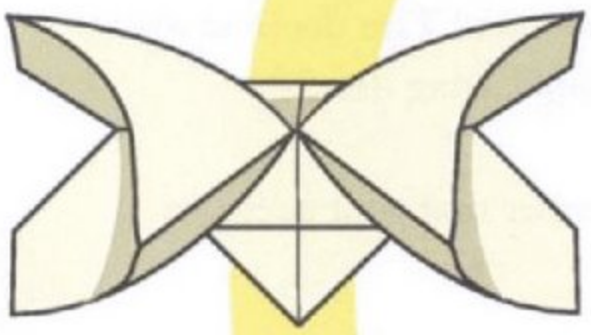


5 Squash the other flap using the same crease to center the resulting triangle, as before.

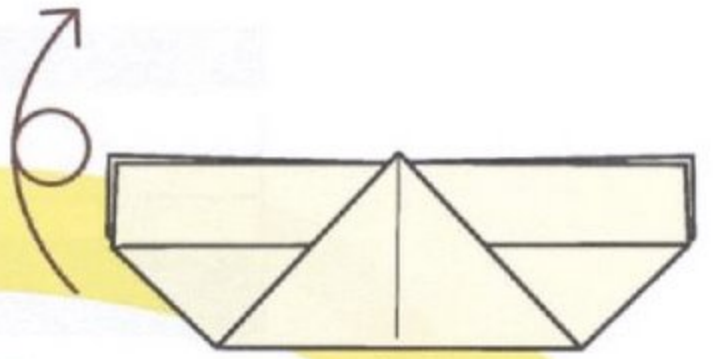




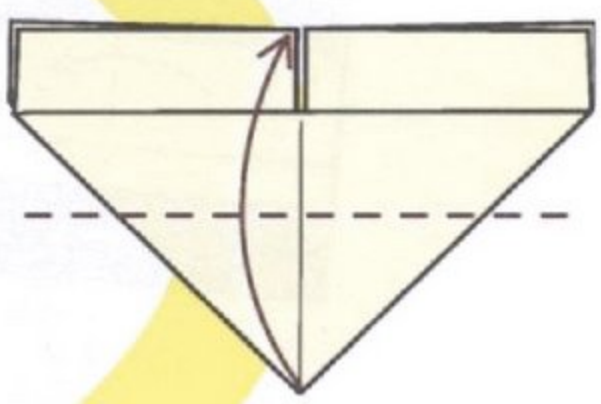
9 Finshed base for LaFosse's original 8 1/2" x 11" origami butterfly.

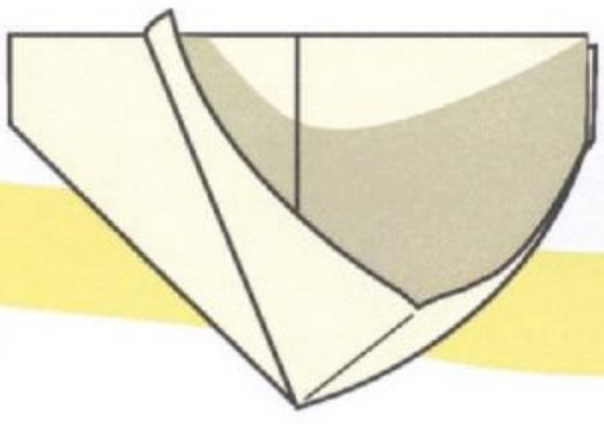


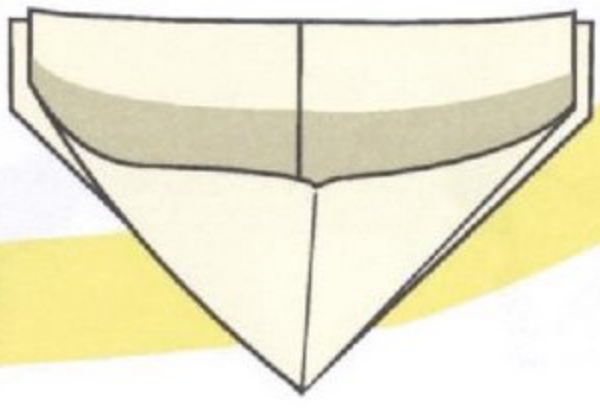
8 Open by squashing both wings using the new crease to center the wing flaps.



7 Turn over so the triangular corner is flat on the table.

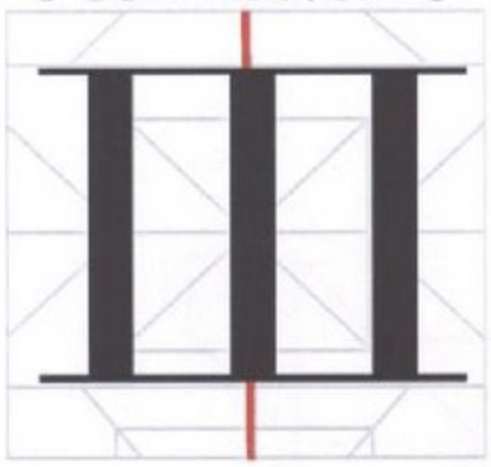






6 Fold corner to end of gap. Arrange corner 90 degrees (perpendicular to the flaps).

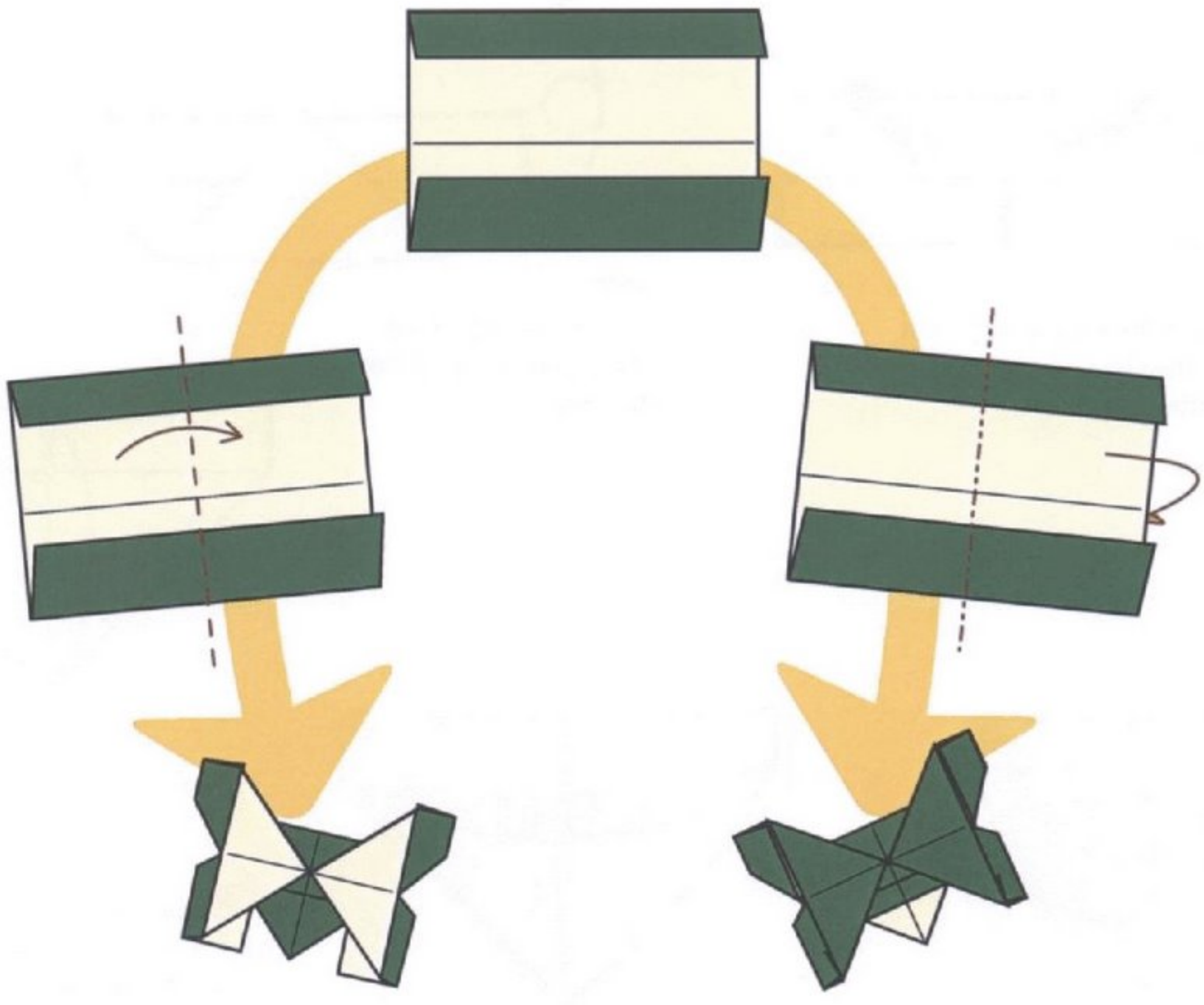
variable

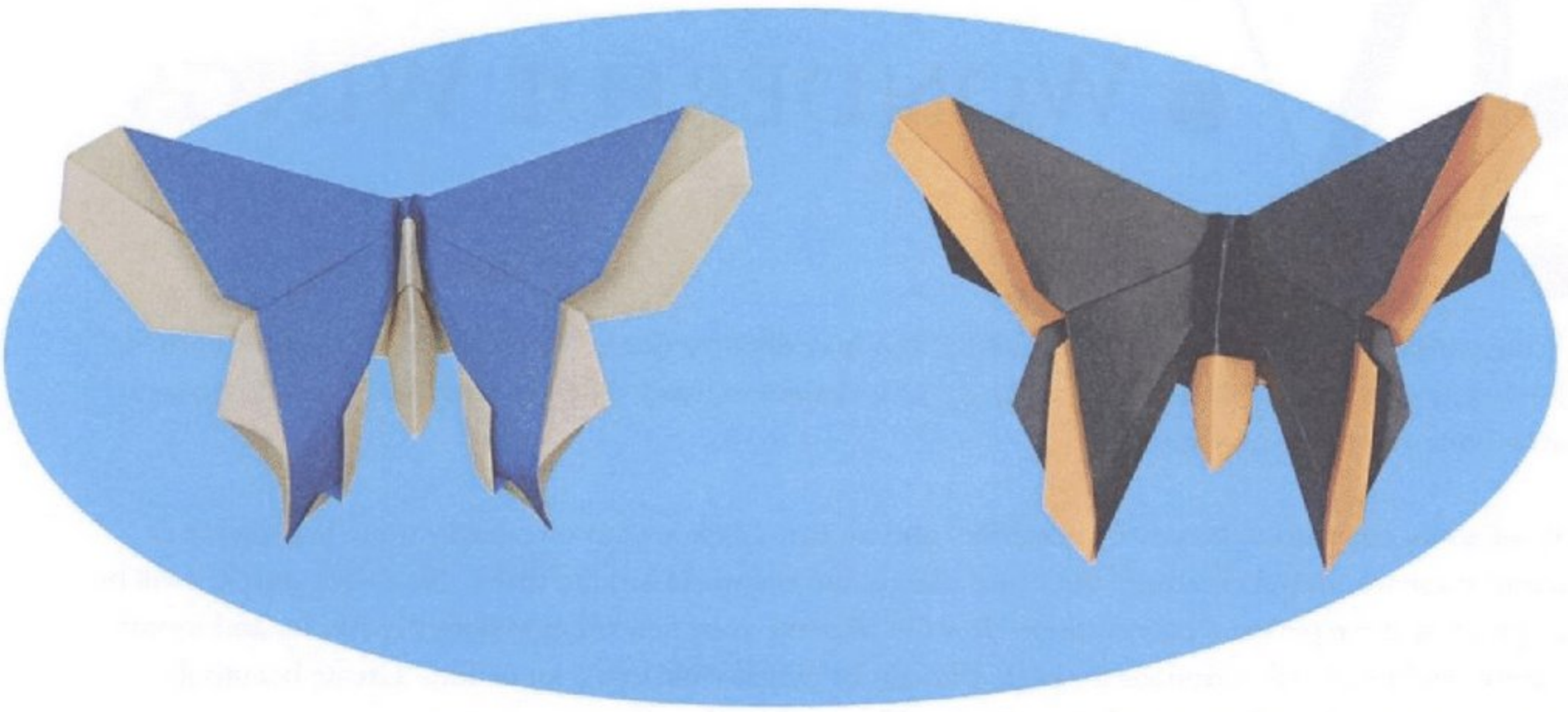


Master the Color Change

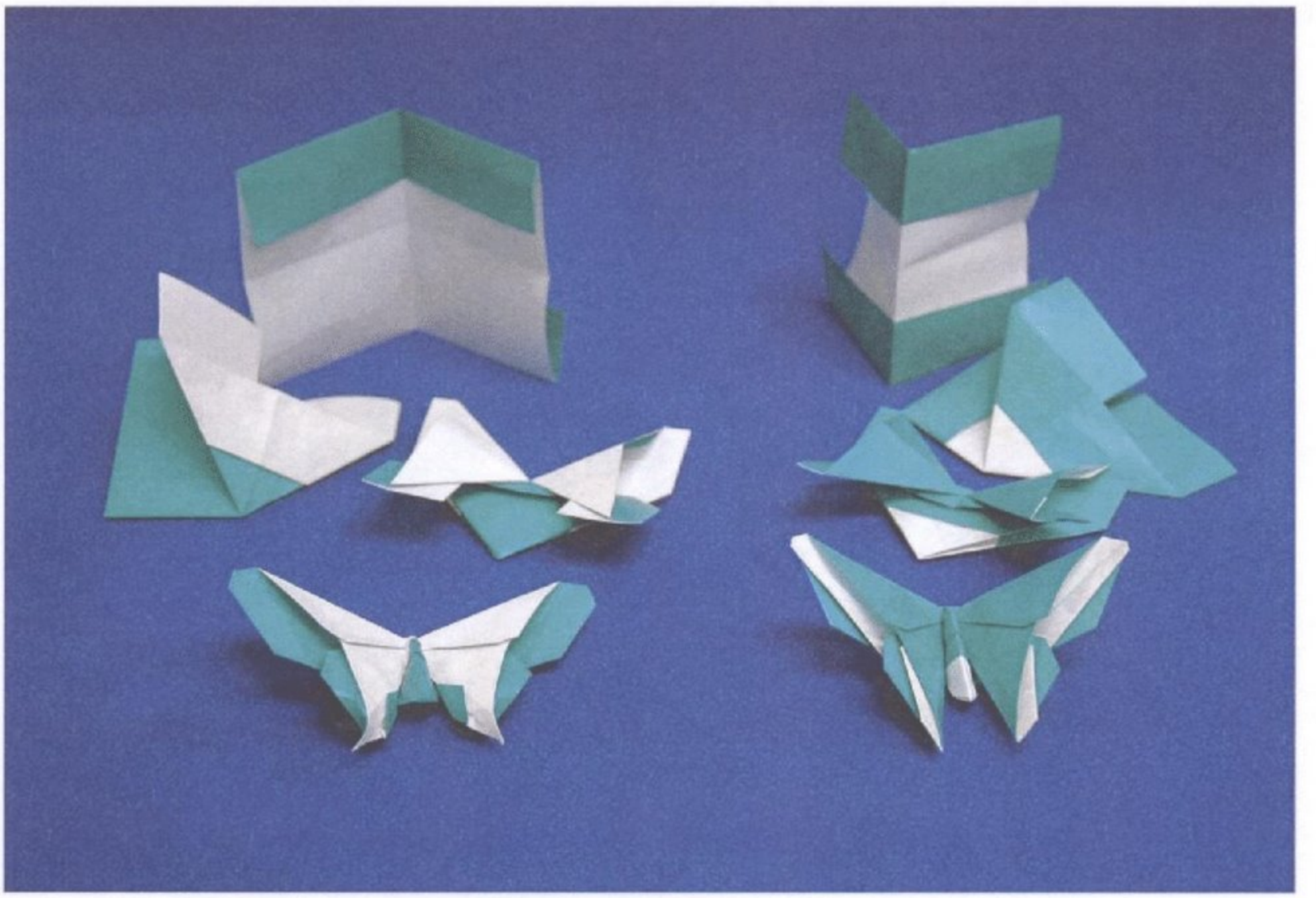
The LaFosse origami butterflies typically have two layers showing on the wings: "top paper" and "tip paper". If you choose to fold the paper in half as a valley-fold, the "top paper" will be same color as is on the outside of the folded packet. This system displays duo-paper color contrasts and patterns beautifully, so take charge of what shows, not only on the wings, but on the head and abdomen! This decision allows the flaps to be manipulated for pattern and design (as shown in our next variable, wing details).

Below is only one example showing the effects of this single decision. (Remember that your previous choices also affect the outcome.)





The decision in this step is partly demonstrated in the differences between "The Nolan" (left) and "The Baxter" (right), for example.



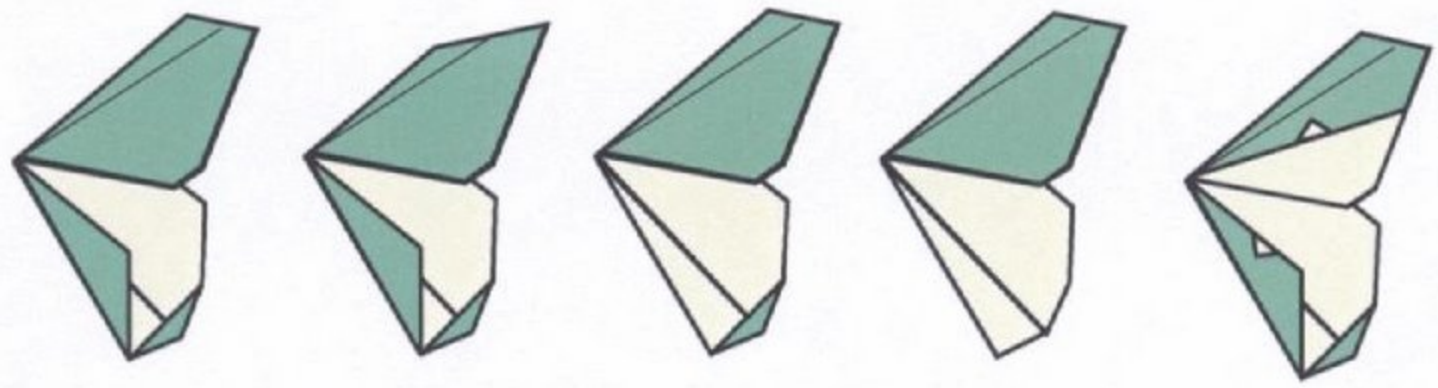
variable

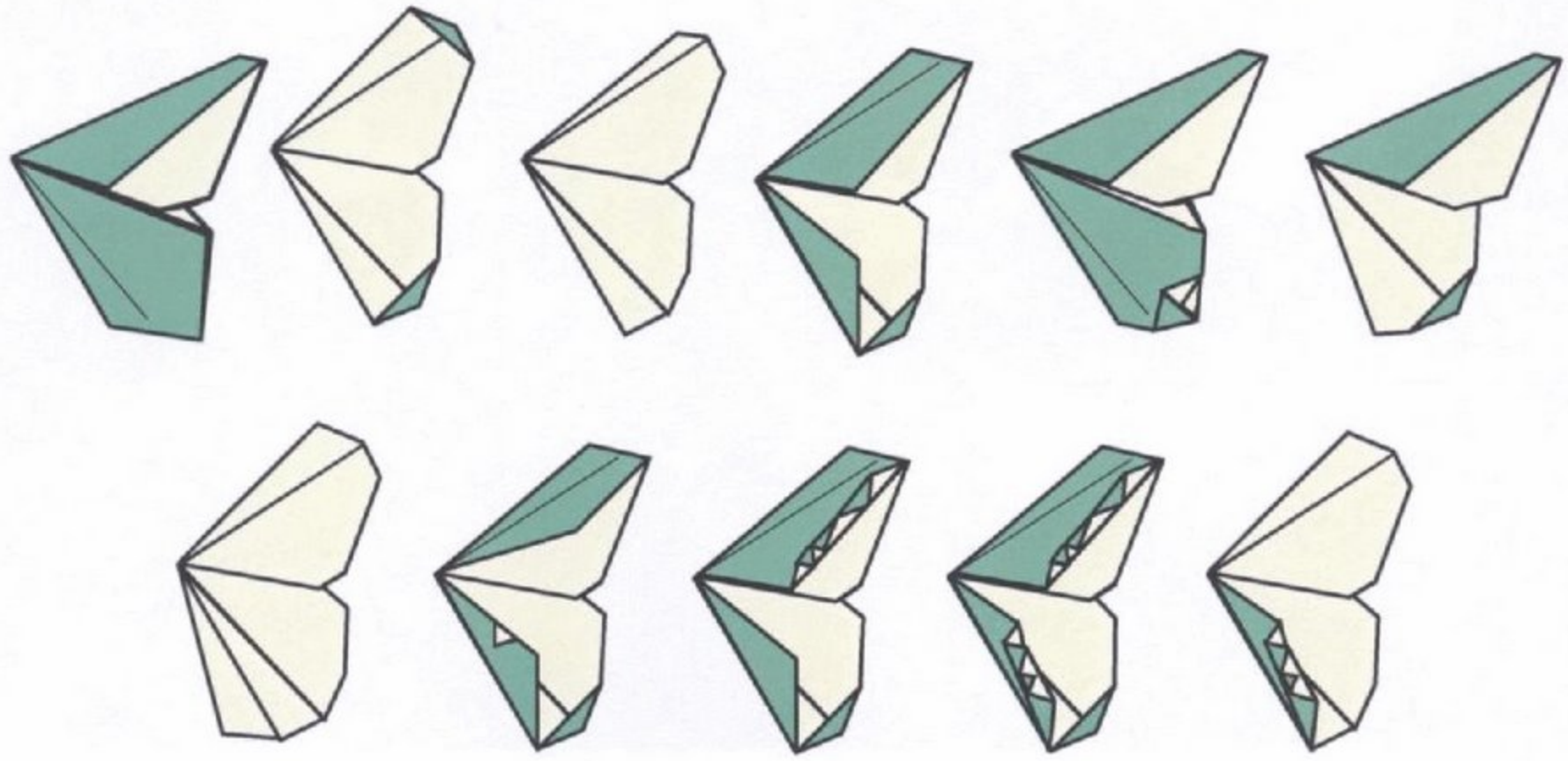
IV WONDERFUL WINGS

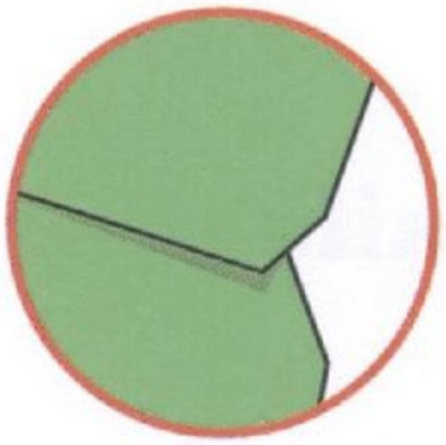
Wing patterns and details make the butterfly. You may discover dozens of possibilities as you explore the landscape of a square sheet of paper. Apply your designs to many different types and sizes of papers for an infinite variety of new species.

Read about the natural history of butterflies and moths. Look in your own backyard to learn more about these wonderful creatures, their host plants, and the world around them. No doubt your art will be inspired by these personal observations. It is fun to name your new origami butterfly species and invent habitat and locality descriptions for each; this can be educational and a lot of fun. Create beautiful displays of your best designs and share them with your friends.

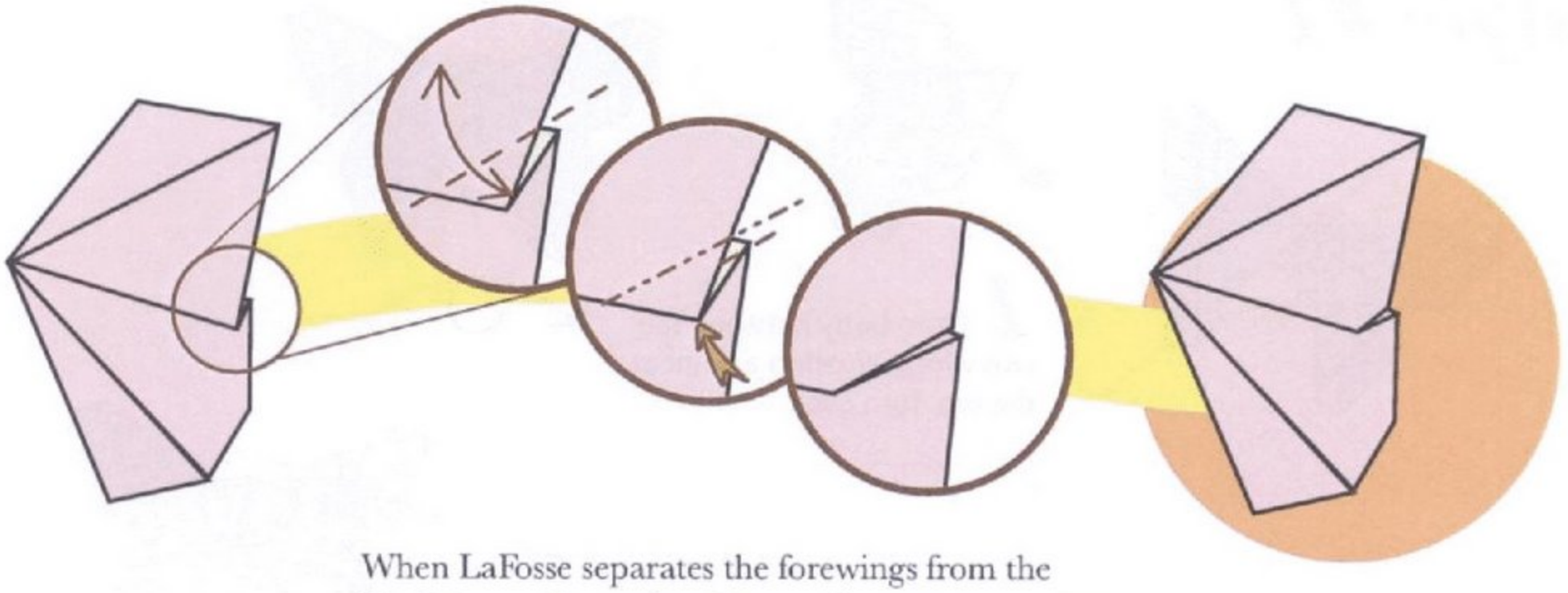
The following examples illustrate a few wing variants using the Origamido Butterfly. Many of Michael's favorites, such as "The V'Ann", can also be found below.



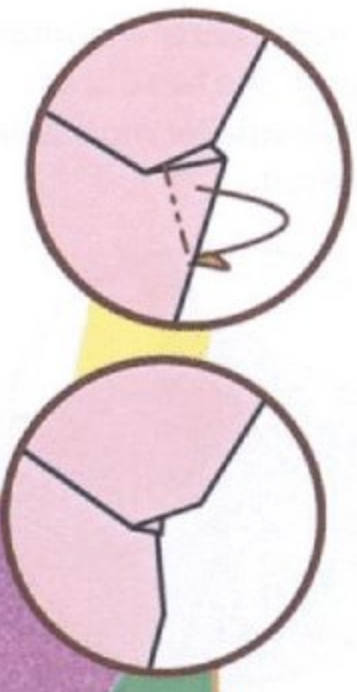


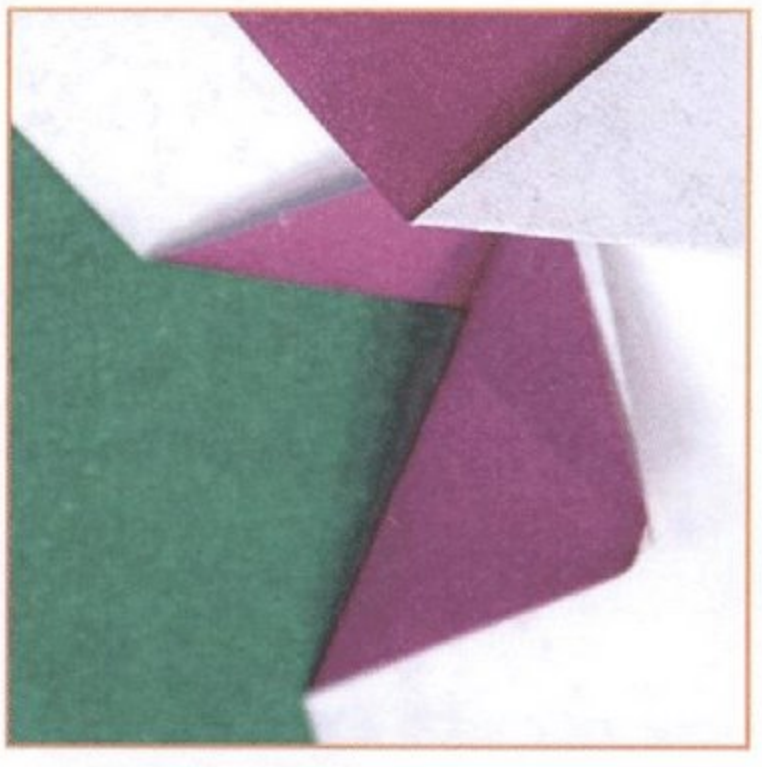


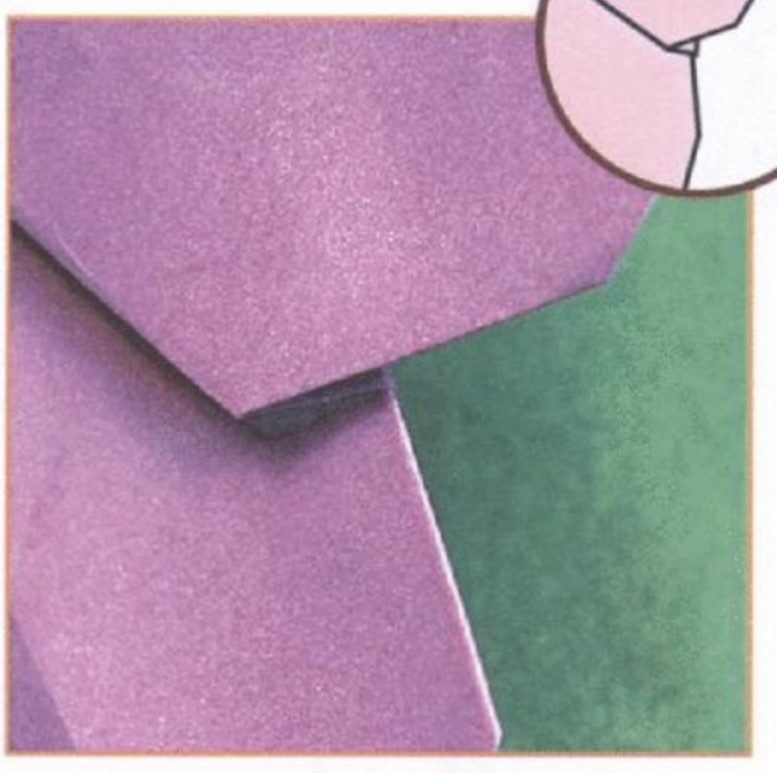
wing-notch detail



When LaFosse separates the forewings from the hindwings with a crimp, he usually accentuates the separation with an inside reverse-fold. This resulting notch allows additional wing separation and wing detail possibilities using the newly formed layers. Since it is quite small, the wing notch fold is shown up-close in detail.After the notch is made, further indentation is possible, as shown to the right and below.

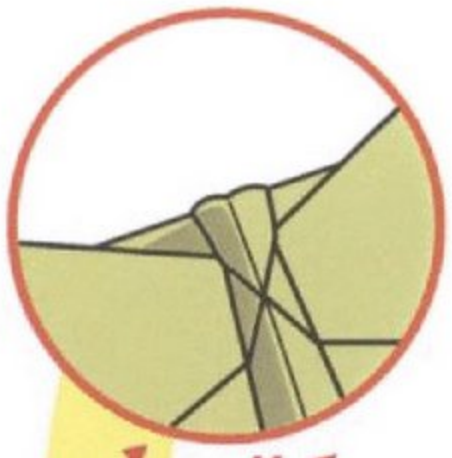




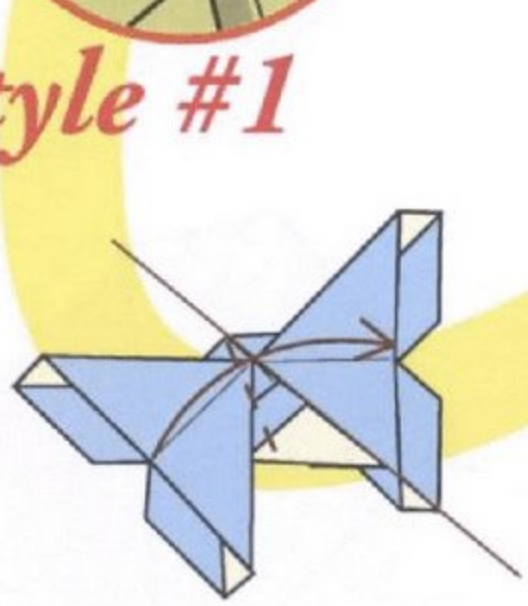


Close-up of the finished wing-notch detail on the back (left) and front (right).
This is one possible treatment of this detail, which is found in many of LaFosse's designs.

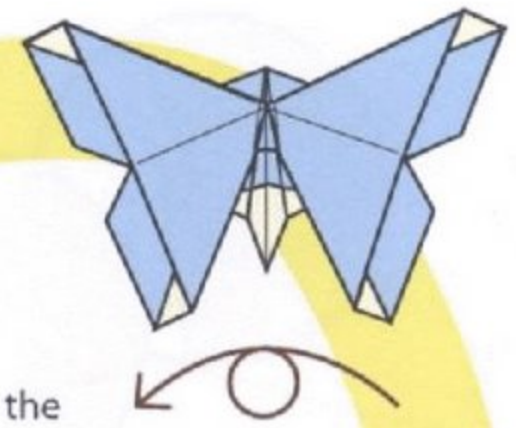
butterfly head details

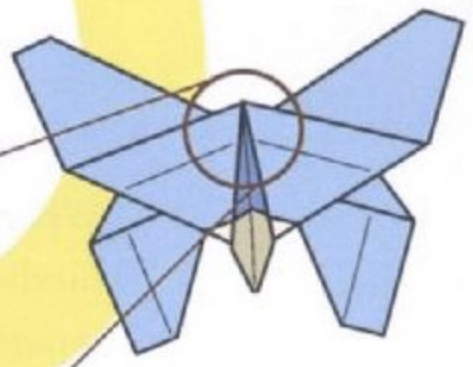


style #1

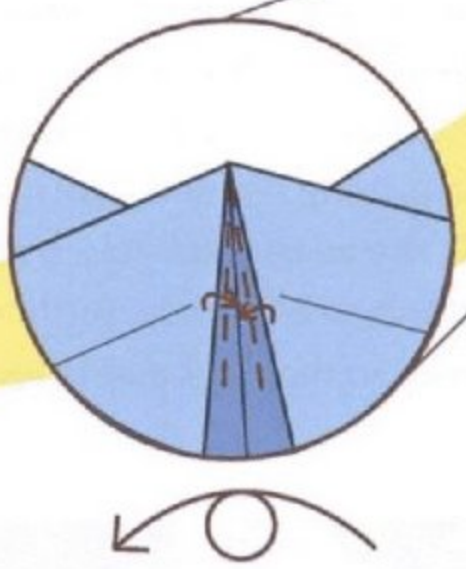


1 Form body between the two wings, creating a point at the top. Turn over.

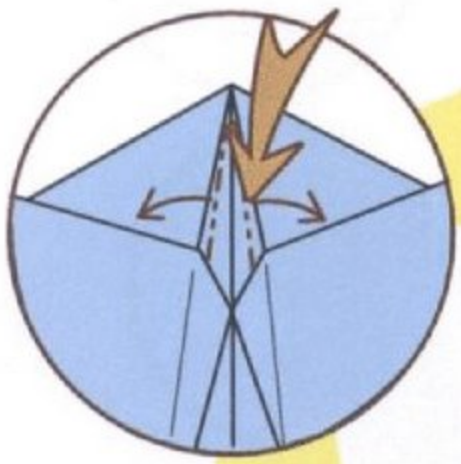


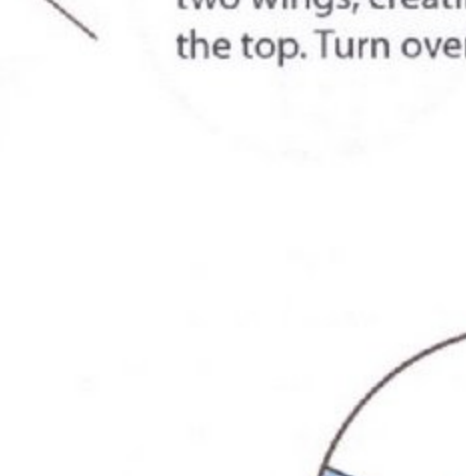


2 Make a slight pinch on the underside, bringing mountain-folded edges to the center, just in the head area. Turn over.

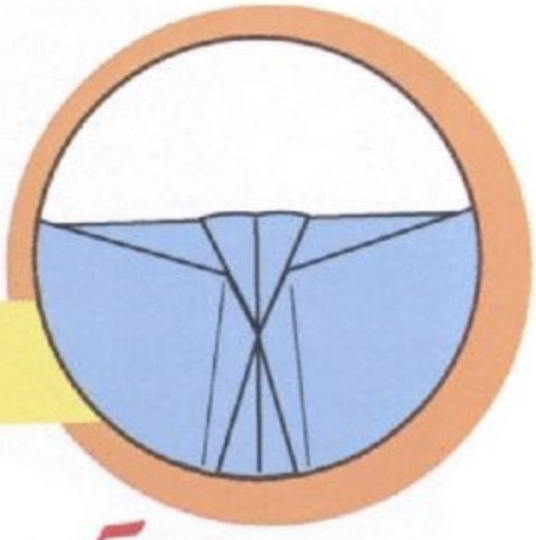


3 Press center mountain to squash the head area flat. Two smaller mountain folds result.

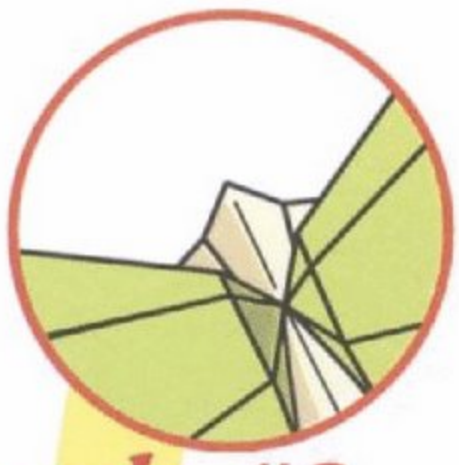




4 Fold flattened point to the underside.

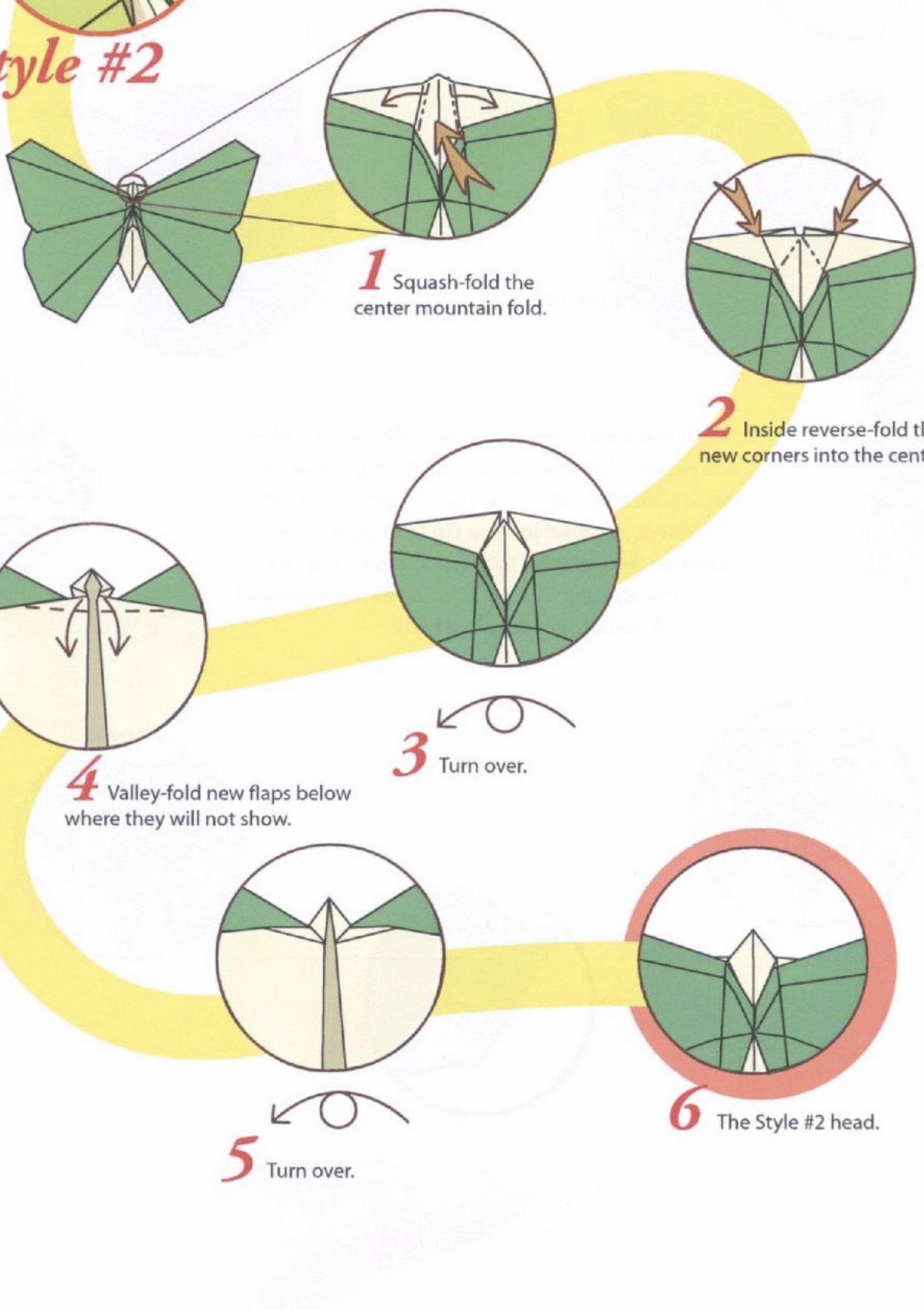


5 The Style #1 head.



Use the following "Style #2" head when the top of the body does not come to a sharp, single point.

style #2



1 Squash-fold the center mountain fold.

2 Inside reverse-fold the new corners into the center.

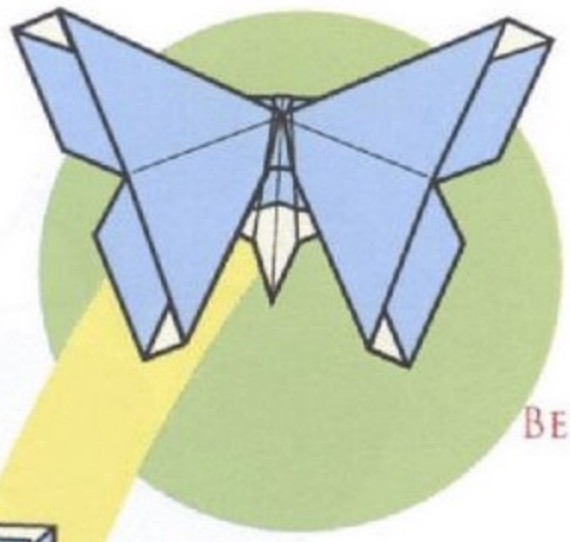
3 Turn over.

4 Valley-fold new flaps below where they will not show.

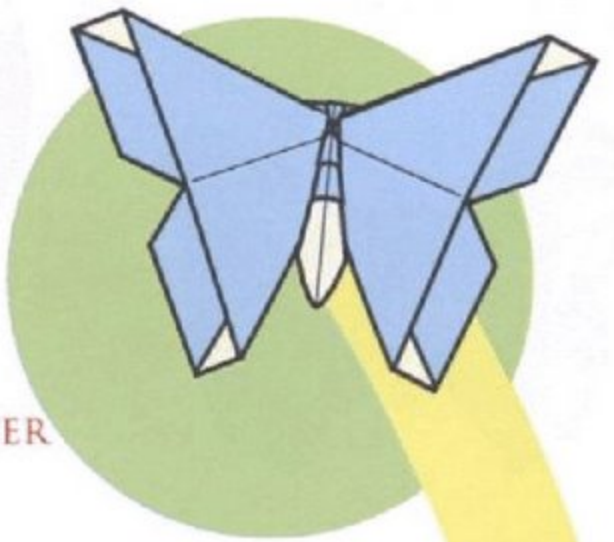
5 Turn over.

6 The Style #2 head.

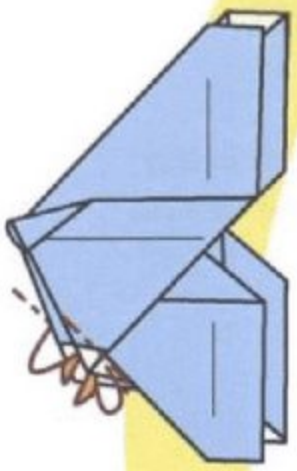
abdominal taper



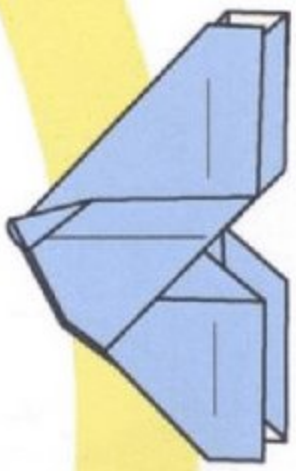
BEFORE

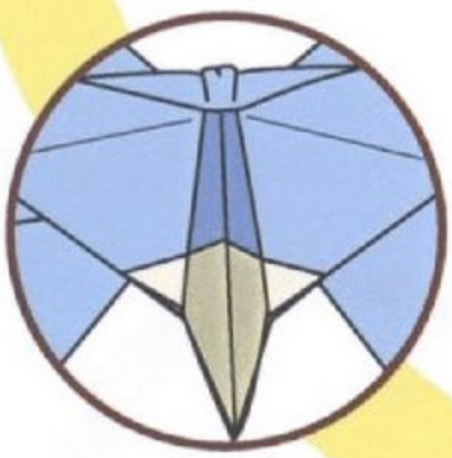


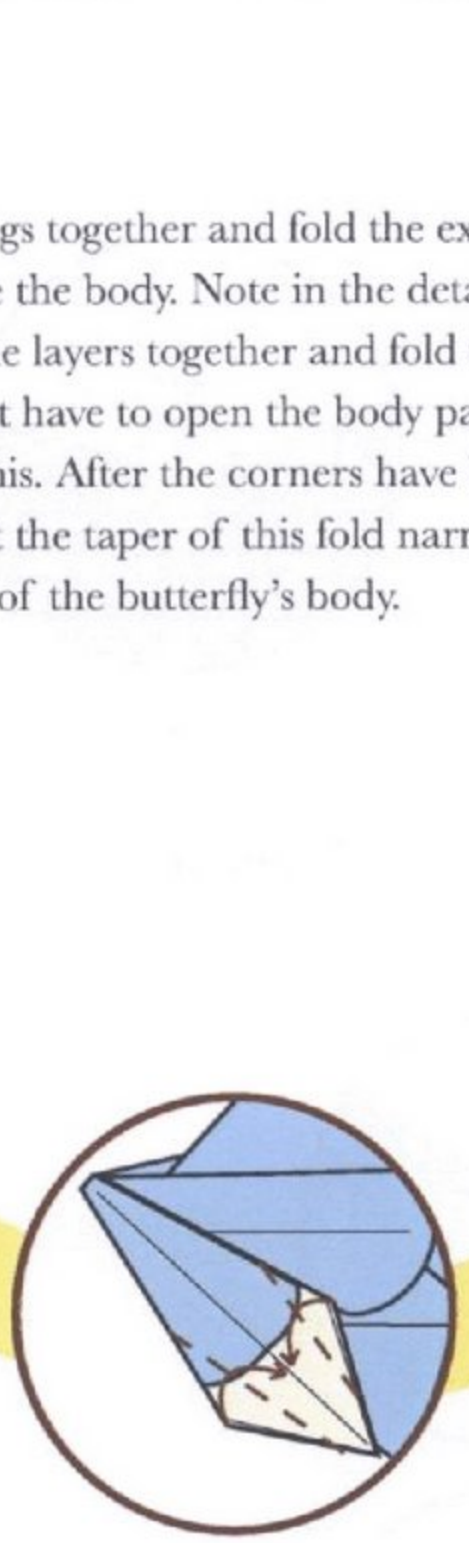
AFTER

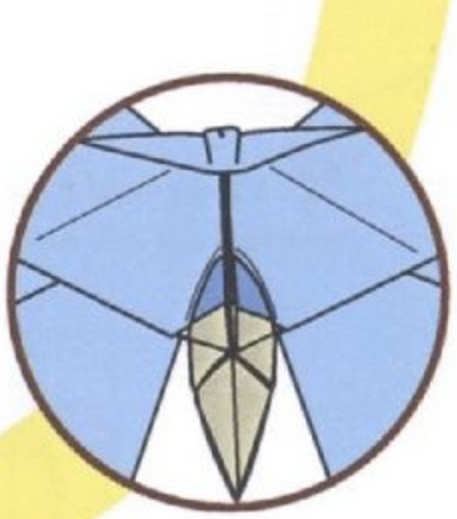


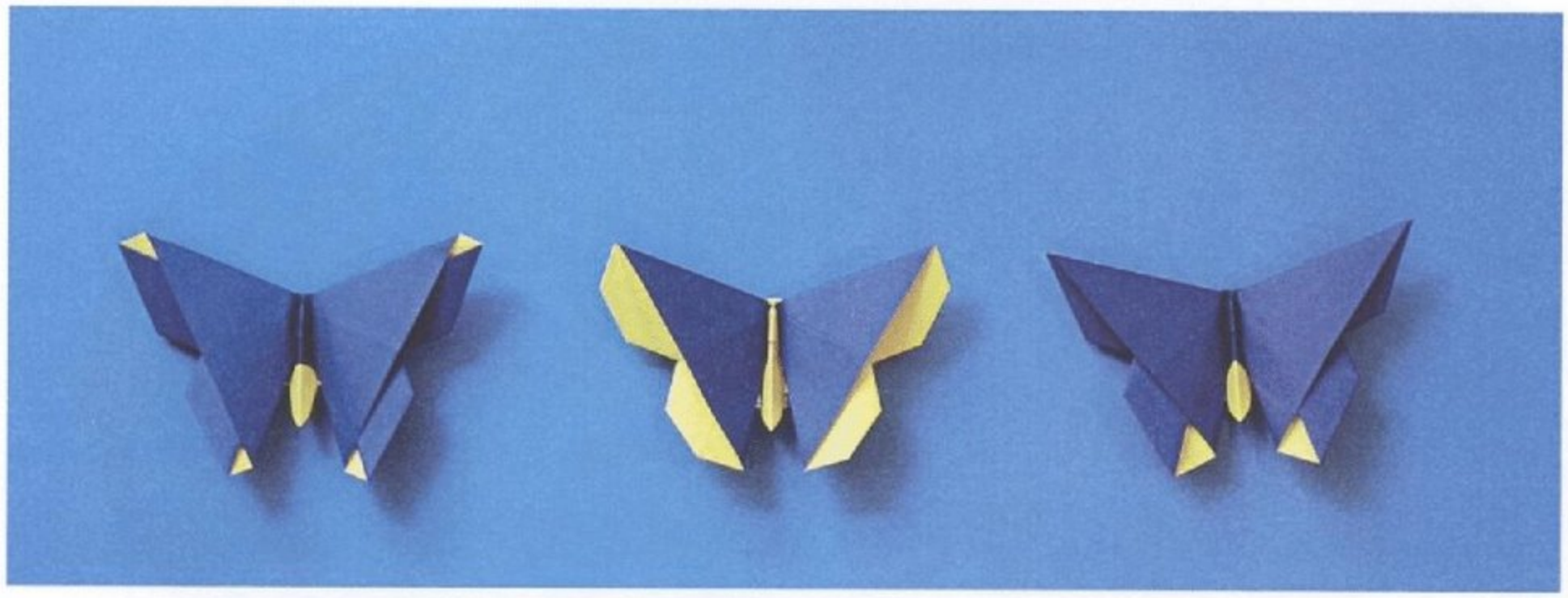
Close the wings together and fold the excess bottom corners inside the body. Note in the detail that you must pinch the layers together and fold the corners in. You do not have to open the body paper too much to do this. After the corners have been tucked in, notice that the taper of this fold narrows towards the back end of the butterfly's body.



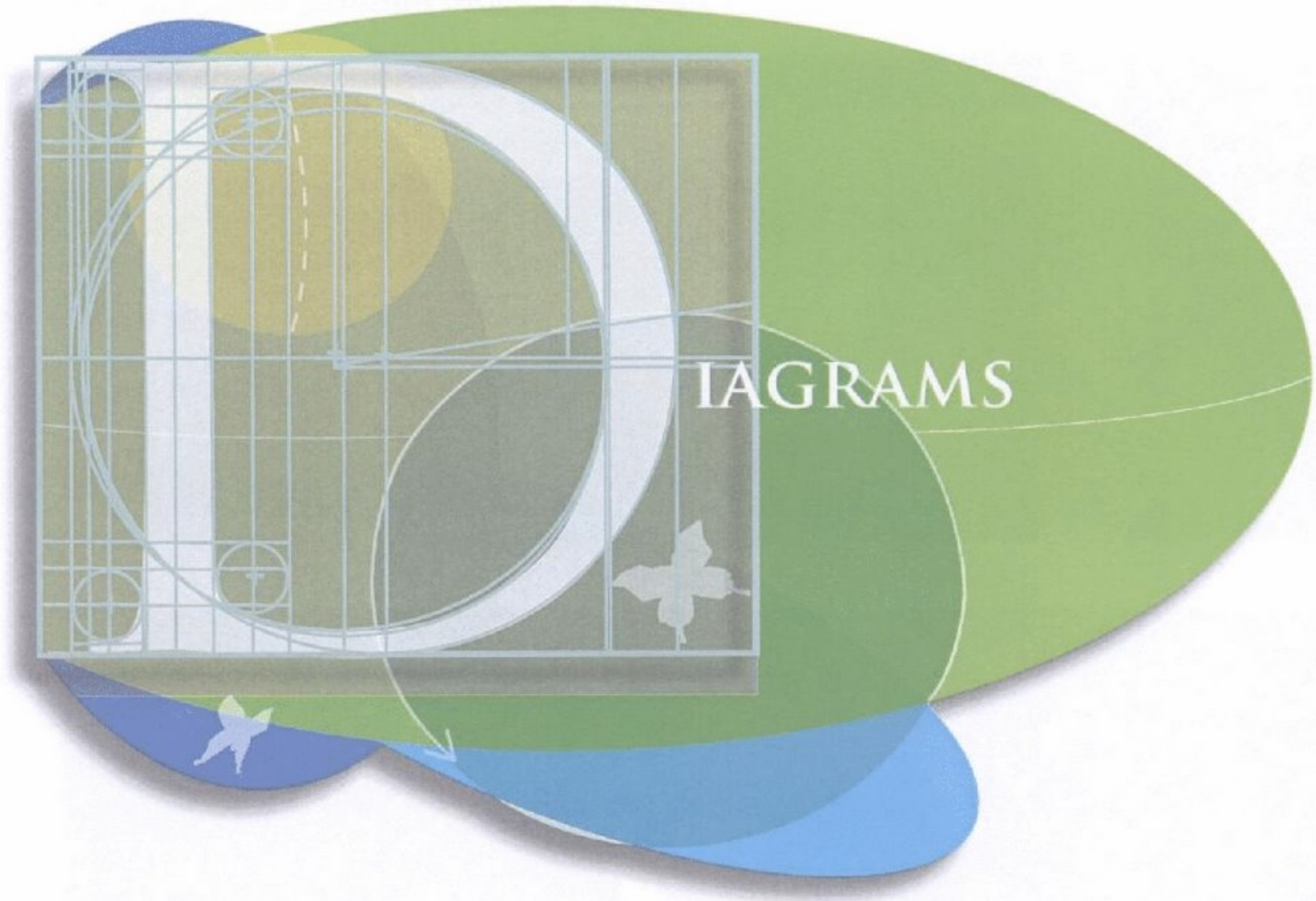








These are only a few of the possibilities within LaFosse's origami butterfly design system. Some shown here are diagrammed in this book, others are LaFosse's variations.



LEARN TO FOLD LAFOSSE'S FAVORITE ORIGINAL ORIGAMI BUTTERFLY DESIGNS!

Michael LaFosse has been designing origami butterflies and moths for decades, and has developed more variations than he can count. Before you move on with your own variations, it may be interesting to fold some of LaFosse's signature works in order to understand the basics of LaFosse's origami butterfly design system.

Many of the following diagrams appear here for the first time. Some of these models were previously available only on Origamido Studio's *Origami Butterflies and Moths*, a 90-minute instructional video. Other models such as the *Mudarri Luna Moth* and the *Alexander Aztec Swallowtail* are recent creations designed especially for this book and were named by Michael after us, the authors of this book. We know you will enjoy them!


MENU: Learn to Fold all of these Michael LaFosse Butterfly & Moth Designs
Evangeline Fritillary pg. 86
Alexander Swallowtail pg. 46
Dollar Bill Butterfly pg. 88
The Temko pg. 62
Alexander Aztec Swallowtail pg. 50
The Lillian pg. 38
The Baxter pg. 54
Mudarri Luna Moth pg. 78
Emiko Fritillary pg. 42
The Nolan pg. 74
The Joyce Rockmore pg. 70
Origamidō Butterfly pg. 66
The Alice Gray pg. 34
The Michael Shall pg. 58
The LaFosse Moth pg. 82

A Butterfly for Alice Gray

(A recollection by Michael LaFosse)

"As a teenager, one of my most frightening experiences was my first arranged meeting with Alice Gray. I had been visiting Lillian Oppenheimer at her West 11th Street home, bursting with pride over my new origami model, my *Praying Mantis*. Lillian insisted that I show it to Alice, an eminent entomologist from the American Museum of Natural History. I had heard her name before (one of the pioneers of origami in the US), but I didn't realize she was also a professional entomologist. Understandably, I was rather nervous about meeting her and showing her my Praying Mantis.

"Michael Shall and Daniel Porter were also visiting Lillian that day, and I prepared lunch for us. After we ate, I was finally able to present my Praying Mantis for Alice's scrutiny and criticism. Fortunately, Alice liked it. She immediately recognized, and made sure to point out for the benefit of the rest of the party, the small details that I had included in this model: eyes, mouth parts, flexible neck, cirri (posterior "feelers"), and abdominal segments. Alice then informed us that cockroaches and mantids were closely related, and explained their common features. I was intrigued. Alice suggested that Lillian let me spend the rest of the day with her at the American Museum of Natural History, where she could show me some live cockroaches for

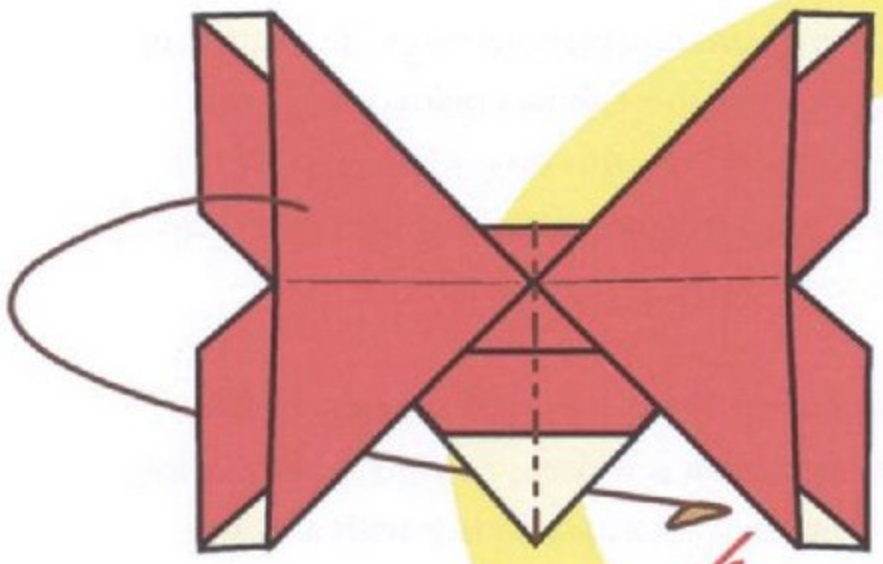
study! Of course there was no argument, so Alice and I promptly left for my visit to the Museum.

"It was on this subway ride to the Museum when my butterfly system was born. By sheer coincidence, Michael Shall taught me how to fold Yoshizawa's butterfly earlier that day. I was so impressed with Yoshizawa's design. I thought it one of the most elegant origami creations of all time, so I had butterflies on my mind, but 8 1/2 by 11 inch paper in my hands. Somewhat nervous, I was constantly twisting and folding the paper throughout my conversation with Alice. Before long, a new origami butterfly appeared! I proudly showed it to Alice, and although she said it was very nice, she grumbled dissatisfaction with the fact that it had been folded from a rectangle, and not from a square. Alice supposed it would not be unreasonable for me to modify it for a square, and urged me to get at it. I would have continued on immediately but we arrived at the Museum.

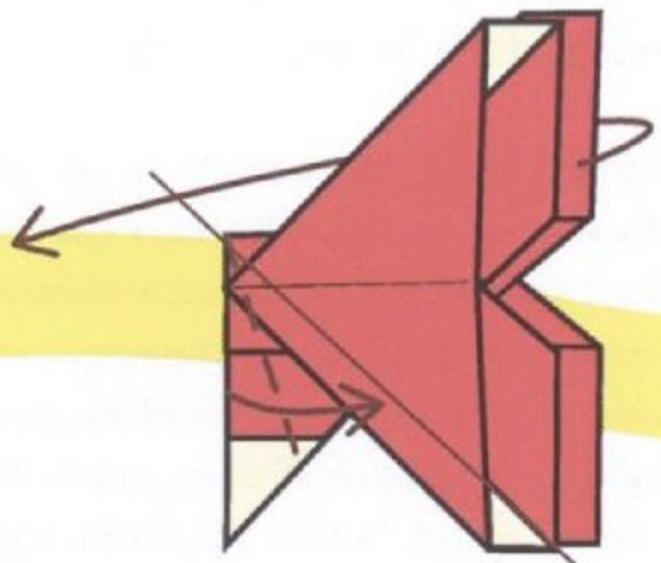
"The rest of that day was remarkable. Alice showed me the contents of her terrariums: millipedes, crickets, spiders, and yes, cockroaches! BIG Madagascar Hissing Cockroaches! Alice took great delight from placing these live insects on me, and I can only imagine the reaction she would receive by people not so enamored with bugs. There I was, learning from the expert, how cockroaches and mantids are related. To this day, whenever I see a cockroach, I primarily see a mantid inside, so I am not afraid.

"As soon as I went home I folded my new basic butterfly design from a square, named it after Alice, and mailed my best example to her with a thank you note for her generous gift of time and inspiration. Unknown to me, and not to be revealed until about 13 years later, my partner Richard Alexander was also living in New York City, working on West 11th Street, and was also amazed by Madagascar Hissing Cockroaches where he lived across town at Rockefeller University. His friend and neighbor, Dr. Michael Yamin was performing research on the intestinal protozoa of roaches, and the monster bugs were supplied to his professor, Dr. William Traeger, by none other than... you guessed it, Alice Gray!"

Michael G. LaFosse, October 1998

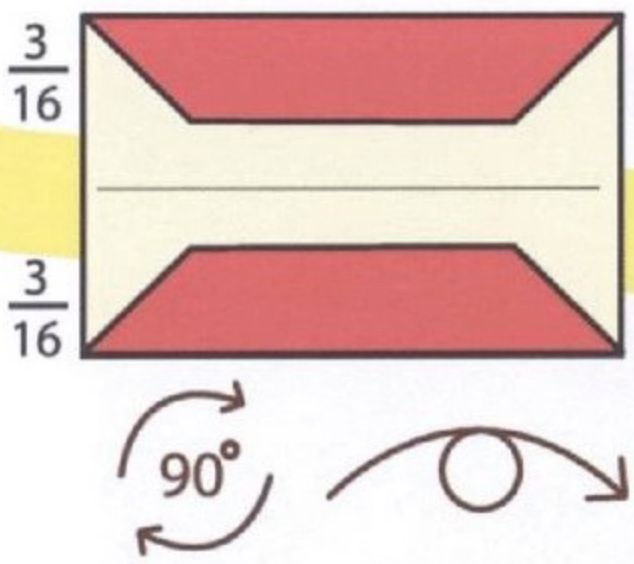


4 Mountain-fold in half.

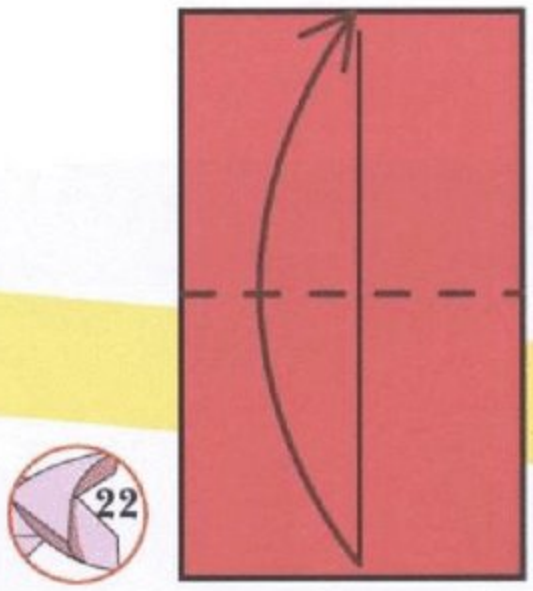


5 Fold body over top wing paper (use the superimposed line as a guide), allowing the wing paper to come out below.

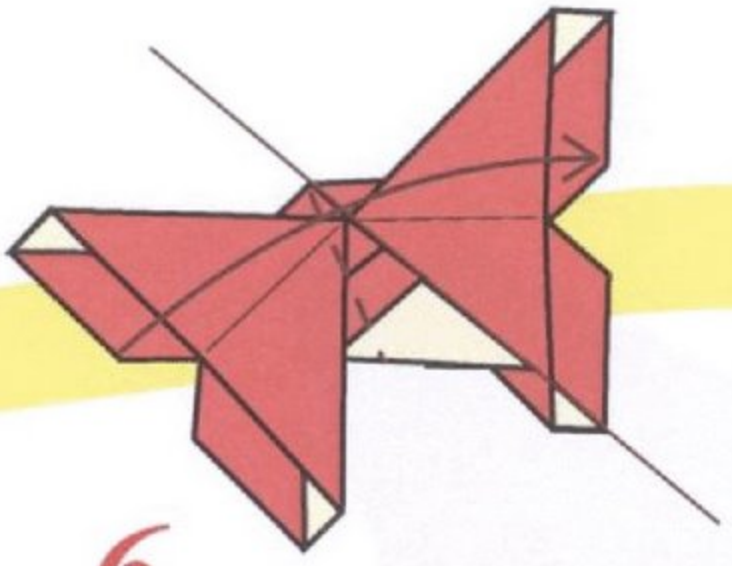
3 Final wing squashes.



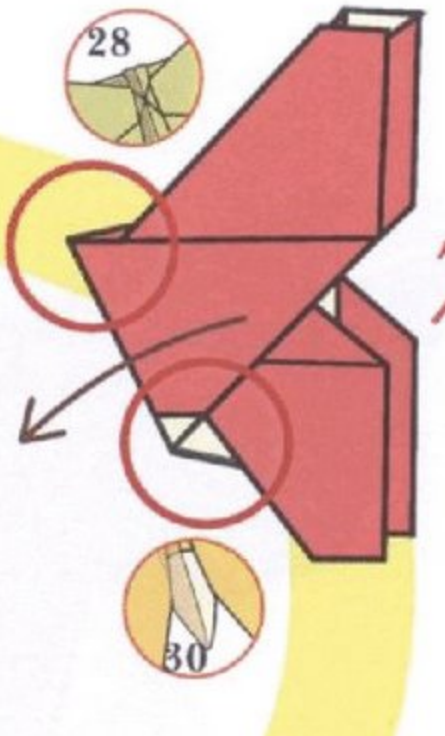
1 Start with a 3/16 beveled **introductory fold** on both sides. Rotate and turn over the model.



2 Valley-fold in half. Begin procedure for **squash-folding.**

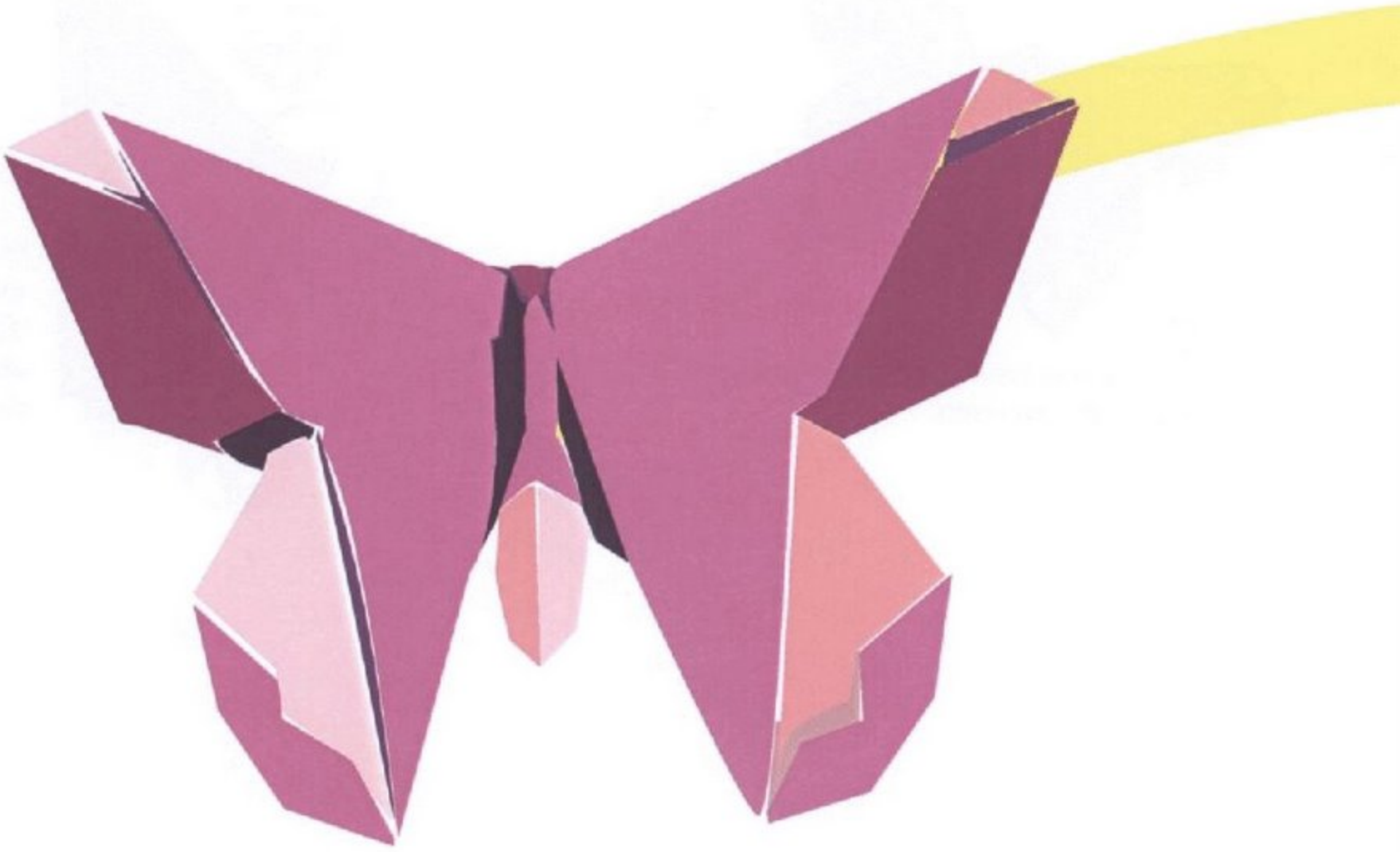


6 Fold wing to wing, sandwiching body paper between.



7 Refer to page 28 to create the head using **butterfly head fold #1** Use the **abdominal taper** as shown on page 30.

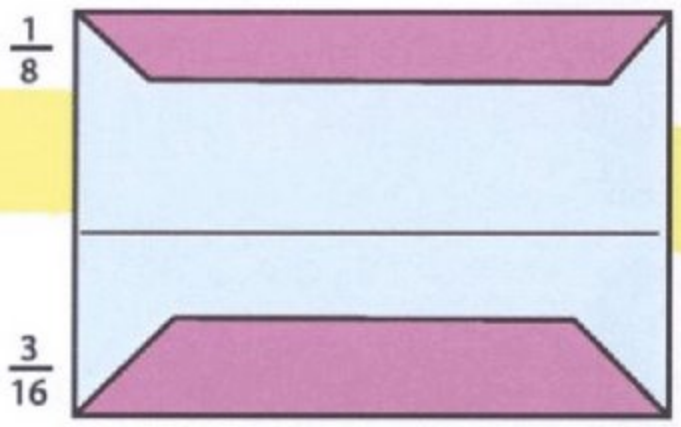
8 "The Alice Gray"
A butterfly named for Alice Gray.



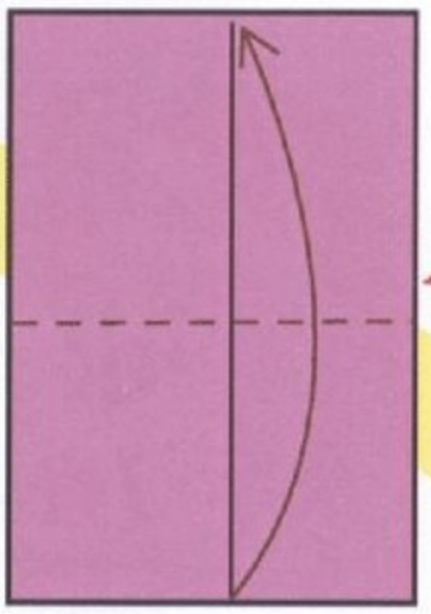
The Lillian

Michael LaFosse named this butterfly for Lillian Oppenheimer, founder of the Origami Center of America, for doing so much to popularize origami. Michael met with her several times in New York City between 1976 and 1978. He was honored to learn from and spend time with her, a consummate and enthusiastic teacher of origami. Michael says that if he is a good origami teacher, it is a result of Lillian's example. It is fitting that this origami butterfly, a beautiful symbol of pollination and sharing, appears here in her memory.

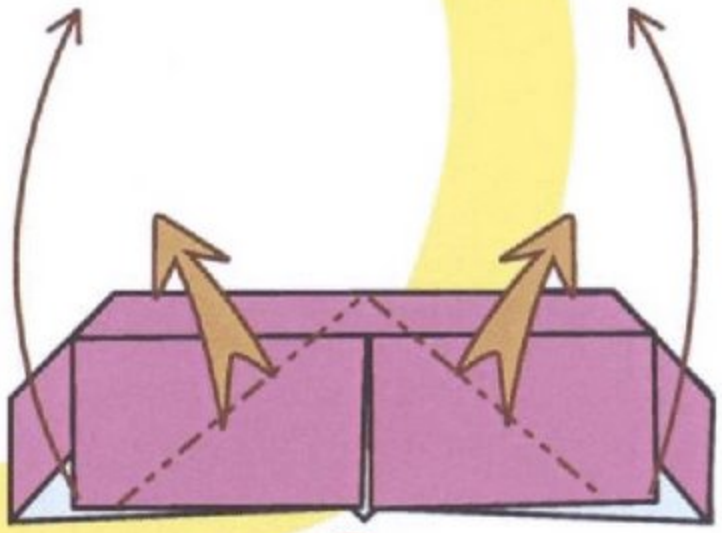
Lillian's dream for people to share friendship through origami has been continued and expanded by the Friends of the Origami Center of America, now known as OrigamiUSA. Her legacy also lives on through many excellent origami teachers that she inspired, and through their students- thousands of folders all over the world.



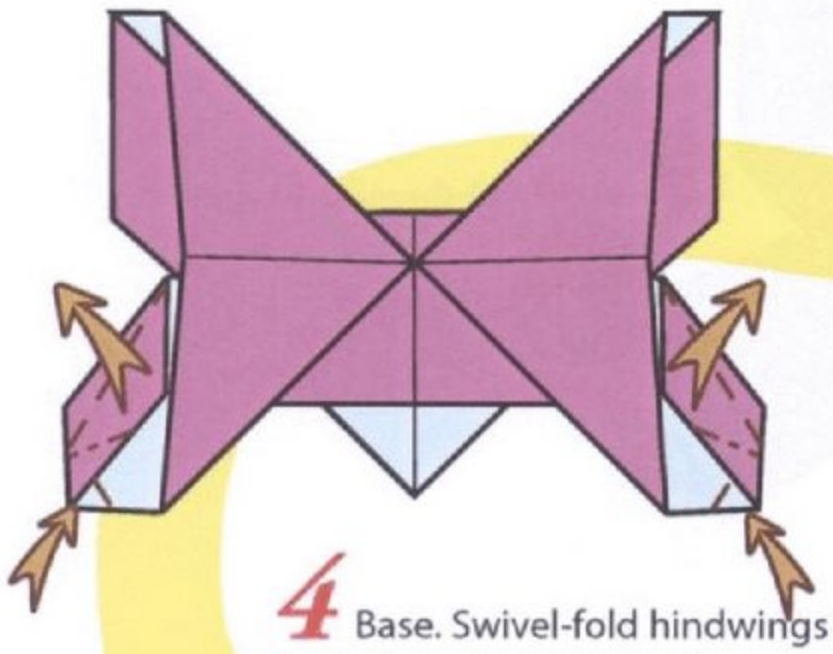
1 Start with a 3/16 beveled **introductory fold** on the bottom and a 1/8 bevel on the top. Rotate and turn over.



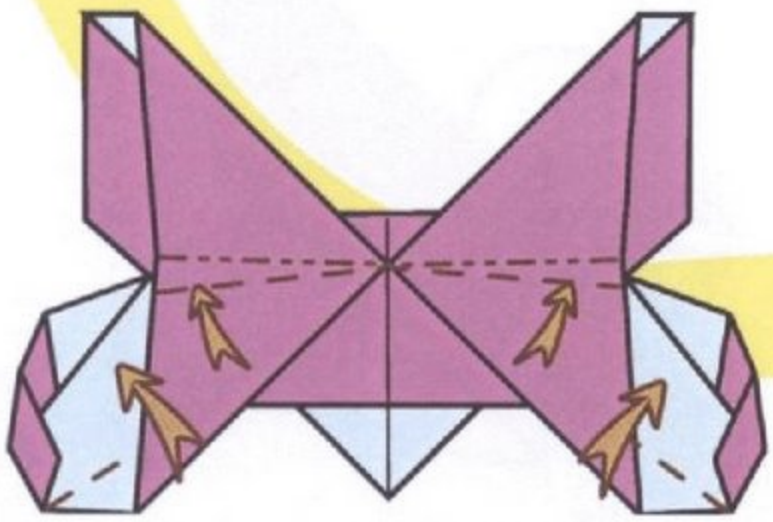
2 Begin **squash-folding.**



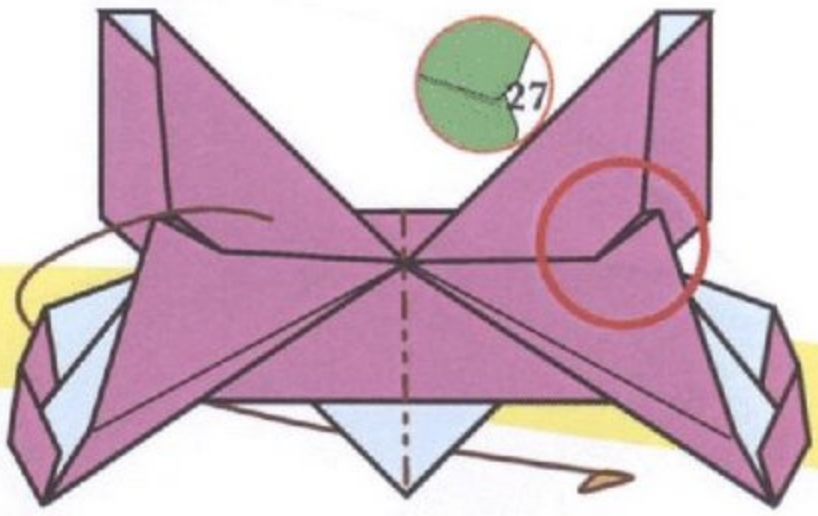
3 Wing Squashes.



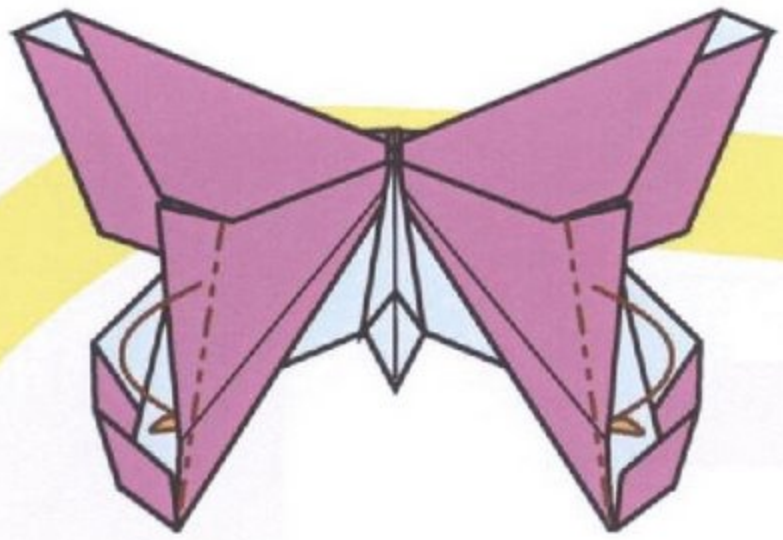
4 Base. Swivel-fold hindwings to form shape in diagram #5.



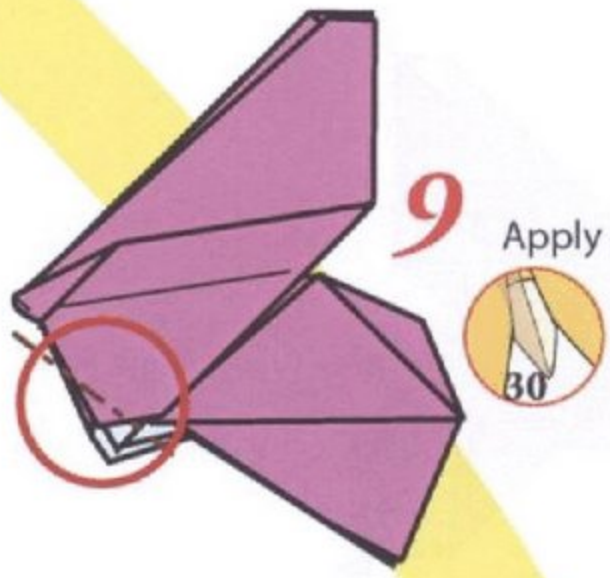
5 Roll the bottom edge of each hindwing as far as it can go (while remaining flat to the bottom corner). Crimp (mountain and valley-fold at the mid-section of the wings) to flatten paper and form wing separation.



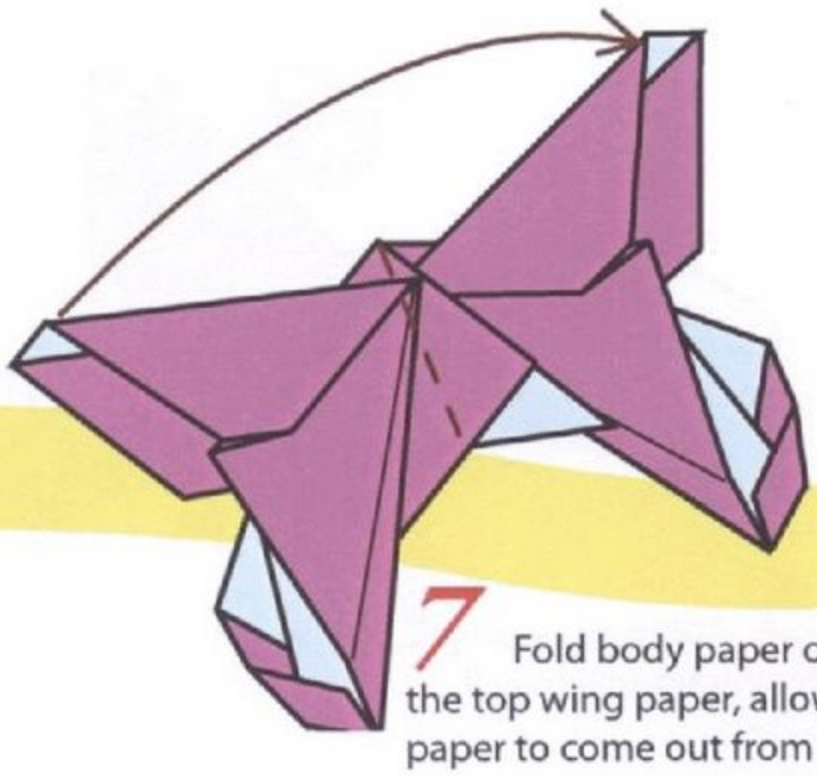
6 Apply **wing-notch technique.** Mountain-fold in half.



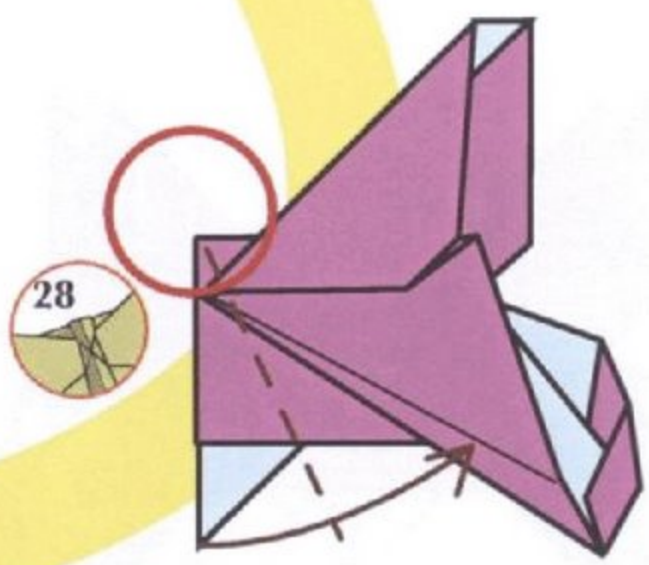
10 Open.
Mountain-fold
shown edges inside.



9 Apply **abdominal taper.**

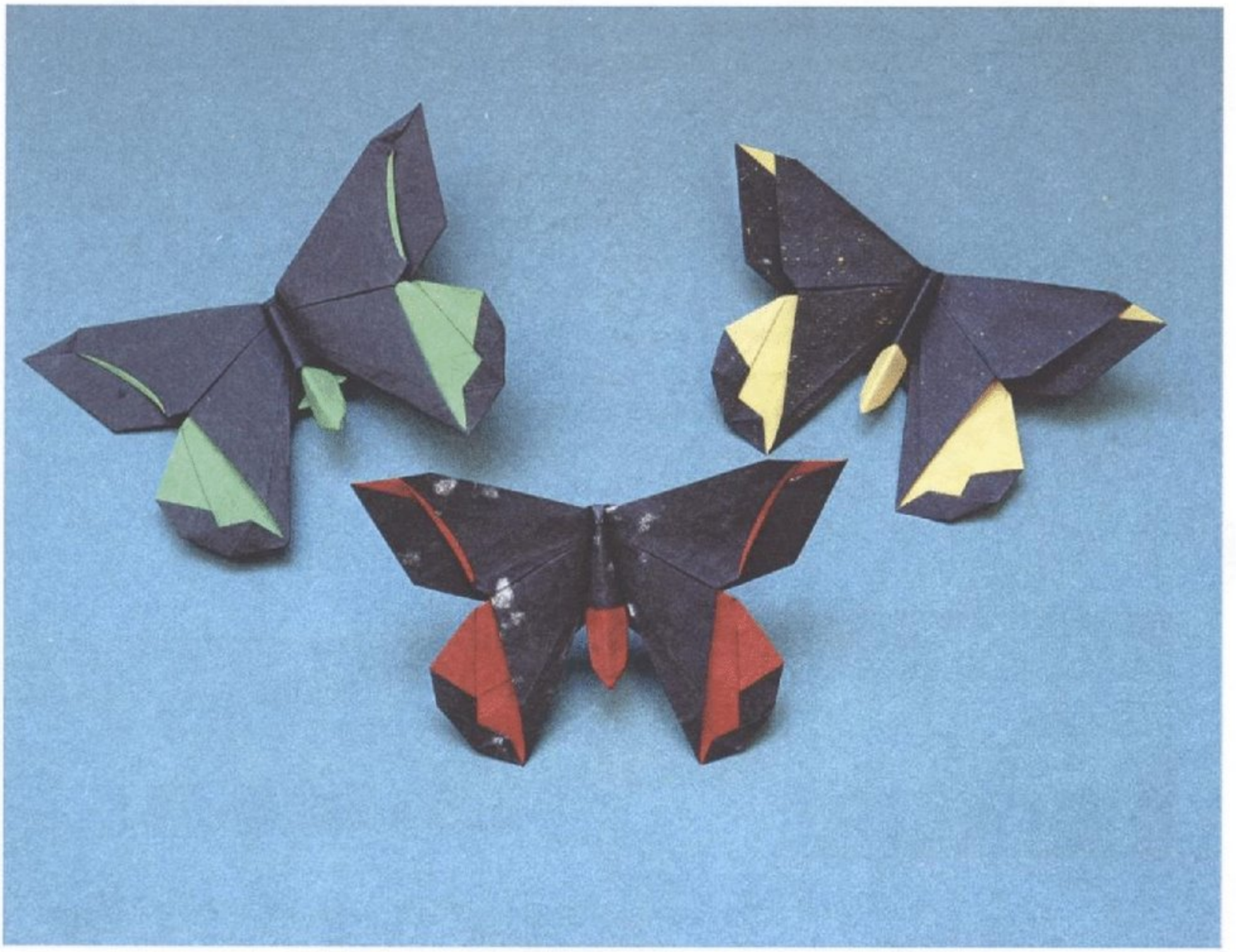


7 Fold body paper over
the top wing paper, allowing other wing's
paper to come out from beneath.

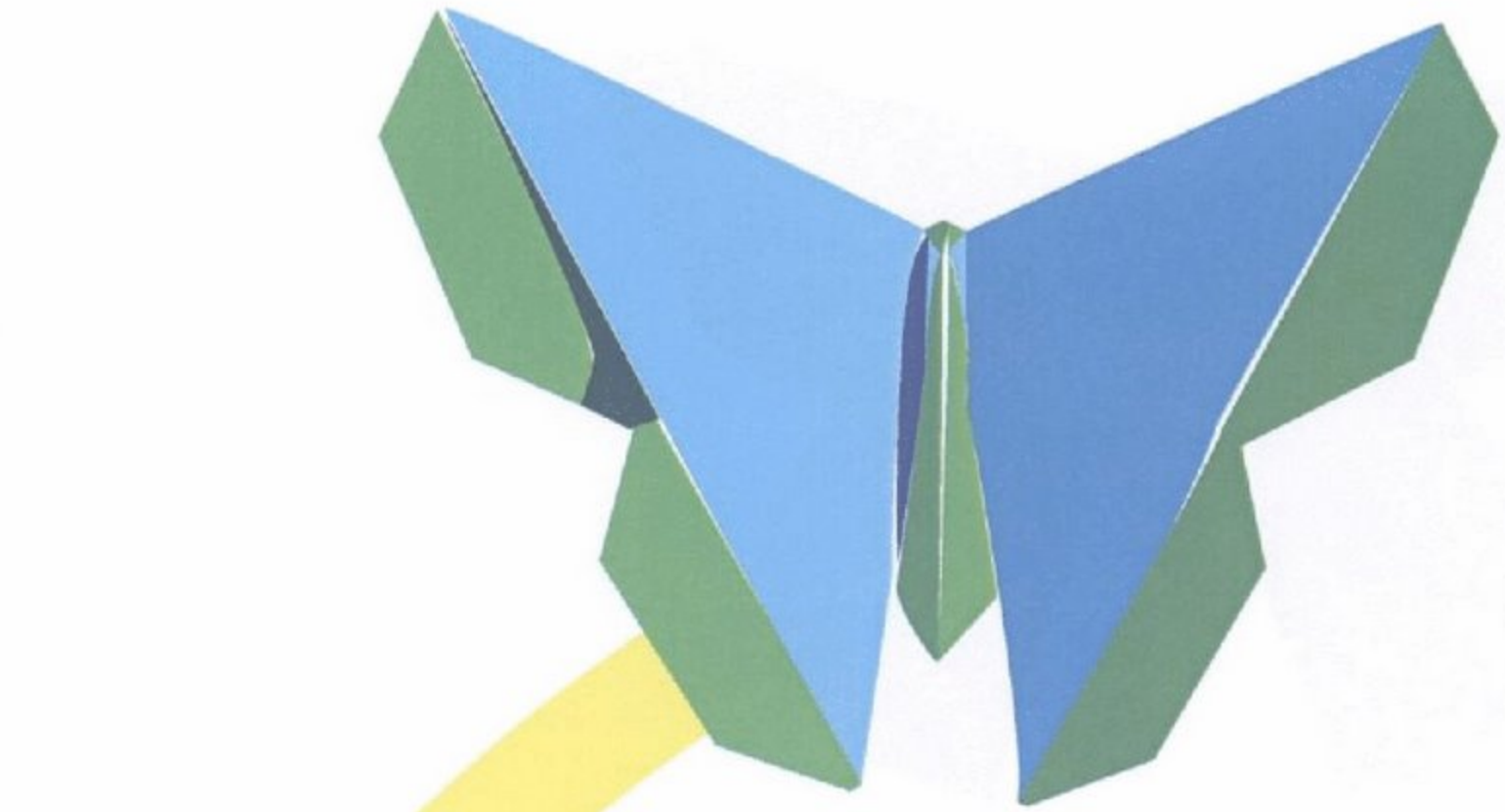


8 Fold wing to wing, sandwiching the body between. Apply **butterfly head fold #1**.

11 "The Lillian"
A butterfly named for Lillian Oppenheimer.



The Lillian Butterfly in various colors and treatments folded from handmade duo papers produced at Origamido Studio.

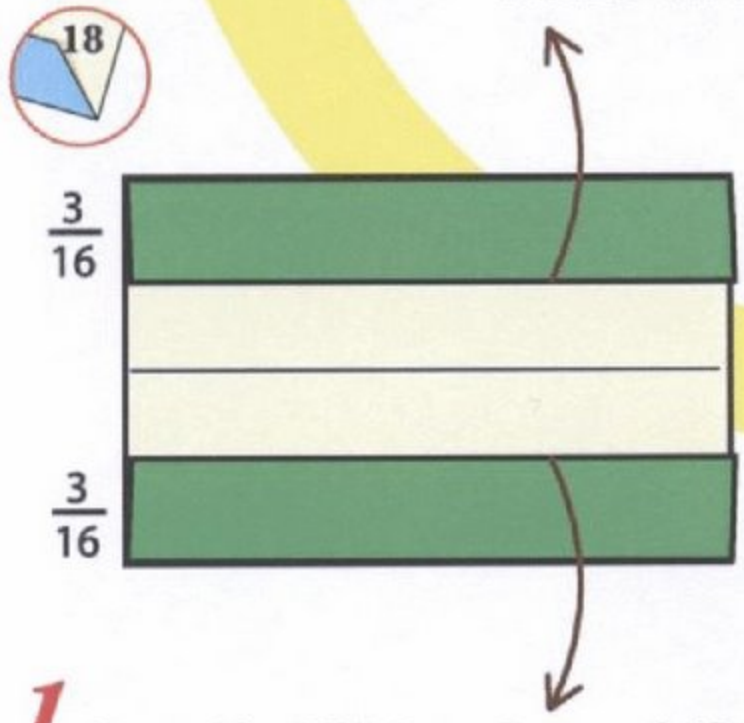


Emiko Fritillary

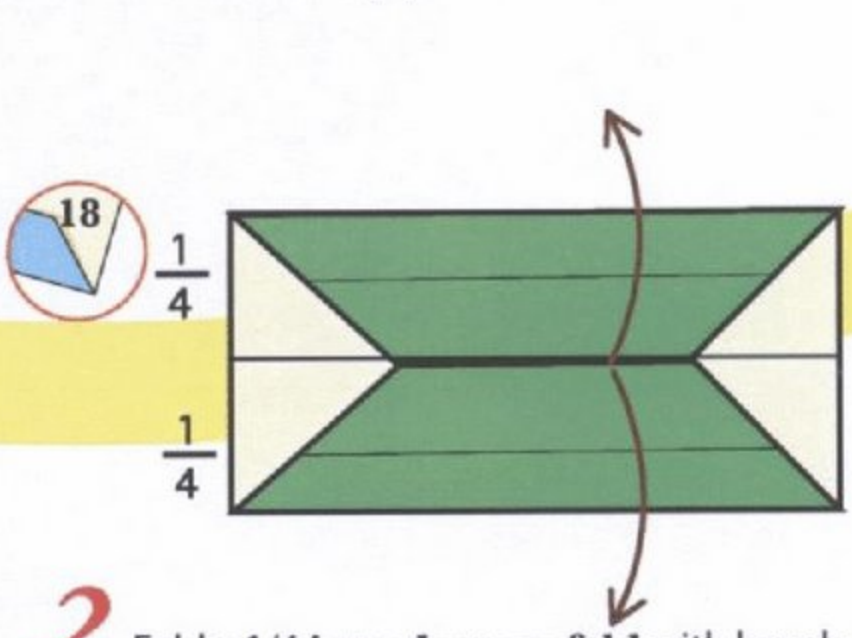
Michael named this model for Emiko Kruckner, a student of origami master Akira Yoshizawa while she lived in Japan, and Michael's liaison to this great pioneer of the art.

Michael's clean design for this butterfly honors the rich history and style of early, more traditional Japanese origami.

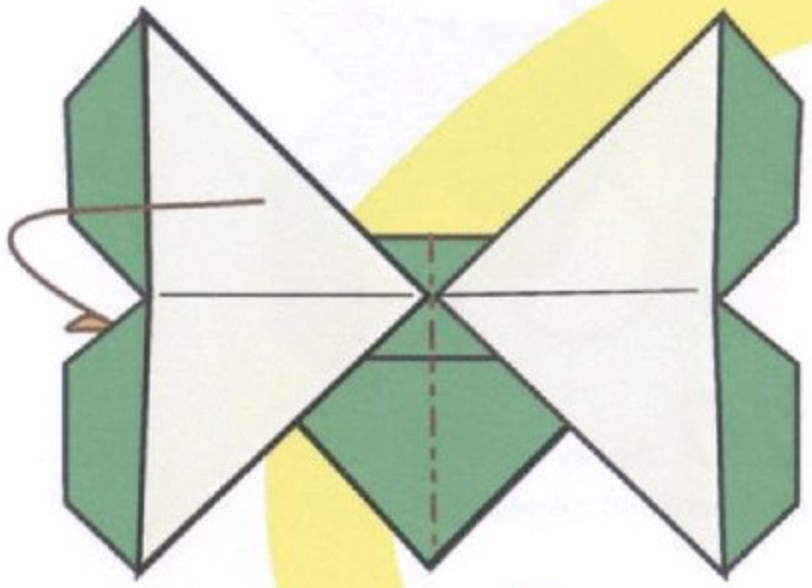
Emiko, our dear friend and excellent folder was sadly taken from us prematurely by illness. Her unique ability to translate "between the lines" as well as between the languages, generations and cultures was astonishing. We all miss her deeply.



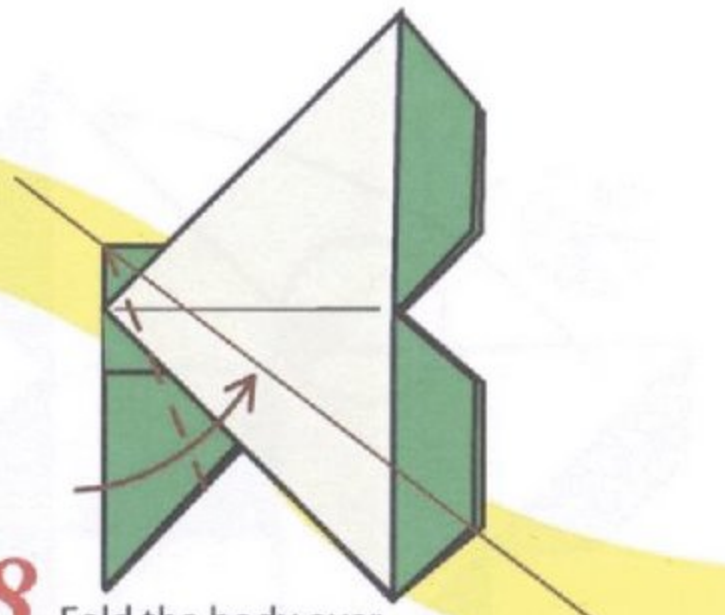
1 Start with a 3/16 **introductory fold** on both top and bottom. Unfold.



2 Fold a 1/4 **introductory fold** with bevels. Unfold.



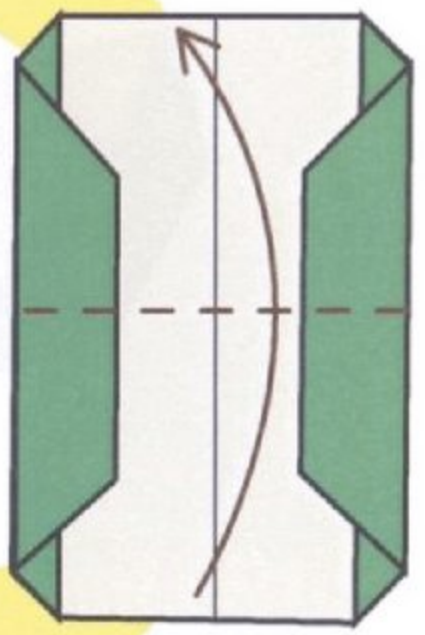
7 Mountain-fold in half.



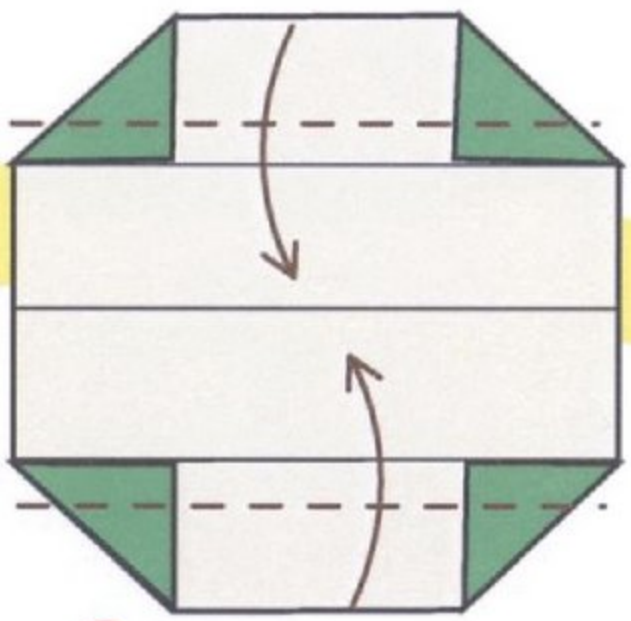
8 Fold the body over top wing paper, allowing other wing to come out beneath.

(Notice the superimposed line from the top of the head to the wide corner of the hindwing. Use this as a guide to properly align the tip of the abdomen.

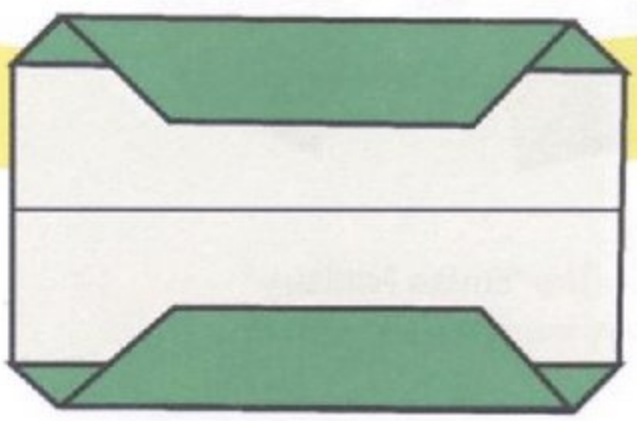
6 Finsihing squash to form wings.



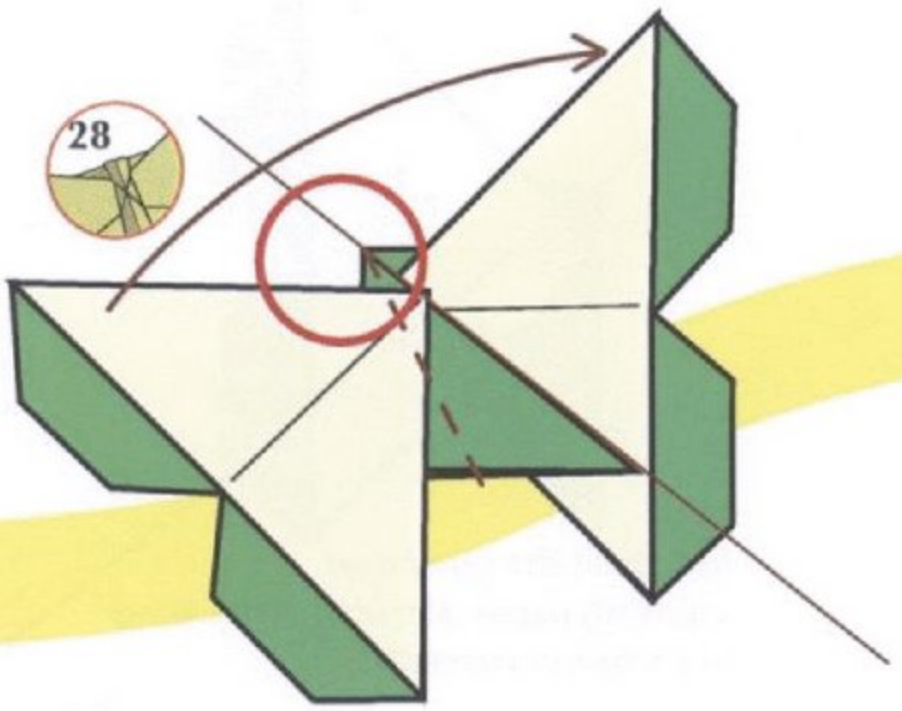
5 Procedure for **squash-folding.**



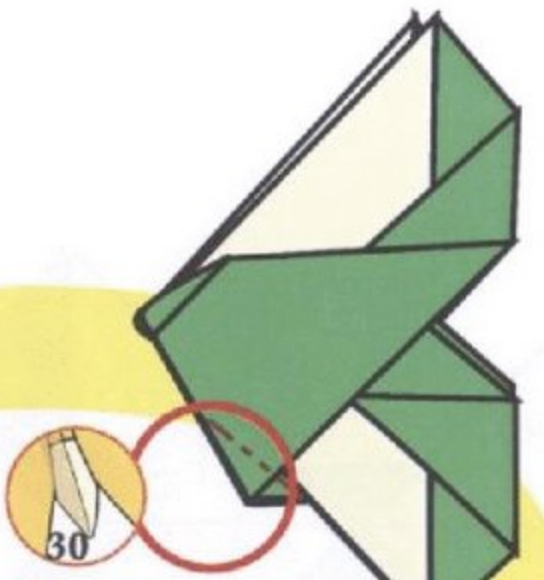
3 Re-fold top and bottom edges using the 3/16 creases from step #1.



90° **4** Result. Rotate.



9 Fold wing to wing, sandwiching the body between. Open. Apply **head style #1**.



10 Apply **abdominal taper.**

11 Round out the outer wings.

12 The "Emiko Fritillary"
A fritillary named for Emiko Kruckner.

The "Emiko Fritillary" (pink, duo kami) with LaFosse's origami orchids in handmade papers by Richard Alexander & Michael LaFosse, Origamido Studio.

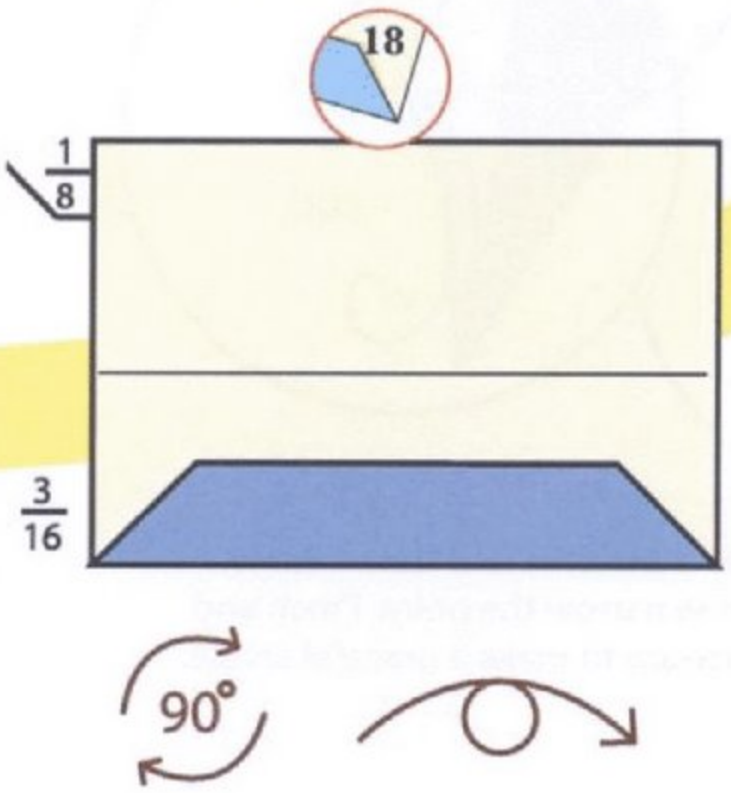
Alexander Swallowtail

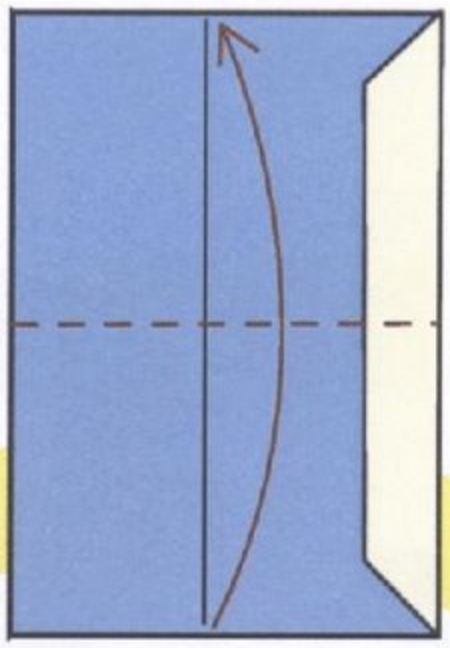
This is perhaps Michael's most popular origami swallowtail design, and there are numerous variations. Michael named this butterfly for Richard L. Alexander, co-founder of Origamido Studio. He has been working with Michael since 1988, and has been designing commercial art, teaching, editing, videotaping Michael's creations, photographing, promoting, producing exhibits, and making paper while overseeing the studio's financial business. Many of his origami designs, such as the Fiesta Box, Anubis, Sting Ray, Kanji the Dog, and numerous dollar bill folds have become favorites of the Origamido Studio's students. Richard persuaded Michael to embrace video instruction for origami students at all levels, not just for beginners. He also pioneered Origami on Demand.com for *a la carte* video downloads.

Michael has developed many swallowtail butterfly designs using the curling technique familiar to people who have folded the traditional iris or lily.

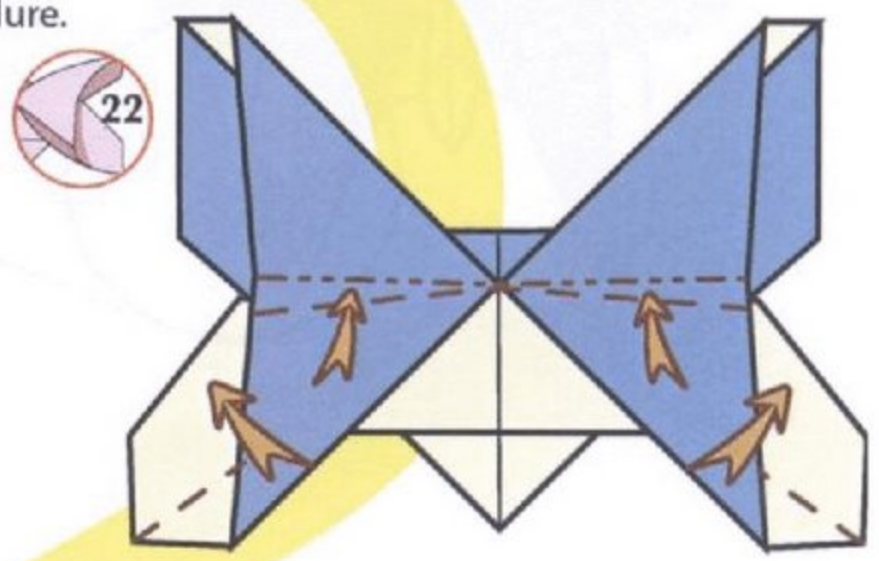
Before folding this model, consider your choice of paper. The back side of the paper becomes the abdomen and wing tips.

1 Start with a 3/16 beveled **introductory fold** on the bottom and a 1/8 bevel behind the top. Rotate and turn over.

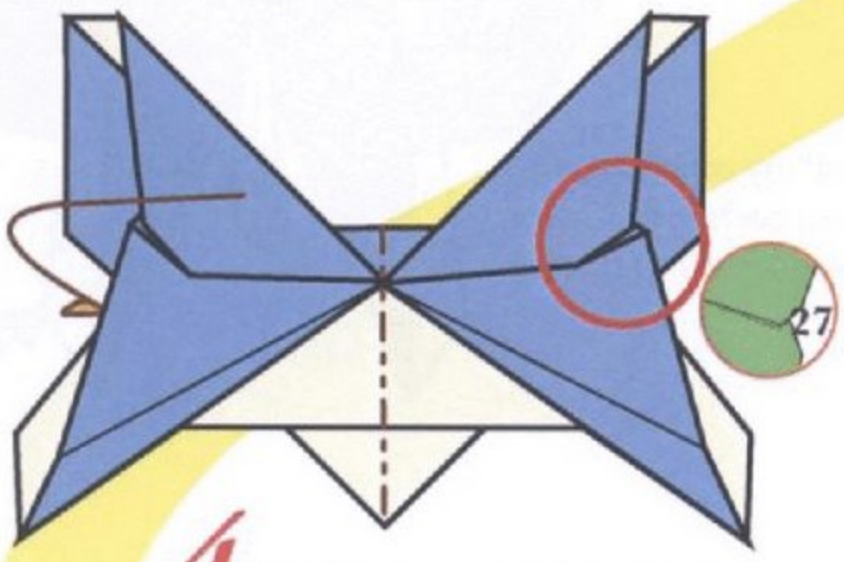




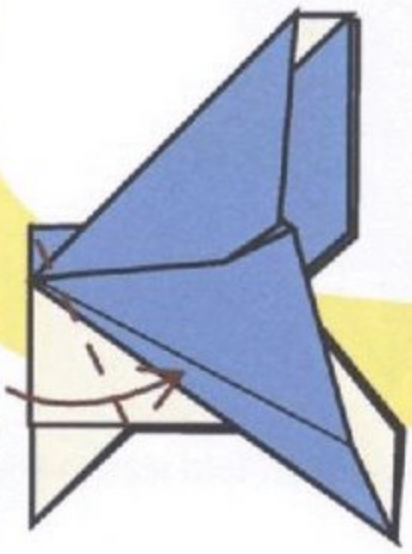
2 Valley-fold in half, beginning the **squash-folding** procedure.



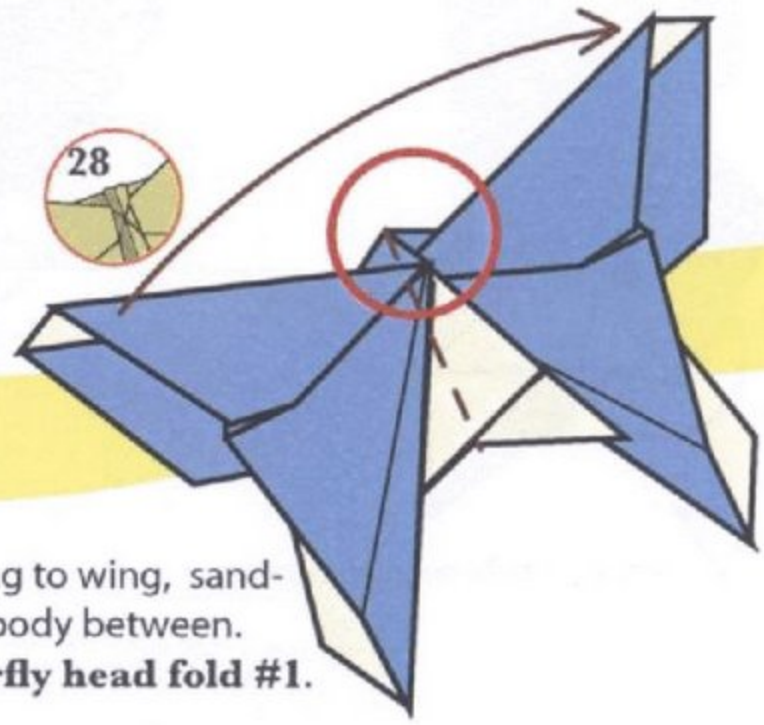
3 The base figure.
Roll each top hindwing inner edge over as far as it can go, flat, to each bottom corner. Crimp (mountain and valley-fold at the mid-section of the wings) to flatten the paper and form wing separations.



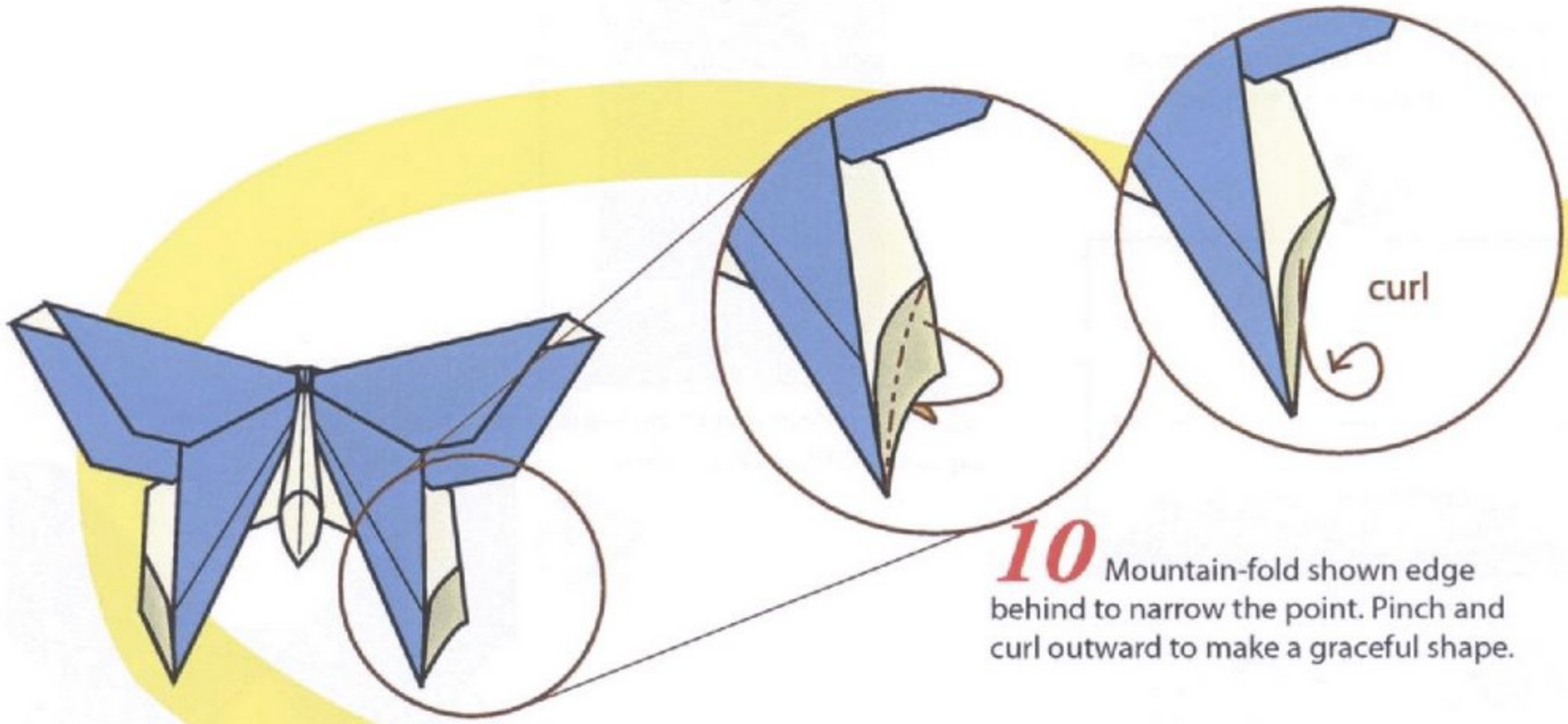
4 Apply **wing-notch technique.** Mountain-fold model in half.



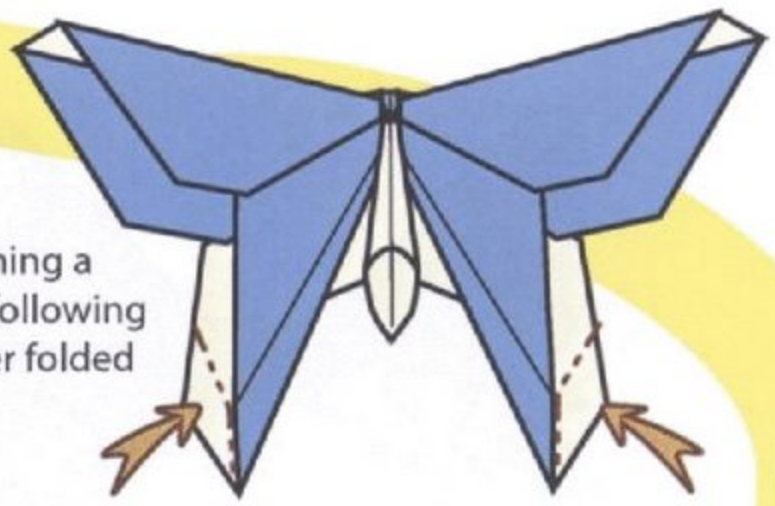
5 Fold body over the top paper of the hindwing , allowing other wing to come out from beneath.



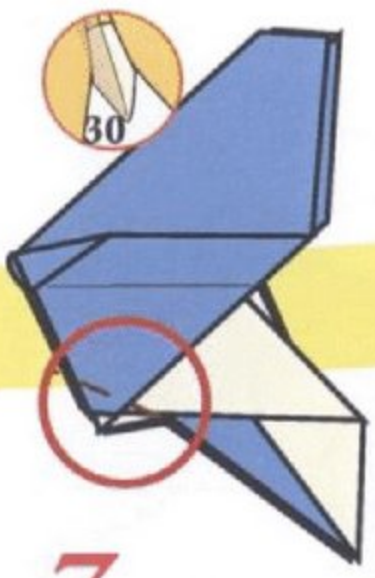
6 Fold wing to wing, sandwiching the body between. Apply **butterfly head fold #1.**



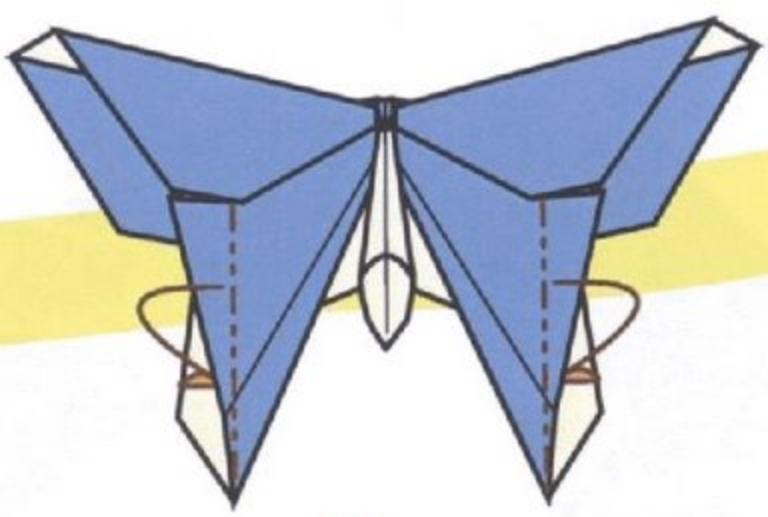
10 Mountain-fold shown edge behind to narrow the point. Pinch and curl outward to make a graceful shape.



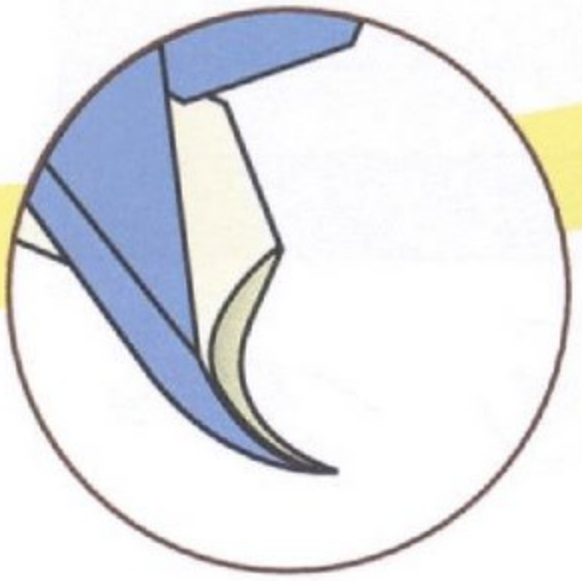
9 Form each "swallowtail" by pinching a mountain fold at the bottom corner, following upward to the crease along each inner folded edge. Push inward.



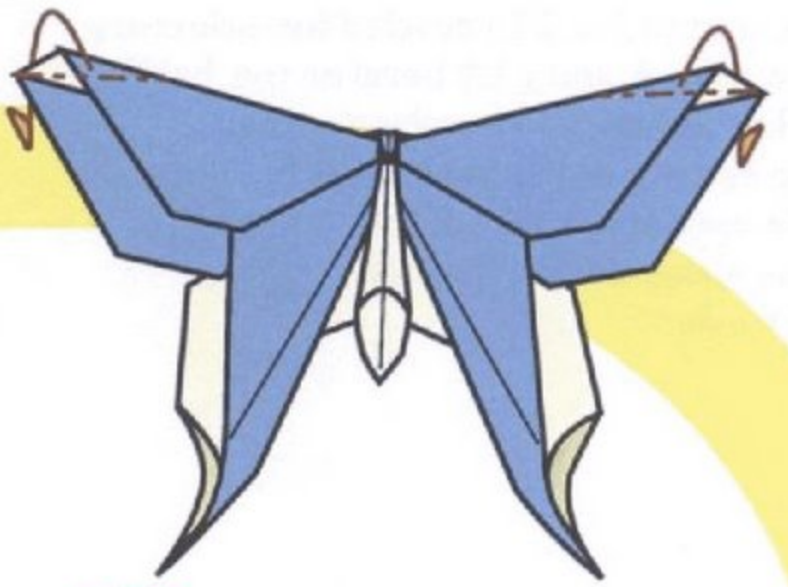
7 Apply **abdominal taper.**



8 Open. Mountain-fold shown edges inside.



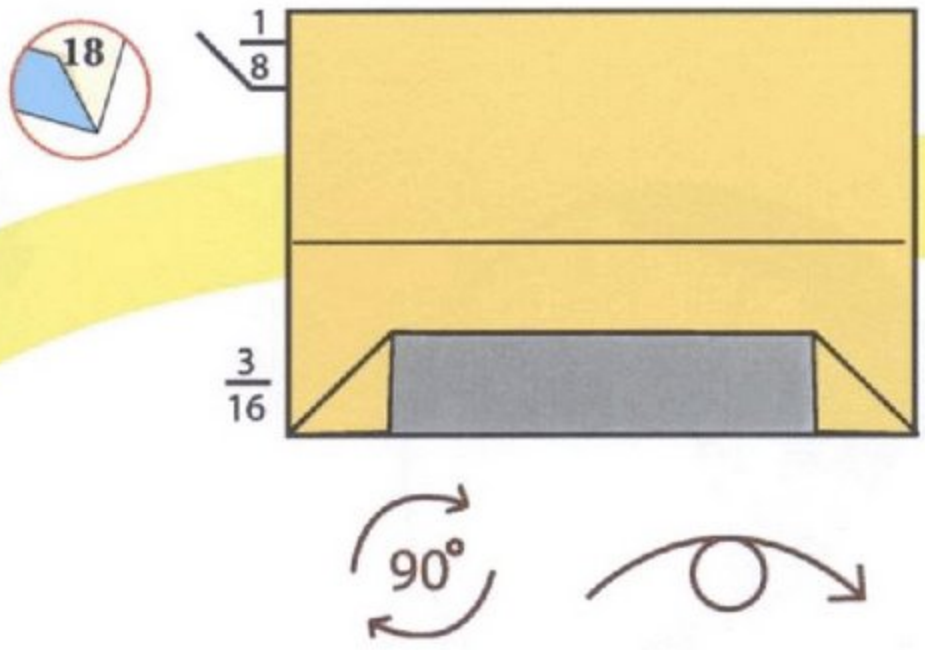
11 Result.



12 Fold top edges of forewing tips back, allowing a small triangle of color to show. (This is optional, and you could also try folding the shape in front, hiding the color spot.)

13 "Alexander Swallowtail"
A butterfly named for Richard Alexander.

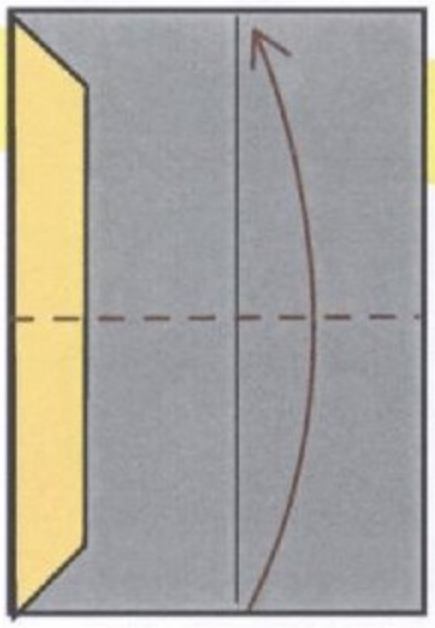
1 As before, start with a 3/16 beveled **introductory fold** on the lower front, and a 1/8 bevel on the back of the top. Make sure the 3/16 bevel is an outer bevel, showing corners on the front. (That is the only difference at the start of this model from the Alexander Swallowtail.) Rotate and turn over.

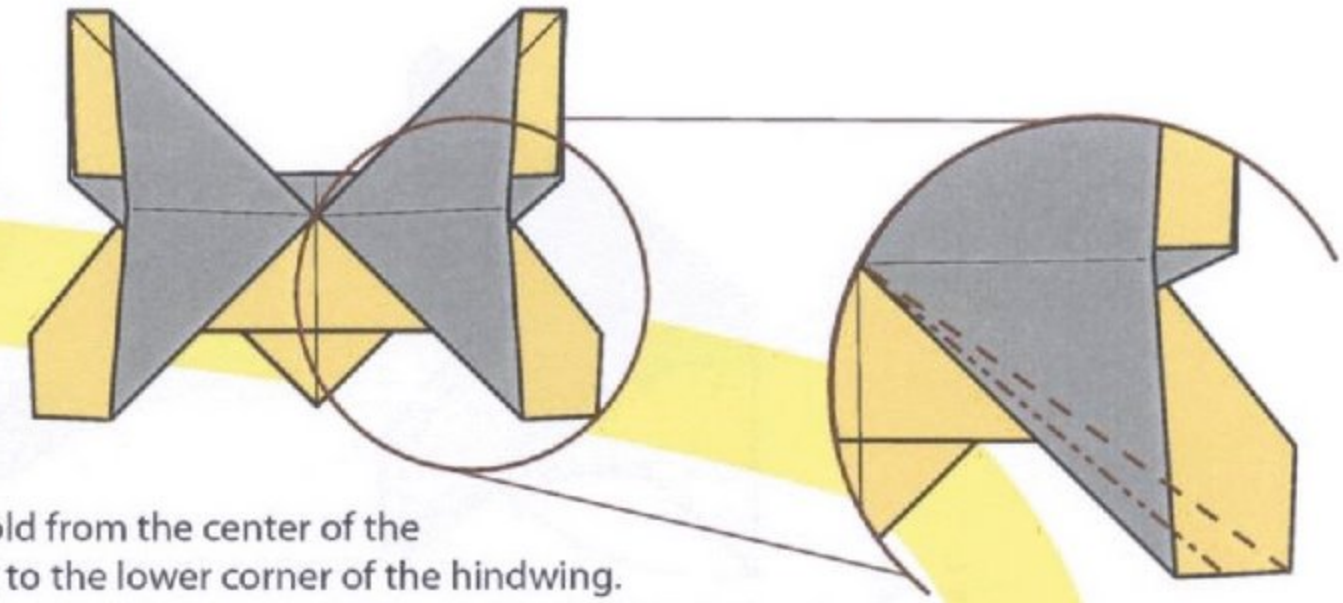


Alexander Aztec Swallowtail

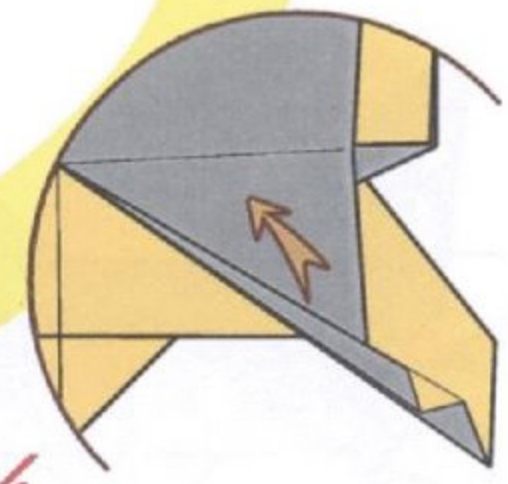
Michael has developed a variation with a zig-zag pattern reminiscent of Richard Alexander's Fiesta Box, with its "Aztec-like" triangular decorations. Michael is proud that his new model helps to illustrate how the excess paper can be used to full visual advantage. He feels it demonstrates interesting design challenges for students that have completed their first Alexander Swallowtail.

2 Begin **squash-folding.** 22



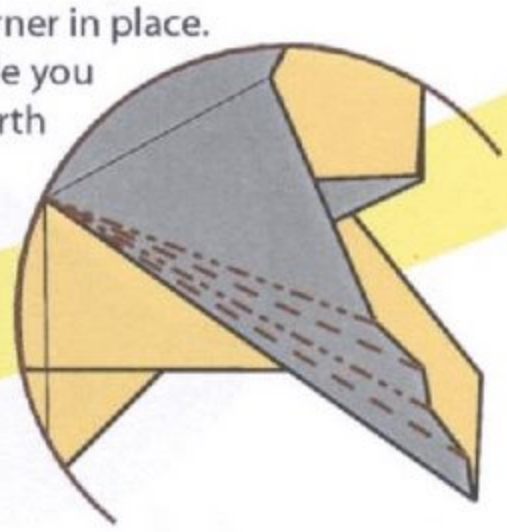


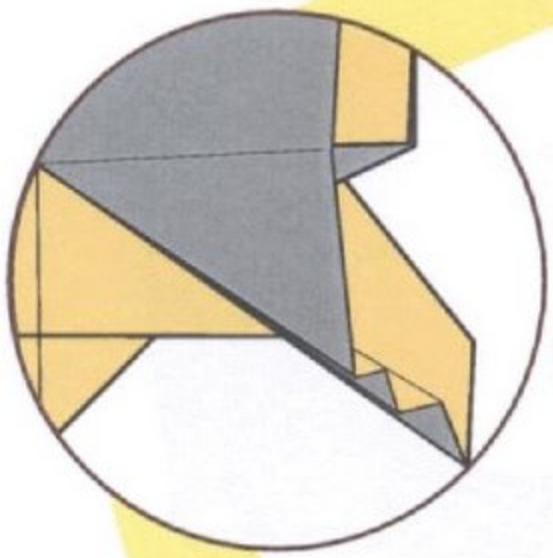
3
Valley-fold from the center of the horizon, to the lower corner of the hindwing. Fold the new area in half to make the image in step 4.



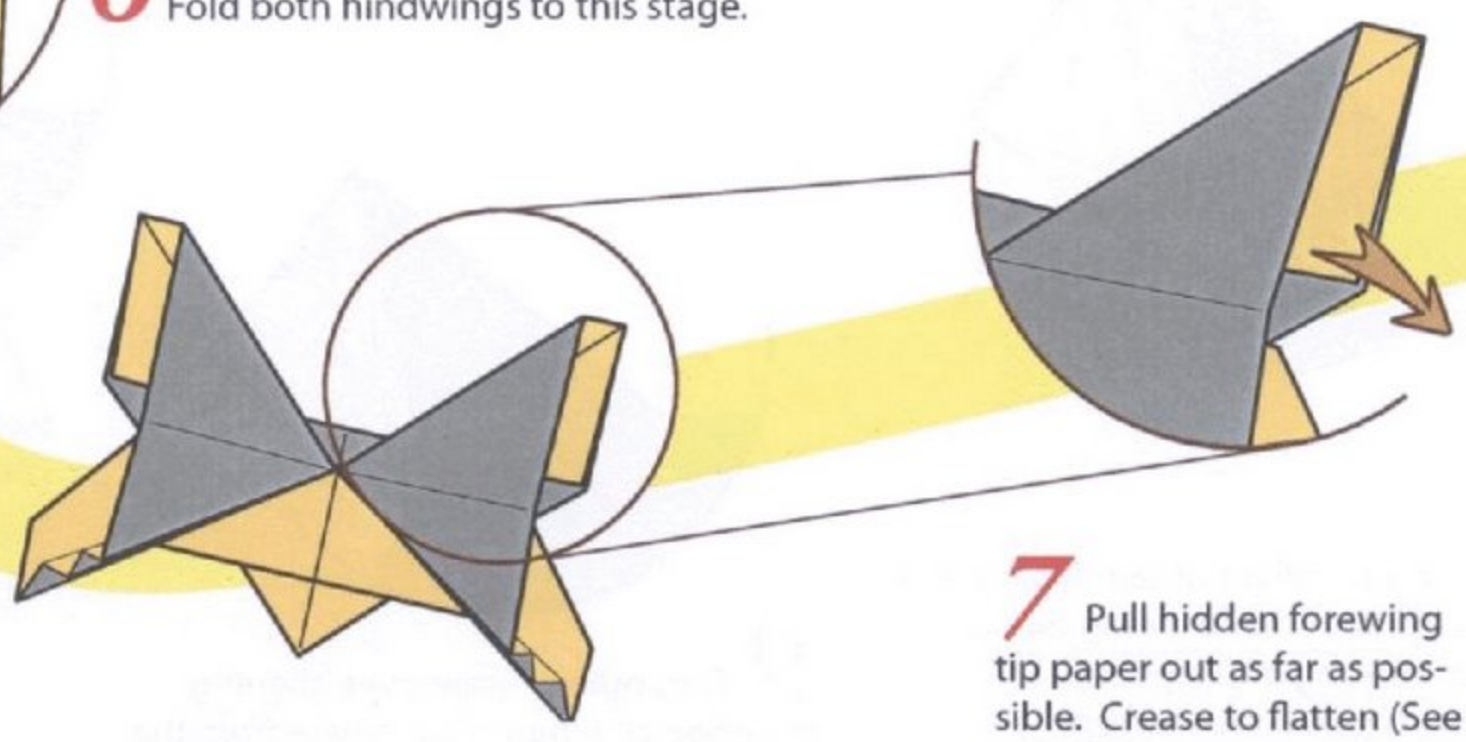
4 Keep new corner intact. Pull the paper folded beneath. This creates excess paper that will not lie flat.

5 Keep the new corner in place. and the paper flat while you "fan-fold" back and forth to create the pattern in step 6.

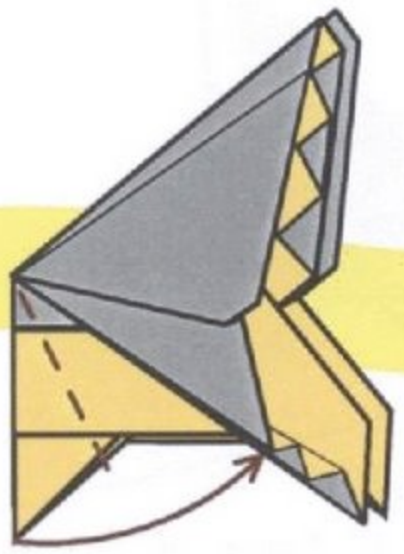




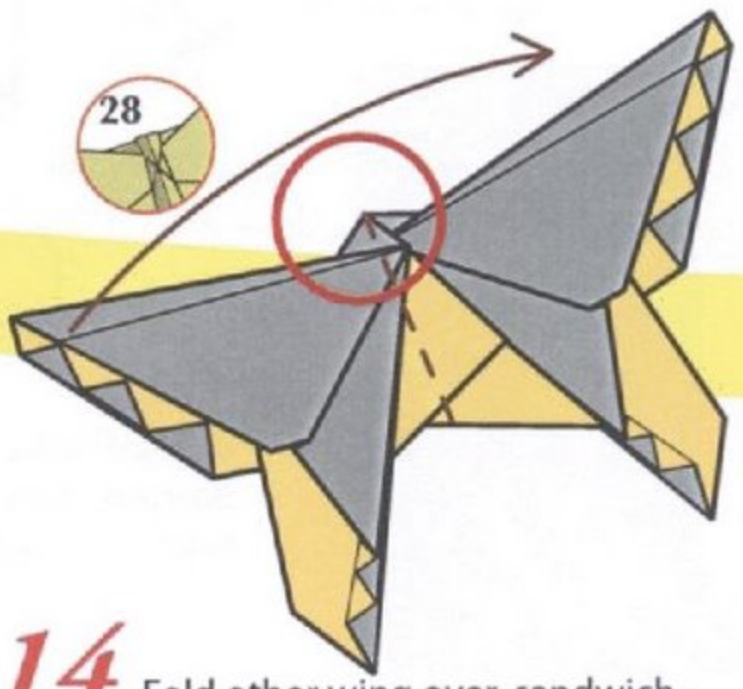
6 Fold both hindwings to this stage.



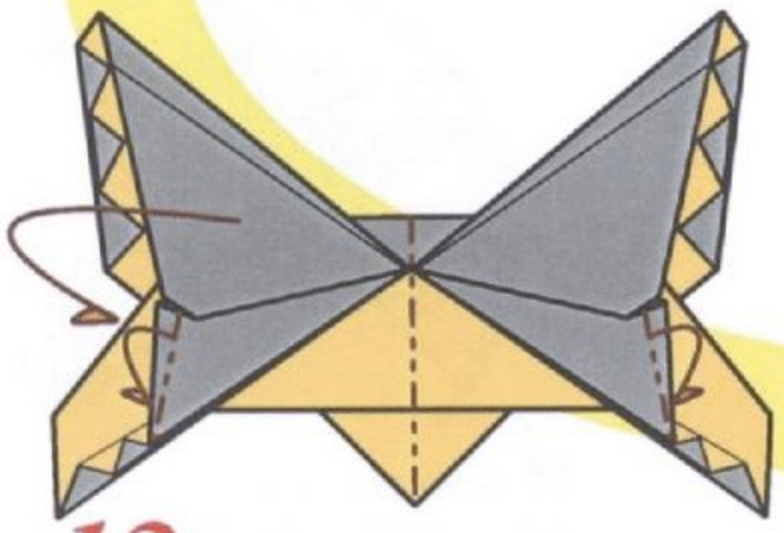
7 Pull hidden forewing tip paper out as far as possible. Crease to flatten (See step 8).



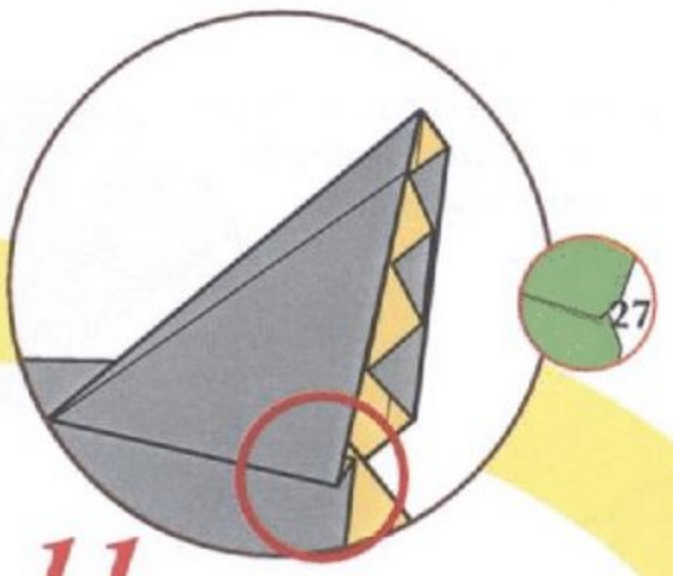
13 Mountain-fold the body over the hindwing, aligning tip of abdomen to meet the bottom edge of the hindwing. Allow the other wing to come with it.



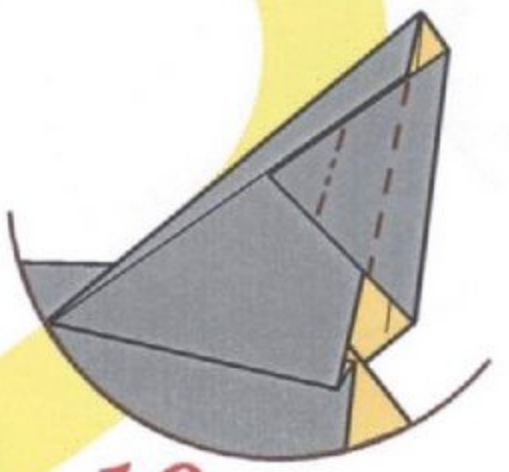
14 Fold other wing over, sandwiching body. Open, apply **butterfly head fold #1**.



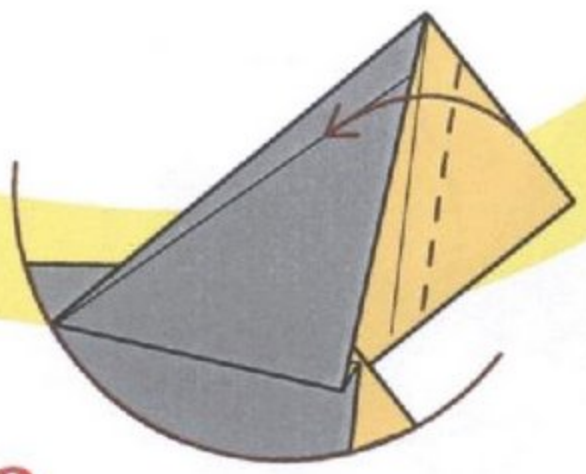
12 Mountain-fold the paper under the wing-notch. Fold model in half.



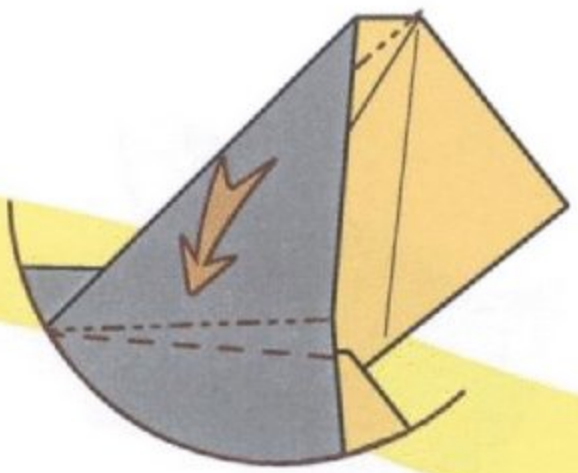
11 Apply **wing-notch technique**. Repeat with other wing.



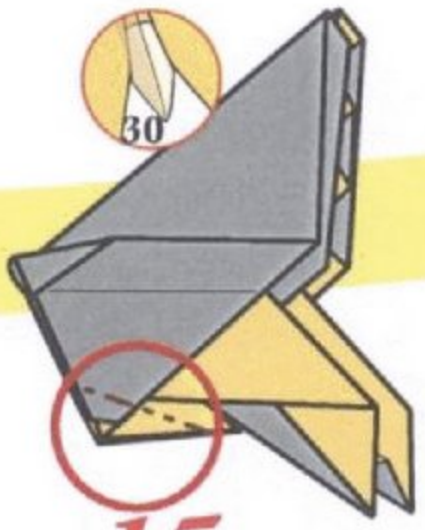
10 Valley-fold paper back from where the colors meet. Bring the triangle-tip back to the same point.



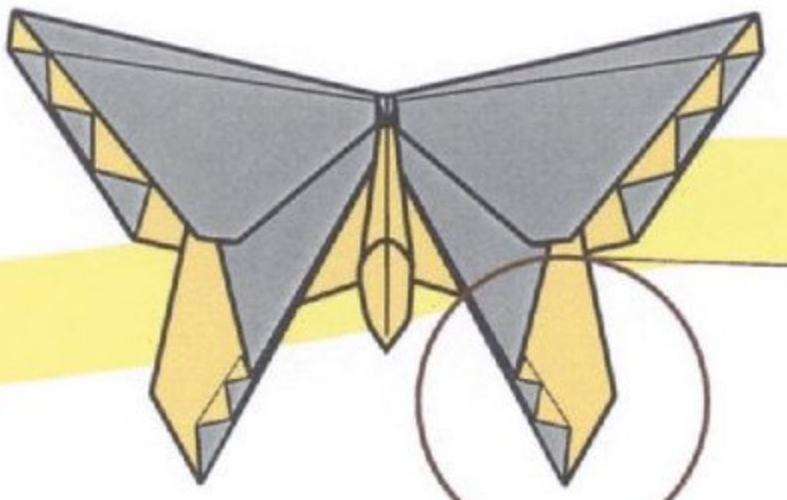
9 Fold outer-corner over, aligning the edge with mountain crease from the previous step.

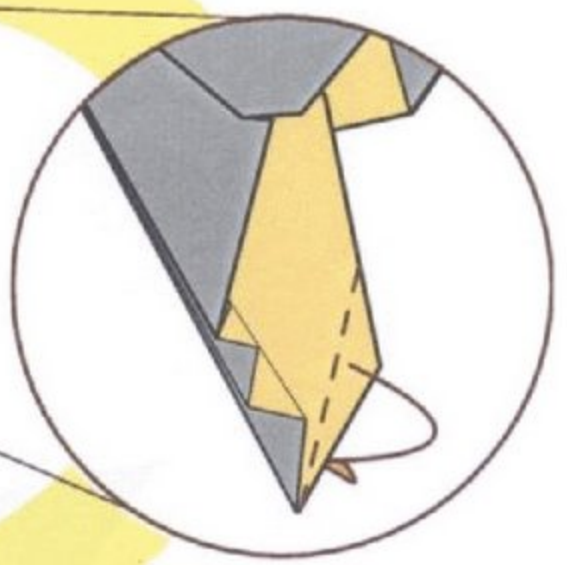


8 Crimp (roll mountain-fold on the inner edge of the forewing downward, creating a valley-fold). This creates a new corner at top.

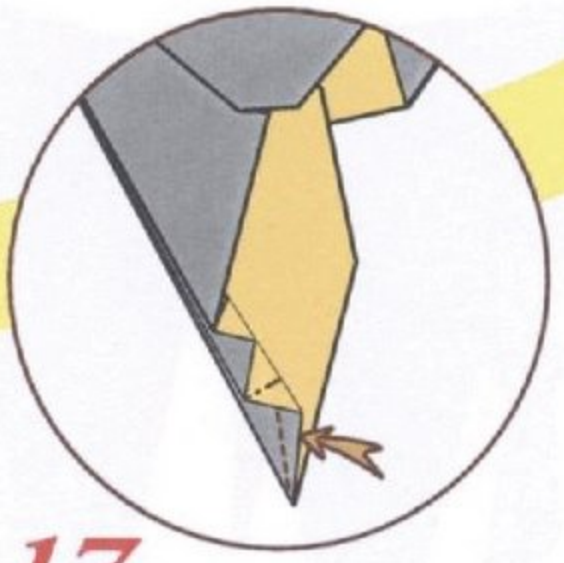


15 Apply **abdominal taper.**

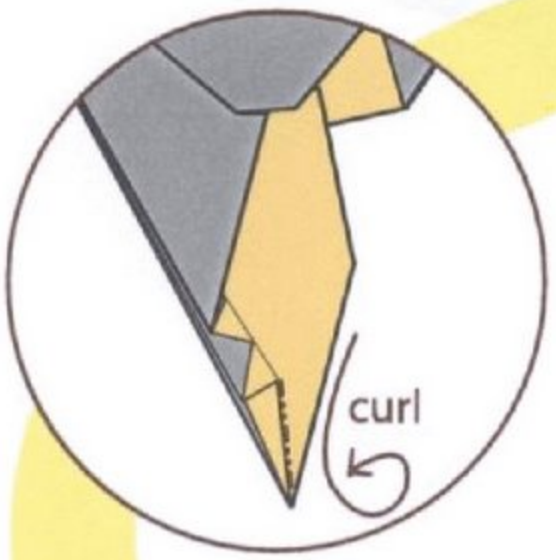




16 Hindwing detail.
Mountain-fold behind.



17 Inside-reverse.



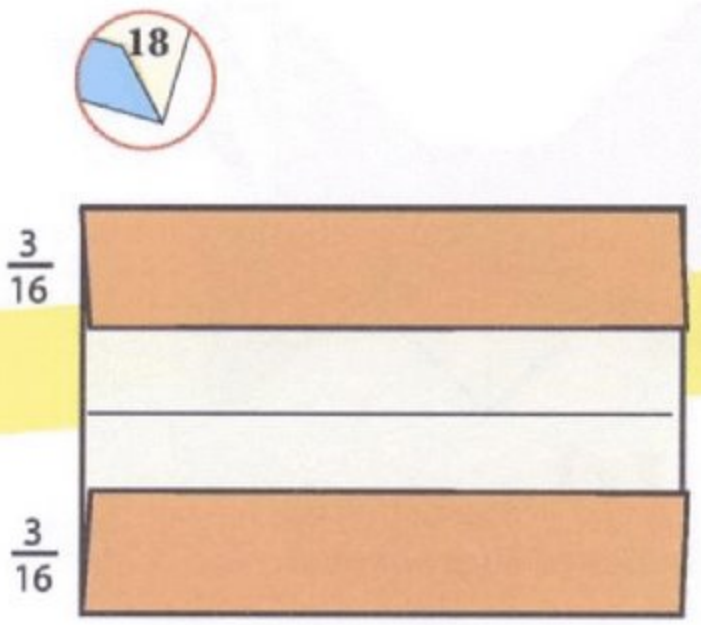
18 Pinch a mountain-fold, and curl each swallowtail point.

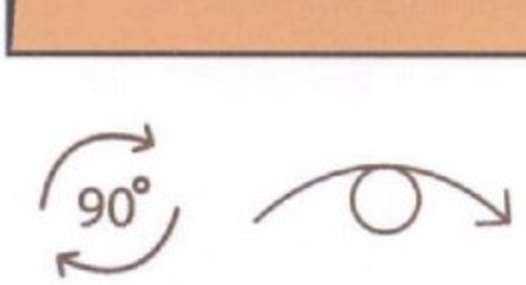
19 Result.

20 "Alexander Aztec Swallowtail"
A variation of a butterfly named for Richard Alexander.

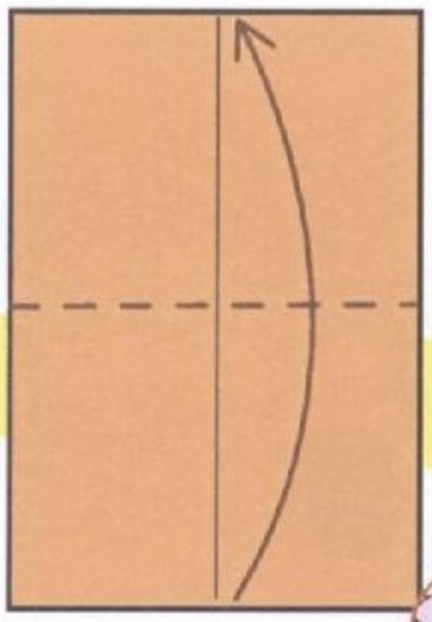
The Baxter

Michael named this model for Jonathan Baxter, an enthusiastic folder born in New Zealand. For several years he worked tirelessly to put Charlotte, North Carolina, on the origami map with his Southeastern Origami Festivals. We also toured Tokyo with Jonathan, as the guests of Master Akira Yoshizawa for the opening of his one-man, 88th Birthday celebration show at the Matsuya-Ginza Gallery. Jonathan was one of five origami artists that Yoshizawa invited to the opening, each selected to show how the master's art inspired a new generation of accomplished international origami artists.

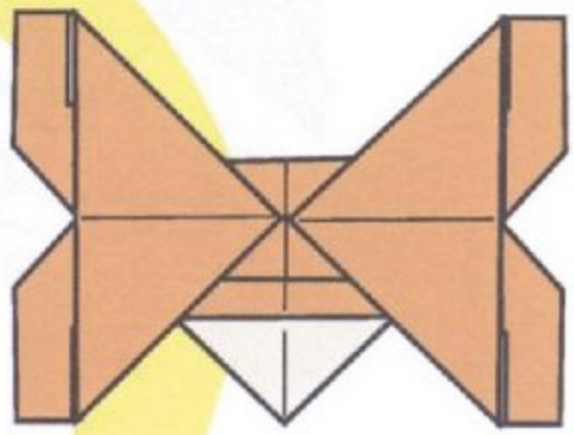




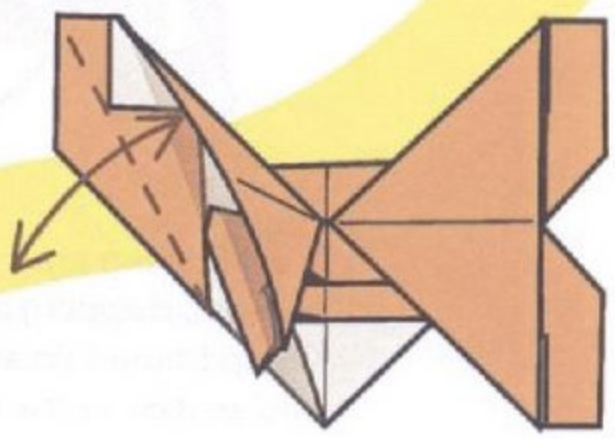
1 Start with a 3/16 **introductory fold** on the front top and bottom. Rotate.



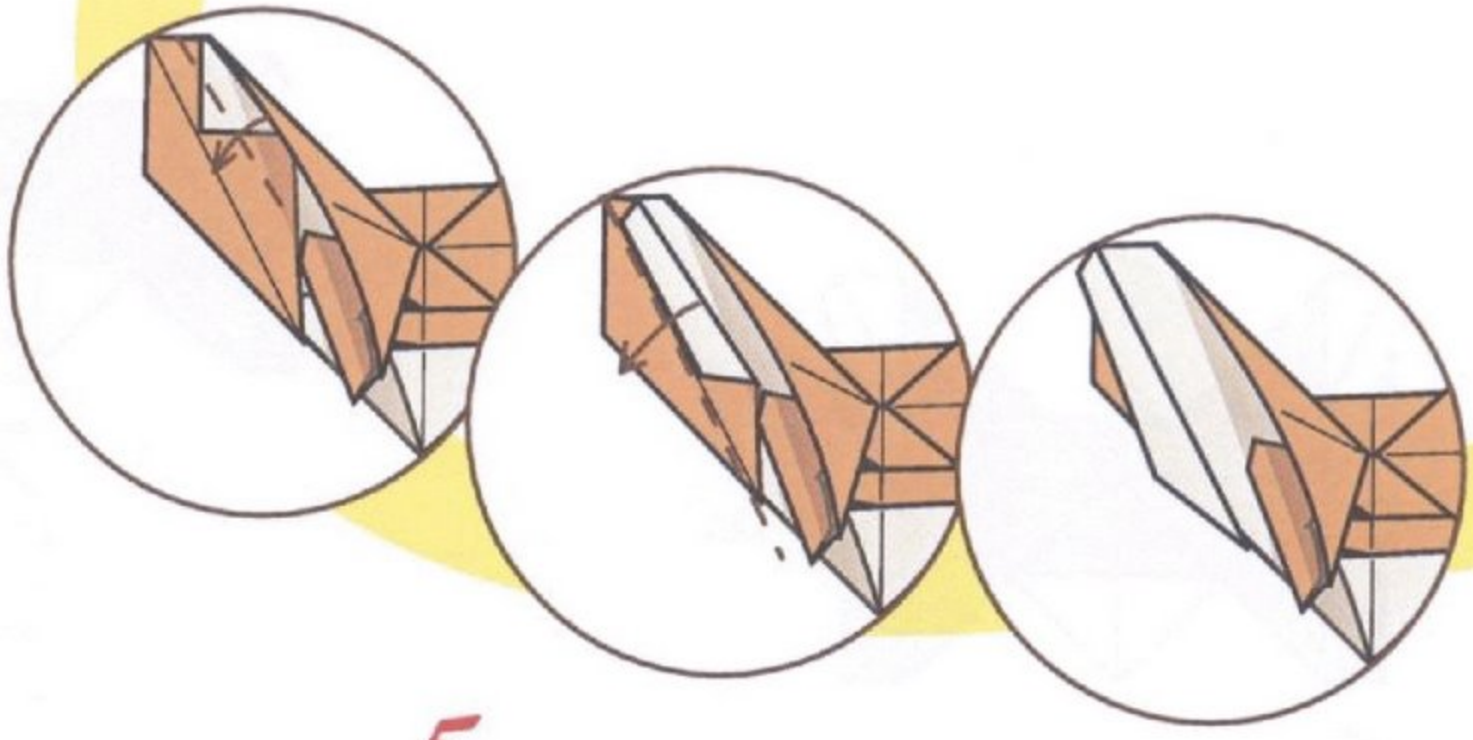
2 Begin **squash-folding.**



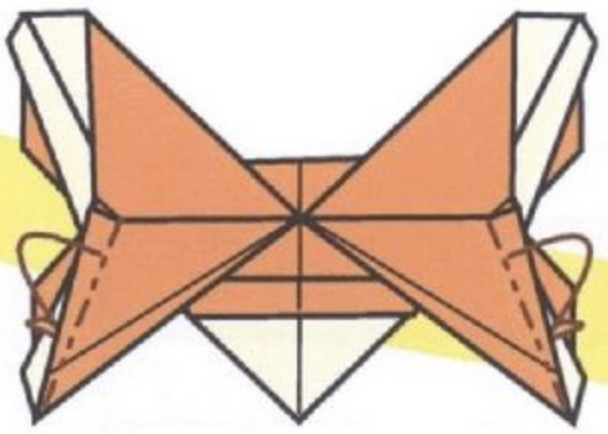
3 Result.



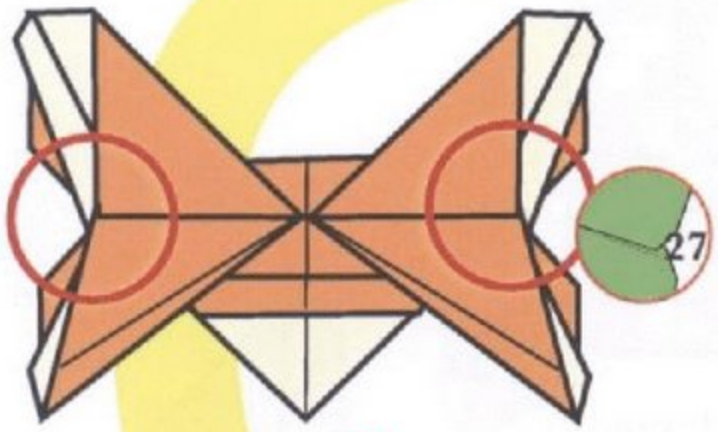
4 Open wing and pull out free paper from top area as far as it will go while staying flat. Put the paper back inside the wing.



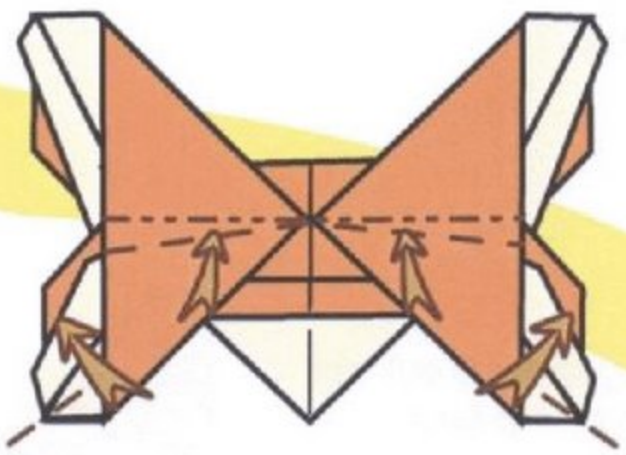
5 Fold indicated edge to crease. Fold multi layered shape over, using crease as hinge. Close top layer of wing. Repeat steps 4 & 5 with other wing.



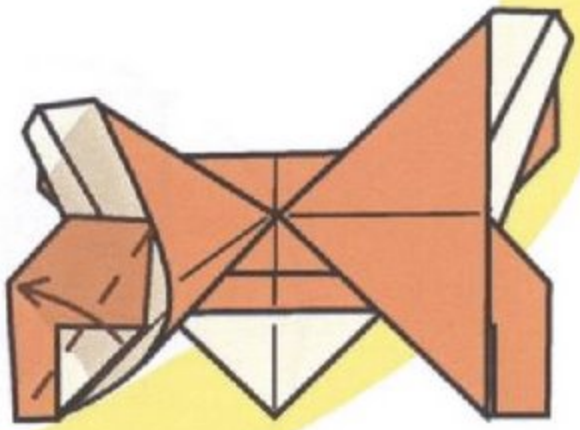
10 Mountain-fold indicated edges behind.



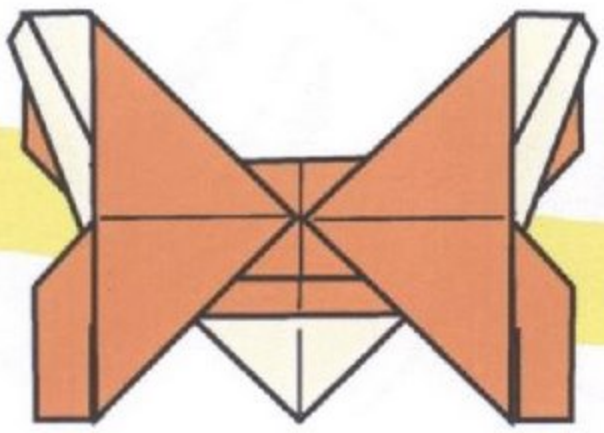
9 Apply **wing-notch technique** See diagram #10.



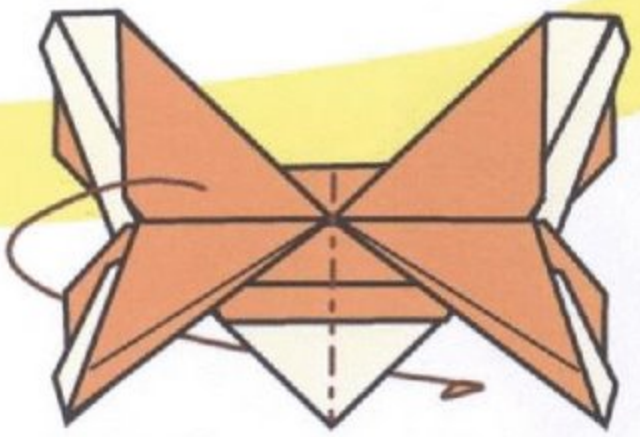
8 Roll top layer of hindwing upward, stopping at the hind corner. Crimp (mountain and valley-fold at the mid-section of the wings) to flatten.



7 Open top layer of the hindwings and pull out the free paper from inside the bottom area as far as it can go while staying flat.

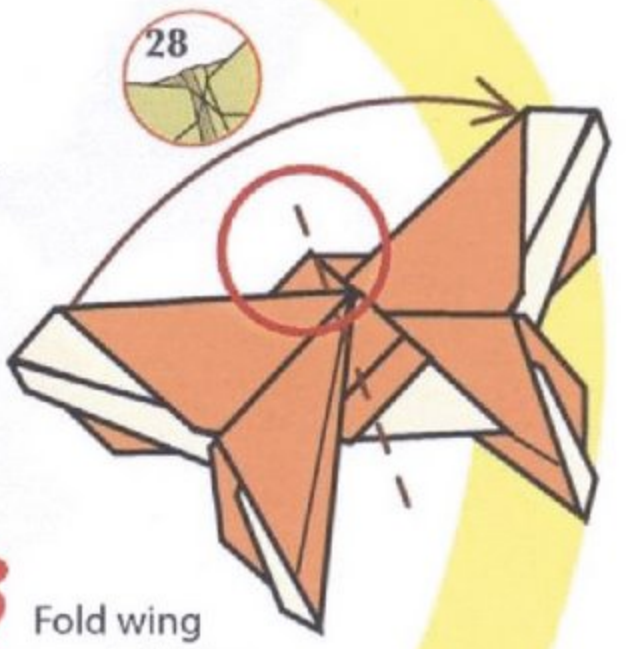


6 Result.



11 Mountain-fold in half, wing to wing.

12 Fold body paper over the top hindwing, allowing other wing to come from beneath. Match corner point of abdomen to crease on hindwing. Fold intersects top center of head.



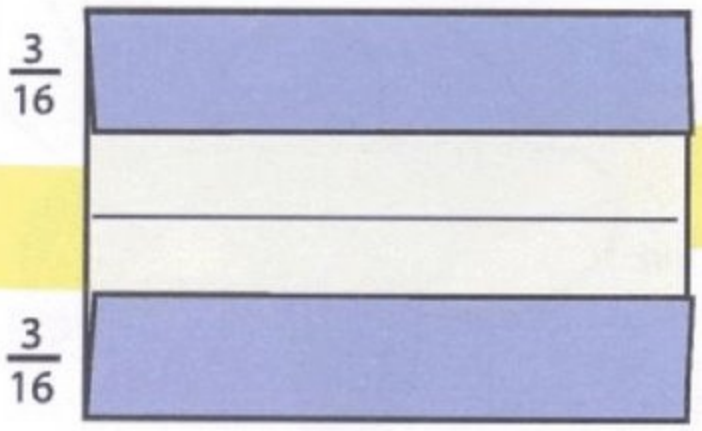
13 Fold wing to wing, sandwiching body between. Open. Apply **head style #1.**

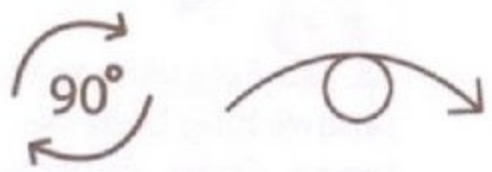
14 Apply **abdominal taper.** Open the wings.

15 "The Baxter"
A butterfly named for Jonathan Baxter.

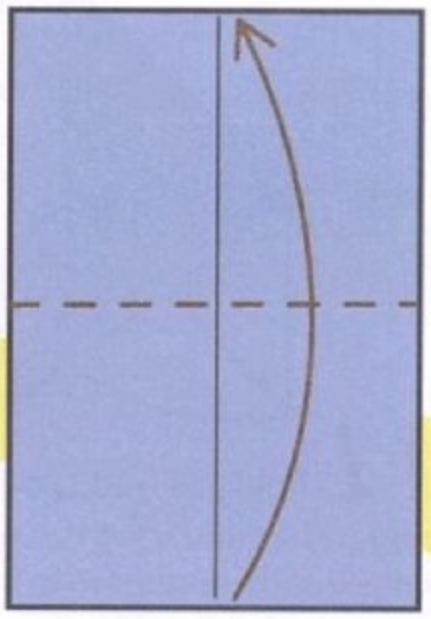
The Michael Shall

LaFosse named this butterfly for Michael Shall, an origami enthusiast from New York City and founding member of the Friends of the Origami Center of America. Michael Shall, Lillian Oppenheimer and Alice Gray transformed Lillian's New York-based group of folders into a not-for-profit organization to promote the sharing of origami. Michael LaFosse visited Lillian, Michael Shall, and their friends several times in the 1970's (where he developed much of his butterfly system during those visits) but fell out of touch with them for over a decade. When we attended their convention in 1992, Michael Shall resumed the same conversation as if no time had passed. Sadly, all three of these great ambassadors of origami, Lillian, Alice, and Michael Shall, have passed on, but their legacy, now called OrigamiUSA, continues their work of promoting the development and sharing of paper folding as a powerful means of creative expression.The beginning folding procedure for the Michael Shall butterfly are the same as for the Baxter, but there are different details.

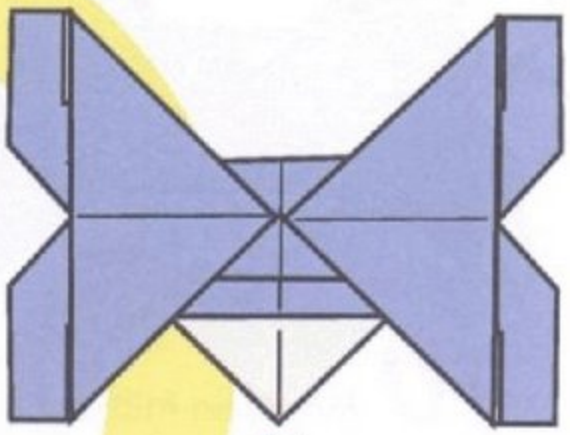




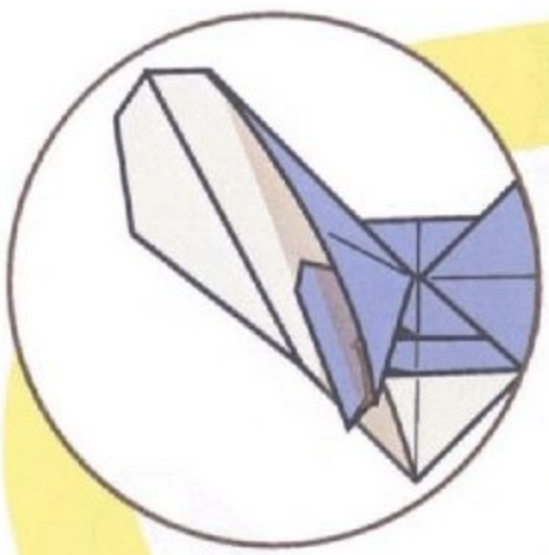
1 Start with a 3/16 **introductory fold** on the front top and bottom. Rotate. Turn over.



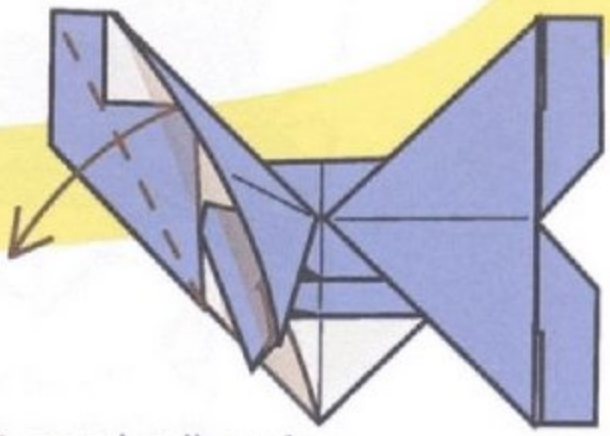
2 Begin **squash-folding.**

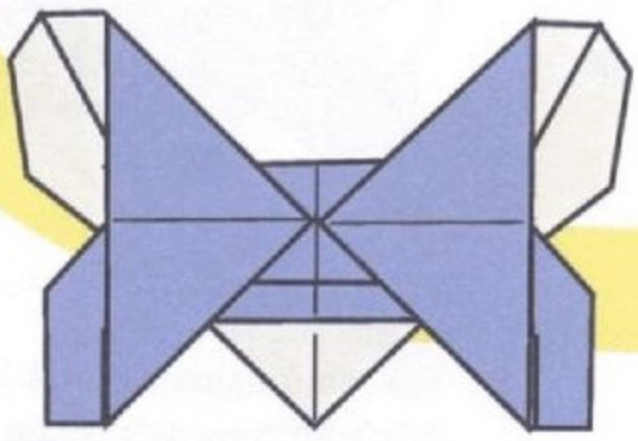


3 Result.

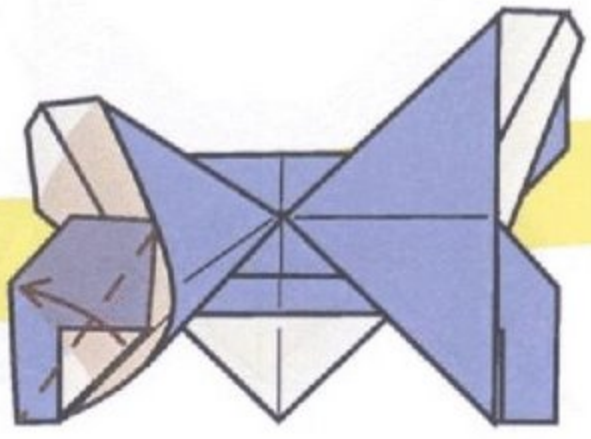


4 Open wing and pull out free paper from top area as far as it will go while staying flat. Repeat on other wing.

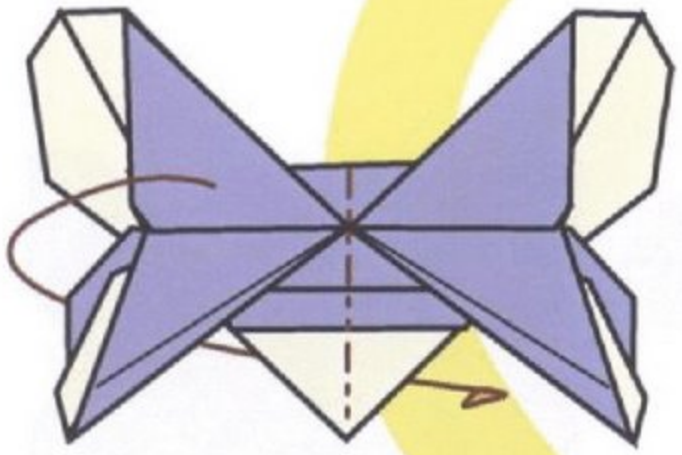




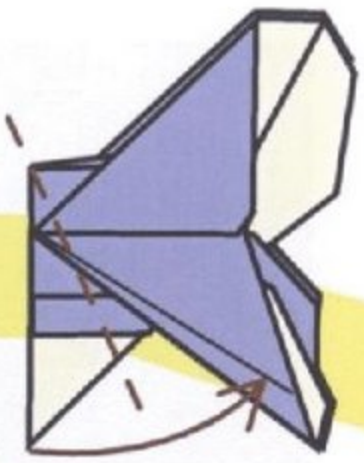
5 Result.



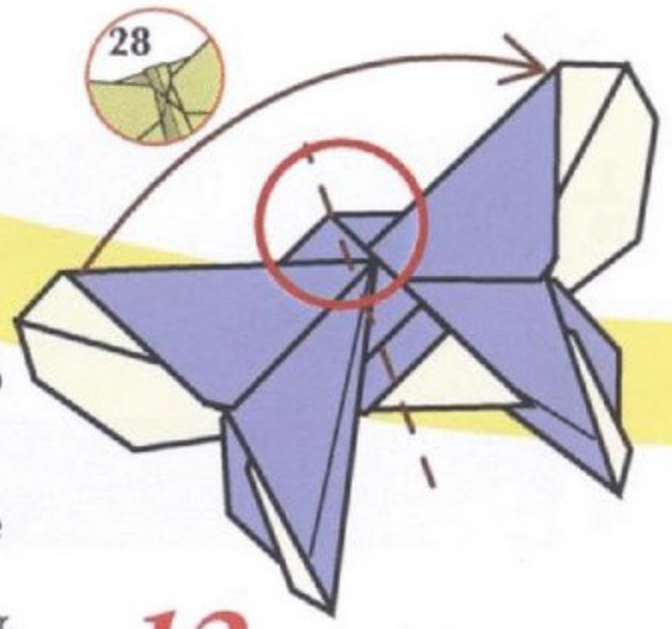
6 Open top paper of the hindwings and pull out free paper from inside the bottom area as far as it can go while staying flat.



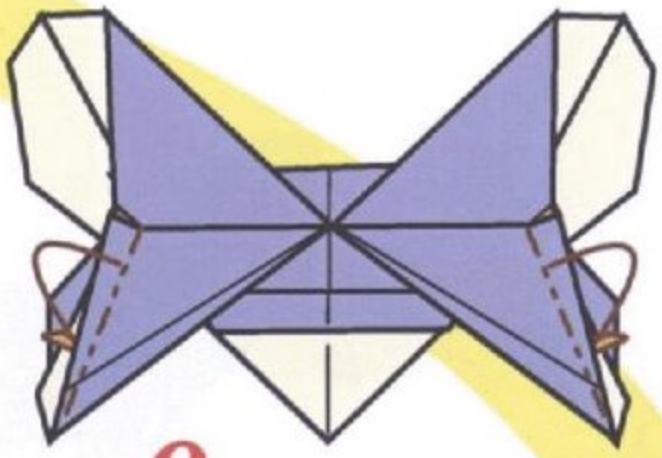
10 Mountain-fold in half, wing-to-wing.



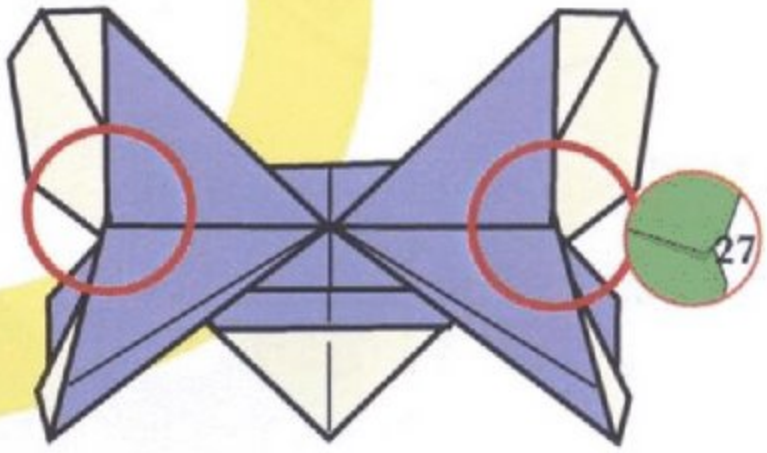
11 Fold the body paper over the top wing paper, allowing the wing paper to come out from underneath. Make the corner point of the body touch the crease on the hindwing. The fold made should travel to the top corner of the head paper.



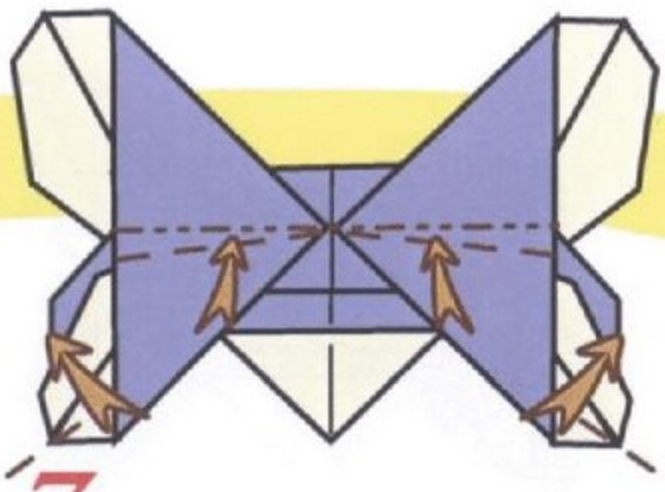
12 Fold wing to wing, sandwiching body between. Open. Apply **head style #1.**



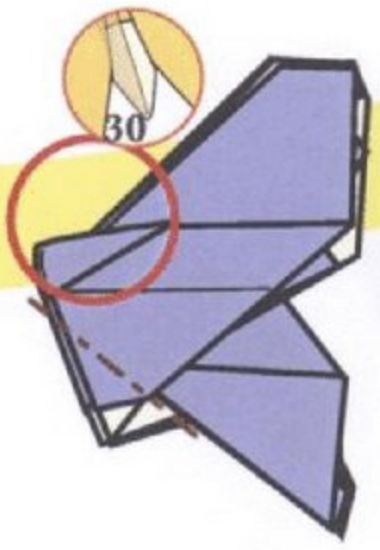
9 Mountain-fold indicated edges behind.



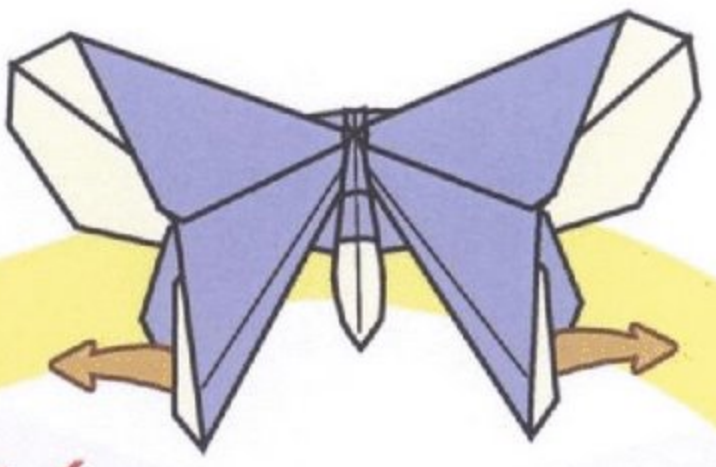
8 Your paper will look like this. Apply **wing-notch technique**



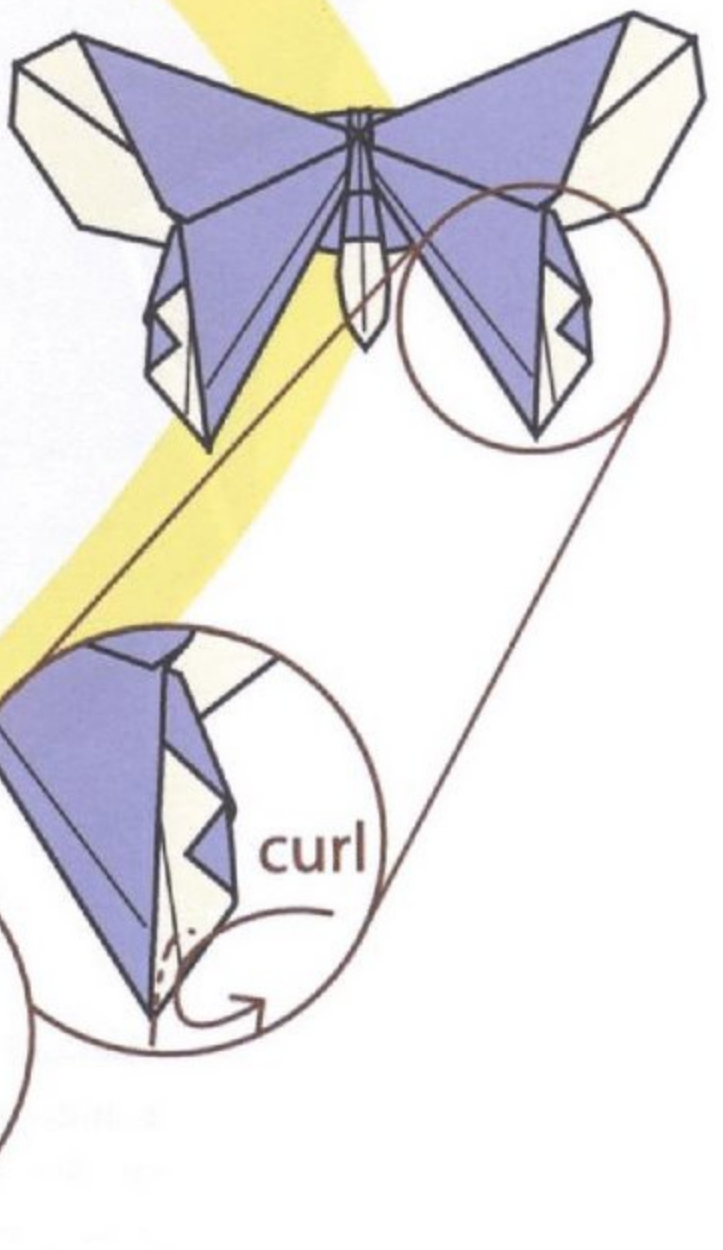
7 Roll top paper of the hindwings upward, stopping at hind corners. Crimp (mountain and valley-fold at the mid-section of the wings) to flatten.



13 Use the **abdominal taper.** Open the wings.



14 Bring out the hidden corners from inside the hindwings.

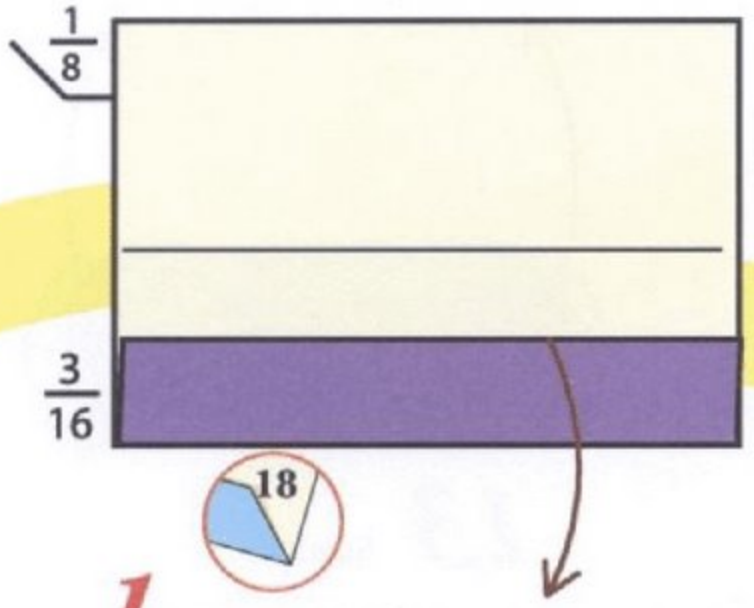


15 Fold corners in to form patterns on each hindwing. Curl the tips of the hindwings (optional).

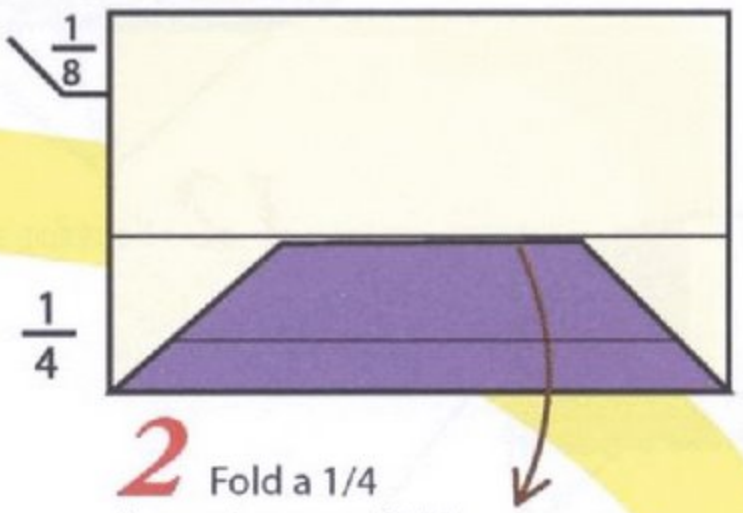
16 "The Michael Shall".
A butterfly named for Michael Shall.

The Temko

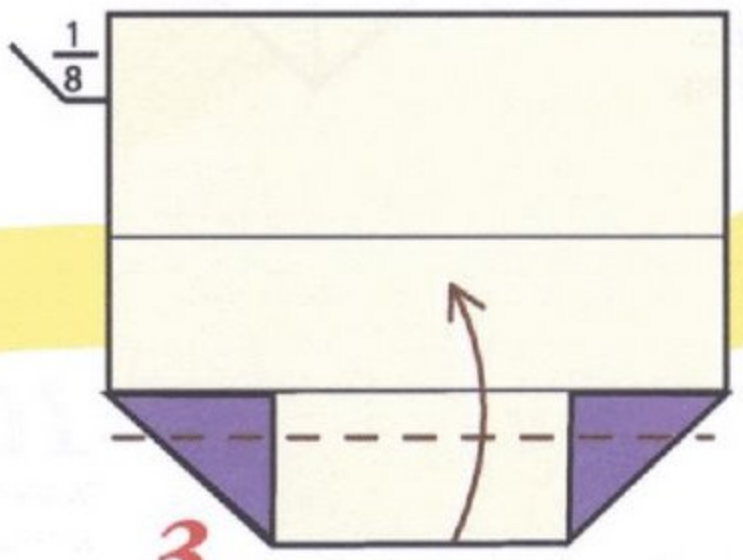
Michael named this butterfly for Florence Temko, an authority on paperfolding and paper arts for decades, and author of dozens of origami publications from England and America. Along with origami pioneers Samuel Randlett, Robert Harbin, Lillian Oppenheimer, and Isao Honda, Florence Temko was one of the most prolific authors of origami books that Michael devoured as a youngster. We had the most delightful afternoon with her a few years ago when she visited Stockbridge, Massachusetts, and she continues to be a good friend, invaluable talent, and wonderful source of inspiration. Michael is honored to follow in her footsteps by carrying on her publishing tradition with his own works designed for young folders.



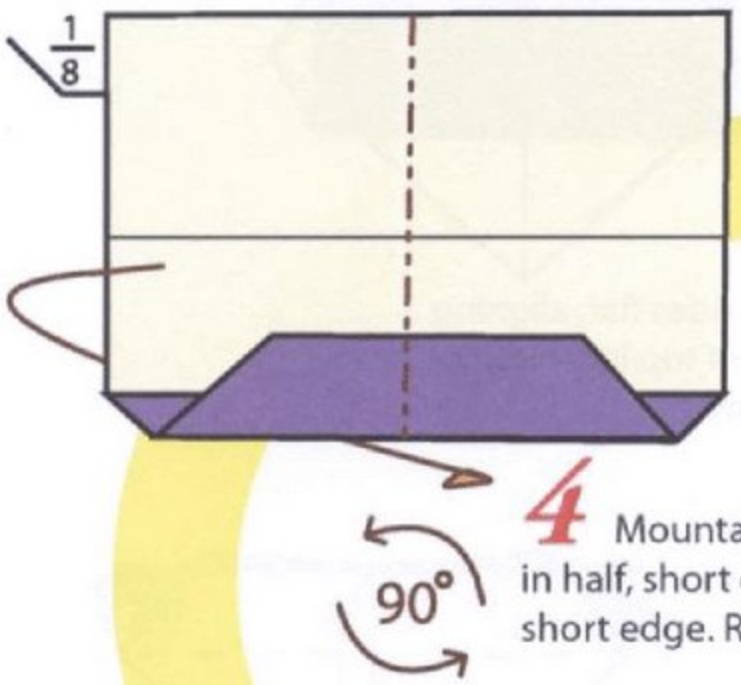
1 Make a 3/16 **introductory fold** on the front bottom, and a 1/8 bevel on the behind the top. Unfold bottom front layer.



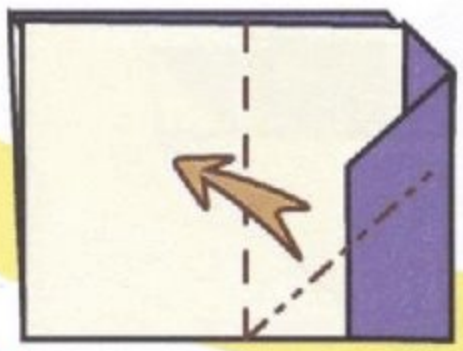
2 Fold a 1/4 **introductory fold** with bevels. Unfold.



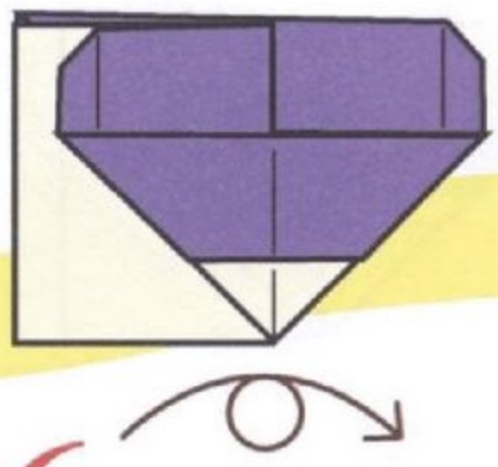
3 Re-fold bottom edge using the 3/16 crease from step #1.



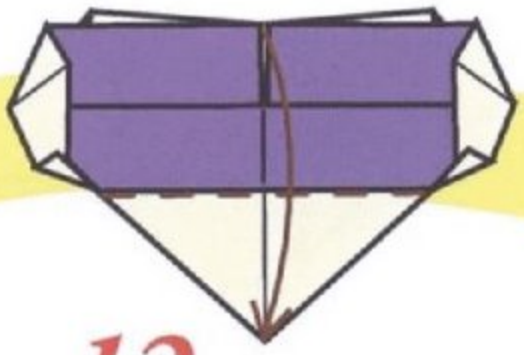
4 Mountain-fold in half, short edge to short edge. Rotate.



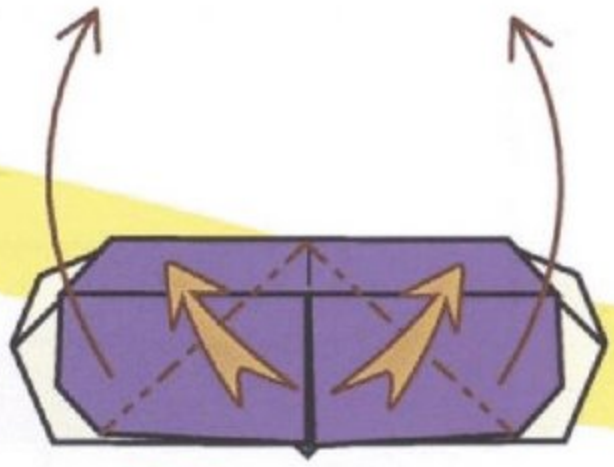
5 Squash.



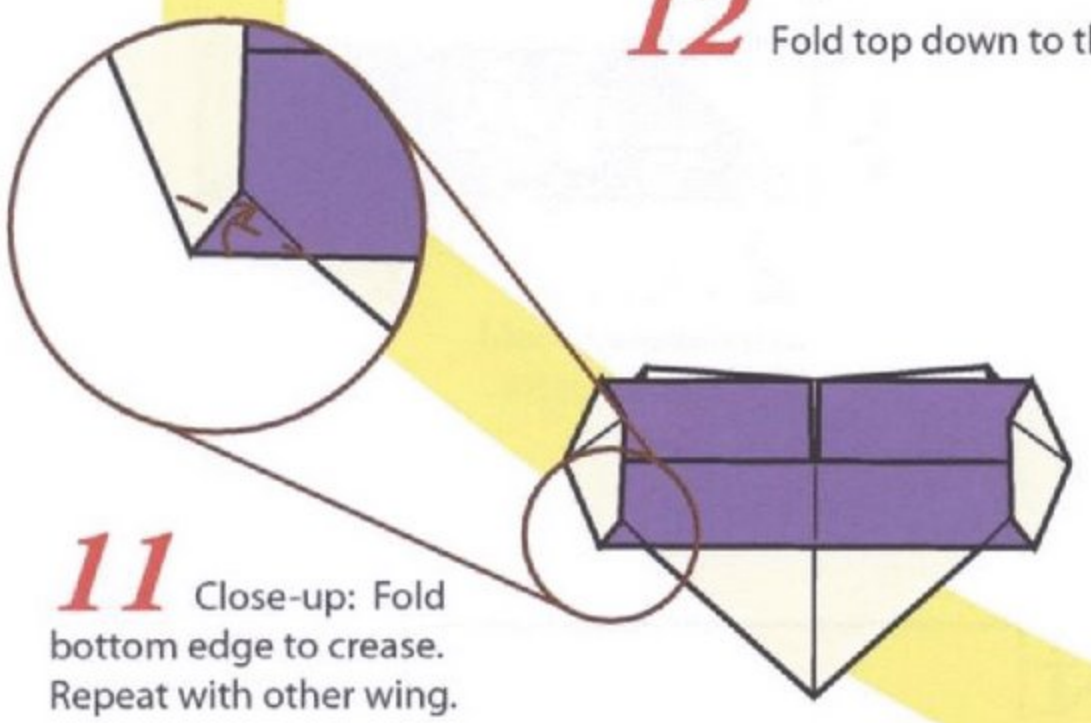
6 Turn over.



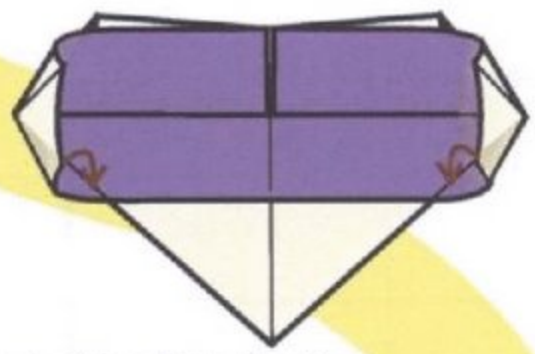
12 Fold top down to the point.



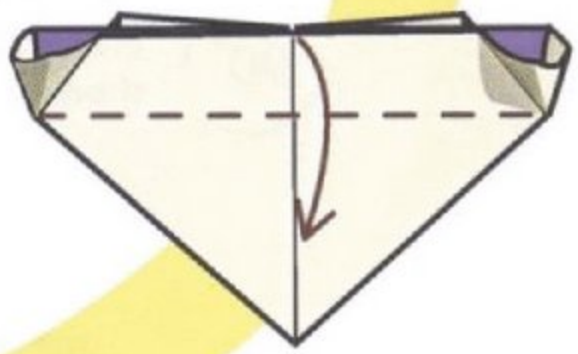
13 Squash.



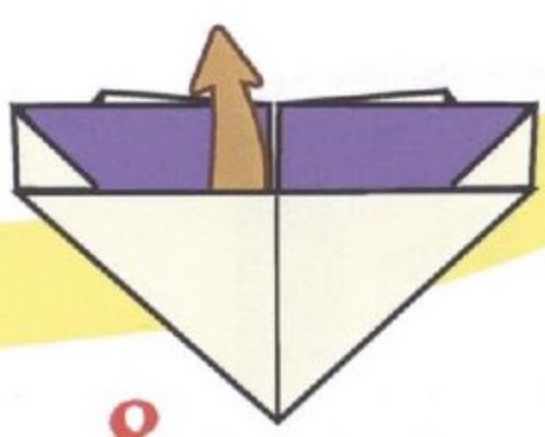
11 Close-up: Fold bottom edge to crease. Repeat with other wing.



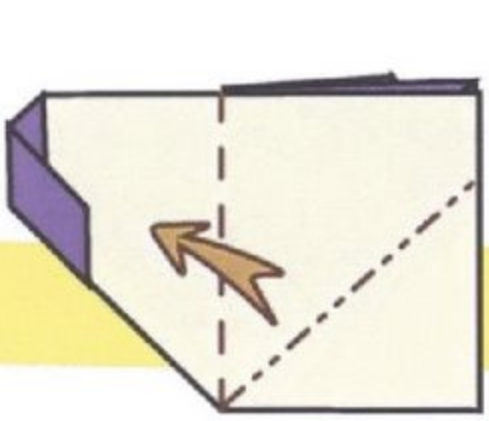
10 Squash sides flat, aligning bottom corners of top layer shape with crease below.



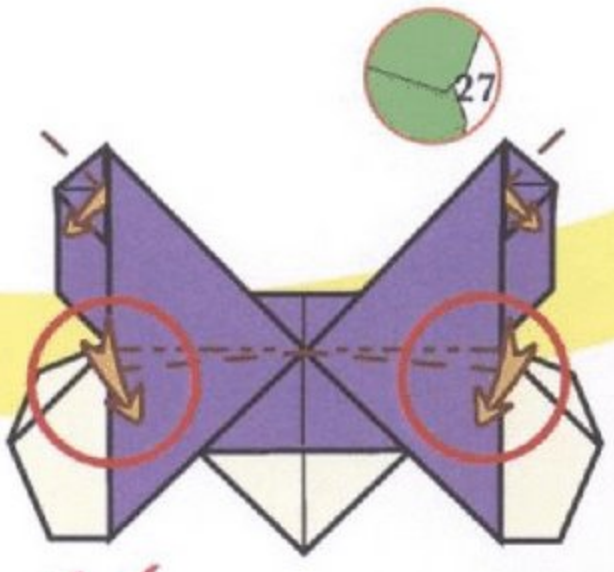
9 Fold in front.



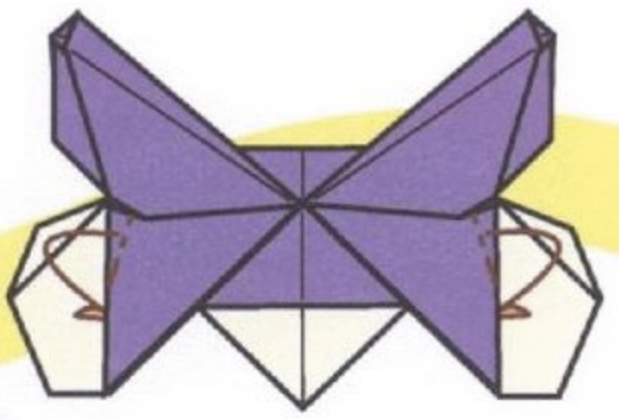
8 Pull out layer from wider side.



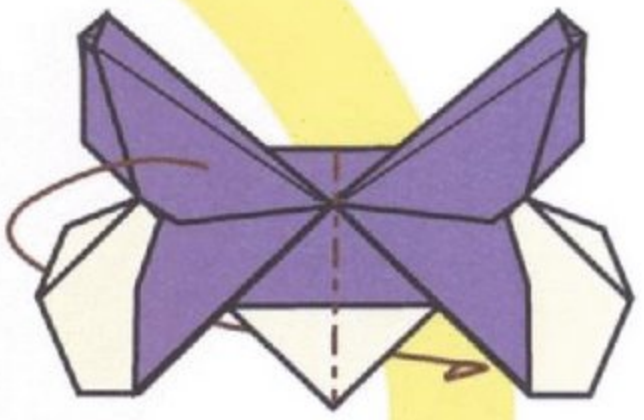
7 Squash.



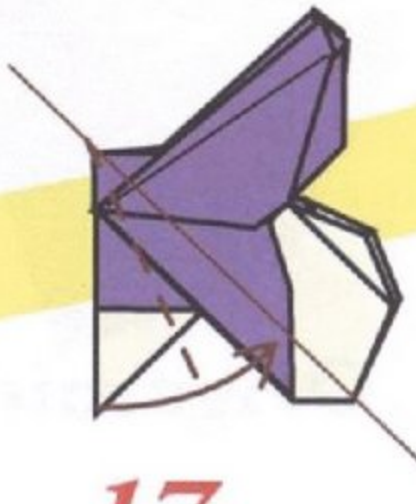
14 Roll top layer of forewing downward, matching top corner to folded edge below. Crimp (mountain and valley-fold at the mid-section of the wings) to flatten.
Apply **wing-notch technique**.



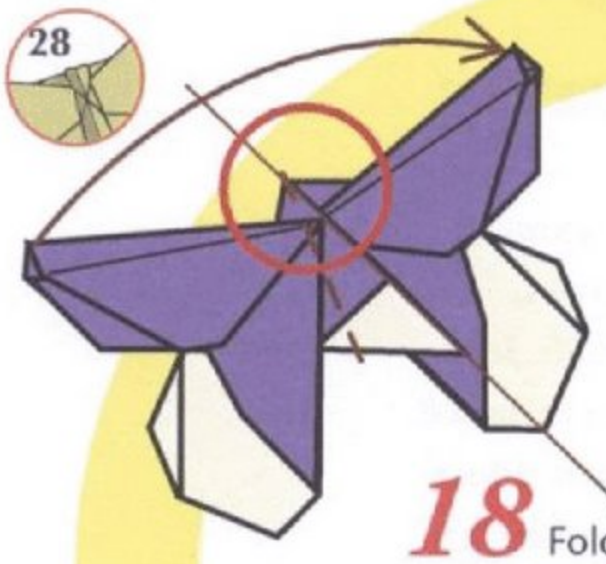
15 Fold corners inside.



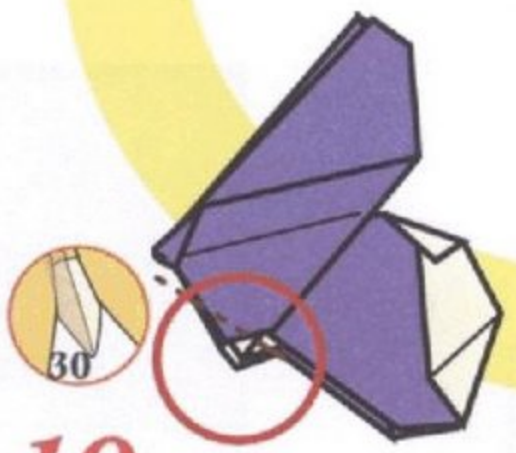
16 Mountain-fold, wing to wing.



17 Fold the body paper over top paper of hindwing, allowing other wing out from beneath. Align abdomen point to crease on hindwing. Fold to the top center of head.



18 Fold wings together.
Apply **head style #1.**

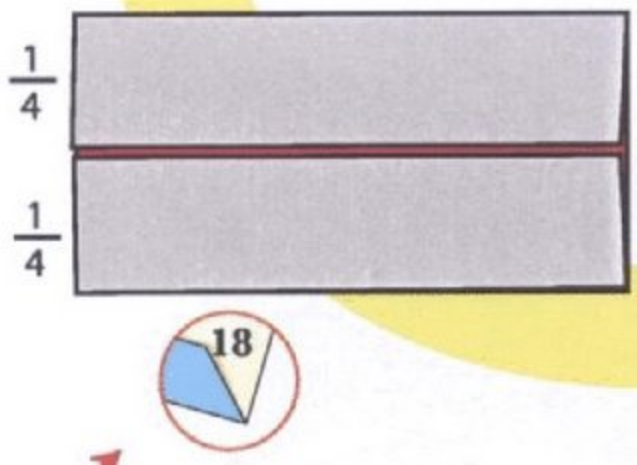


19 Apply **abdominal taper.**
Open the wings.

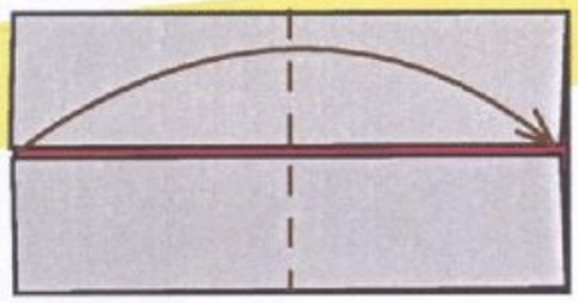
20 "The Temko"
A butterfly named for Florence Temko.

Origamidō Butterfly

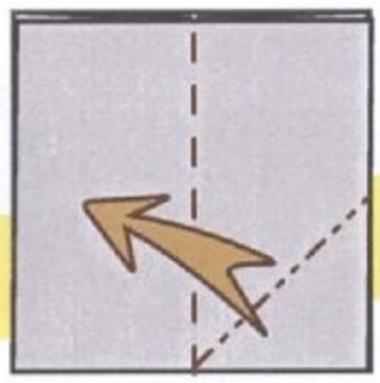
Michael named this butterfly for the Origamidō Studio, a special place founded by Richard L. Alexander and Michael G. LaFosse in 1996. In comparison to many of the other models included in these diagrams, the Origamidō Butterfly uses a different aspect of Michael's system. Consider his method for creating the color change and unique head style when designing your own models.



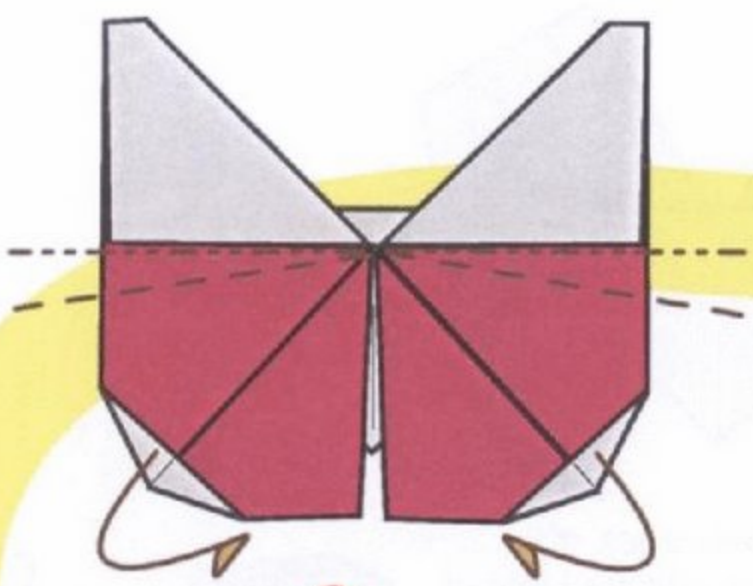
1 Start with two, 1/4 **introductory folds** (cupboard fold).



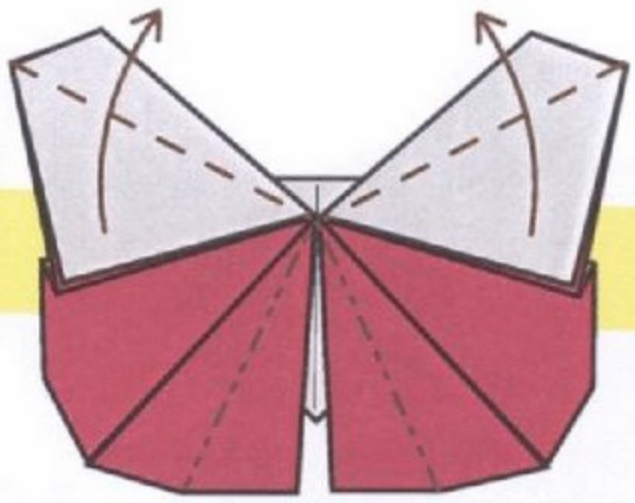
2 Valley-fold short edges together. Rotate so the folded edge is on the bottom.



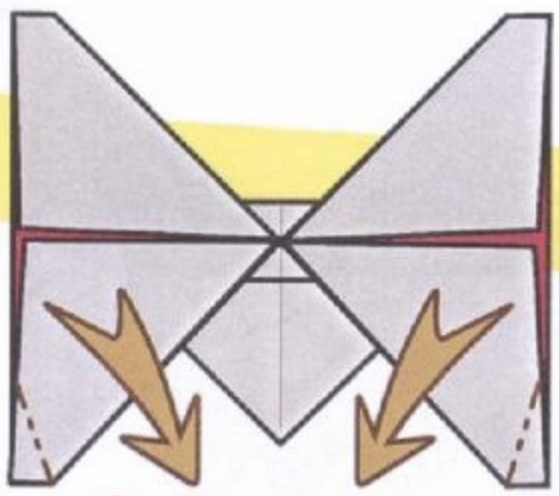
3 Squash.



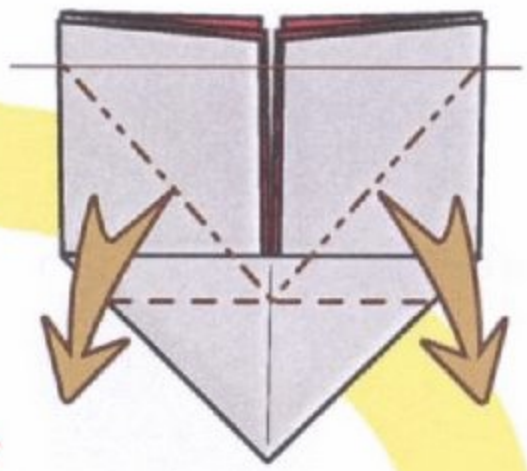
9 Crimp (mountain-fold along existing horizon, bring outside ends of the mountain fold down). The leading edge of the forewing will change as you do this. Carefully turn hindwing corners inside-out.



10 Valley-fold forewing papers up, and mountain-fold hindwing corners under.



8 Open top layers of hind-wings, squash trapped paper to lie flat.

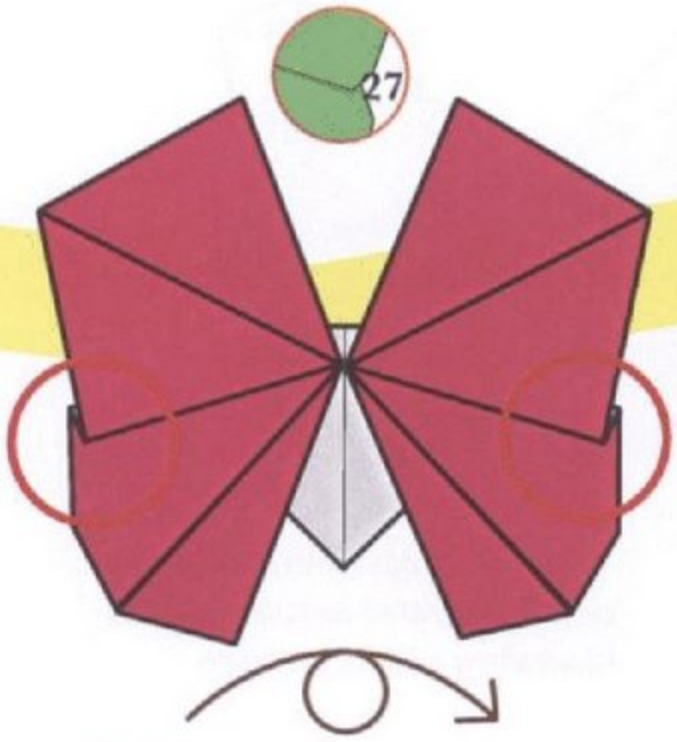


7 Keep all of the layers neatly together. Squash.

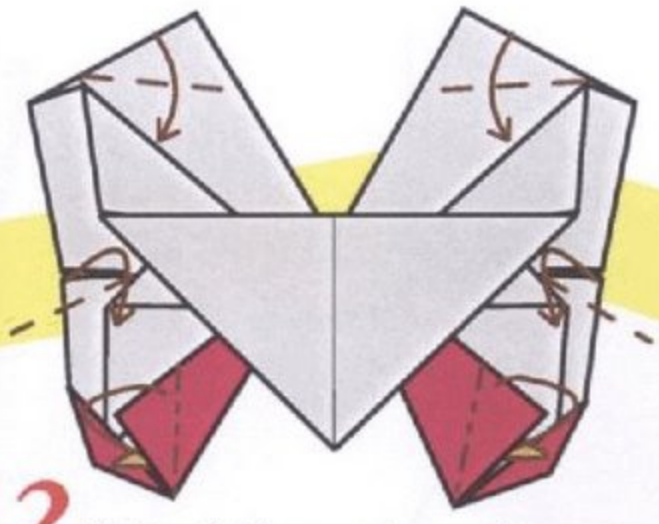
4 Turn over.

5 Squash.

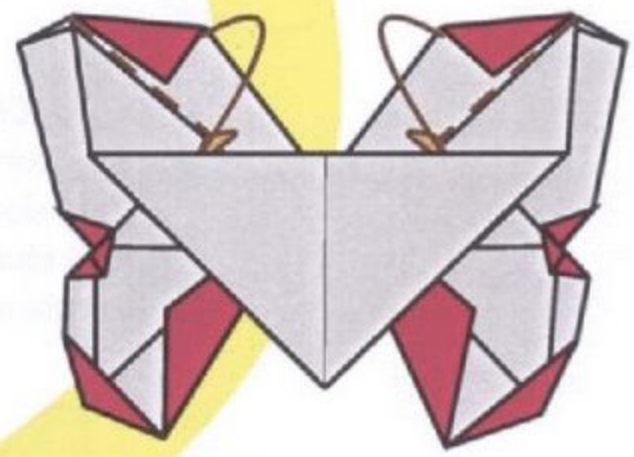
6 Fold bottom point up along the center gap, making sure to leave a margin at top (not folding it completely in half). Unfold.



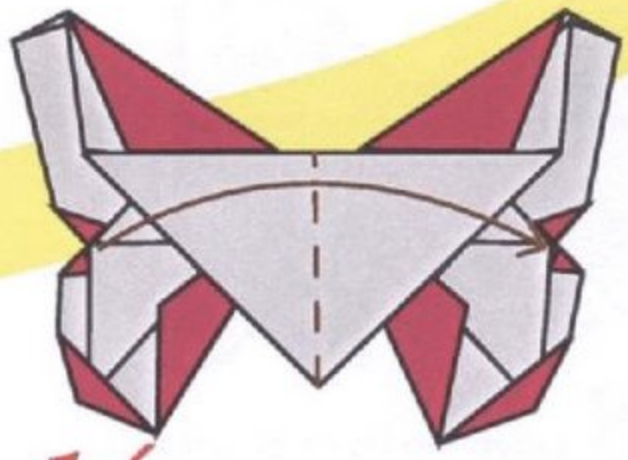
11 Apply **wing-notch technique.** Turn over.



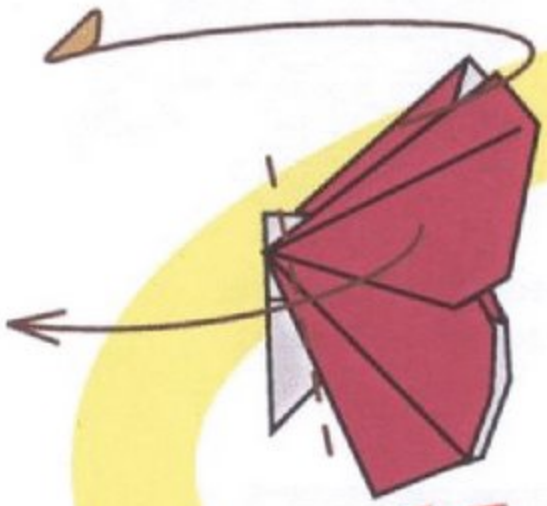
12 Valley-fold raw edges of forewing papers to the indicated folded edges. Valley-fold wing separation corners down. Mountain-fold hindwing papers under.



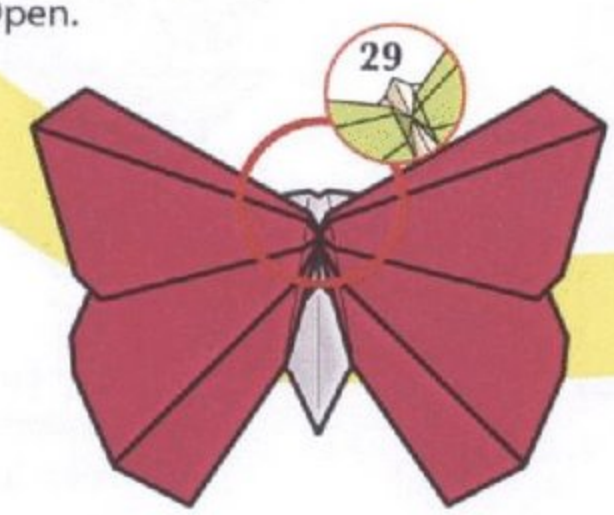
13 Valley-fold upper layer papers over leading edge and tuck under triangular layers.



14 Valley-fold in half.

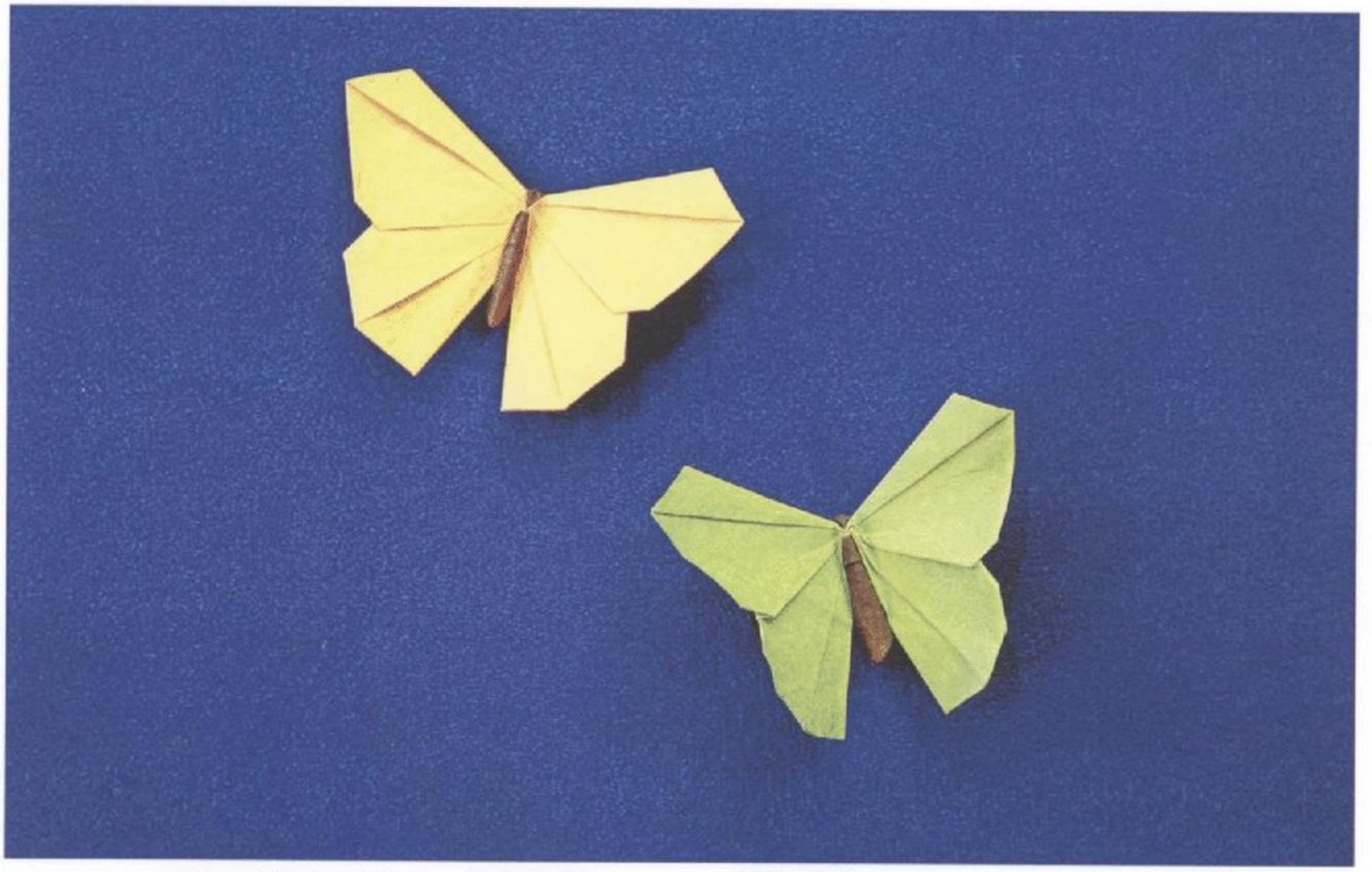


15 Fold wings to meet, sandwiching body between. Open.

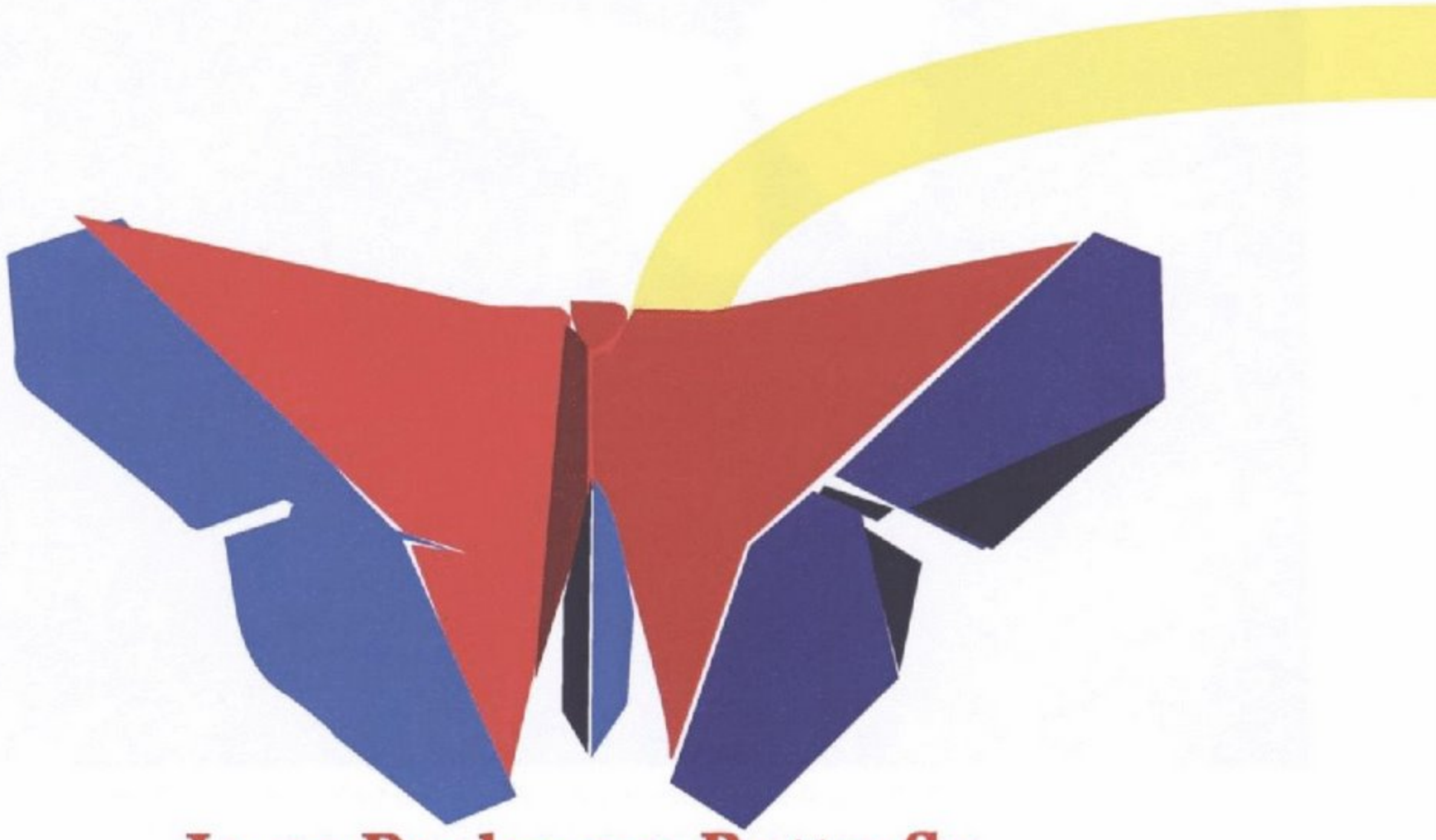


16 Apply **head style #2** (since the center does not come to a sharp point).

17 The "Origamidō Butterfly" Named for the Origamidō Studio.

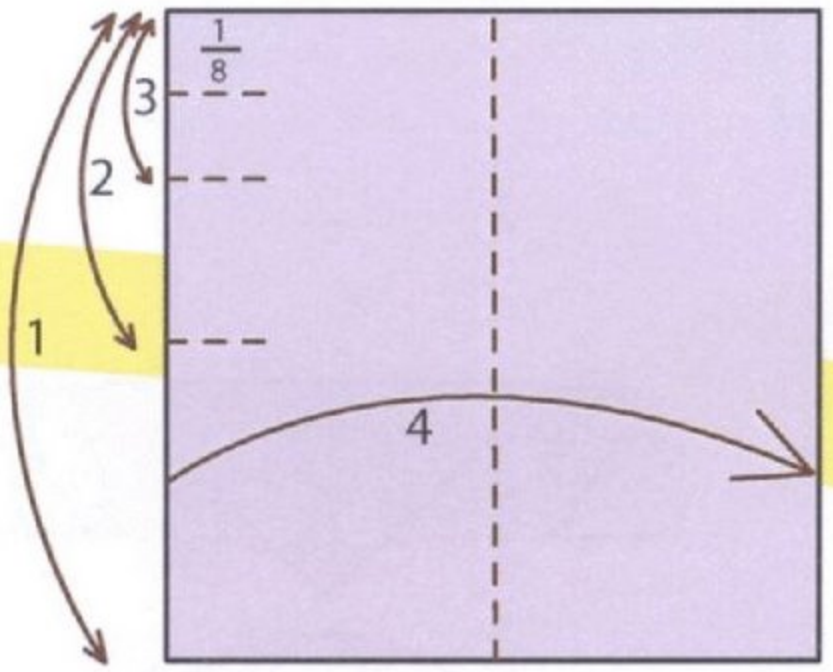


Origamidō Butterflies and a variation (below-right) folded by Michael G. LaFosse from Origamidō Studio's handmade papers. The sheen is from mica added to the pulp.

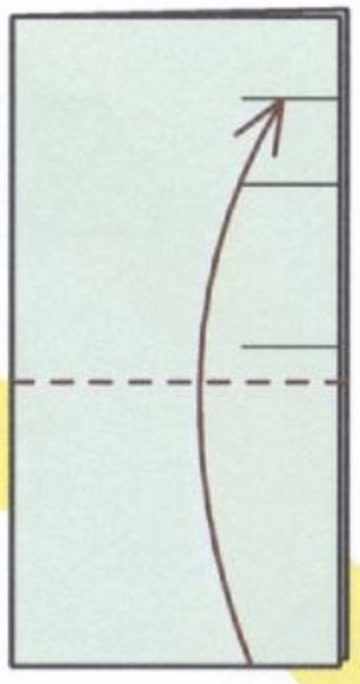


Joyce Rockmore Butterfly

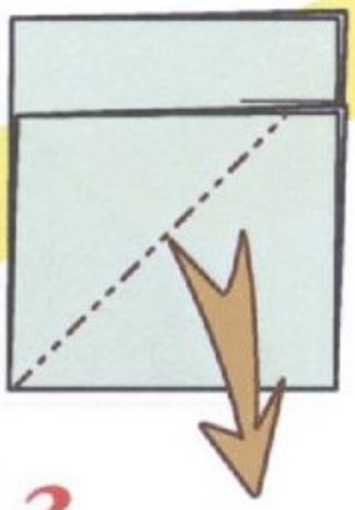
Michael named this butterfly for Joyce Rockmore, a founder of Paperfolders In New England (PINE), and TV personality of a cable-access show in Brockton, Massachusetts called *Everybody Folds Something*. Joyce enjoyed the social aspects of sharing new origami projects with friends, and attended conventions in New York many times. Her motherly personality won over friends instantly, and her generosity with clever folds made her a conduit, an ambassador, and a catalyst for folders and groups in the Boston area. This design produces a shape reminiscent of the Zebra Long-wing, a member of the family of tropical butterflies called Heliconians.



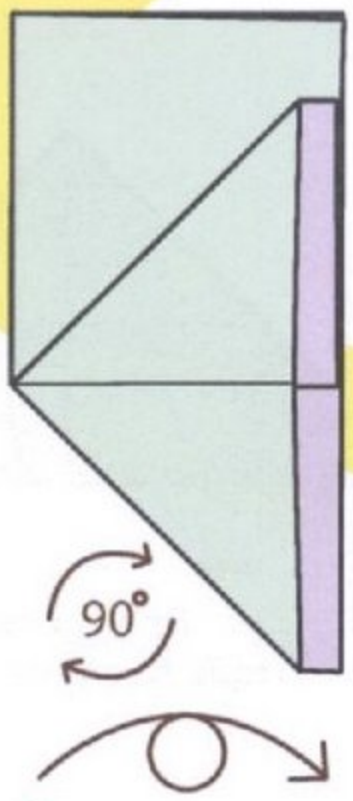
1 Start with three pinch marks, dividing the remainder in 1/2 each time to find the upper one-eighth, then book fold in half.



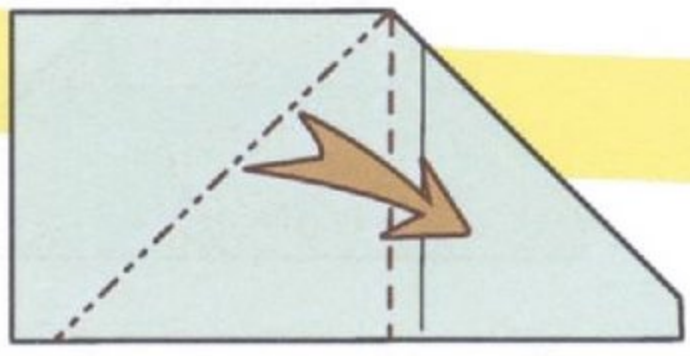
2 Valley-fold lower short edge to 1/8 pinch mark.



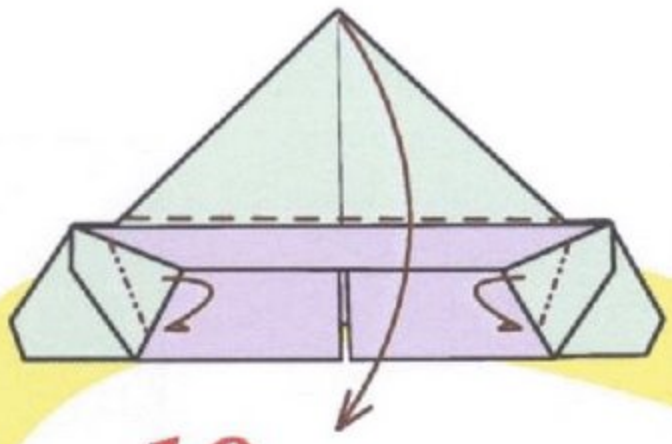
3 Squash.



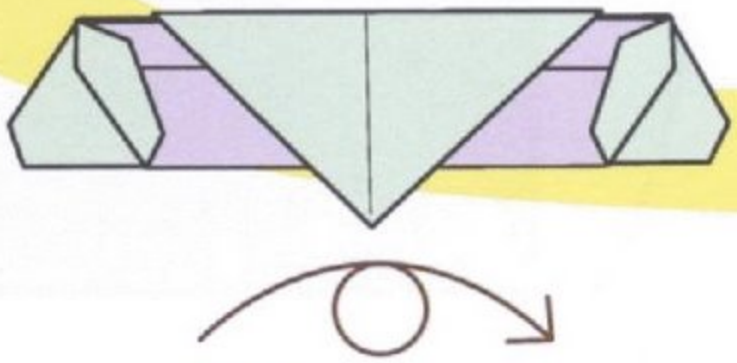
4 Rotate. Turn over.

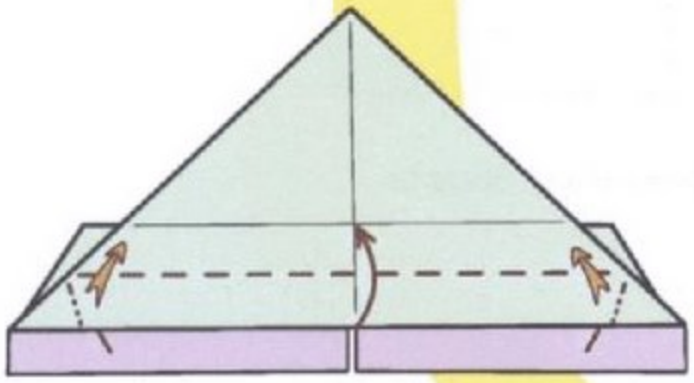


5 Squash.



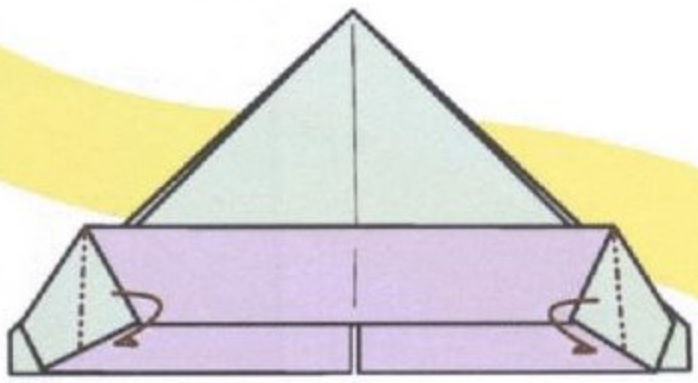
10 Fold tips behind.
Fold upper corner down over.



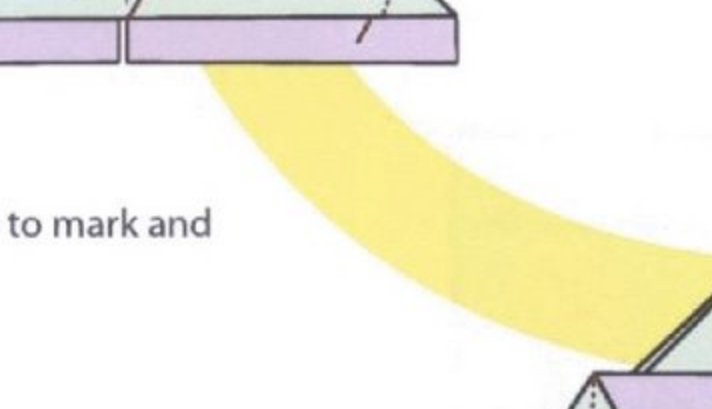


11 Turn over.

9 Open to mark and squash.

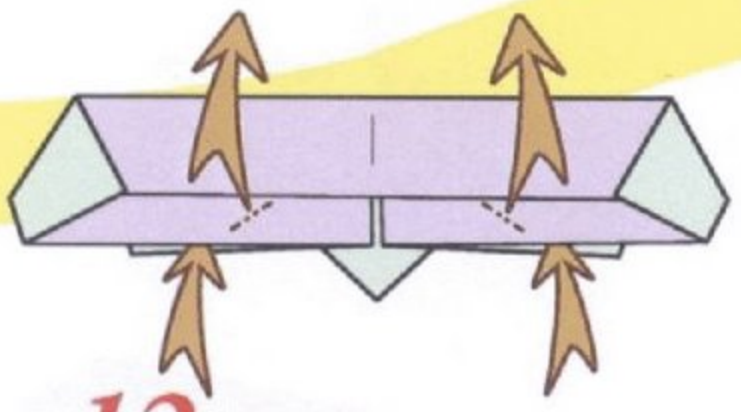


8 Fold tips behind.
Turn over.

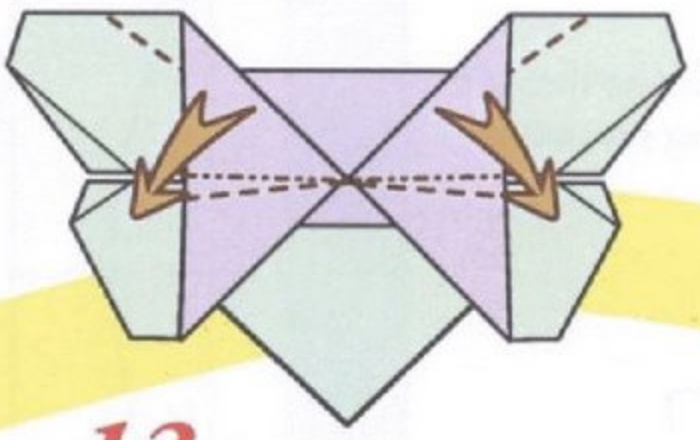


7 Open to mark and squash corners.

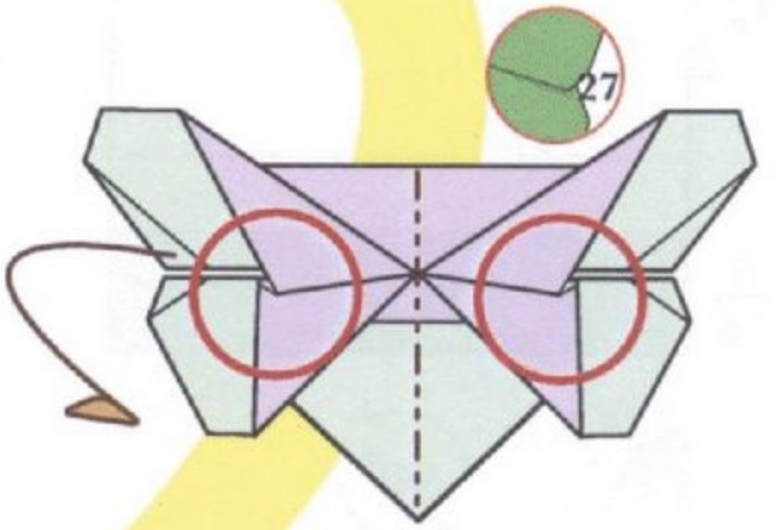
6 Fold upper corner to bottom center. Unfold.



12 Open and squash.

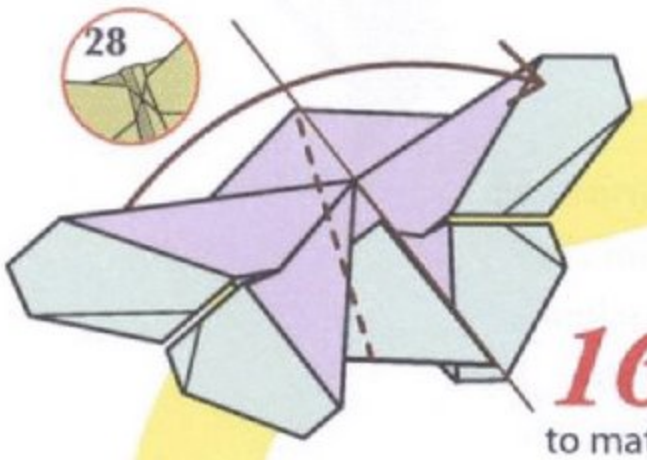


13 Crimp wing separation by swinging forewings downward.

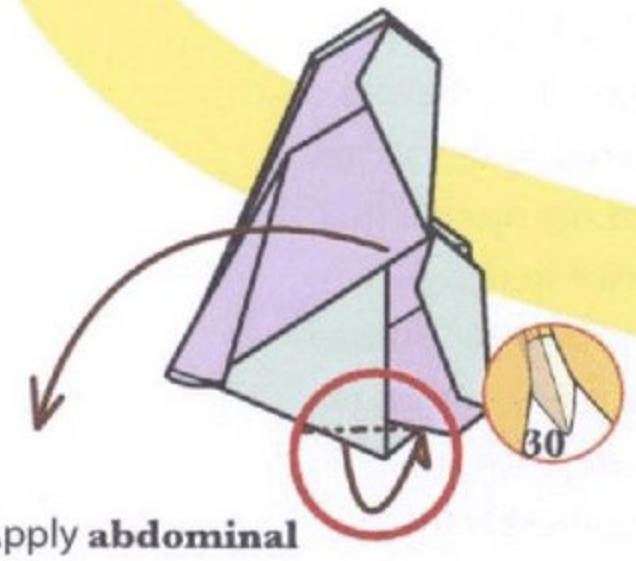


14 Fold in half.
Wing-notch detail.

15 Align abdomen tip to superimposed reference, allowing other wing to come out from beneath.



16 Fold other wing over to match tips and notches, sandwiching body between. Apply **head style #1**.

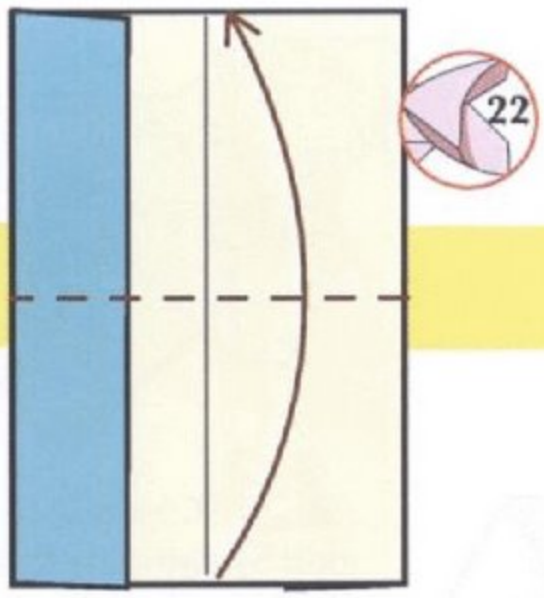


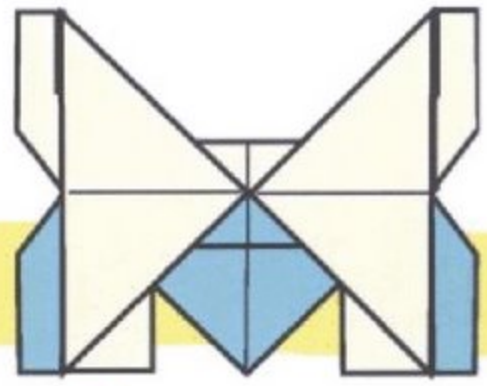
17 Apply **abdominal taper.** Open.

18 "The Joyce Rockmore"
A butterfly named for Joyce Rockmore.

1 Start with a 3/16 **introductory fold** on the bottom front side, and the top back. Rotate.

2 Fold in half, and go through the **squash-folding** procedure.



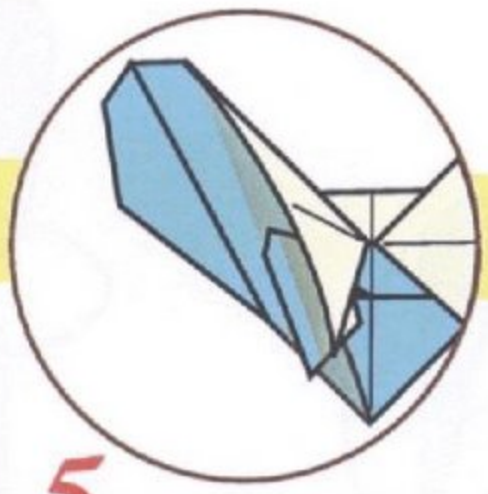


3 Base result.

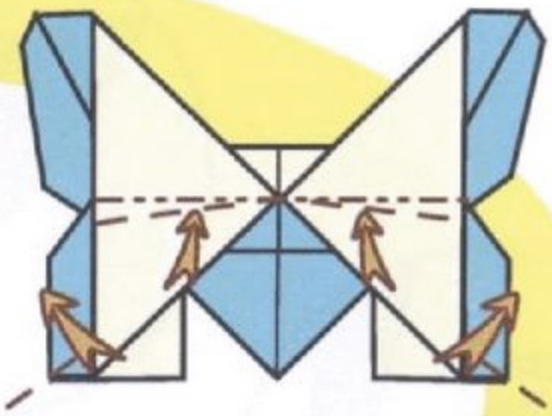
The Nolan

Michael named this butterfly for origami artist and author J.C. Nolan. We met Jay at an origami convention in New York City, where he approached Michael about diagramming Michael's designs. Jay was on the cutting edge of using computer graphics programs for diagraming, at about the same time we were developing a series of instructional videotapes. Jay was also shopping a manuscript, ***Creating Origami***, which we (Alexander Blace & Co., Inc.) published for him in 1995. In this book, Jay told the story of his early origami experiences, the influencial models of his past, and how his interest in designing origami developed. Jay diagrammed the models that influenced his progression from novice to designer, and wrote about the thought process he went through while creating his own models. Using our videotapes and Michael's permission, he drew steps for some of Michael's more popular, challenging models for the Origami USA annual collections.

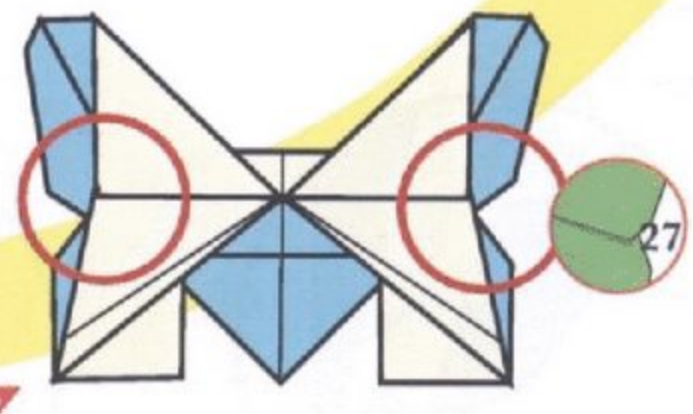
4 Open the top paper of each wing and pull out free paper from inside top area as far as it can go, remaining flat.



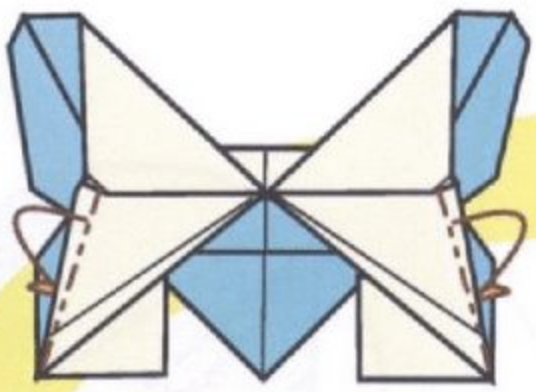
5 Forewings look like this (wing shown open). Repeat on other wing.



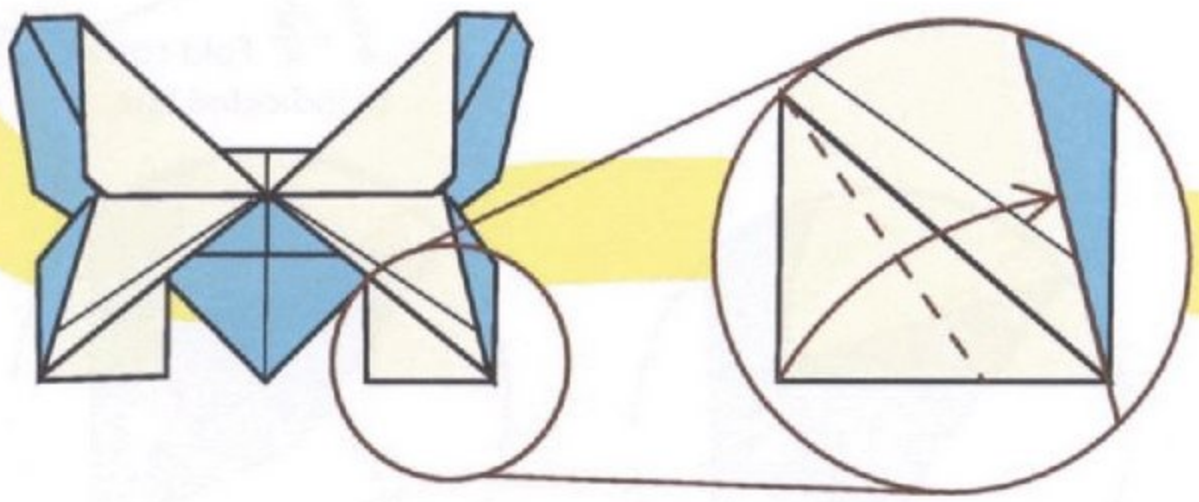
6 Roll top layer of hindwing up, stopping at the hindwing corner. Crimp (mountain and valley-fold at the mid-section of the wings) to flatten.



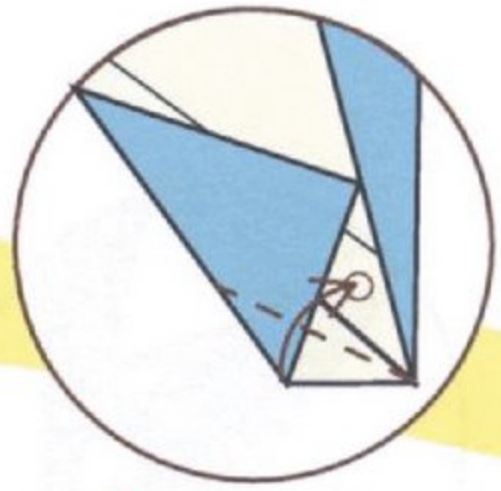
7 Apply **wing-notch technique**.



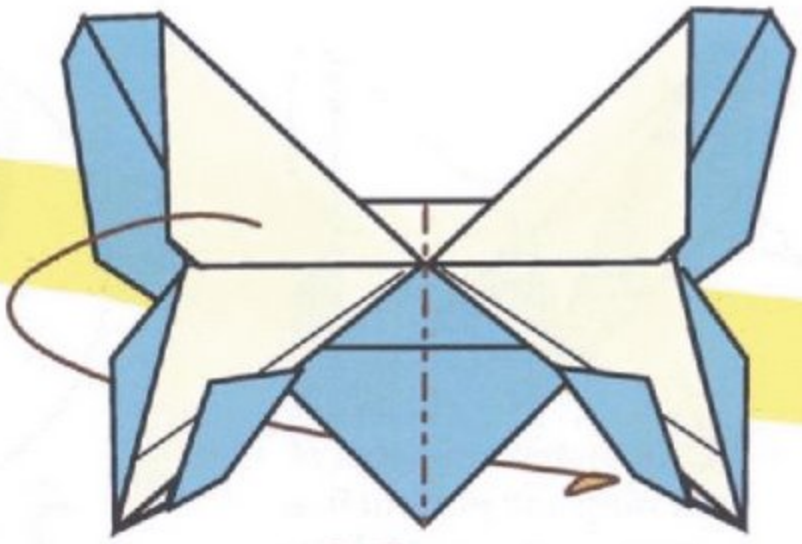
8 Mountain-fold indicated edges behind.



9 Hindwing: Where lower flap emerges, fold corner up to area where colors separate.



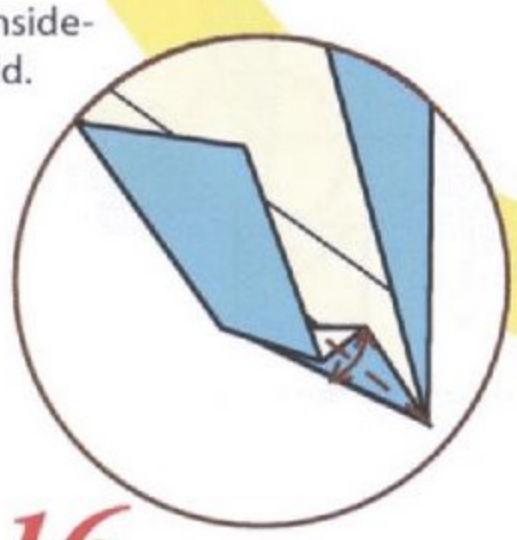
10 Fold new corner to indicated area.



19 Mountain-fold model in half.

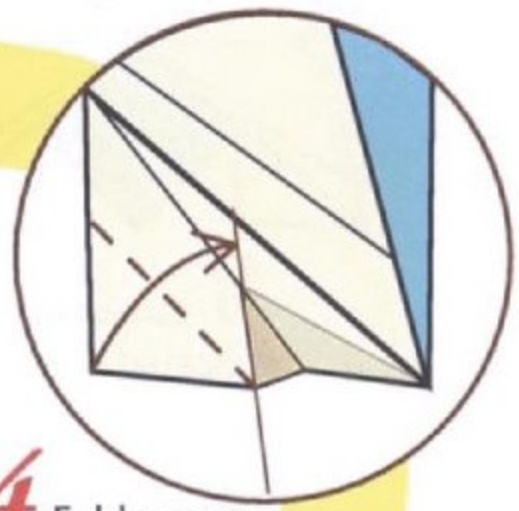
18 The wing will look like this. Repeat on the other side.

17 Inside-reverse fold.

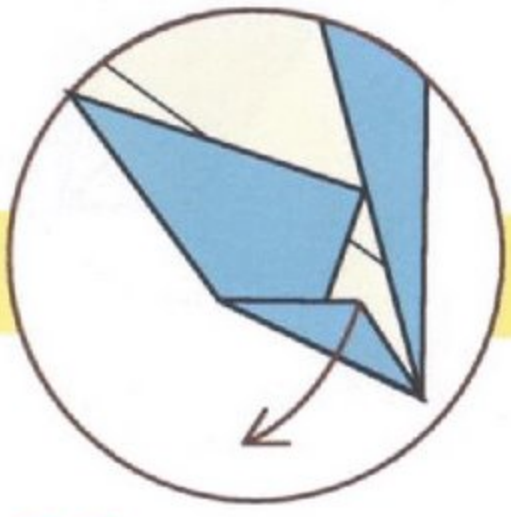


16 Valley-fold and unfold.

15 Replace original folds with corner hidden inside.



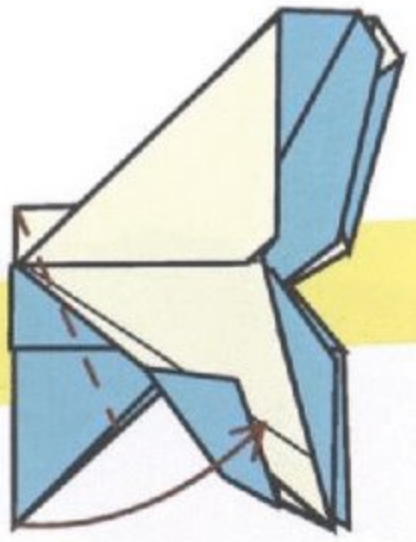
14 Fold corner to indicated line.



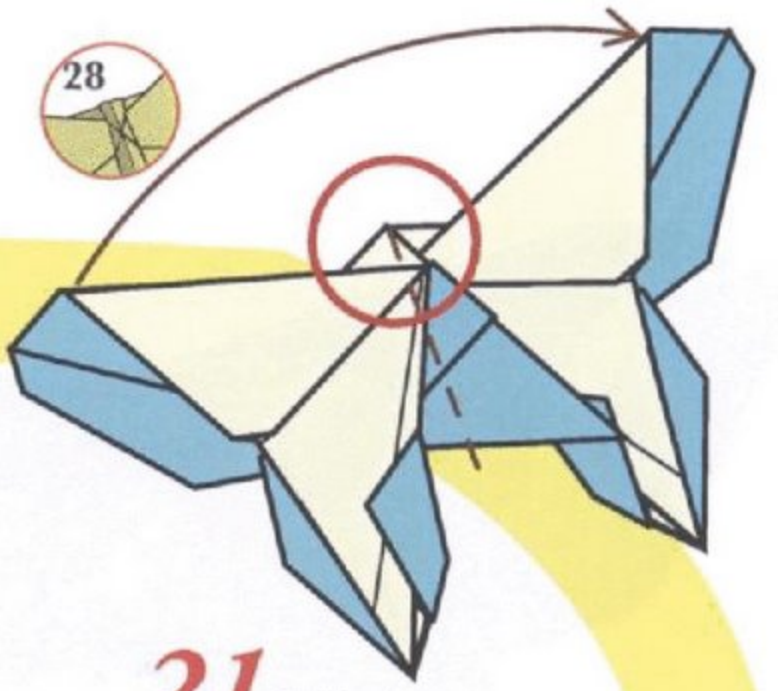
11 Unfold.

12 Inside-reverse.

13 Unfold flap.

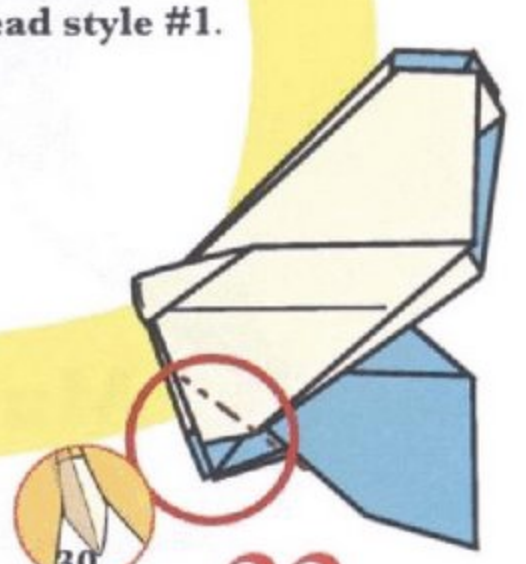


20 Fold abdomen tip to the indicated crease line, letting the other wing come anong beneath.



21 Fold wings together, sandwiching the body. Apply **head style #1**.

23 Pinch mountain-folds and curl the hindwings slightly.



22 Apply **abdominal taper**.

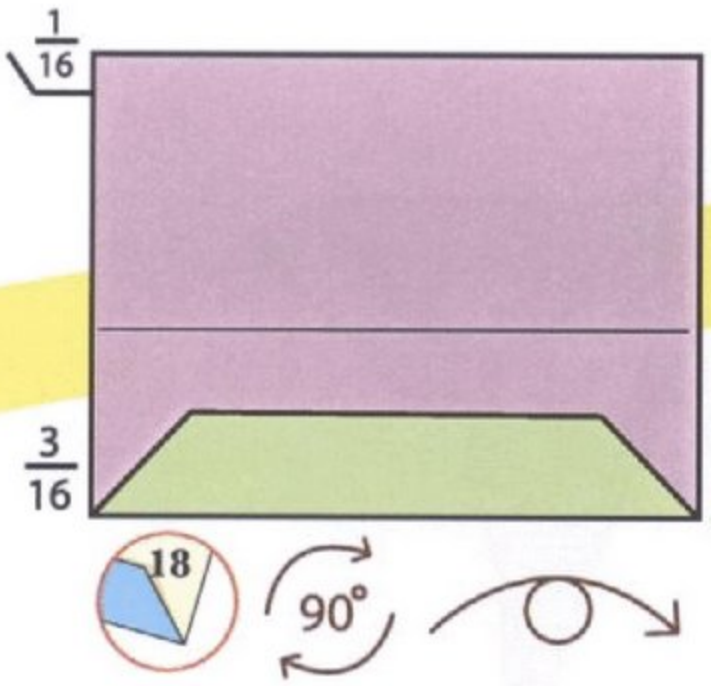
24 "The Nolan"
A butterfly named for Jay C. Nolan.

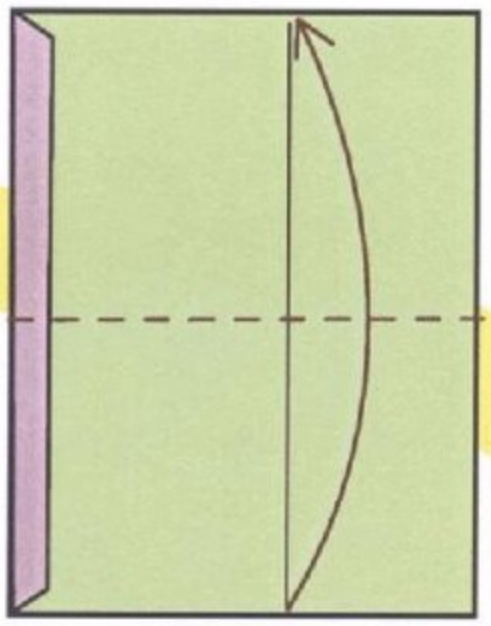
Mudarri Luna Moth

Michael named this butterfly for this book's graphic designer, our friend and co-author, Greg Mudarri.

Greg Mudarri stumbled upon our series of origami videos at Charrette, an art supply store in the Boston area, in the year 2000. Astounded by the fact that there was an origami master living ten minutes from his house, he ventured into Origamidō Studio and began taking lessons from Michael LaFosse. Greg custom-designed a handmade book about Michael LaFosse's life story and his origami art for his Final Project in Graphic Design at Boston University. As a regular and enthusiastic participant in paper making workshops, master classes, and social folding parties, Greg also made himself available to run the Studio when we had to be out of town. After graduation, Greg taught English in Japan for 15 months, then returned to help us design totally new graphic art for our www.origamiondemand.com web site, some tangible advertising projects, and for our series of instructional origami DVD's, as well as the layout for this book you are holding.

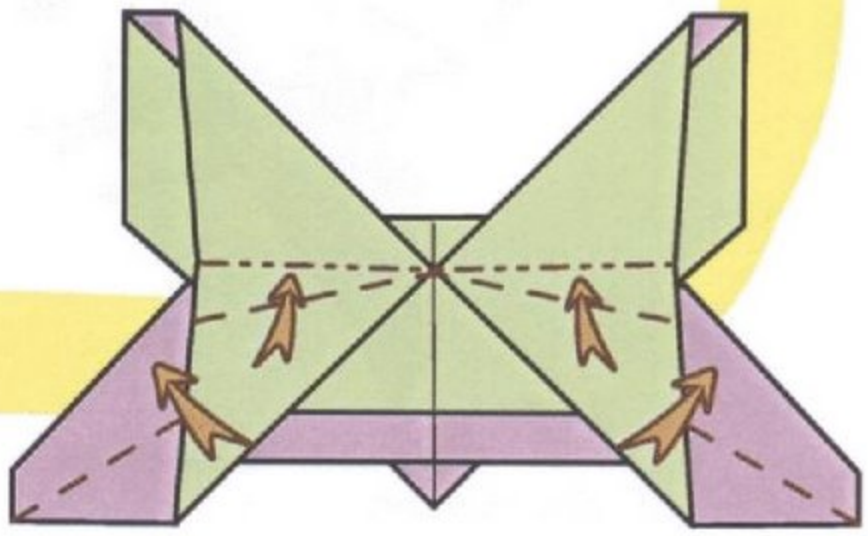
Mudarri Luna Moth



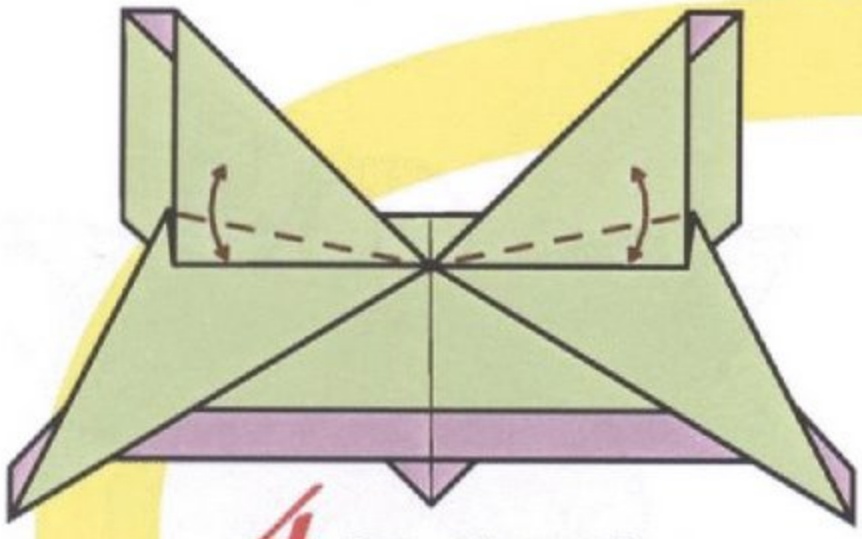


2 Use **squash-folding** method.

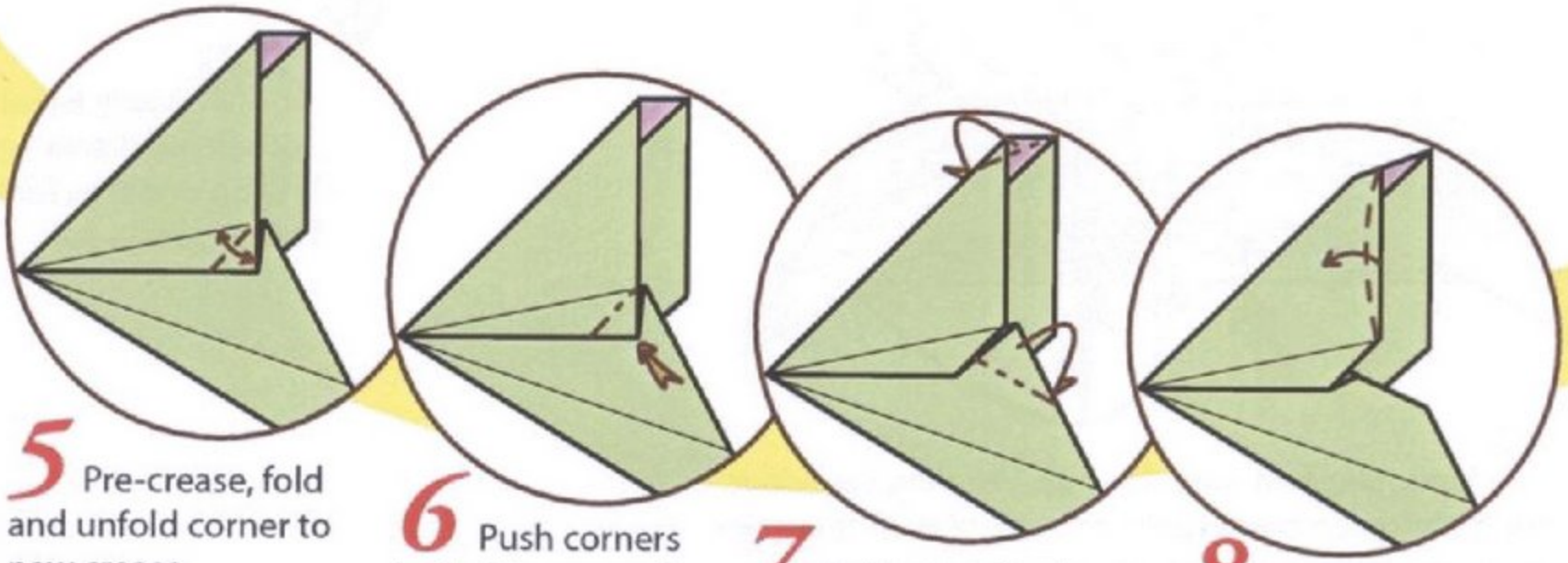
1 Start with a 3/16, beveled **introductory fold** on the front side (bottom) and a 1/16, beveled flap on the back (top). Rotate and turn over.



3 Crimp to form forewing and hindwing separations. Use the mountain-creases in the center of the wings, roll the paper under, pulling from the bottom wing corners, and flatten.



4 Crease the new flaps.

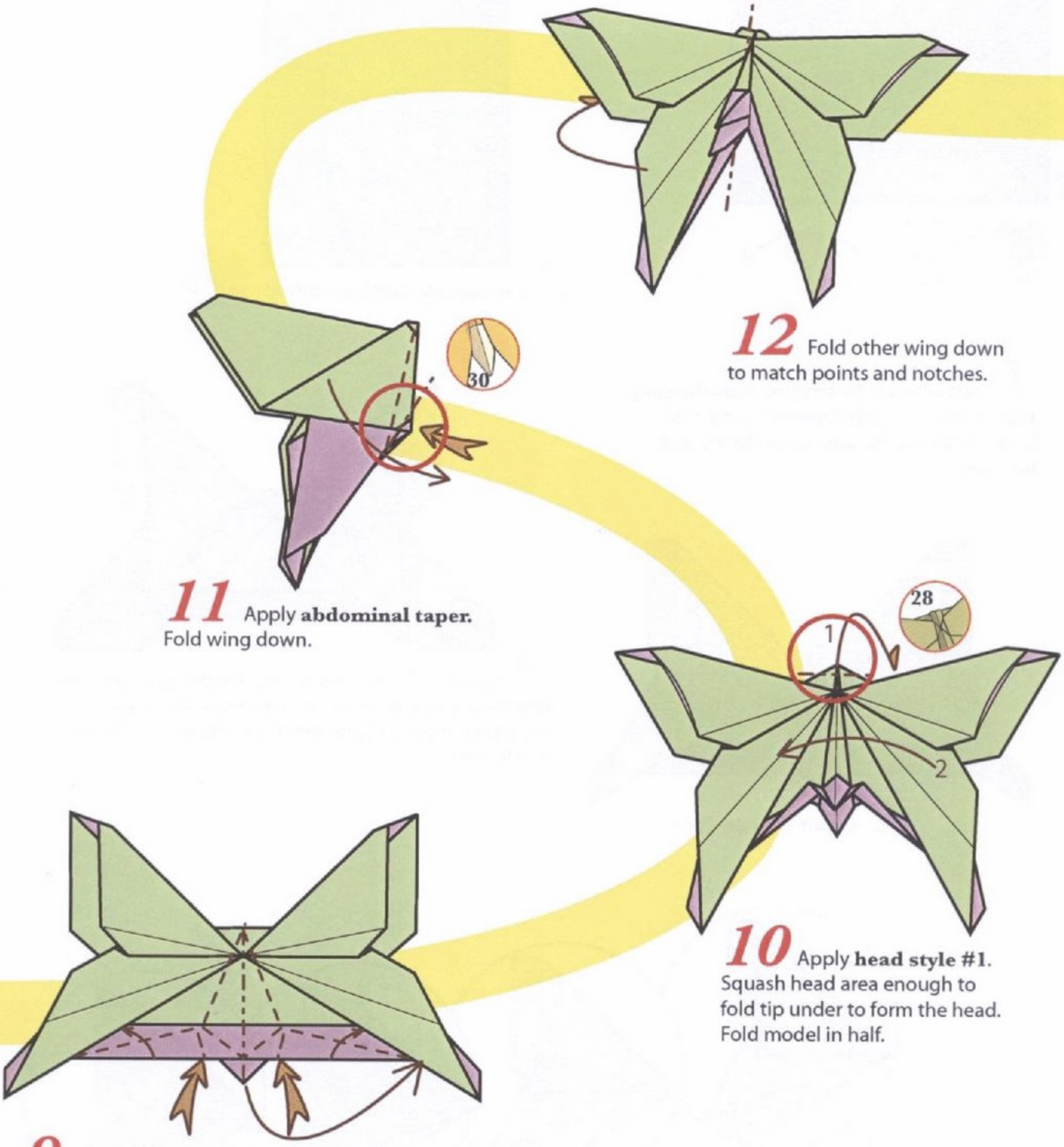


5 Pre-crease, fold and unfold corner to new crease.

6 Push corners in (inside-reverse).

7 Fold paper in the wing-notch behind. Fold upper-corner behind.

8 Roll paper slightly to make a colored crescent. Repeat on other side.

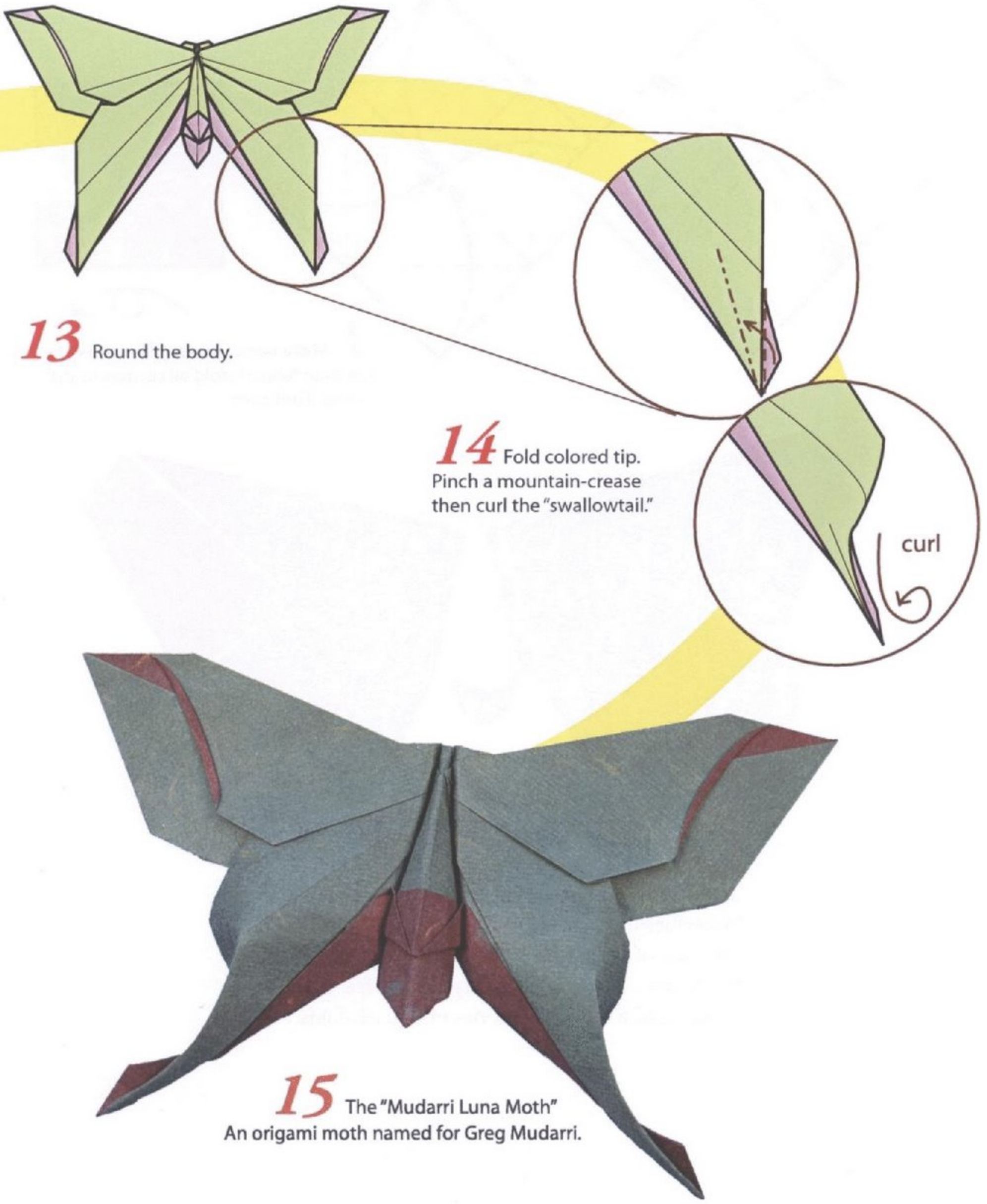


12 Fold other wing down to match points and notches.

11 Apply **abdominal taper.** Fold wing down.

10 Apply **head style #1.** Squash head area enough to fold tip under to form the head. Fold model in half.

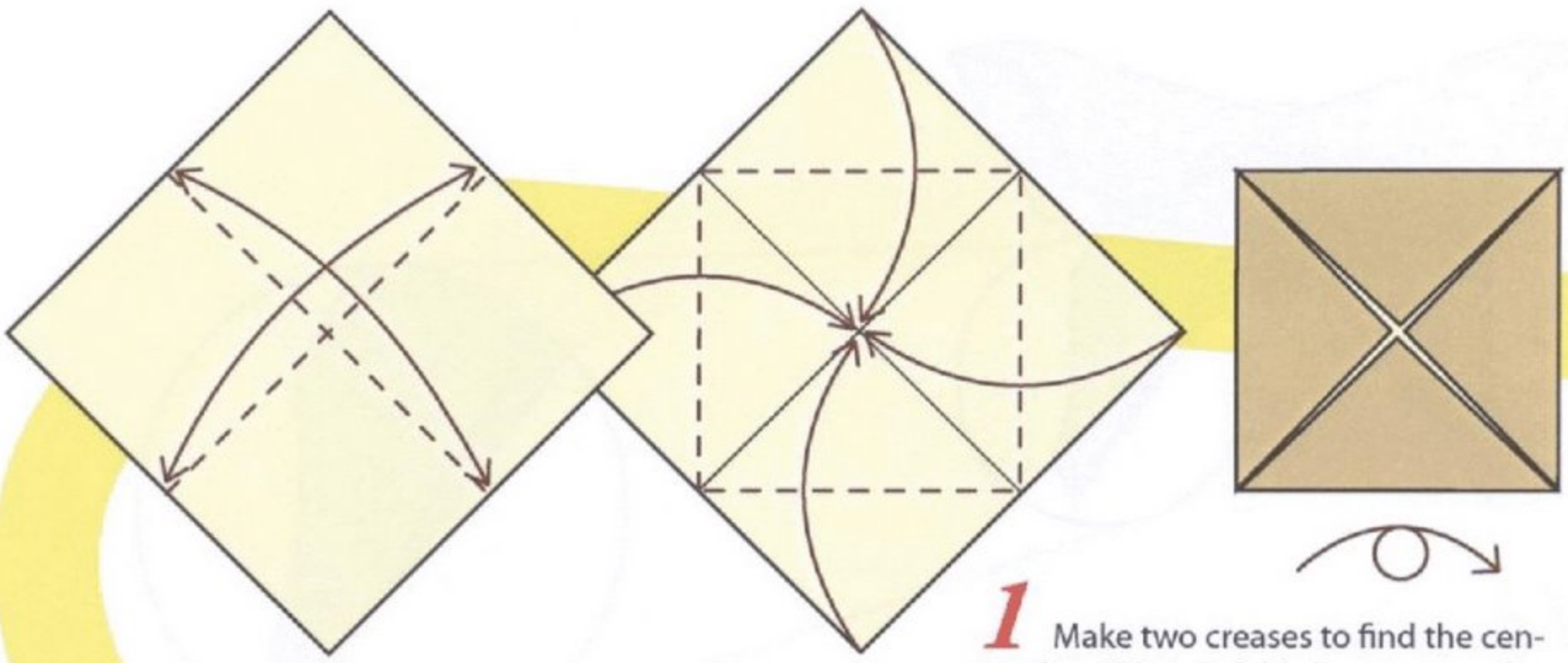
9 Mountain-fold model in half. Let wing come out. Bring abdomen point to the bottom of the mountain-folded edge where colors meet. Inside-reverse excess paper where arrows indicate to collapse the form.



13 Round the body.

14 Fold colored tip.
Pinch a mountain-crease
then curl the "swallowtail."

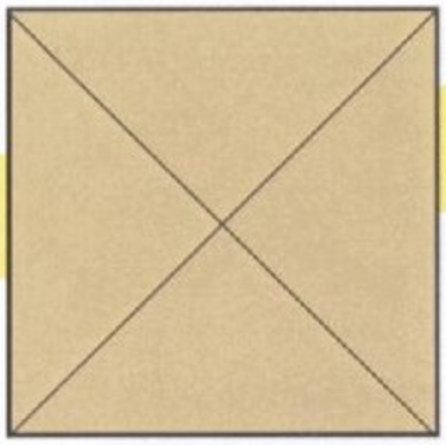
15 The "Mudarri Luna Moth"
An origami moth named for Greg Mudarri.



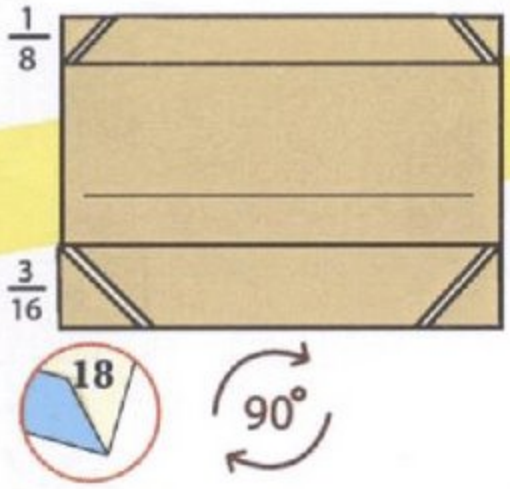
1 Make two creases to find the center, then "blintz": fold all corners to the center. Turn over.

LaFosse's Moth

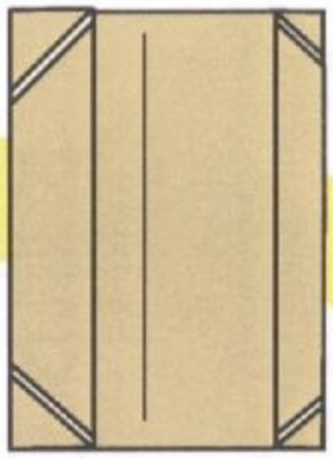
This moth's design is quite different from other butterflies in this book, as you can see from the first step of "blintzing" (folding the corners to the center). It still obeys his system of fractional set-up, and a sequential series of squash-folds.



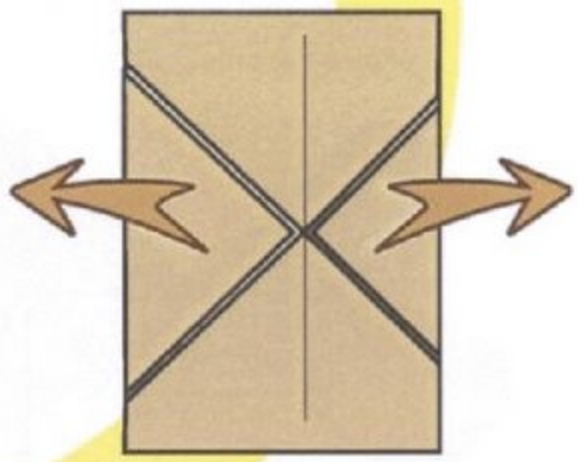
2 Treat the doubled packet as if it were a single-layer square.



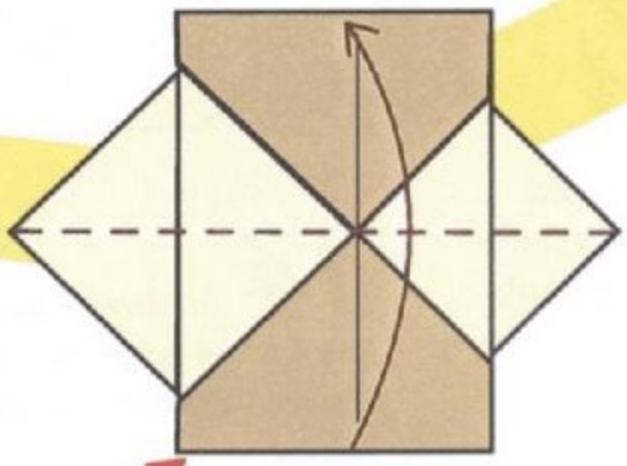
Use a 3/16 **introductory fold** on the front side bottom and a 1/8 fold on the front top. Rotate.



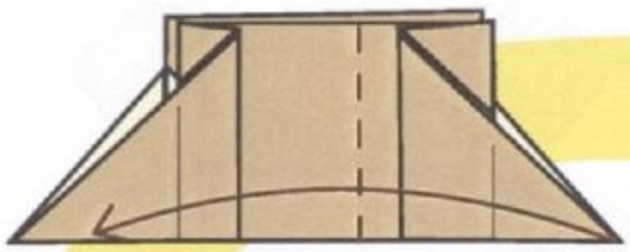
3 Turn over.



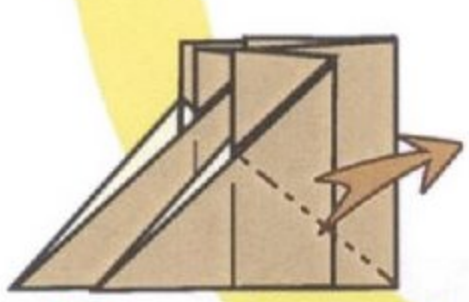
4 Open flaps.



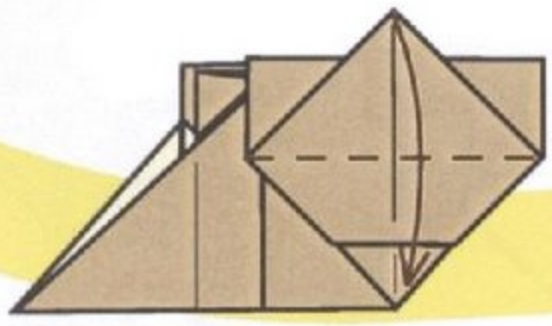
5 Valley-fold in half.



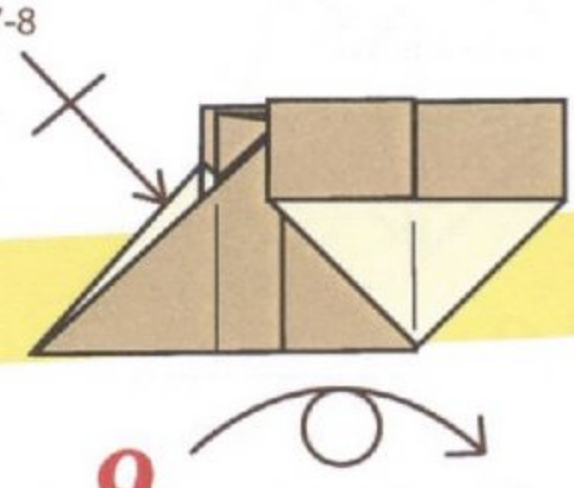
6 Valley-fold the vertical crease.



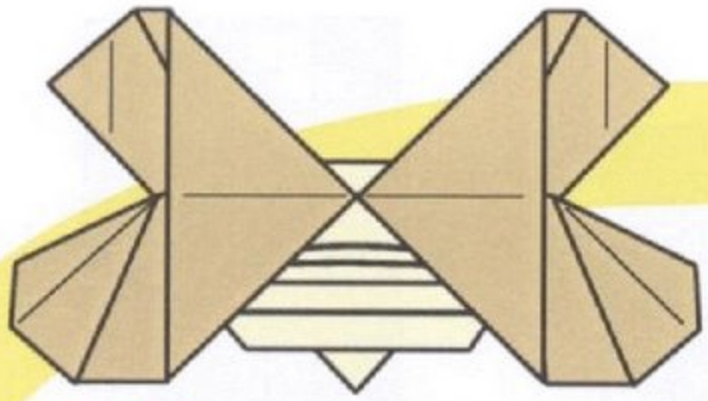
7 Squash.



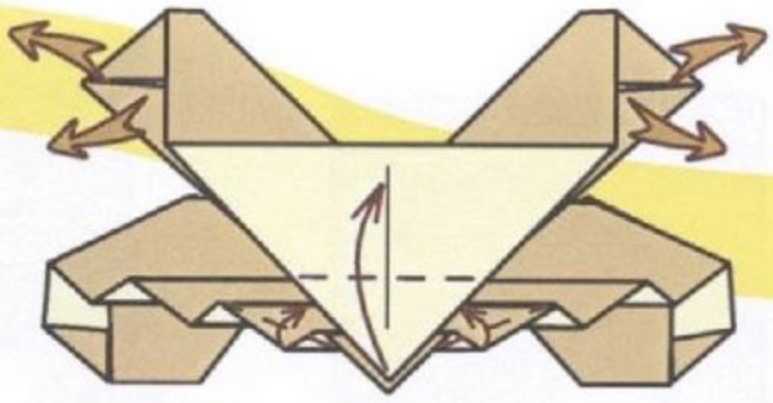
8 Valley-fold triangular flaps down.



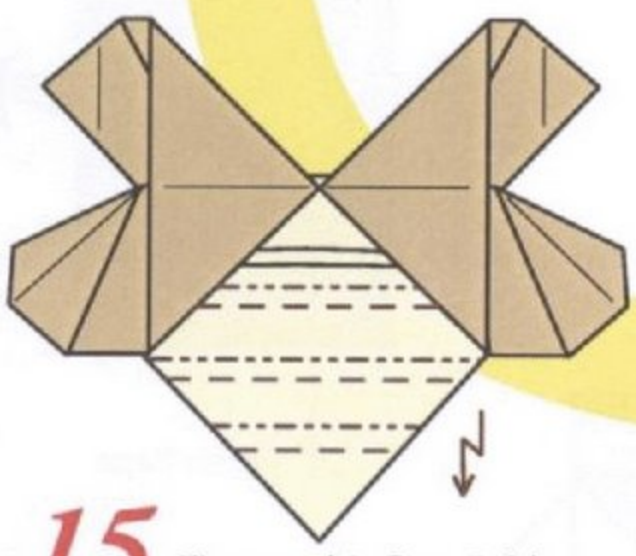
9 Repeat steps 7 and 8 on the opposite side.



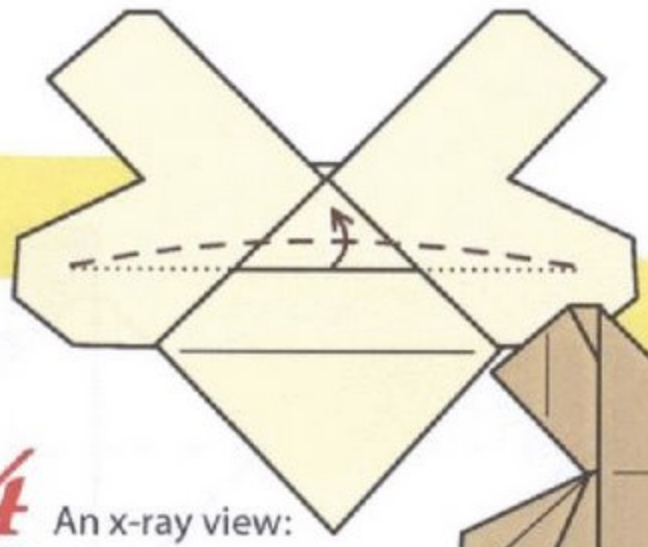
16 The result.
Turn over.



17 Widen the forewings by pulling out paper flattening again. Fold corner of top layer up. Fold lower abdomen corners over.

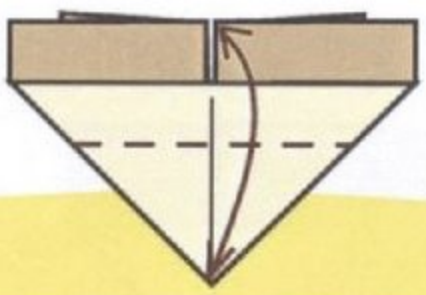


15 Zig-zag this flap. Fold mountains and valleys back- and-forth for the abdomen segments (see step 16).



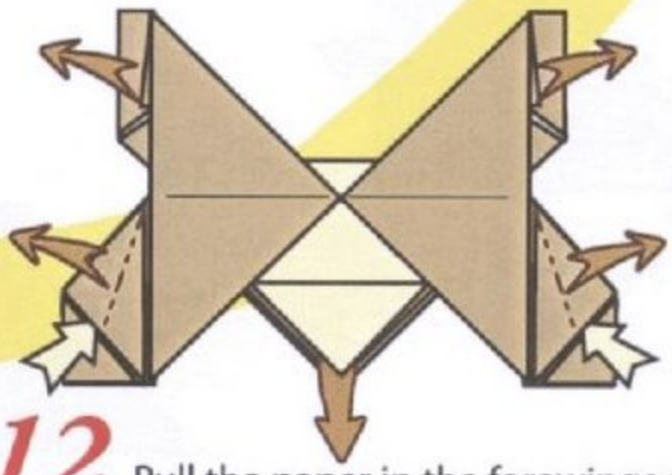
14 An x-ray view: Lift folded edge up and flatten. (Curve this fold to allow it to happen.)

13 The result.

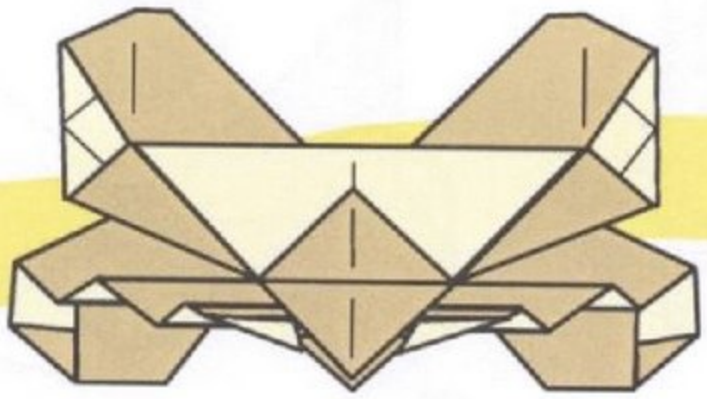


10 Fold bottom corner to the top of the central gap and unfold.

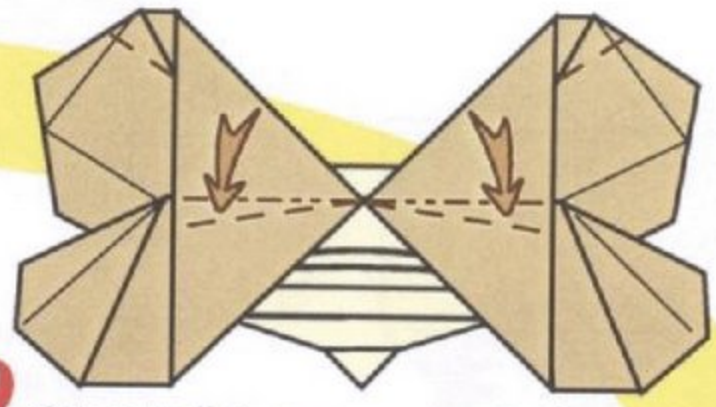
11 Squash wings (see step # 12).



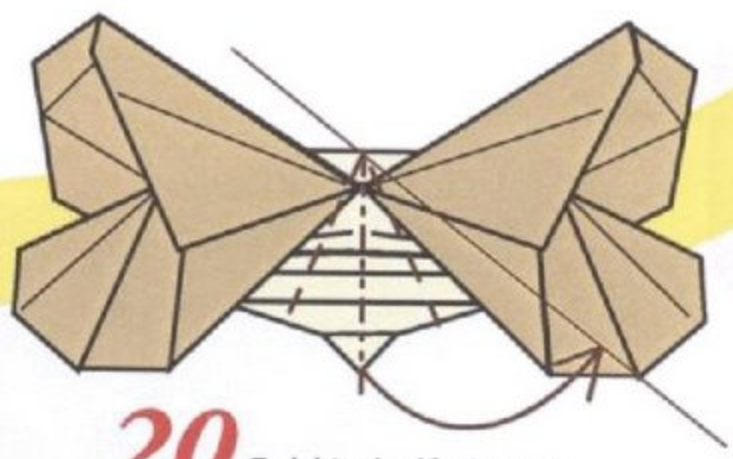
12 Pull the paper in the forewings as much as possible and crease flat. Squash the hindwings outward. Pull out top layer at abdomen point.



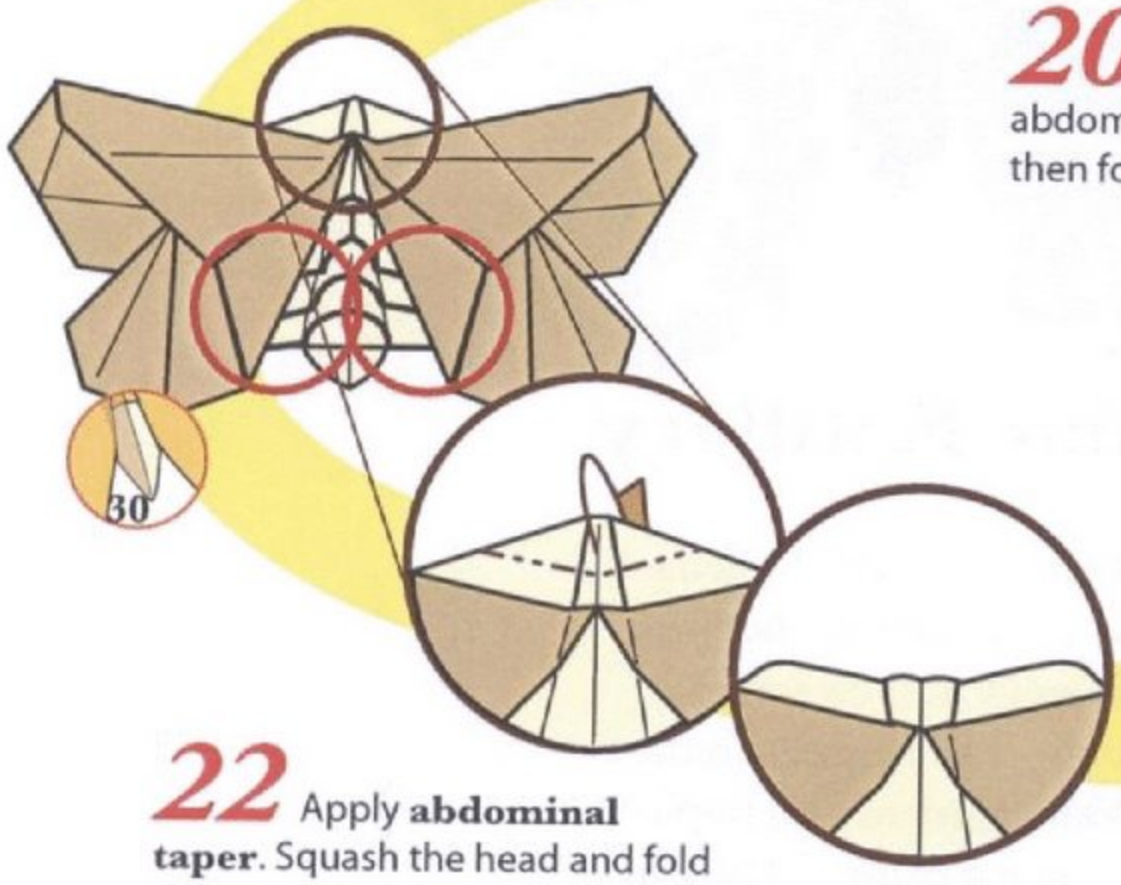
18 The result. Turn over.



19 Crimp (roll the paper over starting from the mountain-crease in the center of the wings. It will pull the top corners of the forewings down. Flatten.) (**Wing-notch details** are optional.)



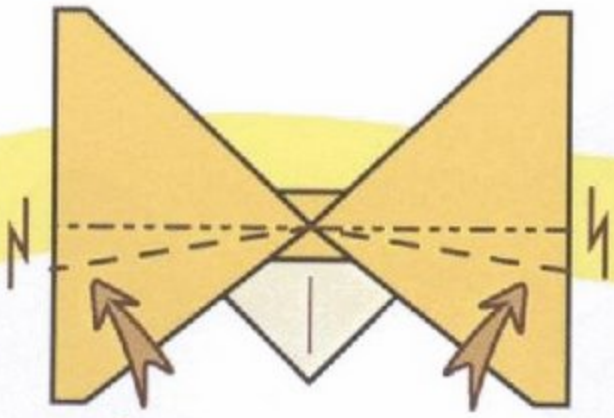
20 Fold in half. Swing abdomen tip to the indicated line, then fold the wings together.



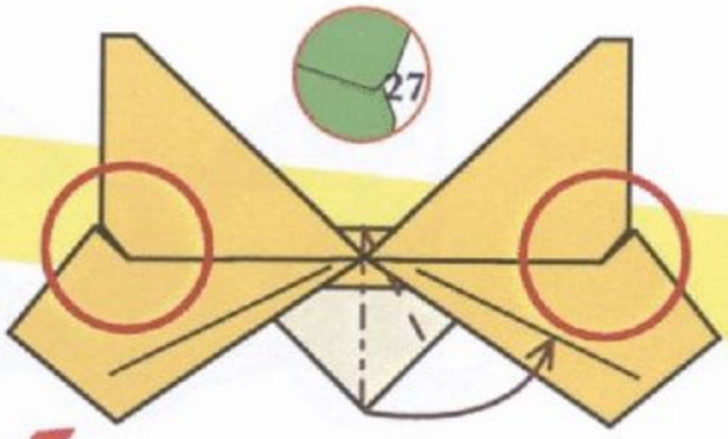
22 Apply **abdominal taper**. Squash the head and fold the end part behind.

23 "LaFosse's Moth"

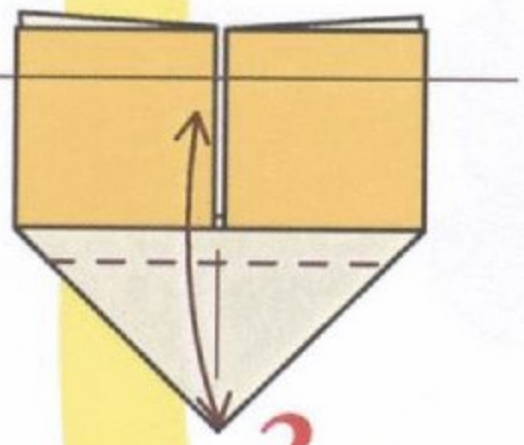
3 Squash wings.



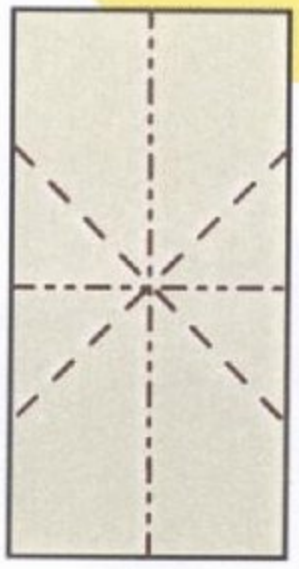
4 Crimp (roll hindwings under the forewing).



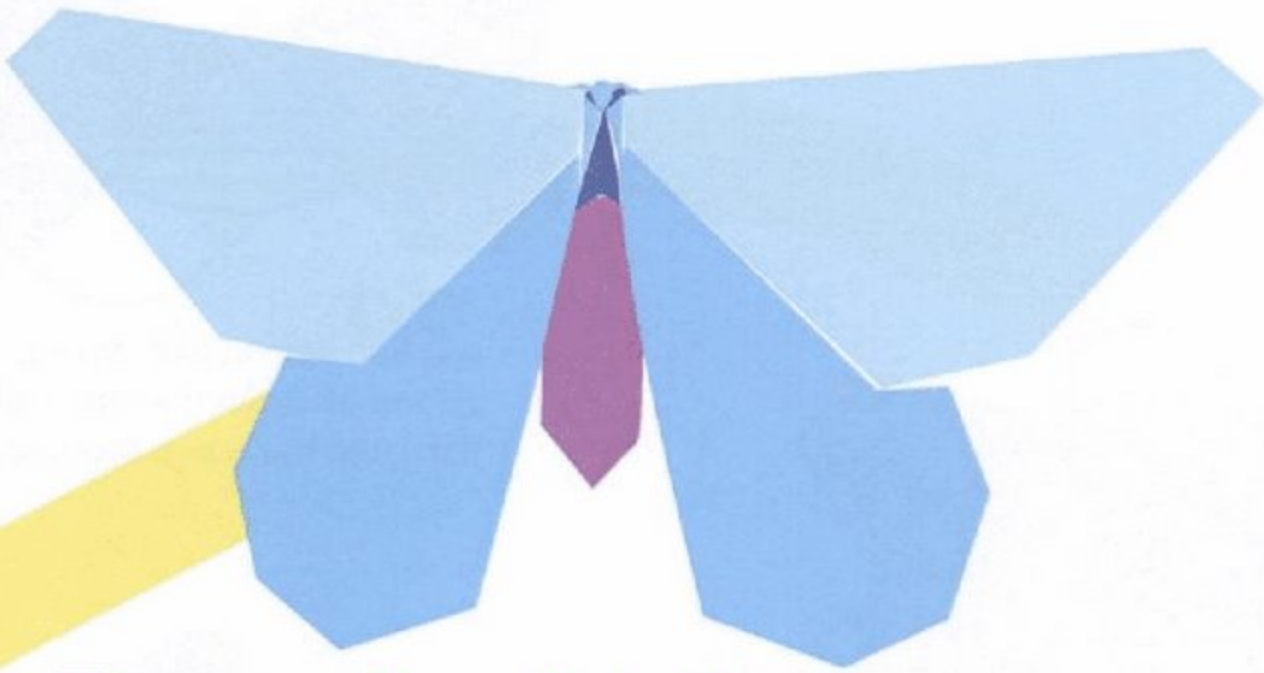
5 The result. Apply **wing-notch details**. Fold abdomen point over to touch mountain.



2 Fold bottom corner up center, but not to the top.

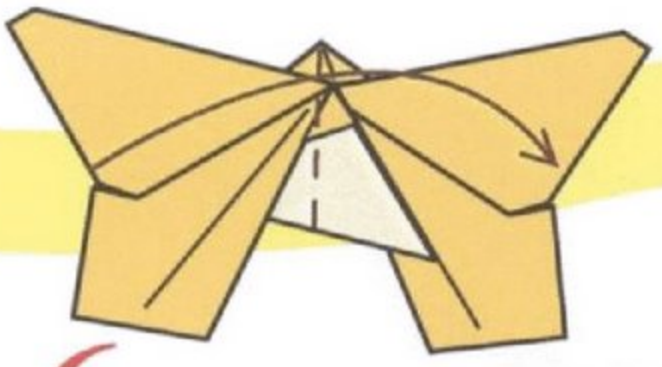


1 Fold a 2 x 1 rectangle in half both ways. Perform the usual squash for the result in Step 2.

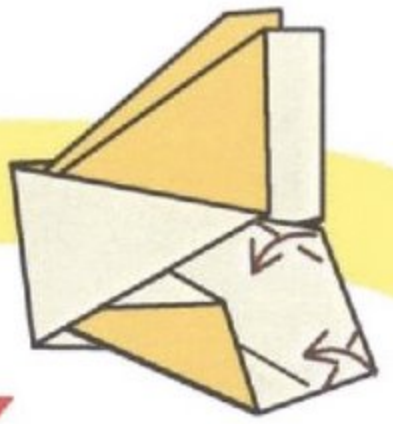


Evangeline Fritillary

Evangeline (Van) Rossi encouraged Michael to pursue his artistic interests while he spent time with the Rossi family at their summer camp on Vinton Pond. The beautiful natural surroundings and Van's gardens also inspired her son, Paul, to become a painter. The two painted, drew, folded and critiqued each other's art for several summers, resulting in dozens of paintings and several original origami creations. We cherish Van's memory, and Michael and I are deeply grateful to the whole Rossi family for providing this magical place in his formative years for his artistic development.

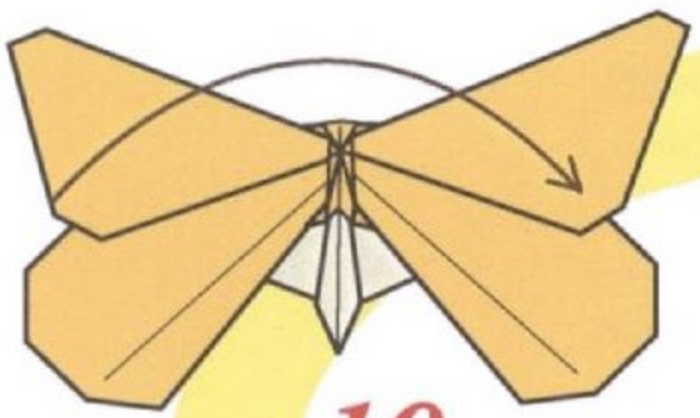


6 Fold the wing together, sandwiching the body



7 Fold the wing-notch corners down. Round the hindwing corners with valley-folds.

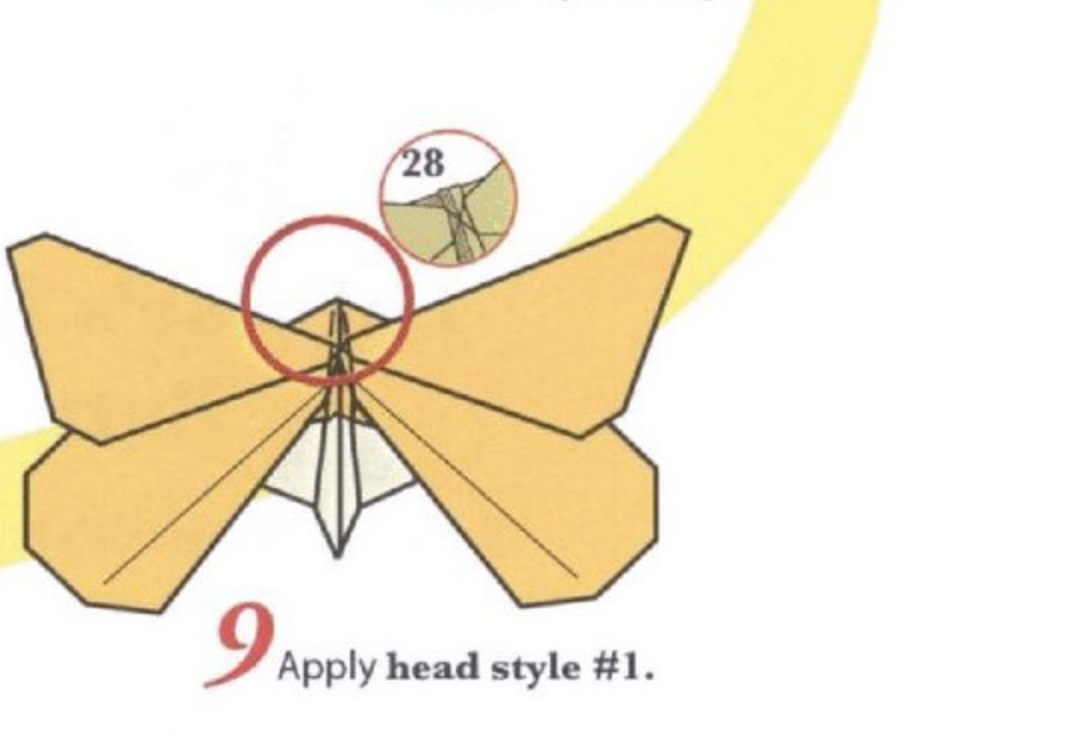
8 Open wings.



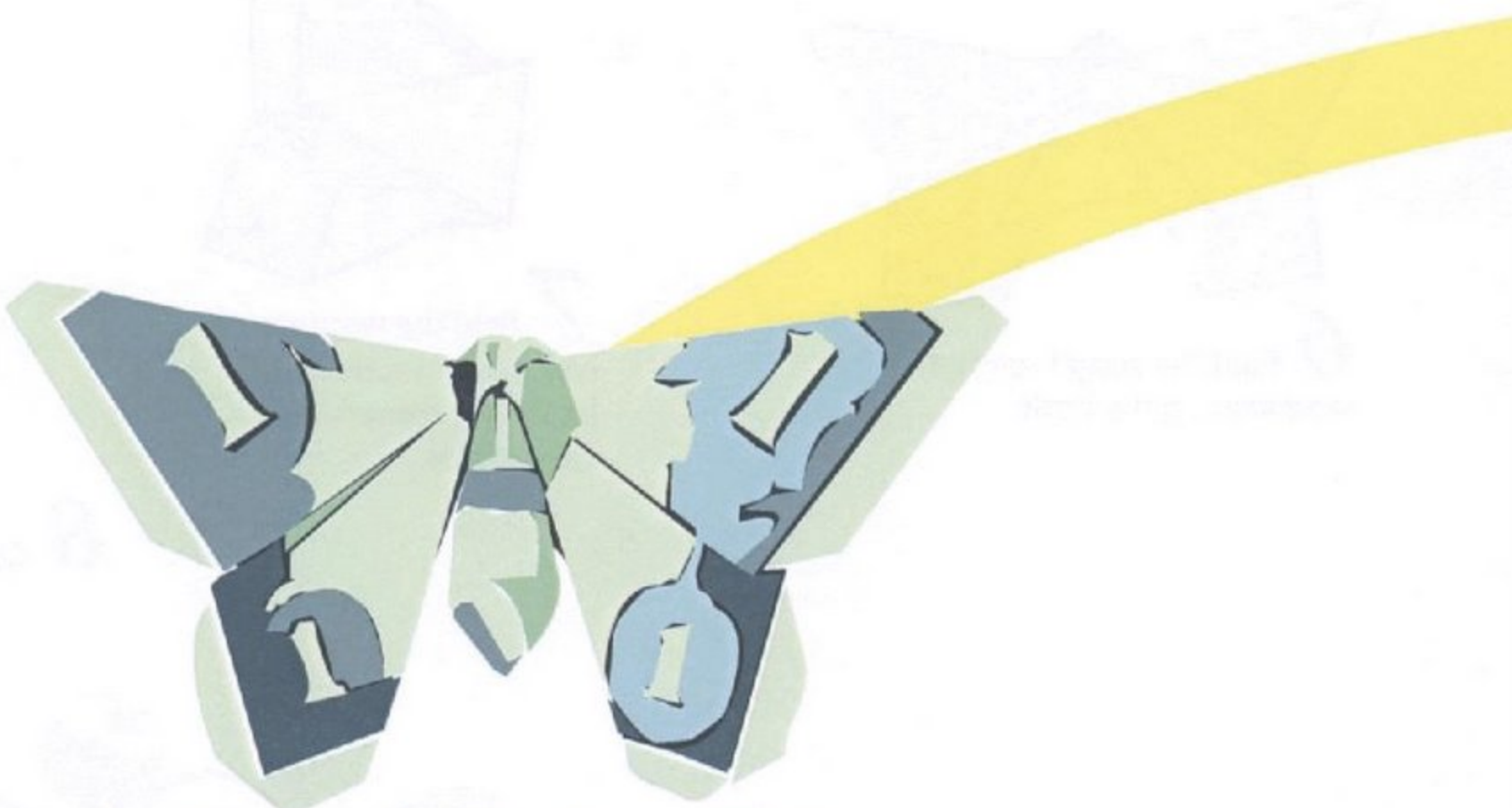
10 Close the wings.

9 Apply **head style #1.**

11 Apply **Abdominal taper.**
Open wings.

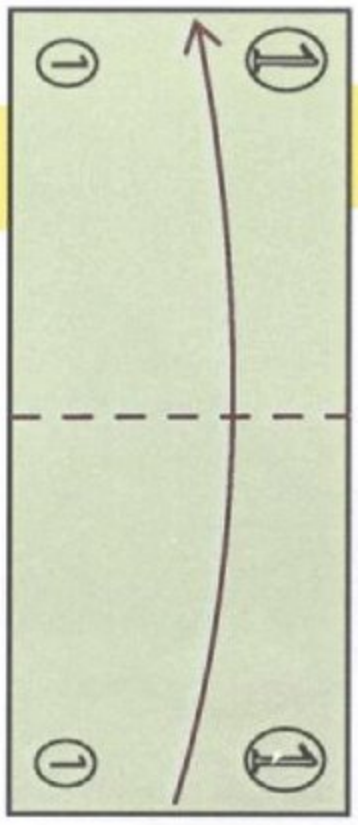


12 "The Evangeline Fritillary"
An origami fritillary named for Evangeline Rossi.

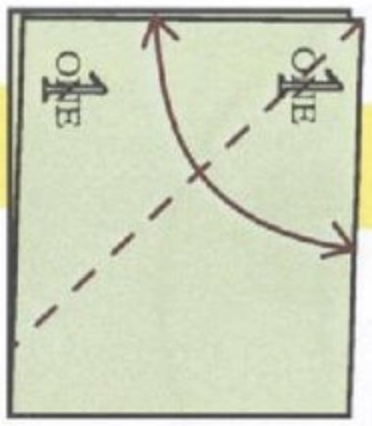


LaFosse's Dollar Bill Butterfly

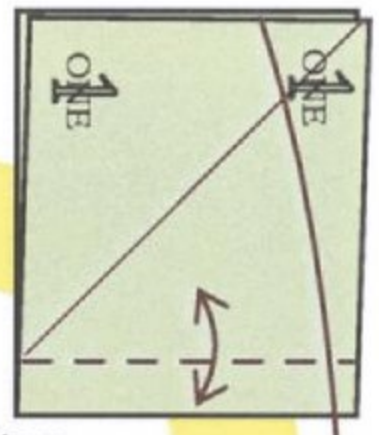
Similar to Evangeline's Fritillary, this model also comes from a rectangle, however, the dollar bill's proportions are not quite 2 x 1. This folding method allows you to create a 2 x 1 rectangle with some interesting details, utilizing aspects of the dollar bill's printed pattern. Try folding this model starting with different sides of the bill up, resulting in different color / marking arrangements on the wings.



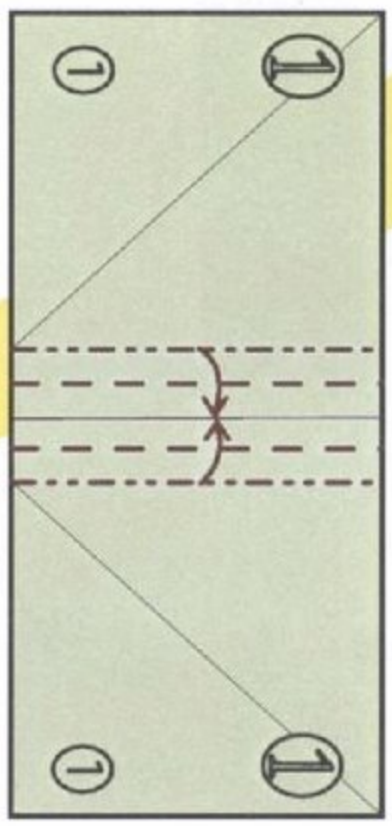
1 Fold the dollar bill in half, short-edge to short-edge.



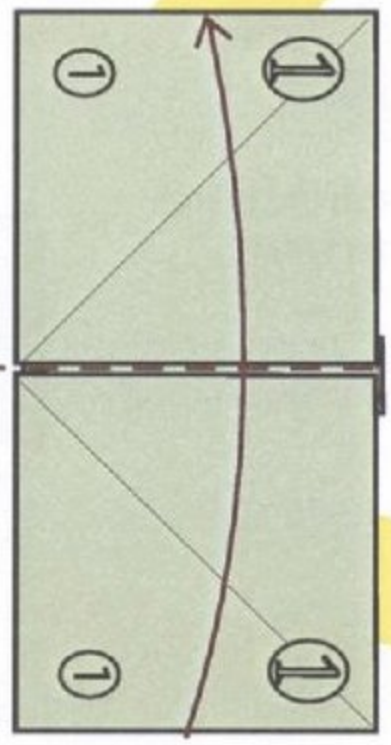
2 Holding the layers together, valley-fold adjacent edges together, and unfold.



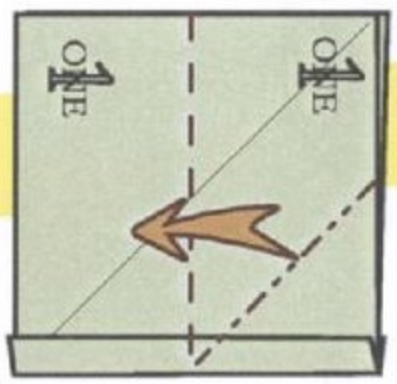
3 At the bottom end of the new crease, make a horizontal crease. Open the bill.



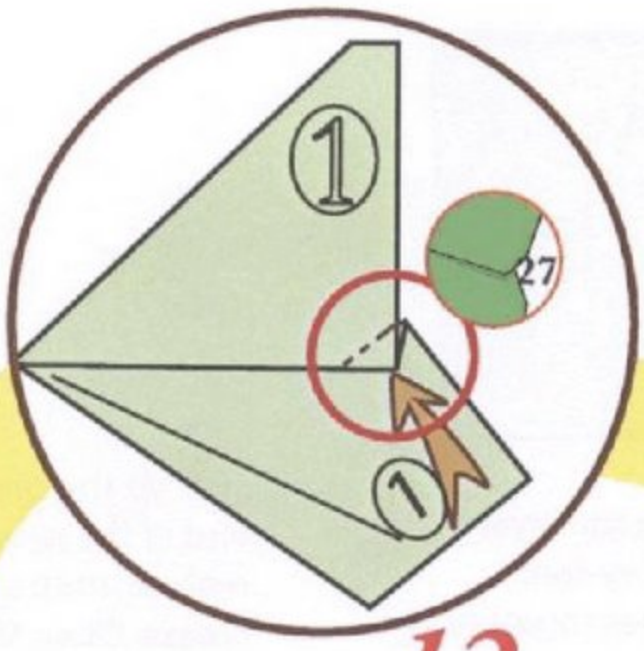
4 Bring new mountain creases to the center and crease.



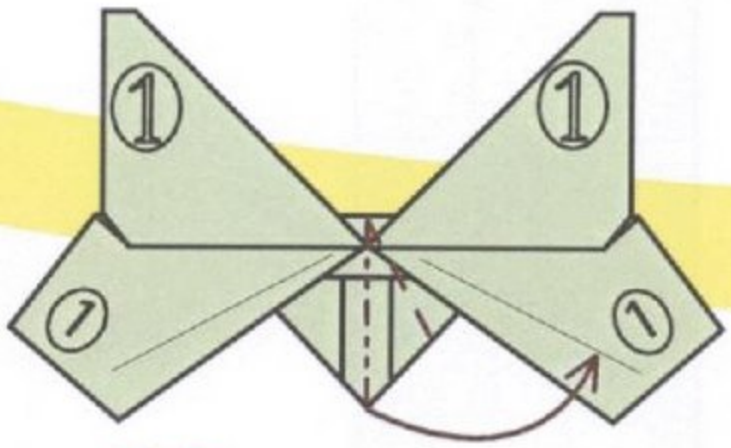
5 The bill is now a 2:1 rectangle. Fold in half.



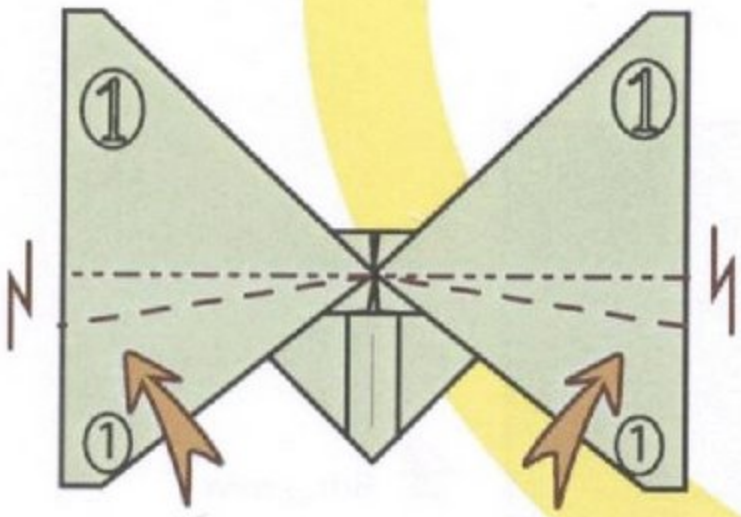
6 Fold in half. Squash. Keep the center folds intact throughout the process.



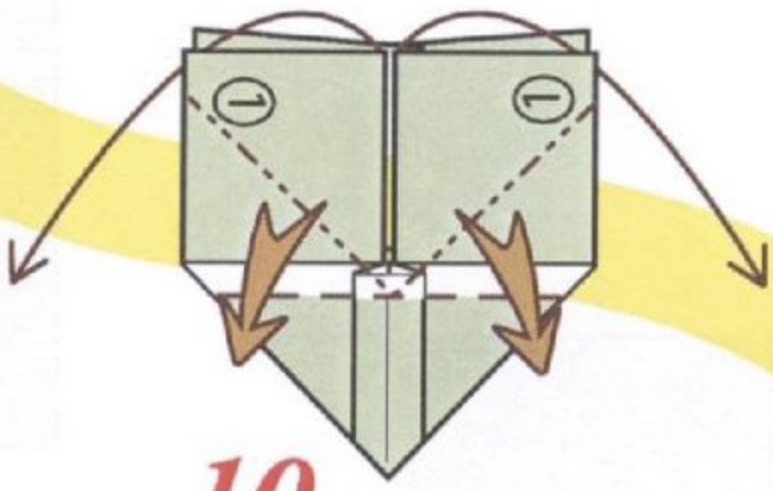
12 Result. Apply **wing-notch details.**



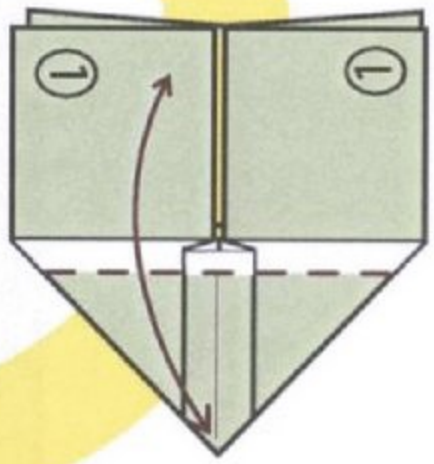
13 Fold abdomen point over to align with indicated mountain crease.



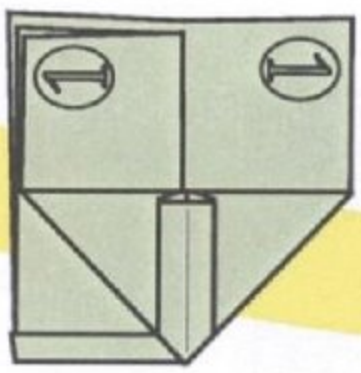
11 Result. Crimp (roll hindwing paper under the mountain-crease and flatten).



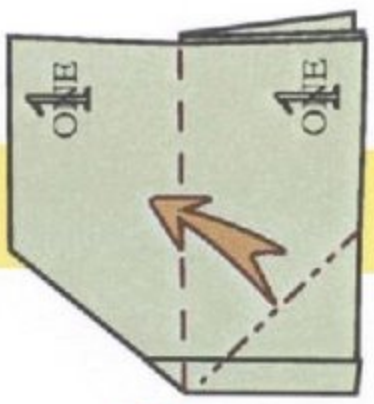
10 Squash the wings along the same crease.



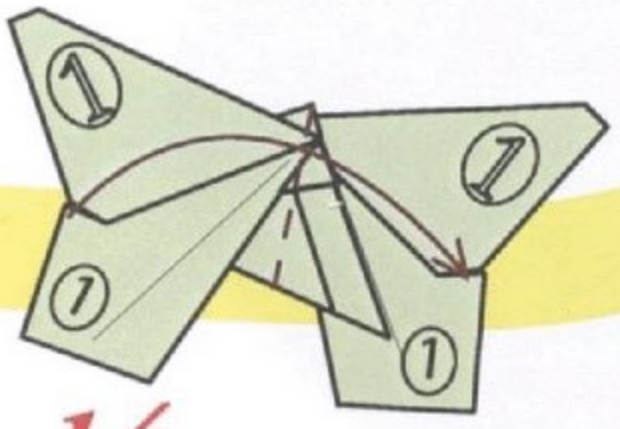
9 Valley-fold bottom corner up along the center , making a crease where indicated (at the bill's white margin).



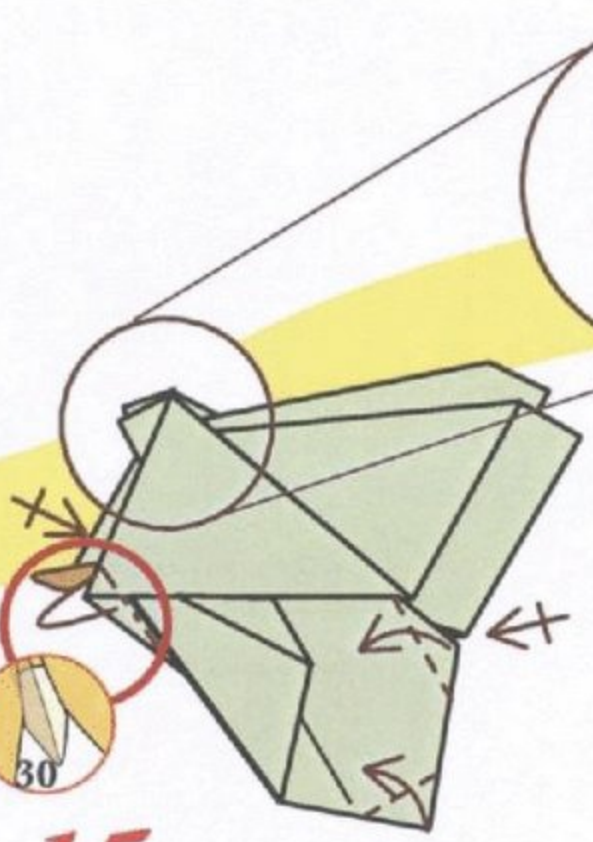
7 Turn over.



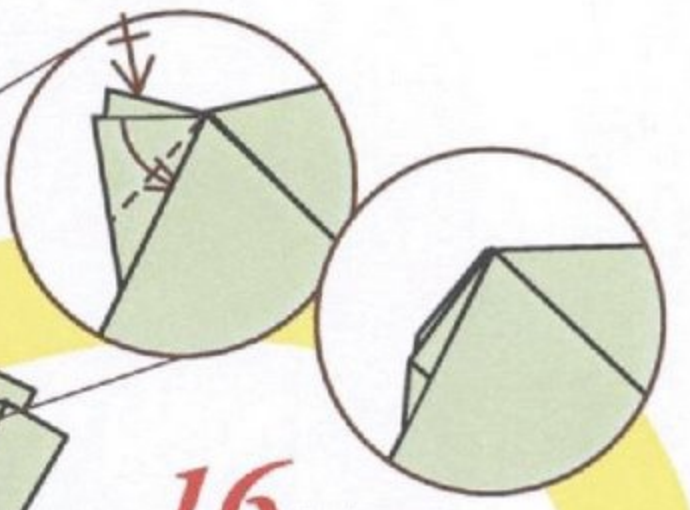
8 Squash.



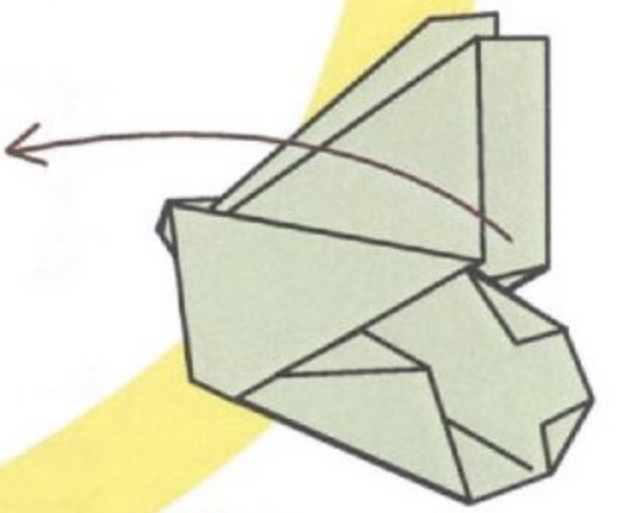
14 Fold wings together.



15 Fold wing-notch corner down. Round hindwings with valleys. Apply **abdominal taper.**



16 Tuck excess corners under the head.



17 Open wings.

18 LaFosse's Dollar Bill Butterfly

Discover Inspiring Art and Beauty in Nature.

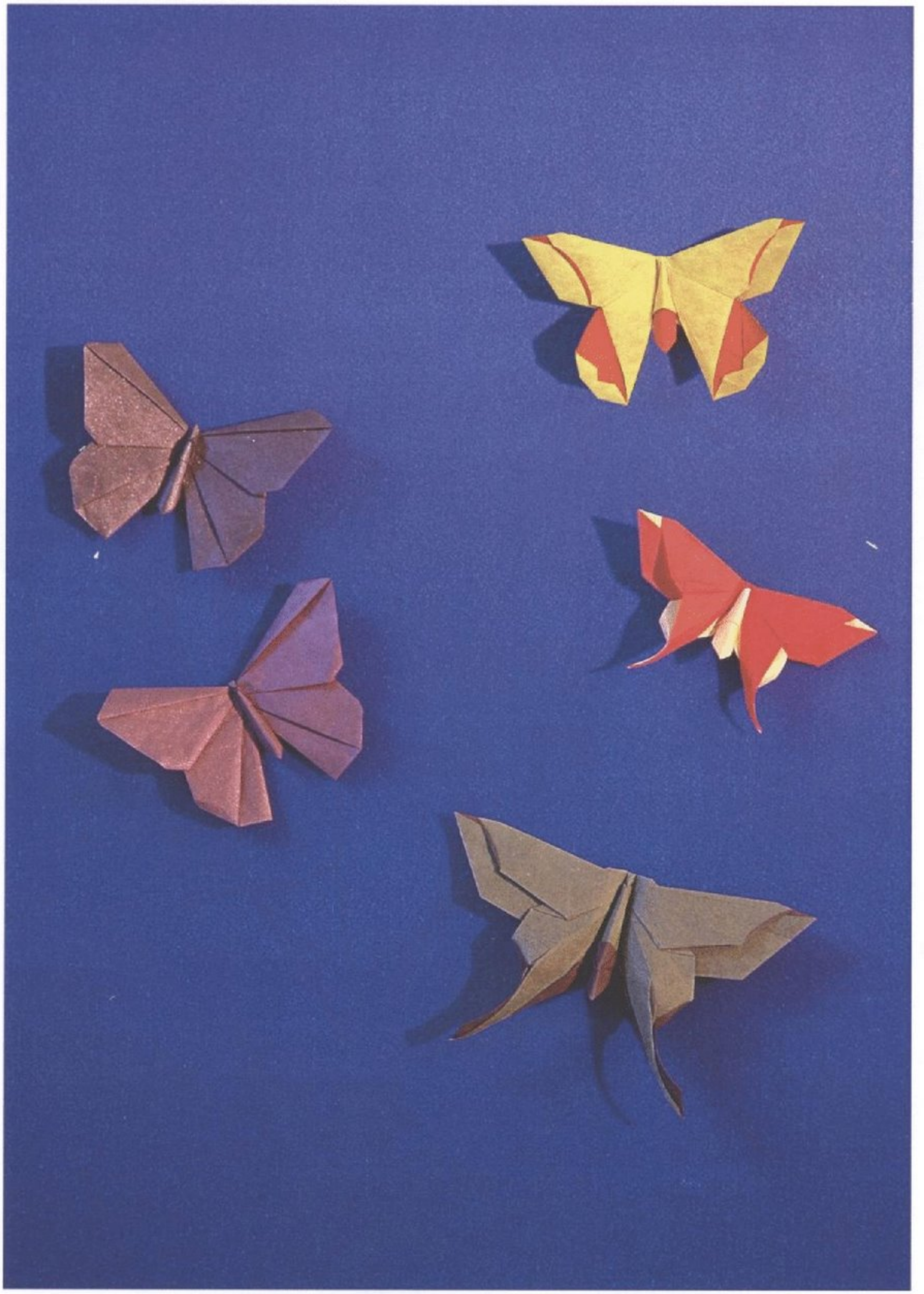
If you are lucky to have a meadow or garden nearby, inspiration is likely right in front of you. Nature is the best artist, and beautiful butterflies and moths can be found almost anywhere. View them as miracles. View them as art!

The butterfly has always been a favorite subject of artists. We have included some photographs of Michael LaFosse's origami butterflies folded from our sumptuous, handmade, archival, Origamidō Studio papers.

We hope you take inspiration from these photographs (which do not do justice to the actual examples) while you embark on your own stroll through Michael's Field of Discovery.

This composition, from hand-made, Origamidō Studio paper, features one of Michael LaFosse's origami Orchid designs, and his variations of the "Alexander Aztec Swallowtail". Design and folding by Michael LaFosse, composition by Richard Alexander.

This ever-changing composition of Origami Butterflies adorns a wall in Origamidō Studio. Velcro (TM) buttons allow new additions when others find homes!



Set up your own Wall of Cheer with movable favorites using magnets or Velcro(TM). Mix and match LaFosse's butterfly designs with your own!

This *Butterfly on Host Plant* composition, entirely of Origamidō Studio's hand-made paper, was folded from separate squares to form leaves, petals, and the single, duo color, "Origamidō Butterfly". Designed, folded and composed by Michael LaFosse. Photos by Richard Alexander

All specimens folded by Michael LaFosse from handmade Origamidō Studio papers. Photos by Richard Alexander.

Brighten up your personal space with a display of Origami butterflies! There are a variety of ways to show them off as art. Here they are pictured among cuttings of living plants from the backyard.

Evangeline Fritillary (yellow kami paper)
LaFosse Dollar-Bill Butterflies

"The Diana", "The V'Ann" (handmade duo Origamido Studio papers)

"The Joyce Rockmore Butterfly" (Skycraft marbled paper)

Folded by Michael G. LaFosse.

Presentation of a finished origami butterfly is important. With the addition of a simple frame it can become an elegant piece of art to display. This example is by Michael LaFosse, folded in special, handmade fuchsia and black duo paper commissioned by Lalique. As displayed in the Origamidō Studio gallery.

Acknowledgments

We would like to thank Michael G. LaFosse for developing and sharing his unique and wonderful origami butterfly design system, the use of his extensive library of teaching handouts and diagrams, and for the use of his exquisite origami models.

Credit for the obvious influence for the "flowing" style diagrams must be given to various Japanese origami publishers, Makoto Yamaguchi, Gallery Origami House and Origami Tanteidan Magazine.

Thanks to the Koretskys for this beautiful Kozo plant, and their lifetime of work to document the history and science of fine handmade papers.

... and THANK *YOU*
FOR BUYING THIS BOOK!

This book contains a detailed description of Michael G. LaFosse's origami butterfly design system, AND detailed diagrams for fifteen of LaFosse's favorite butterfly designs! They show the wide variety of origami butterflies and moths that are possible to fold using this versatile system. As you learn these designs and gain a wider understanding of the system's variables, you will enter his "Field of Discovery", where you may create your own fanciful origami butterfly and moth "species". We have included a section of inspirational photos from the Origamido Studio, where we make our origami art from our own handmade papers. These creations have hundreds of uses -- earrings and pins, displays, pop-up greeting cards, ornaments, mobiles, package decorations, wedding or party favors -- the gift possibilities are endless. Get ready to enjoy the world of Michael LaFosse's origami butterflies and moths!

Michael G. LaFosse's

Origami Butterflies

A Field of Discovery Through a System of Design






by Richard L. Alexander & Greg Mudarri, Origamidō Studio

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