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Faculty of Design
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BACHELOR'S THESIS
on the topic:

Development of a visual complex for protecting endangered butterflies

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ABSTRACT

The endangered species refers to species that are highly likely to face extinction in the near future due to reasons inherent to the species itself or impacted by human activities or natural disasters. This topic selects endangered butterflies as the research subject. The transformative process in the butterfly lifecycle, from egg to larva, pupa, and adult, is described as "tuidie," symbolizing the beauty of butterfly metamorphosis. Moreover, ancient people believed that the butterfly's transformation symbolized positive change, hence they also referred to butterflies as "tuidie". Butterflies play a vital role in nature and are an indispensable part of the ecosystem. Protecting endangered butterflies is of great significance for maintaining and preserving the natural environment.

"Tuidie" focuses on the protection of endangered butterflies, conveying knowledge about them to the public through IP design, illustration design, poster design, and creative product design. By using creative product design, the protection of endangered butterflies becomes more vivid and interesting, spreading relevant knowledge about them. This not only provides a more intuitive understanding of the current situation and plight of endangered butterflies but also increases public awareness and consciousness of their protection. It calls for more people to pay attention to and participate in the actions to protect endangered butterflies, thereby playing an important role in maintaining and preserving the natural environment.

Keywords: Endangered butterflies , IP design; , Cultural and creative design; , Poster Design, illustration desig

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INTRODUCTION

Relevance of the study. Butterflies, these dancers of nature, are known for their brilliant colors and graceful flight. However, many butterfly species are facing the threat of extinction, and protecting them is not only the maintenance of biodiversity, but also the protection of the ecological balance of the earth.

Butterflies play an important role in the ecosystem as pollinators, helping plants reproduce and maintaining the ecological balance. To protect butterflies is to protect the health and stability of the entire ecosystem.

Each butterfly is an important part of biodiversity. The loss of biodiversity will weaken the resistance of the ecosystem, lead to the decline of ecological services, and affect the living environment of human beings. Butterflies are a symbol of beauty and change in many cultures. They have inspired countless works of art, and protecting butterflies helps preserve these cultural and artistic sources of inspiration. Protecting endangered butterflies can serve as an important subject for educating the next generation, cultivating their respect for the natural environment and awareness of protection, and laying the foundation for future sustainable development.

Protecting endangered butterflies is not only a respect for the natural world, but also an investment in our own long-term interests. By protecting butterflies, we can maintain the ecological balance, protect biodiversity, promote scientific research, enrich cultural life and promote the sustainable development of society.

The purpose of the research: The purpose of this topic is to study the survival status of endangered butterflies in China and integrate relevant data and information. Through creative illustration, IP image design, poster design and other diversified design techniques, we are committed to spreading the knowledge of endangered butterflies to the public. Through the production of promotional materials and creative cultural products, we will bring these

precious butterflies into the public eye and stimulate people's interest and concern for endangered butterflies.

Through these designs, we hope to effectively convey the urgency and importance of protecting endangered butterflies, thereby playing its role in publicity and education. This topic is not only a record of the current ecological situation, but also a profound self-reflection and a call for practical action. It is hoped that these educational design works can awaken the public's awareness of the urgency and importance of protecting endangered butterflies, let more people know about the current survival situation of butterflies, and encourage everyone to contribute to the protection of these beautiful creatures.

Research Objectives:

1. By collecting relevant information about endangered butterflies, select appropriate research objects and conduct analysis.
2. Analyze the status quo of endangered butterflies at home and abroad, and analyze the main reasons for the endangered butterflies.
3. Determine the theme style of this design and the design content of this topic.
4. Classify the research objects, determine IP images, draw dynamic emojis and design posters.
5. Collected endangered butterflies, carried out creative butterfly illustration design, and designed a series of cultural creative products.

The research subject (theme) is development of a visual complex for protecting endangered butterflies.

The object (focus) of the research is endangered butterfly.

Research methods. This project uses case analysis, summary and design practice. Firstly, the design cases of "endangered butterfly protection" at home and abroad were collected through the Internet, their design contents and techniques were analyzed, and advantages were extracted to provide reference for subsequent design. Secondly, the literature on endangered butterflies in China was reviewed to summarize their survival status and reasons, and to

conduct in-depth research on relevant information. Based on previous research, the required information is integrated and incorporated into the design." The theme "tuidie" is the starting point of the design, combining theory and practice through the form of cultural and creative products.

Elements of scientific novelty. It is conducive to the protection of endangered butterflies, further protecting the ecological environment and the diversity of species, and is conducive to sustainable development.

Practical significance. The results of this study can be used for the protection of endangered butterflies and call for the protection and maintenance of butterflies and the natural environment.

Structure and volume of the thesis. The bachelor's thesis consists of an introduction, three chapters, conclusions to each chapter and general conclusions, a list of used sources of 30 items. The work contains 34 drawings. The results of the research are presented on 42 pages.

CHAPTER I

SOURCE OF SELECTION

1.1Background of the Selected Topic

In the continuous progress and rapid development of human civilization, we have inevitably had a profound impact on the natural environment on Earth. This impact is deepening over time, not only because of the massive material consumption and waste emissions caused by our industrialization process, but also because of the predatory use of wild resources, overexploitation and neglect of ecological protection measures, resulting in the imbalance of natural ecosystems and the loss of species diversity. Butterflies are one of the victims of this process.

Butterflies have been cherished by people since ancient times for their unique beauty and lightness. They fly in the flowers and plants, forming one of the most moving scenes of nature. However, these fascinating butterflies, like so many other creatures, are facing increasing challenges to their survival. In the world, there are many kinds of butterflies, but due to the influence of human activities, their living space has been severely compressed, and some are even on the brink of extinction.

China, as a country with a long history and culture and rich biodiversity, has been recognized as a butterfly country. It is not only a paradise for butterflies, but also home to many rare butterfly species. According to statistics, there are 2,100 species of butterflies that have been recorded in the world living in this land, accounting for nearly one tenth of the global butterfly species. Such figures are enough to illustrate the importance and value of China's butterfly diversity.

However, with the pace of globalization and the accelerated development of urbanization, the destruction of natural environment and the intensification of

human activities are gradually encroaching on the living space of these precious species. For example, according to China's National List of Key Protected Wildlife, which was updated by the Ministry of Agriculture and the former Ministry of Forestry on February 9, 2021, a total of 24 species of lepidoptera belong to the butterfly group, and they are all in a critically endangered state. This update further highlights the urgency of protecting endangered butterflies and reminds us that we must act without delay.

Faced with this situation, the topic of "tuidie" came into being. The project aims to communicate information about 24 endangered butterfly species to the public through visual design. In this era of excessive information, how to effectively, succinctly and efficiently disseminate information about these endangered species has become a topic worth pondering. With the rapid development of China's cultural creative industry, cultural creative products have become a very popular new form of products in the market. "Tuidie" project is based on the concept of cultural creativity, combining tradition with modernity, and promoting the protection of endangered butterflies through innovative design thinking.

"Tuidie" project takes the 24 endangered butterflies listed in the List of Wildlife under Key State Protection of China as its inspiration (see Figure 1-1), and uses these rare butterflies as prototypes for design, and carries out a series of creative design work through the carrier of cultural and creative product design. This work not only aims to enhance the awareness of endangered butterflies and raise public awareness of conservation, but also aims to promote the concept of ecological balance and sustainable development. In this way, we can expect that in the near future, everyone will be more concerned and involved in the protection of butterflies and other wildlife.

1.2Reasons For Choosing The Topic

1.2.1Purpose of the topic selection

In the vast expanse of nature, each species is like a bright star, and they dot the Earth's biosphere in unique and indispensable ways. These tiny organisms form a complex ecological network, maintaining the diversity of life and the balance of the ecosystem. However, just as the fall of any one constellation can cause upheaval in the night sky, the extinction of one species often means the collapse of an entire ecosystem. As one of the most elegant insects in nature, butterflies are deeply loved and respected by people for their colorful wings, light and graceful dances and rich cultural symbolism. Each species plays a unique and irreplaceable role in its ecosystem, and the loss of even one species can have a significant impact on the entire ecosystem. Due to the continuous growth of population, the over-exploitation and utilization of biological resources, environmental pollution, and people's wanton collection, the habitat and living conditions of butterflies have been seriously damaged, and many butterfly species, especially those rare species, have been extinct or on the verge of extinction.

Through the investigation and research on the survival status of endangered butterflies in China, this project makes a series of comprehensive designs with popular science significance for endangered butterflies through illustration, IP and poster design, combined with relevant information of endangered butterflies. Through the design of a variety of publicity materials and cultural and creative peripheral products, endangered butterflies can be brought into the public eye, stimulate people's interest in endangered butterflies, effectively convey the importance and urgency of protecting endangered butterflies, and play a publicity role in protecting endangered butterflies. This project is not only a record of the current situation, but also a profound reflection and action. It is hoped that through these designs full of popular science significance, more people can realize the urgency and importance of protecting endangered butterflies, let more people understand the current survival status of butterflies, and call on people to contribute their own strength to the protection of

endangered butterflies. Only when everyone becomes a defender of environmental protection can we ensure that every butterfly flying on this beautiful land can dance freely and every lush vegetation can be revitalized.

1.2.2 Significance of the topic selection

From a theoretical point of view, by popularizing relevant materials of endangered butterfly species in China, "Tuidie" enables people to understand the survival status of butterflies while understanding the species of butterflies, make people realize the impact of their own behaviors on butterflies, and convey to people the idea that butterflies are closely related to human activities. It causes people to maintain and protect endangered butterflies and the natural environment.

From a practical point of view, at present, the design of cultural and creative products has developed rapidly, and cultural and creative products have become a popular publicity method, which can not only meet the aesthetic needs of the public, but also play a publicity role in protecting endangered butterflies. Through cultural and creative products, the concept of "tuidie" is conveyed to the public, so that the public can realize the importance of protecting endangered butterflies and the natural environment, and thus participate in the action of protecting endangered butterflies and maintaining the natural environment spontaneously.

1.3 The Current Situation Of Domestic And Foreign Research

Although China is the world's recognized butterfly country, but the scientific research on butterflies started very late, from the late 1970s, China gradually carried out a systematic study on the butterfly site. Professor Zhou Yao, known as "Butterfly Saint", was the first scholar in China to study butterflies in Shaanxi. In his book "Shaanxi Economic Insect Atlas: Lepidoptera

Butterflies" , he recorded more than 180 species of butterflies in Shaanxi, belonging to 11 families. Since then, Chinese scholars have carried out extensive field investigation and taxonomic research on butterflies, and the compilation of butterfly Chronicles and local Chronicles has laid a solid foundation for our taxonomic work.

Professor Zhou Yao classified and sorted out the butterfly species in China, collected 369 genera, 1222 species, 1851 subspecies, and carried out a relatively comprehensive sorting out of the butterflies in China. Since then, the study of butterflies in China has been carried out across the country, laying the foundation for the investigation of butterfly resources in China.

At present, most of the studies on butterflies in China focus on species composition and geographical distribution pattern, while the studies on genetic diversity, ecosystem diversity and landscape diversity of butterflies are relatively weak. The research on the ecology of butterfly should be strengthened, and the research on the ecology of rare and endangered species is urgent, so as to provide scientific basis for the protection of butterfly diversity.

In most European countries, butterfly research has focused on behavioral ecology, particularly in terms of individual development, reproductive behavior, and social relationships. In order to avoid the harassment of male butterflies, Ide observed the reactions of *Lycaena phlaeas daimio* females and other individuals to study the closing behavior of female butterflies to avoid the sexual harassment of male butterflies. Nice explored the unique independent evolution of butterflies by comparing the genetic lineages of the offspring of butterfly hybrids in the alpine regions of western North America. Bauder has studied the evolution of the function, morphology, and beak length of feeders in pteridaceae butterflies.

Europe attaches great importance to the study of the relationship between butterflies and the environment. In order to understand the diversity of butterfly species, the change of butterfly distribution and population dynamics to a large extent, analyze the geographical distribution and change trend of butterfly

species, and the correlation between butterfly species and various environmental factors such as habitat and climate change, many large-scale and long-term butterfly monitoring projects have been carried out. It provides basic data for the protection, development and utilization of butterfly resources and the prediction of environmental change, and also plays an important role in the classification of butterfly threat levels and the formulation of protection measures.

To sum up, there are relatively few studies on the ecology of endangered butterflies at home and abroad, and the protection of endangered butterflies still faces many challenges. Therefore, a large amount of scientific research is still needed to ensure the effective protection of endangered butterflies.

Summary Of The Chapter I

1. With the rapid development of human civilization, we have had a profound impact on the natural environment, resulting in ecosystem imbalance and loss of species diversity. As one of the victims, the butterfly faces the challenge of survival. China is an important country for butterfly diversity, but globalization and urbanization are threatening the survival of butterflies.

2. Protecting butterflies is crucial because they are key pollinators in ecosystems, contributing to plant reproduction and the maintenance of biodiversity. The diversity of butterflies is also an important part of natural beauty and is of great value to scientific research, culture and the arts. In addition, protecting butterflies helps to maintain ecological balance and promote sustainable development, which is essential for the future of people and the planet.

3. At present, the ecological research of endangered butterflies at home and abroad is still insufficient, and the conservation work faces many challenges. Therefore, there is an urgent need to strengthen scientific research to ensure that endangered butterflies are effectively protected and saved.

CHAPTER II

RESEARCH THE CHOSEN TOPIC

2.1 Preliminary Research

There are about 2,100 known butterfly species in China, accounting for about one-tenth of the world's known butterfly species and more than double the number of species in all of Europe. However, in recent years, with the development of human society and the acceleration of urbanization, the natural environment throughout the country has been severely damaged, and many butterfly species and their habitats have been seriously threatened. The main reason for the current situation is that there is little protection and research on endangered butterflies, and the information on species' endangered status is not comprehensive enough. With the publication of Professor Zhou Yao's *Butterfly Chronicles of China* and *Butterfly Chronicles of Yunnan, Hainan and other places*, it provides a theoretical basis for further research on endangered butterflies.

Nothing on Earth can survive alone. Ecologists point out that wild animals adapt to nature in their own unique way until they are disturbed by human production activities. In the natural state, the number of new species appears generally in balance with the number of species extinctions. That balance has now been disturbed. Since the 20th century, with the development of human economic activities and modern production, the excessive use of natural resources has caused serious damage and pollution to the natural environment, and the contradiction between economy and ecology has become increasingly acute. In order to meet the material needs of human population growth, humans are exploiting and destroying nature on an unprecedented scale, resulting in the destruction of the habitat of endangered butterflies. In addition, human awareness of animal protection is weak, due to the temptation of high economic

interests, leading to some illegal elements of indiscriminate hunting and illegal trading, which has caused devastating damage to some endangered butterflies. At the same time, the flood of natural disasters has made endangered butterflies face severe challenges and brought immeasurable damage to their survival.

Through careful analysis of the collected data, it was found that habitat loss, degradation and overuse of resources caused by human activities were the main factors leading to the extinction of butterflies. To sum up, we can know that there are many reasons leading to the extinction of butterflies, but the most influential factors on butterflies are directly related to human activities, and these human factors are interfering with and affecting the survival and reproduction of butterflies.

After collecting and sorting out the information, according to the relevant provisions of the Wildlife Protection Law of the People's Republic of China by the Ministry of Agriculture and the former Ministry of Forestry of the People's Republic of China and the List of China's National Key Protected Wildlife updated and adjusted on February 9, 2021, 24 species of butterflies were selected. The 24 species of butterflies can be divided into Papilionidae, Parnassiidae, Nymphalidae and Leucidae.

The butterflies of the Papilionidae family are mainly large and medium-sized beautiful butterflies, and the female and male butterflies of various butterflies are the same in shape, size and color, but they also show different characteristics due to seasonal differences. Most papilionidae butterflies are active in the sun, flying between the jungle and the countryside, and moving very fast.

The butterflies of the Parnassiidae family are very close to the butterflies of the Papilionidae family, most of them are medium-sized butterflies, and their color is mainly white or waxy yellow. The species of butterflies of the Parnassiidae family are produced in the mountains at higher altitudes, and are more hardy than other butterflies. They fly close to the ground above and below the snow line and act slowly, which has the reputation of "the spirit flying on the snow line".

Nymphalidae is the largest of all butterfly families, including many large and medium-sized butterflies, and very few small beautiful butterflies. The wing shape and color spots of Nymphalidae butterflies vary greatly, and they also like to fly in the sun, with strong flying power and lively action.

The butterflies of the grey butterfly family are small butterflies, the front of the wings are very rich in color, the reverse pattern and color are different from the front, mostly gray, white and other colors, and the color spots on the front of the wings are different, but the reverse is the same. Females and males differ slightly in shape, size, and color.

Among them, the endangered butterfly species of Papilionidae includes *Teinopalpus imperialism*, *Teinopalpus aureus*, *Troides helena*, *Troides acacus*, *Troides magellanus*, *Troides amphrysus*, *Troides cuneifera*, *Troides haliphron*, *Bhutanitis lidderdalit*, *Bhutanitis ludlowi*, *Bhutanitis mansfieldi*, *Bhutanitis nigrilima*, *Bhutanitis thaidina*, *Bhutanitis yulongensis*, *Losaria coon*, *Luehdorfia chinensis*. Parnassidae includes *Parnassius imperator* and *Parnassius apollo*. Nymphalidae includes *Sasakia pulcherrima* and *Sasakia funebris*. Lycaenidae includes *Sasakia Maculinea arionides* and *Phengaris xiushani*.

2.2 Research Investigation and Analysis

Through meticulous questionnaires, a large amount of data was collected and analyzed to understand the public's awareness of endangered butterflies. The survey results showed that 55.55% of the respondents did not know much about endangered animals, and in the specific field of endangered butterflies, the proportion was as high as 83.33%. This data reveals the current general lack of public awareness of endangered butterfly protection, and also highlights the urgent need for popular science education in this field.

The survey also found that most people get information about endangered butterflies from a very simple channel, mainly relying on traditional book knowledge and occasional public service video publicity. The limitation of this way of obtaining information is not conducive to the wide dissemination and deepening of knowledge about endangered butterflies.

In terms of cultural and creative products, the questionnaire survey shows that 66.67% of respondents pay more attention to the fun and innovation of products when buying cultural and creative products related to endangered butterflies. This suggests that cultural and creative products need to be designed to attract the attention of consumers, but also to stimulate their interest in endangered butterfly conservation.

In addition, 61.11 percent of respondents said they prefer to learn about endangered butterflies through cultural and creative products. This finding points out that cultural and creative products are not only commodities, but also effective media for transferring knowledge and culture. They are able to capture the attention of the public in a more vivid and interactive way, raising their awareness and interest in the conservation of endangered butterflies.

Based on these findings, the design strategy of cultural and creative products is adjusted accordingly. In the design process, special emphasis is placed on the fun and innovation of the product, and strive to make the image of endangered butterflies more popular through unique design language. At the same time, we also pay attention to integrating educational elements into the products, so that consumers can naturally absorb knowledge about endangered butterflies while enjoying the products.

Through this questionnaire survey, we deeply realized the importance of raising public awareness of endangered butterfly protection. We hope that through well-designed cultural and creative products, we can not only provide consumers with the enjoyment of beauty, but also contribute to the protection of endangered butterflies.

In summary, the questionnaire provides valuable first-hand information and enables a better understanding of the needs and expectations of the public. Looking to the future, more cultural and creative products that are both educational and creative will be designed to increase public awareness and participation in the conservation of endangered butterflies.

2.3 Design Orientation

"Tuidie" is designed and created around the theme of "protecting endangered butterflies". The overall design style is cute. Through logo design, font design, IP design, illustration design and poster design, it appeals to people to take action and consciously join in the action of protecting endangered butterflies. And on the basis of illustration design and poster design, a series of cultural creative products are derived, so that endangered butterflies can truly enter People's Daily life, improve people's attention to endangered butterflies, so as to truly play a propaganda effect (See Figure 2.1)

Summary of Chapter II

1. After in-depth analysis of the collected data, we found that habitat loss, degradation and overexploitation of resources are the main causes of butterfly extinction, and these are closely related to human activities. The comprehensive analysis shows that although the causes of butterfly extinction are complex and diverse, human activities are the most influential factors on their survival and reproduction, and these behaviors are seriously interfering with the natural life of butterflies.

The research objects are selected according to the relevant provisions of the Wildlife Protection Law of the People's Republic of China issued by the Ministry of Agriculture and the former Ministry of Forestry, and the List of

China's National Key Protected Wild Animals updated and adjusted on February 9, 2021.

3.The "Tuidie" project is designed in a cute style with the theme of "Conservation of endangered butterflies". Through logo, font, IP image, illustration and poster design, the project aims to inspire public awareness and encourage active participation in the conservation of endangered butterflies.

CHAPTER III DESIGN PROCESS AND RESULTS

3.1 Design Plan

- (1) Collect and analyze excellent design cases to determine your own design style.
- (2) Create a design proposal and create a mind map.
- (3) Draw the first draft of the design content.
- (4) Complete the overall design and extend part of the design.
- (5) Make adjustments to the details and finally complete the design.

3.2 Research Technique

Literature research method: Through the library, the Internet and other ways, extensively consult the literature about endangered butterflies, targeted the content involved in the selection, classification and analysis; The main types of literature collected include: literature on the protection of endangered butterflies, literature on visual image design, literature on illustration design, and literature on cultural and creative product design. Obtain a large amount of information about endangered butterflies, and through the research of this information to build a knowledge framework for the topic selection of ideas and design works, but also provide a strong theoretical basis for design.

Case analysis: Collect and study domestic and foreign classic design cases on the theme of "Endangered butterfly protection" through the Internet, conduct case analysis, analyze the design content of the cases, explore the design techniques of the cases, and summarize the advantages worth learning from them, so as to lay a good foundation for subsequent practice. Summary method: The literature and books related to endangered wild butterflies in China are sorted out and summarized, the survival status and reasons of endangered

butterflies are summarized, and the information and literature related to endangered butterflies are fully studied.

Design practice method: On the basis of fully consulting relevant literature and books and case analysis in the early stage, the required information is integrated and the summarized information is presented in the design. The theme of "tuidie" is the starting point of the whole design, which is realized through the form of cultural and creative products, and the theory is applied to practice.

3.3 Design Process

3.3.1 Logo design

A logo is an important symbol of a brand, which carries the mission, vision and value proposition of the brand. A well-designed logo allows consumers to recognize and remember the brand in the first time, thus standing out in the fierce market competition. The logo design reflects the brand's positioning. It is a bridge between the brand and the target market, and conveys the positioning information of the brand through visual elements, such as high-end, professional, innovative, etc., to help the brand establish a clear brand image in the minds of consumers. An excellent logo design should also reflect the cultural connotation of the brand. It should be consistent with the cultural background, historical tradition and values of the brand, so that consumers can feel the cultural heritage and spiritual connotation of the brand through the logo. Uniqueness is the key to logo design. A unique logo can stand out among many brands and attract consumers' attention. It needs a logo that is different from other brands, with recognition and memory points. Simplicity is the soul of logo design. A concise logo is easier for consumers to recognize and remember. It should remove superfluous elements, retain the most core visual features, and convey the brand message in the most intuitive way. Ease of identification is another important

principle of logo design. An easy-to-recognize logo should be able to maintain its recognition in different application scenarios, whether it is on a small size business card or on a large billboard.

The logo design of "tuidie" is based on these principles. It combines the butterfly, a beautiful creature in nature, with the elements of the natural environment, and creates a symbol image with both natural beauty and modern sense through abstract and simplified techniques. The butterfly's wings symbolize change and growth, which coincides with the design concept of "tuidie". The elements of the natural environment convey the importance of ecological protection and sustainable development. The logo uses a simple and modern font that complements the graphic elements to form a complete visual identity system. In the early stage of the logo design, in order to reflect the design theme of "protecting endangered butterflies", the shape of the side butterfly was extracted and simplified as the basic shape of the logo. On this basis, in order to reflect the correlation between endangered butterflies and the natural environment, leaves were chosen to represent the natural environment, and the leaves were deformed and simplified, combined with butterflies, to express the design concept that endangered butterflies are closely related to the natural environment. After the teacher's suggestion, the font design and logo design were combined to obtain a relatively complete logo design (See Figure 3.1).

Because font design and logo design can not be well integrated, so the logo design has been adjusted. After constant revision, based on the combination of the side butterfly and the leaf, and the combination of the English initial B of the butterfly, the final draft was determined (See Figure 3.2).

3.3.2 Font design

Font design is a delicate and artistic creation form in the field of visual communication design. It is not only a simple arrangement of words, but a kind

of artistic expression through the combination of visual aesthetic laws and text connotation. A successful font design can be integrated with the brand concept, improve the communication effect of the message, and enhance the visual impact. In font design, designers need to consider visual aesthetic elements such as shape, proportion, rhythm and balance of the font. These elements work together to create a font style that is both harmonious and individual. Each font has its own unique temperament and emotional color. For example, handwriting usually has a friendly, natural feel, while geometric fonts are more modern and rational. According to the brand positioning and target audience, designers need to choose or create fonts that can convey the corresponding emotion and connotation. Font design needs to be closely aligned with the purpose of design. Whether used for brand logos, posters, books, or websites, fonts should be able to effectively convey messages and inspire interest and emotional resonance in the audience.

In the font design of "tuidie", the font design is combined with the logo design and poster design to create a unified and coordinated visual image. The choice and design of the font must consider not only the harmony with the butterfly element, but also how to convey the core idea of "tuidie" through the font. In the logo design of "tuidie", the font complements the graphic elements of the butterfly. The design of the font should be able to set off the elegance and agility of the butterfly, but also be able to highlight the uniqueness and recognition of the brand. In poster design, font is not only the carrier of information, but also a part of visual elements. Font size, color, arrangement, and relationship to other visual elements need to be considered to create an engaging visual effect.

Typeface design plays a crucial role in the work "tuidie". Through font design, we can see that even the most basic elements can become powerful tools to convey the spirit and values of a brand through creative and ingenious design.

In the early stage of font design, various styles of font design were tried (See Figure 3.3). "Stroke shar" ingis a widely used technique in font design,

which extracts and merges strokes in "tuidie" to make font design more design sense. On this basis, the combined strokes are bent and deformed to better touch people's emotions through soft curves (See Figure 3.4).

3.3.3 IP image design

As a visual symbol of the brand, IP image helps consumers to quickly recognize and remember the brand. A unique and attractive IP image can become an important carrier for brand communication. IP image can establish an emotional connection with consumers. A cute and interesting IP image can inspire consumers' emotional resonance and enhance consumers' loyalty to the brand. IP image can be used as a brand story teller. Through an IP presence, a brand can communicate its culture, values and philosophy, giving consumers a deeper understanding of the story behind the brand. IP images can carry and transmit specific cultural significance. In the "tuidie" project, the butterfly images of different families reflect the different characteristics of butterflies, so that people can better understand the characteristics of each family of butterflies, so as to increase people's interest in endangered butterflies.

IP images can be used for various marketing activities such as advertising, promotions, social media marketing, etc. An influential IP image can attract more attention and improve marketing effectiveness. The IP image can be extended to a variety of products and peripheral goods, such as toys, clothing, stationery, etc. This can not only bring additional revenue to the brand, but also deepen consumers' impression of the brand.

IP images can be used for social welfare and environmental protection activities.

By displaying the image of endangered butterflies, tuidie is able to raise public awareness of biodiversity conservation and environmental protection. Butterflies themselves are works of art in nature." tuidie's IP image design allows people to appreciate the beauty and diversity of butterflies through

artistic expression techniques. By personalizing the butterfly, the "tuidie" IP image is able to create an emotional connection with consumers and inspire people's love for nature and life.

At the initial stage of IP design, an IP image of an endangered butterfly was designed, but one IP image was not enough to reflect the characteristics of a variety of endangered butterflies, and it was decided to subdivide the IP image into four, representing the endangered butterflies of Papilionidae, Pieridae, Nymphalidae, and Taenidae respectively. The four IP images are given different characters in order to better highlight the characteristics of each family of endangered butterflies.

The four IP images retain the antennae of the butterfly, and the pattern on the butterfly wings is retained on the costume, after passing with the old (See Figure 3.5).

The IP image of the papilionidae butterfly is named after Die Xiaofeng, and the color is mainly yellow and black. The papilionidae butterfly has always had the reputation of "the crown of appearance level", which gives it a noble and proud character (See Figure 3.6).

The IP image of the Pieridae butterfly is named after Die Xiaojuan, and the color is mainly milk white and gray. The slow flight of the Pieridae butterfly is easy to catch, which gives it the character of sleepiness (See Figure 3.7).

The IP image of the butterflies of the Nymphalidae family is named after Die Xiaojia, and the color is mainly purple. As the largest butterfly in the butterflies, the butterflies of the Nymphalidae family are mainly large and medium-sized butterflies, which gives it a mature and stable personality (See Figure 3.8).

The IP image of the butterfly is named after Die Xiaohui, and the color is mainly white and light purple. The front and back of the wings of the butterfly of the family have different patterns and colors, which gives it a contrast and cute character (See Figure 3.9).

The final draft of the IP image design added wings with obvious butterfly characteristics on the basis of the original (See Figure 3.10).

On the basis of IP image design, IP emoticon extension and IP poster design are added. As part of modern visual culture, IP memes and IP posters play an important role in branding, cultural communication and social interaction.

Memes are widely used in social media and daily communication because of their intuitive and interesting characteristics. IP emoji extension can provide users with rich expressions and enhance the fun and intimacy of social interaction. The IP image in the emojis helps to strengthen the user's memory of the brand, and through the use of emojis, the brand can be deeply rooted in the people's heart in a relaxed way.

IP emoticons can carry specific cultural elements or values, and realize the popularization and communication of culture through the transmission of emoticons.

Memes are able to cross language barriers and convey emotions and attitudes, making online communication more vivid and intuitive. As a marketing tool, IP memes can help brands build connections among young users and improve the brand's market influence.

Posters attract attention with their striking visual effects and are an effective way to convey a message and engage the target audience. IP posters can strengthen the brand image and deepen the public's awareness of the brand through the combination of visual elements and brand information.

In general, IP sticker extension and IP poster are important tools in modern communication. Through visual art and creative design, they can not only enhance the appeal and market competitiveness of the brand, but also promote the communication and exchange of culture, and enhance the participation and interactive experience of the public.

3.3.4 Illustration design

Illustration design, as an important form of visual communication in graphic design, conveys information and emotions to people in an intuitive and vivid way through the power of images. Illustration is not just a decoration, it can tell a story, convey deep meaning, and even stimulate people's imagination and creativity.

The illustration design of *tuidie* is based on in-depth research and understanding of endangered butterfly species, and through creative creation, the beauty and vulnerability of these butterflies are presented to the public. Each butterfly in the illustration is more than just an image; it represents a life, a story, and a natural wonder that needs to be protected. Through illustration, "*tuidie*" is able to stimulate people's interest in endangered butterflies. The colors, shapes and details in the illustrations can attract the audience's attention and arouse their curiosity. More importantly, these illustrations can raise people's awareness of nature conservation and inspire them to understand and explore the stories behind these butterflies.

As a visual tool, illustration can help people better understand and remember complex ecological and conservation concepts. Illustration design has a unique advantage in conveying emotion. The illustration works of "*Decaying Butterfly*" can arouse people's appreciation of beautiful things, their sympathy for the fragility of life, and their sense of responsibility for nature protection.

At the beginning of the illustration design, the original plan was to make creative illustrations based on the four families of butterflies divided. However, since there were 18 species of endangered butterflies in the *Papilionidae* family, and the appearance and color of butterflies were completely different, the butterflies of the *Papilionidae* family were subdivided. Finally, six creative butterfly illustrations were summarized and extracted from 24 endangered butterflies (See Figure 3.13).

The final draft of the illustration design (See Figure 3.14) enriches the color details on the basis of the first draft, making the butterfly look more vivid.

3.3.5 Poster design

Poster design can attract the eye of the target audience and increase the visibility of the message through compelling visual elements such as color, image, layout and font. The poster itself can be an art form, showcasing the creative and artistic talents of the designer. It can present information in an aesthetically pleasing way and enhance the aesthetic experience of the viewer. Poster design can stimulate emotional response, establish emotional connection with the audience, and make the message more deeply transmitted. Through repeated display, posters can leave a deep impression in the hearts of the audience and strengthen the memory effect.

Modern poster design is also increasingly incorporating interactive elements, such as QR codes, augmented reality (AR) technology, etc., making posters an interactive medium. Posters can also be used as part of urban and environmental beautification, adding to the artistic atmosphere of public Spaces.

The role of poster design is multi-faceted, it combines the artistic, commercial and information transmission functions, is an indispensable means of visual communication in modern society.

In the current era of information development, poster design conveys information in its unique form. Poster is not only a unique visual communication language, but also an artistic creation, in the poster design contains four extremely important elements, respectively, text, color, graphics and layout, all of which are indispensable. The poster design of "tuidie" adopts focus composition. The poster is mainly on white background, giving people a feeling of brightness. The overall style of the six posters is unified, and the overall style is flat. The six posters correspond to the six different themes of caring for butterflies, prohibiting catching, prohibiting trading, resisting specimens, protecting the environment and harmonious coexistence. Combined with the

illustration of small scenes, they can not only convey the theme ideas to people more intuitively, but also improve the fun of the posters .

The core of the poster on the theme of caring for butterflies is to call on people to love and protect butterflies. The main color of the poster is mint green, which usually gives people a fresh, natural and quiet feeling, which is very suitable for expressing the theme of caring for nature and ecological protection. The picture in the poster depicts a little girl and a butterfly spirit being friendly, which may symbolize the idea of harmonious coexistence between man and nature. The slogan on the poster "Love butterflies, protect butterflies, don't wait until they are rare" further emphasizes the theme, reminding people to cherish and protect butterflies and not wait until they become rare before taking action. The design and message of the poster conveys a clear environmental message that by protecting butterflies and other creatures, we can maintain the ecological balance and biodiversity. Through the friendly interaction between the little girl and the butterfly spirit, the poster conveys a positive and harmonious concept of nature conservation to the audience(See Figure 3.15).

It is forbidden to use green as the main color of posters with the theme of catching butterflies. Green is often associated with the harmony of nature and is well suited as a background color to convey the idea of conservation and ecological balance. The poster's core message is to call on people to keep a legal distance from endangered butterflies and not catch them illegally. The image of the poster reflects this theme by showing the butterfly spirit being captured and unable to fly freely in the natural environment. Such visual elements convey a clear message: respect the habits and living space of butterflies, and do not illegally capture or disturb them. The slogan "Keep a legal distance from endangered butterflies" on the poster in English and Chinese further emphasizes this theme. It calls on people to abide by relevant laws and regulations and not to illegally catch endangered butterflies. Through the combination of visual and text, the poster conveys a strong message: we should respect and protect butterflies and not carry out illegal trapping. Through posters, people are

inspired to pay attention to wildlife protection and to comply with laws and regulations(See Figure 3.16).

Posters banning the sale of butterflies are mainly blue. Blue is often associated with serenity, trust and stability, and is used to convey a calm opposition to illegal trade practices and a firm stance on butterfly conservation. The core message of the poster is to call for an end to the illegal trade in endangered butterflies, and the poster emphasizes the particularity of butterflies as an endangered species, whose survival situation requires special attention and protection. The picture of the poster reflects that it is forbidden to use money to trade butterfly resources, and money should not be a tool to destroy nature and threaten biodiversity. The slogan on the poster "No sale, no harm, please stop the illegal sale" further emphasizes this theme. It calls on people to recognise the devastating impact of the illegal trade on butterflies and other endangered species and to take action to stop it. Through a combination of visuals and words, the poster conveys a strong message: we should reject the illegal trade and protect butterflies and other endangered species(See Figure 3.17).

Posters on the theme of butterfly resistance are mainly colored yellow, which is often associated with warning and attention, and is used to convey concern for the life of butterflies and alarm about the behavior of taxidermy. The image of the poster depicts a disturbing scene: a butterfly spirit pinned to a board, about to be taxidermy. Through the frightened expression on the face of the butterfly spirit, the moral questioning of this practice and respect for the life of the butterfly are conveyed. The slogan on the poster, "Taxidermy is a work of art at the cost of life," directly points to the moral dilemma behind the act of taxidermy. It challenges people's traditional ideas about natural beauty and scientific exploration, reminding people to consider respect for life while pursuing knowledge and art. Through a combination of visuals and words, the poster conveys a strong message: we should resist taxidermy at the expense of life and find more life-respecting ways to appreciate and protect butterflies(See Figure 3.18).

Posters with the theme of protecting the environment emphasize the importance of protecting the ecological environment, especially endangered butterflies. The poster is dominated by a yellow-green hue, which is often associated with growth, vitality and hope, but also suggests the fragility of the environment and the urgency of the need to protect it. The image of the poster depicts a disturbing scene: the destruction of the butterfly spirit's home, which could mean that forests, grasslands or other habitats in the natural environment have been destroyed because of human activities. Because their homes are no longer habitable, butterfly spirits have had to leave their original habitat, symbolizing the migration and survival challenges faced by many species due to environmental destruction. The slogan on the poster "Protecting the ecological environment is protecting endangered butterflies" directly conveys the direct link between protecting the environment and protecting butterflies. This highlights the fact that butterflies are important members of the ecosystem and their survival is an important indicator of environmental health. Through a combination of vision and text, the poster conveys a strong message: we must take action to protect the ecological environment to ensure that all living things, including butterflies, can continue to thrive on the planet(See Figure 3.19).

The poster with the theme of Harmony and symbiosis is dominated by blue-green color, which is usually associated with calm, tranquility and ecological balance, and is very suitable for expressing the concept of harmonious coexistence between man and nature. The core message of the poster is to emphasize that the world is not just for humans, and that humans and nature need to coexist in harmony. The poster draws attention to the survival of creatures such as butterflies and their interdependence with humans and the entire ecosystem of the planet. The picture of the poster reflects the harmonious relationship between the butterfly spirit and nature and the earth. It is presented by showing the butterfly spirit flying freely in its natural environment, living with plants, animals and other creatures. Such visual elements convey an ideal state of ecological balance, in which every living thing has its space and right to

live. The slogan on the poster "This world is not just for humans, man and nature should live in harmony" further emphasizes this theme. Call for people to realize that humans are only one component of the Earth's ecosystem and that our actions have a profound impact on other living things and the environment as a whole. Through a combination of vision and text, the poster conveys a strong message: we should respect and protect nature and live in harmony with all living things on Earth(See Figure 3.20).

3.3.6 Information Visualization

Information visualization plays a crucial role in design, transforming abstract data and information into an easy-to-understand visual format that enhances the user experience. Designers use visual tools such as charts, graphics and colors to not only organize and simplify complex information, but also enhance the appeal and expression of information. In user interface design, information visualization helps users quickly identify and navigate, and improves interaction efficiency. In addition, it can also be used as a means of creative expression, through a unique visual language to tell stories, convey emotions, and enhance the artistry and beauty of design works. Information visualization is a bridge between data, design and user cognition, and is an indispensable skill in modern design practice.

"Tuidie" introduces the information of endangered butterflies of the Papilionidae family, parniciidae family, Nymphalidae family and Lycaenidae family respectively through the visualization of four pieces of information, so that people can have a more intuitive understanding of endangered butterflies.

The overall style of "tuidie" information visualization is simple and clear, and focuses on conveying information. The text content layout is clear, without too many decorative elements, more inclined to highlight the information content rather than visual decoration. The text uses clear column layout, and the information of different parts (such as introduction, butterfly growth cycle, host

plants, geographical distribution, etc.) is classified and arranged reasonably. This format helps readers quickly find the information they are interested in. The information level and readability of documents are enhanced by using different font sizes and boldness to distinguish between headings and body text. Leaving appropriate white space in the document helps avoid visual congestion and makes reading more comfortable(See Figure 3.21~3.24).

3.3.7 Cultural creative product design

Cultural creative products are a kind of cultural creative products based on the innovative thinking, wisdom, technology and talent of human beings. Through the exploration and use of intellectual property rights and the combination of modern scientific design methods, cultural resources are created again, so that they have higher added value. Based on the theme of endangered butterfly protection, cultural creative products based on endangered butterflies are derived to meet the aesthetic needs of the public, stimulate people's consumption desire, enhance people's understanding of endangered butterflies, and thus raise people's attention to endangered butterflies.

The cultural and creative product design of "tuidie" develops a series of cultural and creative products through the content of logo design and illustration design .

A card sleeve is a plastic or paper shell used to protect the card from scratches, wear or contamination, extending the service life of the card. In addition, the card sleeve can also provide additional convenience, such as easy to carry, "tuidie" card sleeve design combined with butterfly illustration, adding personalization and aesthetics(See Figure 3.25).

The combination of "tuidie" phone case design and butterfly illustration design is a creative and personalized expression, which is able to combine art and practicality. By displaying unique butterfly illustrations on the phone case,

users are not only able to protect their phone from scratches and impacts, but also to show their personality and aesthetic(See Figure 3.26).

The combination of "tuidie" handbag design and illustration design can not only enhance the aesthetics and artistic sense of the handbag, but also provide a unique way to promote the protection of endangered butterflies(See Figure 3.27).

"Tuidie" coaster design combined with illustration is a creative way to transform everyday objects into works of art. This combination can not only enhance the beauty of home decoration, but also add personalization and artistry to everyday items(See Figure 3.28).

The design of "tuidie" throw pillow combined with illustration can be used for office backrest, can also be used for rest in the car, can be used in the family, and decorated in many scenes(See Figure 3.29).

3.4 Problems Encountered in the Process of Creation and Solutions

3.4.1 Problems encountered in the creation process

During the creation of "tuidie", we encountered several key issues that had a significant impact on the quality of the design and the final result.

First of all, in the initial illustration design, although the content of the illustration meets the design requirements, it lacks innovation in the form of expression, resulting in the picture being plain and unable to attract the audience's attention. This question highlights my lack of visual expressiveness.

Secondly, when designing the IP image of "tuidie", I realized that the choice and collocation of colors did not achieve the expected effect, and the inconsistency of color saturation and brightness made the image look chaotic and lacking in harmony.

Finally, when making a series of posters, we used multiple fonts, which resulted in a cluttered layout and a lack of unified design beauty. This not only

affects the visual appeal of the poster, but also weakens the efficiency of the message.

3.4.2 Solution

Faced with these challenges, I took a series of steps to address these issues and improve the overall design quality.

First of all, in order to enhance the vividness and creativity of illustration, a variety of illustration styles and presentation skills are deeply studied. It analyzes the shape, color and texture of excellent works, and draws inspiration from them. On this basis, the characteristics of butterflies are refined and innovated in an artistic way to make the illustration more vivid and interesting.

Secondly, in view of the color problem, I re-examined the color theory, and established a main tone, based on which the color collocation. I made a conscious effort to reduce the use of highly saturated colors in favor of softer, advanced tones to enhance visual coordination and beauty.

Finally, in order to solve the problem of the cluttered layout of the poster, I limited the use of fonts and chose one or two fonts that matched the brand image and design style. In the "tuidie" series of posters, the consistency of the fonts was maintained and visual coordination and beauty was ensured through carefully designed layout and typography.

Through these methods, not only solved the problems encountered in the creation process, but also improved the overall design quality of the "tuidie" design work. This process not only exercises the design ability, but also deepens the understanding of design principles and visual communication.

Summary of Chapter III

1. The Logo design conveys the core value and image of the design to protect endangered butterflies through simple and easily recognizable visual symbols.

2. "Stroke sharing" is an innovative technology in font design that simplifies and stylizes fonts by extracting and combining strokes to enhance the sense of design. At the same time, the strokes are bent and deformed, and the soft curves are used to touch people's emotions and enhance the visual appeal and expression of the font.

3. IP image design enhances brand identity and inspires emotional resonance by creating unique and attractive characters or symbols.

4. Illustration design enhances the attractiveness and expressiveness of information through visual narration, concretizing abstract concepts, enhancing memory points, stimulating emotional resonance, and promoting information dissemination and understanding. Through creative butterfly illustrations, this design attracts people's attention and raises people's attention to endangered butterflies.

5. Through the creative combination of visual elements, poster design attracts attention, transmits information, stimulates emotions, and promotes the public's cognition and action on a certain theme. The design uses a series of posters to urge people to protect endangered butterflies.

6. Information visualization helps people grasp information about endangered butterflies quickly and clearly by transforming complex data and information into an intuitive, easy-to-understand visual form.

7. Cultural and creative products include: card covers, mobile phone cases, handbags, coasters and throw pillows.

CONCLUSION

Butterflies play an important role in nature and are an indispensable part of the natural environment. Protecting endangered butterflies plays a very important role in maintaining the natural environment. However, the persecution of endangered butterflies by human activities will lead to a significant reduction in the number of endangered butterflies and eventually lead to their extinction, which is not only detrimental to the protection of biodiversity, but also conducive to the protection of the ecological environment. At present, people's awareness of the protection of endangered butterflies is very weak, resulting in the already endangered butterflies are more endangered. While developing and utilizing resources, human beings should also protect the diversity of species. The protection of endangered butterflies is not only an important task of the country, but also the responsibility of everyone. In order to appeal to people to protect endangered butterflies, I choose the theme of protecting endangered butterflies for my graduation design.

Through the novel form of cultural and creative products, "tuidie" popularized relevant information about endangered butterflies to the public, let endangered butterflies enter the public's vision, and improve the public's attention and protection awareness of endangered butterflies. In order to meet the life and aesthetic needs of different audiences, the products are divided into two categories: "stationery" and "daily necessities". During the design process, not only the publicity of endangered butterfly protection was considered, but also the practicality and appreciation of cultural and creative products were taken into account.

Through this graduation project, I have benefited a lot. The process of graduation project is an extremely long process, and I need to constantly consult relevant literature to enrich the content of my work, constantly think and consider, and make a reasonable deduction. From the selection of the topic at the

beginning, to the research and investigation, to the continuous modification and improvement of the design works, and to the completion of the series of "tuidie" design, I encountered many problems during the period, but I overcame the past one by one, and finally presented a complete graduation design.

Through this design experience, I have more comprehensive and profound awareness of the importance of endangered butterfly protection for maintaining and protecting the natural environment. I also hope that through this design, more people can pay attention to endangered butterflies and spontaneously protect endangered butterflies.

In a word, the creation of "tuidie" series of works not only tested my learning achievements in the four years of college, but also improved my ability, which will be of great help to my future study, life and work.

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I always feel that the days are long, but I do not know that the years are hurrying, four years of college life is coming to an end, and finally it is time to say goodbye. I remember the green and curious when I first entered the campus, but now I have to leave with full memories and growth. Thinking of last June, when I saw senior students wearing bachelor's clothes, their faces were filled with confidence and pride, and the wanton and unrestrained appearance made my heart full of yearning. However, when this moment really comes, the heart can not help but be at a loss. Even if there are all kinds of reluctant, but still grateful, because all the encounters in the four years of college, all the experiences, like pearls into the most precious necklace in my life.

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REFERENCE

1. Life History of butterflies in China, Zhu Jianqing. Chongqing University Press :2019.1.page 3-10.
2. Chinese Butterfly Primary Color Map, Zhou Yao.[M]. Henan Science and Technology Press :1999.10.page 49-103.
3. Taxonomy and Identification of butterflies in China, Zhou Yao.[M]. Henan Science and Technology Press :1998.6.page 37-55.
4. 4. Design, How to "enhance freshness and fragrance" for cultural and creative products, Zhou Chen.[N].2024.4.https://kns.cnki.net/kcms2/article/abstract?v=vRpkk4QO0oiiERLZIoRwd1fGiL_bwM5tlLFCWPS_f48QODhnPwCTaq1uPre_03WIFfo bbyS587rgoBJ_8b5hKvSIEUfVk6rPZrGlvoOaonEVdqPhhmJHW2SmhOk-RdEwGNpFVigyUgY=&uniplatform=NZKPT&language=CHS
5. Research on Font Design in Modern Graphic Design, Liu Yali.[J].2024.https://kns.cnki.net/kcms2/article/abstract?v=vRpkk4QO0ojXkaLZP5oaHg1Y0uCeWRMcBtcxkMWYJ5rTbKdljamHrdeqk0hlcAcyBp39EzzyUBXjEs3BOjYC_RDnNvbTNVZq_TYXH3nYDbCdpCJvN0RfyOu-JUSlgHUX&uniplatform=NZKPT&language=CHS
6. Design and Development of IP image of endangered animals and its application in cultural market. Pan Jie, Zhu Jin & Fan Xinyan.2024.https://kns.cnki.net/kcms2/article/abstract?v=vRpkk4QO0ogx53dxsrxfwOZhFm5eHwLthj0e0qlUJS-3sC-XwIRf514bNdY38WVPTtDRApQSNHBGTmWBf3P_BVmh_Ct_KKOhjNpNQI1FxKSrHvxBPucgXKDFxQ1bEs5&uniplatform=NZKPT&language=CHS
7. Research on the cultural Value of IP Image in Brand Design, Zhu Leyi.2024.<https://kns.cnki.net/kcms2/article/abstract?v=vRpkk4QO0oiUvLUJ7KATvilXCud6wEeYGMnM4MDd772MwKQ4Yn96QE7AMLEqZFXc>

- [b69DrgKKjIflG6wf_0bkJ7i1Rkzaz5DmsUZJQzZDBufPxtXy9lWQQPRV6bjQWcGgsnShbff7D1k=&uniplatform=NZKPT&language=CHS](https://kns.cnki.net/kcms2/article/abstract?v=vRpkk4QO0oh2ukWGV-aqd95ge9fc1ZBQiPJXqvgny7otgKp-LB-FKGd7rs06o4n87pLMGtZN0JnmPFX_1K02opoc4T72BDtuGr_vREidI5ilGWKciQj6aU2EFhw3xJAJocGW6KUWN5w=&uniplatform=NZKPT&language=CHS)
8. Research on Design and Development of cultural and creative products, Niu Fujie.2023.https://kns.cnki.net/kcms2/article/abstract?v=vRpkk4QO0oh2ukWGV-aqd95ge9fc1ZBQiPJXqvgny7otgKp-LB-FKGd7rs06o4n87pLMGtZN0JnmPFX_1K02opoc4T72BDtuGr_vREidI5ilGWKciQj6aU2EFhw3xJAJocGW6KUWN5w=&uniplatform=NZKPT&language=CHS
 9. Research on the Application of Minimalism in Logo Design, Wang Yuanlei & Ruan Chao.2023.https://kns.cnki.net/kcms2/article/abstract?v=vRpkk4QO0ogbTFnXJlq4OdGWdCcJ-caGd7lSDImZAnewASDjg5QWBIpPXsCH0J3eY8bImFFqye_Arf7-x3Uq99sdLgEMdjGPUm2XArqWBRWUYt9WI-jtvFo5EG67DAIMlsa4CNx9ys=&uniplatform=NZKPT&language=CHS
 10. Research on Cultural and Creative Design of "Endangered Animal Protection" theme, Ding Yiming. Tianjin Normal University,2023.https://kns.cnki.net/kcms2/article/abstract?v=vRpkk4QO0og_mw1GoKH1UhsnljYDlwIoMz6sE1rZAb-DDkZ4rHOk0Y3K-2f_cICCa_CSZvpl1-VA9dDhRSaPi5E69tA2JYowjzT4rppKamWYM25oW7s8NHv_Cta1HF3GTLnSaHex6e0=&uniplatform=NZKPT&language=CHS
 11. Design and Research of cultural and creative products based on endangered animals, Zhang Jianping. Beijing Institute of Printing and Technology,2022.https://kns.cnki.net/kcms2/article/abstract?v=vRpkk4QO0oixaDA5AAINQOlw7Bw4yWtzlw-FFqb1yM5biBg9GtMX3PzQAVeU6hiWCCd8JNH_rfEBZKBbx6Yj4VHaO9EckjkW5OOcdfzErdv-Upd1ptKzleSg2E57MVm3uZ5K_EupA=&uniplatform=NZKPT&language=CHS

12. Subspecies classification of rare butterflies and its conservation significance:
A case study of *Papilio Rostris*, Zou Wu, Zeng Juping, Jiang Mengna, et al.[J]. Journal of Entomology,2021.https://kns.cnki.net/kcms2/article/abstract?v=vRpkk4QO0ohSHF8Mk-h0VtRPM4scBAjcFgySGktFqqXMV_vI_AIARHK8ltizVYMiYHsuBXIFBp8Va3Sn5BMpILKoZbHiN0Wu6qD42aNr3WNLQNElbgbcWezHucglG44KSh3F_Qa8II=&uniplatform=NZKPT&language=CHS
13. Research on the design of endangered animal derived graphics in cultural and creative products, Wang Siyu.[D]. Northwest A&F University,2020.https://kns.cnki.net/kcms2/article/abstract?v=vRpkk4QO0ohYRg5pRWtRVeZM3NXblDzxO-RacieomOumlHQwCtTwOkuvJcFfxghTucqmYyM4fmgGIT2kg1TkS4lSUkF16W2OsdqHfJ_6QuJ9cT77yoS5vpCj85Li_X_H_r55ovOq1980=&uniplatform=NZKPT&language=CHS
14. Opportunities and challenges facing China's butterfly industry,Cao Zhenmin, Cao Long&Wang Xiang.[J]. Central China Insect Research,2019.https://kns.cnki.net/kcms2/article/abstract?v=vRpkk4QO0ojA4ZchhnQ-XfMu3hWEqDsKbmA3zxuSWzW5zIzArh4RdvjnYIYPVK-BYZCyundTty_EPUzIi7jwPyzdkpsN4i72fIhpCq7H4pi2nw1VHDKYN8myEOoWik525n7LdbSCXzA=&uniplatform=NZKPT&language=CHS
15. Habitat monitoring of an endangered Asian butterfly, *Teinopalpus aureus* (Lepidoptera: Papilionidae) and change in local residents' conservation awareness, Wang Zhengyang;, Huang Ying, Luo Xiang, Qin Kun;, Merz Rachel&Zhou Shanyi.[J].Journal of Insect Conservation,2018.https://kns.cnki.net/kcms2/article/abstract?v=vRpkk4QO0ojA4ZchhnQ-XfMu3hWEqDsKbmA3zxuSWzW5zIzArh4RdvjnYIYPVK-BYZCyundTty_EPUzIi7jwPyzdkpsN4i72fIhpCq7H4pi2nw1VHDKYN8myEOoWik525n7LdbSCXzA=&uniplatform=NZKPT&language=CHS

16. Research status and development prospect of butterflies in China, Gao Jingjing, Zhou Xuesong, Li Yuwu, et al.[J]. Green Technology,2017https://kns.cnki.net/kcms2/article/abstract?v=vRpkk4QO0o_hc0uIkvempWK4E9cKi5COvovxAZJX0Fe1CIZUCkZcIbi3T-CLgWdsmZ115t9d9jkJ6ctON5ZJLHr4F_CjfjqkYj2RTCfNnegEq8ctvrDlRmTCU11eT655PqF8bbD1PEko=&uniplatform=NZKPT&language=CHS
17. "book-review" Butterfly Conservation in North America: Efforts to Help Save Our Charismatic Microfauna, Nice Chris.[J].The Quarterly Review of Biology,2016.https://kns.cnki.net/kcms2/article/abstract?v=vRpkk4QO0ojGM25mfU5Tilj2DHsBFUmlKCzhRZYeUmNHpCGpuFHFIDQ1RkNQc8DJGk_cCMa2HXrp4sPCJkC_rLAazWAgpZkjqln1HQNxZsg-xfrIpGeGqNYNhrkfzgSu9ZqhgioH1d2li0xRkAkwVi15Z9ZieGqpx7rv1hROtuU=&uniplatform=NZKPT&language=CHS
18. Conservation status and countermeasures of butterfly diversity in China, Ma Fangzhou, Xu Haigen, Ding Hui, et al..[J]. World Environment,2016.https://kns.cnki.net/kcms2/article/abstract?v=vRpkk4QO0oil9CeHfKeYDt-hu7n5Gr8HWZz3uhpMW-WCS9HqXJ0gEbVZ_848KT5Jo7Dl83pYDLNRdyAeCsJuGkkeptPGDRsnSo8rlNeHVXtZMJCrV0Obd5fliuhuFPDsPxcF_IyH3Jk=&uniplatform=NZKPT&language=CHS
19. Analysis of threat factors for butterfly diversity in China,Pu Zhengyu, Shi Junyi, Yao Jun, et al.[J]. Chinese Agricultural Science Bulletin,2015.https://kns.cnki.net/kcms2/article/abstract?v=vRpkk4QO0oj2Honh-ERfWYMqIXcCOM13UwuanFaTTypghdz0dq0CAzuL4UhaY-DkZoHNCZb13RQsn6Sf_aWsvsHO4Wlb-PGVo70OTs40Kq0Nm63j5_xBDse_Br9FxFJERgS9ipQ72Xy4=&uniplatform=NZKPT&language=CHS
20. TEN YEARS OF THE RESOURCE-BASED HABITAT PARADIGM: THE BIOTOPE-HABITAT ISSUE AND IMPLICATIONS FOR CONSERVING BUTTERFLY DIVERSITY, Roger L. H. Dennis; ,

- Leonardo Dapporto & John W. Dover.[J].Journal of Insect Biodiversity,2014.https://kns.cnki.net/kcms2/article/abstract?v=vRpkk4QO0oh4hisBLt6p3w0ll7Xcg8pJsflz6xohiYFUFV5eXgsYbfCebXbU8xpmYsR_Y2P2EP8dsSSD8BguTMkmTkR-QLMolvHHfyJt9lrGbfAW4V-v-hF6jhGXUUczYZvfaMTOOK5hfnI6YIZFZngE2JzzwsD&uniplatform=NZKPT&language=CHS
21. Status quo of butterfly biodiversity in China and exploration of new conservation models, Pu Zhengyu, Zhou Dequn, Yao Jun, et al.[J]. Ecological Economics,2011.https://kns.cnki.net/kcms2/article/abstract?v=vRpkk4QO0oiE3FbkkhNMltJ4eRPqX2gcLGYnDf_j6iMhPf7u5I6Ctg3aRs6050YzuWm4bKXKsj_v0X5cc_XfHD9FAo2f1OUa5vq-NW3zQfRubhvsoq-RqTEy2IZCWn7z&uniplatform=NZKPT&language=CHS
 22. Research progress of butterfly insect biodiversity in China, Wang Lin, Yi Chuan-hui & He QiuJu[J]. Shandong Forestry Science and Technology,2009.https://kns.cnki.net/kcms2/article/abstract?v=vRpkk4QO0ogb6FAnRBEeKJu21o4Z8Gn51XQ5PXIKnnYPYH1lbbge1gA30-PqZLRa1uwg-K6emqufDSGQDGGH_5P4g1DXPmiAdAxlz1BWzrYM6CcWOEIqOXpvuXluei35&uniplatform=NZKPT&language=CHS
 23. Butterfly Conservation s 2018 Symposium[J].Bulletin of the Ecological Society of America,2017.https://kns.cnki.net/kcms2/article/abstract?v=vRpkk4QO0og1DJG0ezBkjs7r7xaNuliZV380X1L9qvt4HWj8Nc5R55HRhIvxxvtgLAIDENCzS5y22muWIYHKYZlOOZ3tPyqfccx1Yd2Hoy5RrnSACsCtqjsTFkr7-xOVGUNuuwXx9BvEX-9_5NswAdsgT4VRivQCe&uniplatform=NZKPT&language=CHS
 24. Characteristics, formation, development and protection of the butterfly, Yuan Feng.[C]. Entomological Society of China. Innovation and Development of Entomology -- Proceedings of the 2002 Annual Conference

- of the Entomological Society of China. Insect Museum, Northwest A&F University.2002:5.https://kns.cnki.net/kcms2/article/abstract?v=vRpkk4QO0ogvxFOQw9xSWd31QXt743dUh6-apRzmVVrHuon4Z7-mrB5QE0T9jkZYovoV-OLA2aCmmyaO6eU56CsT0cIIQRd9Esu7n7ZkwMv01R3d47Ey8zqBjEYXBbJVGNkg3MJxo5m_m6HfVKAyZw==&uniplatform=NZKPT&language=CHS
25. Endangered and protected butterfly species in the world, Li Zhongwen, Fu Yingli.[J].Journal of Hainan Normal University (Natural Science Edition).2000.[vRpkk4QO0ojWkgkCCnayhyVG9ZBwfqWR6elPfIBgJ39fuAVsrdnsEf_TeVMNEIMfPbcI_DbWmSf523heDUfNvAHy0sf0bfyXABPgZMbI4huNiA_mQFrLbkIokKjzAqfU](https://kns.cnki.net/kcms2/article/abstract?v=vRpkk4QO0ojWkgkCCnayhyVG9ZBwfqWR6elPfIBgJ39fuAVsrdnsEf_TeVMNEIMfPbcI_DbWmSf523heDUfNvAHy0sf0bfyXABPgZMbI4huNiA_mQFrLbkIokKjzAqfU)
26. A taxonomic study of the rare butterfly Bhutanitis (Lepidoptera: Papilionidae), Zhou Yao. [J]. Journal of Insect Classification.1992.https://kns.cnki.net/kcms2/article/abstract?v=vRpkk4QO0og05au98gC55Vf3FpUzhjgEvPNXKGavvy_9iEe8X7FIRzXMZeBP2X8_H7Vjnf93m31_XrckNgbYRbFVu8oWcqyvzh8b-XaMCwJNdTNHGWo1WZP9l5kE8d5&uniplatform=NZKPT&language=CHS
27. An example of the application of Golden Section law in graphic design. Yang Yanhui.[J/OL]. Packaging engineering 1-15.https://kns.cnki.net/kcms2/article/abstract?v=vRpkk4QO0oh5k-0CkR2ltv5CEzVFb9KKbsSl2xV0vX_83Jlx3L_VwxGiQyMZqNeUvN-ch0mFoAjzCYn932EXRLmWXzAj7gZqlAv0oPabve9-lqDJGzA12OP_q4wItOEm2AfhS-FqpxI=&uniplatform=NZKPT&language=CHS
28. Study on the flora and diversity conservation of Papilio papiliana in Yunnan, Duan Kuang. [D]. Yunnan University, 2021.<https://kns.cnki.net/kcms2/article/abstract?v=vRpkk4QO0oh4MSxe8R3YtqnQiCAMtr1PQd3hIK->

[Mj1yleDyhREWVH2k_41XB8_2wndbWFP_ZAnGEIIR4Mna1TiV7Fc9PnPbb7bCOftLkjRpDXx4m_i78jPkn3nt4DPTp6VULEhPnvpScqqPwjdeFca==&uniplatform=NZKPT&language=CHS](https://kns.cnki.net/kcms2/article/abstract?v=vRpkk4QO0oidx2XDX7QvKfviZhv-ZP5AV6EIPwjhDa88OrPWu8ibu_2rWJH1hOg5rSO0dFoAXfdYiNgHuHaZ5IaIdd6pQicTaieJBTehtPt2AdIAvB27BdHQIU1Ms5xe4h9BgTdRtdSxW-v6aK5-LdQ==&uniplatform=NZKPT&language=CHS)

29. □ On the Application of Graphic Design Elements in Design, Sun Dan [J]. Cultural Monthly, 2024.https://kns.cnki.net/kcms2/article/abstract?v=vRpkk4QO0oidx2XDX7QvKfviZhv-ZP5AV6EIPwjhDa88OrPWu8ibu_2rWJH1hOg5rSO0dFoAXfdYiNgHuHaZ5IaIdd6pQicTaieJBTehtPt2AdIAvB27BdHQIU1Ms5xe4h9BgTdRtdSxW-v6aK5-LdQ==&uniplatform=NZKPT&language=CHS
30. □ Research on Color Application in Visual Communication Design, Huang Haonan [J]. Grand View of Art, 2023.https://kns.cnki.net/kcms2/article/abstract?v=vRpkk4QO0oj74RCAbnFfSe_dwZWPLyDzHkiRE--8rTBGL4Bts41L9foI41jWT8upNwD-MabwA4KCXrRtubrluWRtqEN4rJuL1jGiykWLJ5OyoU8L3V715Tz3C1yW9Rgn5_v_hWeU8YcX_KWb-EM30Q==&uniplatform=NZKPT&language=CHS

ANNEX

国家重点保护野生动物名录

中文名	学名	保护级别	备注
鳞翅目	LEPIDOPTERA		
凤蝶科	Papilionidae		
喙凤蝶	<i>Teinopalpus imperialis</i>	二级	
金斑喙凤蝶	<i>Teinopalpus aureus</i>	一级	
裳凤蝶	<i>Troides helena</i>	二级	
金裳凤蝶	<i>Troides aeacus</i>	二级	
荧光裳凤蝶	<i>Troides magellanus</i>	二级	
乌翼裳凤蝶	<i>Troides amphrysus</i>	二级	
珂裳凤蝶	<i>Troides criton</i>	二级	
楔纹裳凤蝶	<i>Troides cuneifera</i>	二级	
小斑裳凤蝶	<i>Troides haliphron</i>	二级	
多尾凤蝶	<i>Bhutanitis lidderdalii</i>	二级	
不丹尾凤蝶	<i>Bhutanitis ludlowi</i>	二级	
双尾凤蝶	<i>Bhutanitis manglesi</i>	二级	
玄裳尾凤蝶	<i>Bhutanitis nigrilima</i>	二级	
三尾凤蝶	<i>Bhutanitis thaidina</i>	二级	
玉龙尾凤蝶	<i>Bhutanitis yulongensis</i>	二级	
丽斑尾凤蝶	<i>Bhutanitis pulchrestriata</i>	二级	
锤尾凤蝶	<i>Losaria coon</i>	二级	
中华虎凤蝶	<i>Luehdorfia chinensis</i>	二级	
蛱蝶科	Nymphalidae		
最美紫蛱蝶	<i>Sasakia pulcherrima</i>	二级	
黑紫蛱蝶	<i>Sasakia funebris</i>	二级	
绢蝶科	Parnassidae		
阿波罗绢蝶	<i>Parnassius apollo</i>	二级	
君主绢蝶	<i>Parnassius imperator</i>	二级	
灰蝶科	Lycaenidae		
大蓝灰蝶	<i>Maculinea arionides</i>	二级	
秀山白灰蝶	<i>Phengaris xiushani</i>	二级	

Figure.1.1 Butterflies in the national list of wildlife under key protection

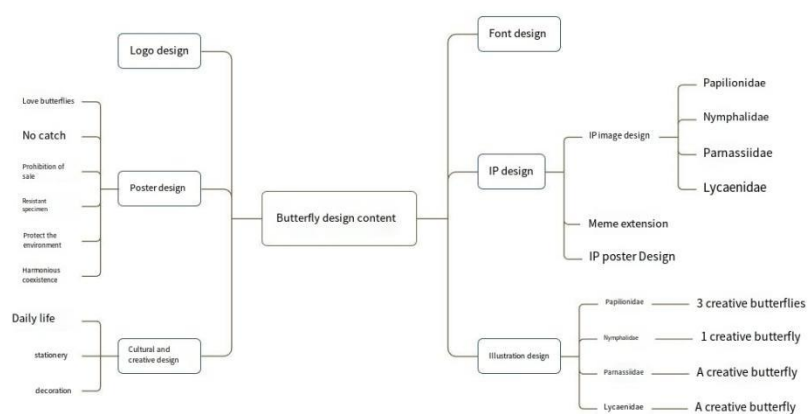


Figure.2.1 mind mapping

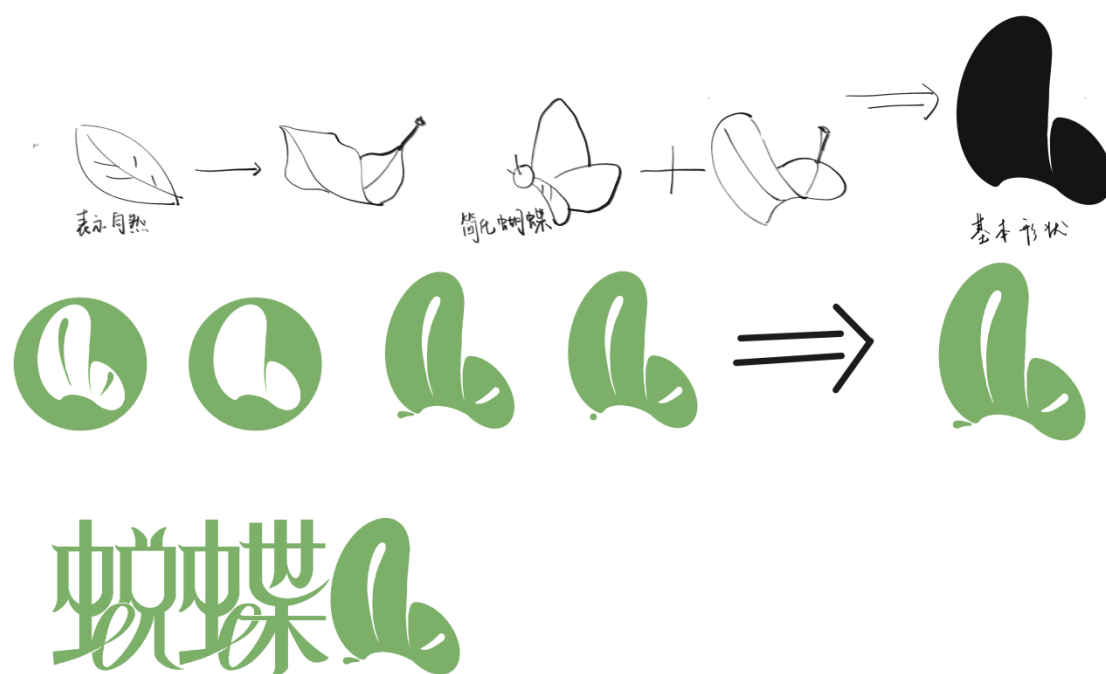


Figure 3.1 logo design draft



Figure 3.2 Final draft of logo design

蛭蝶 蛭蝶
蛭蝶 蛭蝶

Figure 3.3 First draft of font design

蛭蝶 蛭蝶

Figure 3.4 Typeface design into draft



Figure 3.5 First draft IP design

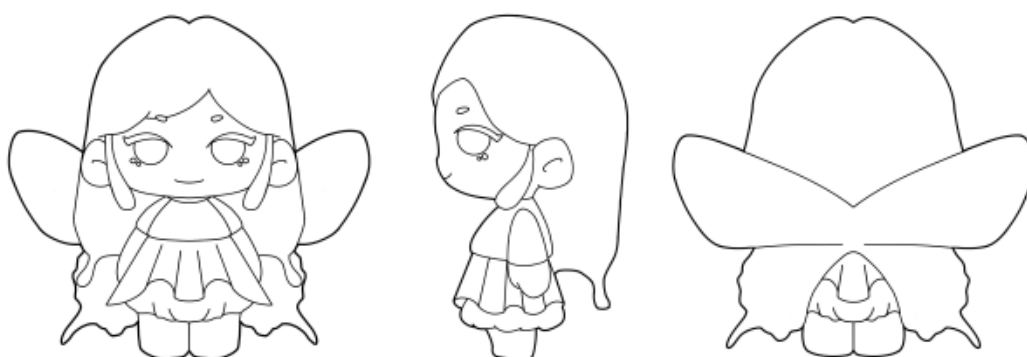


Figure 3.6 A draft of Die Xiaofeng's IP

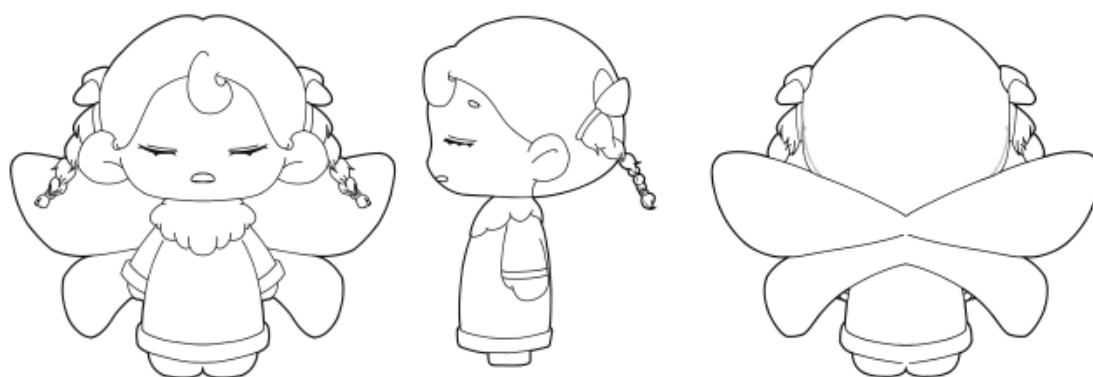


Figure 3.7 A draft of Die Xiaojuan's IP



Figure 3.8 A draft of Die Xiaojia's IP



Figure 3.9 A draft of Die Xiaohui's IP



Figure 3.10 A draft of Die Xiaofeng's IP



Figure 3.11 IP's meme extension



Figure 3.12 Final IP image design poster

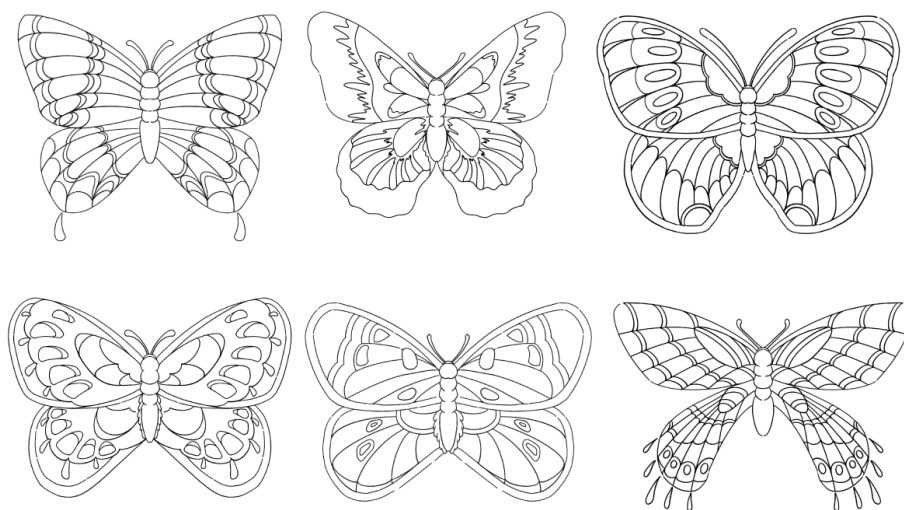


Figure 3.13 Draft illustration

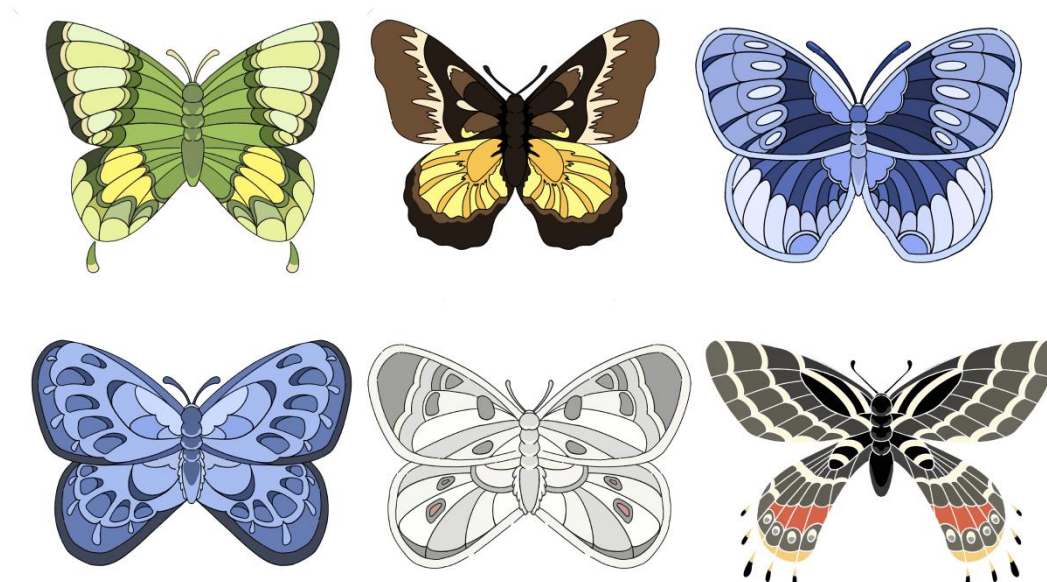


Figure 3.14 Final illustration



Figure 3.15 Love butterfly poster



Figure 3.16 Do not capture themed poster



Figure 3.17 No sale of butterfly poster



Figure 3.18 Boycott taxidermy poster



Figure 3.19 Boycott taxidermy poster

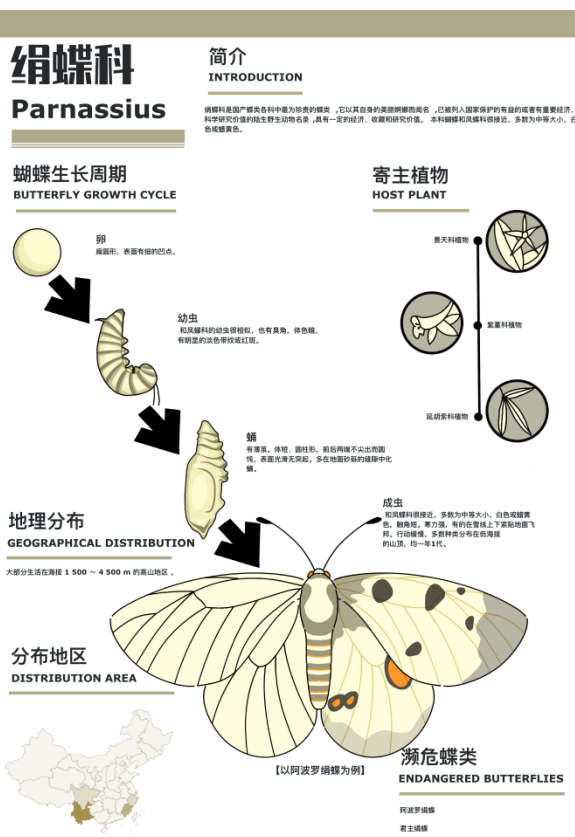


Figure 3.22 Information visualization of endangered butterflies of Parnassius

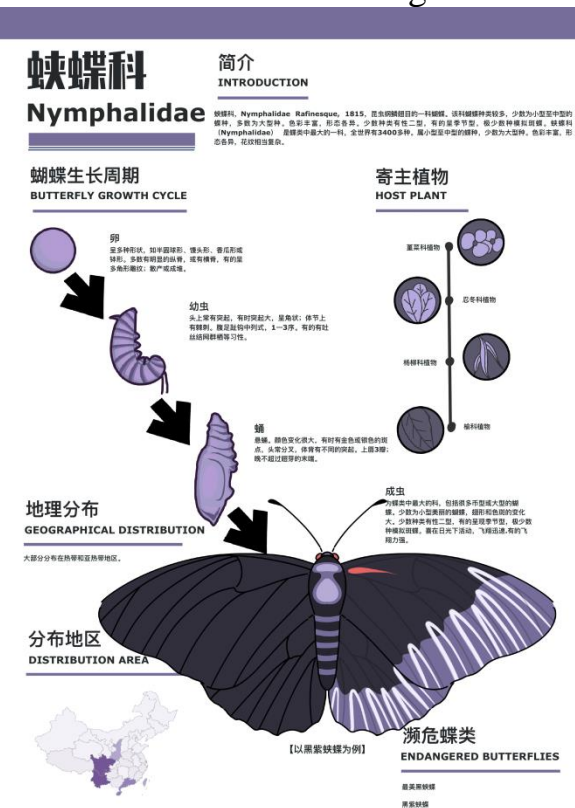


Figure 3.23 Information visualization of endangered butterflies of Nymphalidae

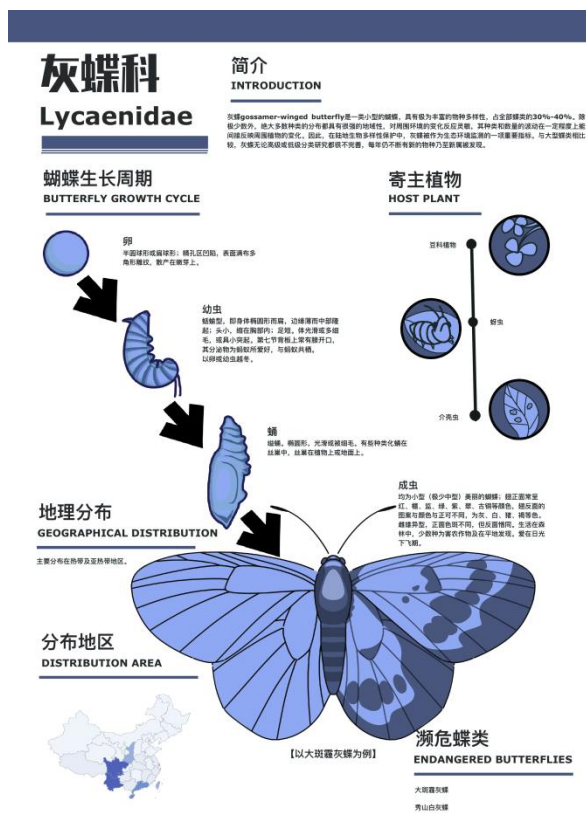


Figure 3.24 Information visualization of endangered butterflies of Lycaenidae



Figure 3.25 Sleeve cultural creative product design



Figure 3.26 Mobile phone shell cultural creative product design

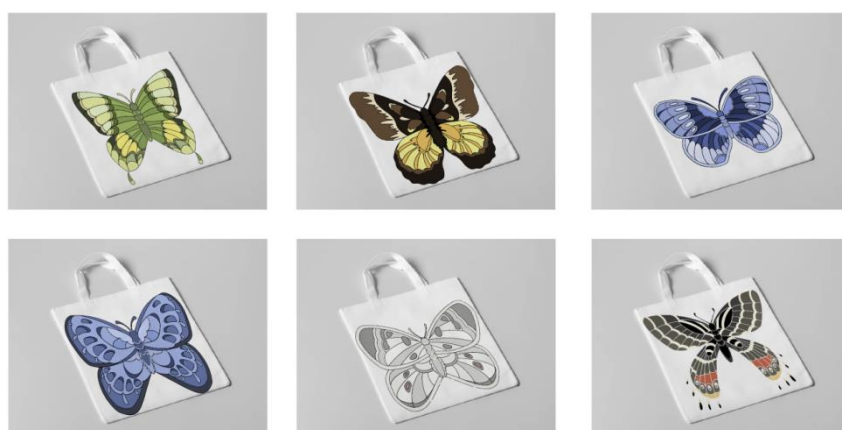


Figure 3.27 Handbag cultural creative product design

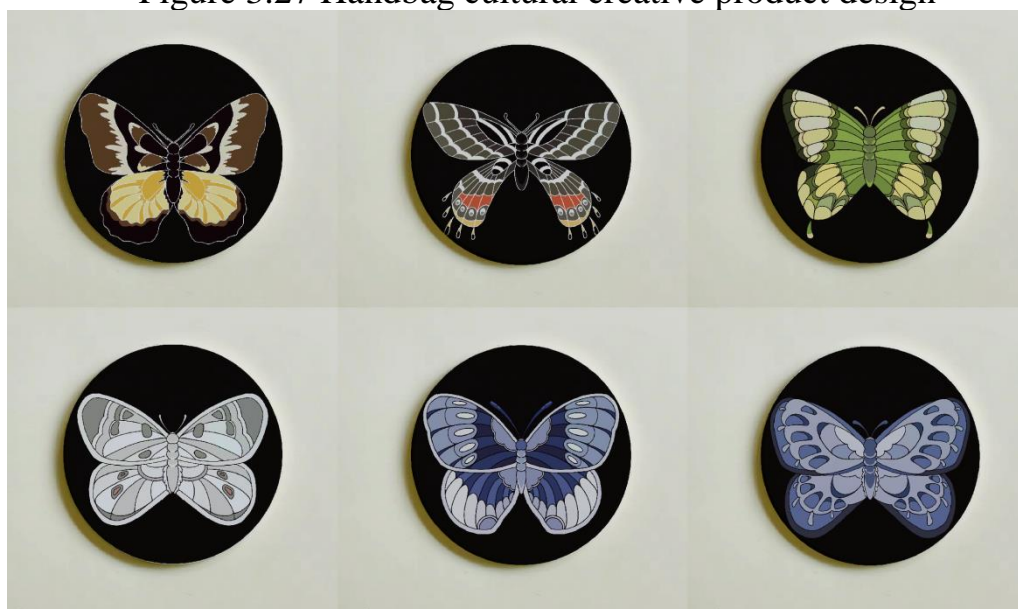


Figure 3.28 Coaster design



Figure 3.29 Throw pillow design