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introduction

Butterfly ranching and the collection of insects is a great way to earn an income without impacting your environment and damaging your land. It may sound strange but people all over the world are interested in Papua New Guinea’s insects and they want to buy them. These people have a special interest in insects from PNG because many PNG insects don’t live anywhere else, also some of the most fascinating and beautiful insects in the world come from here.

The world’s largest butterfly, the Alexandra birdwing, is found only in Oro Province. It is currently illegal for anyone to sell this butterfly. The world’s second largest butterfly, the Goliath birdwing, is also found in many highland areas of PNG. It is legal to sell this butterfly as long as it is ranched. You will find out about ranching by reading this manual. It is important to not just read this manual but to look through it many more times as you start your ranching or collecting business.

PNG is so special for insects because it has the right climate for many kinds of insect to breed. It has more forest and ‘big bush’ than countries which have cut down their trees to sell or cleared their land to build new places or make new work. Lots of insects as well as many birds and animals can only live in big bush and forest areas. PNG will have plenty of these wild resources as long as we look after our environment.

the international insect trade

The people that want to buy PNG insects and butterflies do so for many reasons, here are just a few of them:

1. Insect collectors overseas want to buy butterflies and beetles from PNG because they collect them like we might collect stamps. It is a game for them to find one of each kind of insect they know about, and to find things their friends don’t have.

2. Scientists and museums need our insects for two main reasons:
   a) Research on insects helps scientists learn many different things about how insects live, but also about how humans live, and how we all share the same environment. This kind of work helps you and me as well because the new information scientists find out can help us take better care of PNG.
   b) Displaying insects in museums people in other countries can also benefit from all this knowledge and learn about this country.

3. Tourists who visit PNG like to take things back to their place to remember their trip. PNG is famous for its butterflies and insects, taking some examples home is a popular way to remember their own visit and show their friends at home.

4. People who make insect-related products as a business often buy insects from PNG because they are so beautiful and interesting. For those people who cannot visit PNG and take home insects themselves, these businesses put PNG insects into attractive frames, boxes, key-rings and decorations for people in the rest of the world to decorate their homes.
income

Ranching and collecting butterflies will not make you rich or a big man, but it will enable you to make money in your own time. Some people earn enough to make this their main income. Others use insect ranching and collecting to add extra money to their main income which may be from vanilla or coffee growing. It depends on your situation but an insect business will give you and your family some extra money.

The prices of insects and butterflies are very wide ranging. Some species are worth only 10t whereas others are worth K10. Some special birdwing butterflies which are very rare have a bigger price yet. To some extent your insect income will depend on what species you have on your land.

It is important to remember that prices also go up and down. Insects are traded on the international market just like coffee, cocoa and vanilla. This means that the prices for insects will change in the same way that coffee, cocoa and vanilla prices change.

Insect and butterfly prices change for many reasons, for example:
• If too many of one kind of is sold the price goes down.
• If it is hard to find many of one kind and someone wants to buy them, the price goes up.
• If you have a new kind of insect that has not been sold before, the price will start low, but if it sells well to people overseas, the price will go up.
• If people overseas don’t like a particular insect, or it is not marketable, the price will go down.

effort

You really don’t need very much money to start making money from insects. However you do need to be prepared to make an effort, because the harder you work, the more money you will make. You do not need to buy very much at all because you can find most of the things you need very easily.

Here are the most important things you will need to start an insect business:
• Insect food plants – which you can find in your area
• Paper – to make envelopes to put your butterflies in
• A strong box – to pack your insects safely
• Stamps – to post your insects to IFTA, WEI or another agent
• Some knowledge – which you will get from this manual
buying and selling insects

Until the late 1970s there were no organizations in Papua New Guinea that bought and sold insects. Instead this trade was run by individual and mostly expatriate business men. The government thought that this wasn’t fair, as not enough of the profits from the buying and selling of insects were going back to rural Papua New Guineans. This is the reason why the Insect Farming and Trading Agency was set up by the Division of Wildlife.

In the mid 1990s the Department of Environment and Conservation decided that IFTA needed help in buying and selling insects. In order for this to happen, it allowed other organizations to start trading.

The insect trading organizations that are currently allowed to trade insects are the Insect Farming and Trading Agency (Bulolo), the Wau Ecology Institute (Wau), OISCA (Rabaul) and WEMAX (Western Highlands). Of these four, the main organizations are IFTA and WEI.

IFTA and WEI are here to make the insect trade fairer for you and to help local communities. They make sure that your insects are well looked after and that you get a good price for them.

None of the organizations involved in the trade, including IFTA, are part of the government. They are all independent NGOs, they do not make profits from the trade, only enough to pay their running costs. Any money made on top of this goes back to you and other PNG communities. They make sure that you get paid a fair price for the insects that you ranch and collect. Also they help the government manage exports and not break international laws which protect rare species.

why do you need these middlemen NGOs?

Other people will sometimes buy your insects, and you can sell direct to tourists who come to PNG. But if you sell to people and they try to take your insects overseas without a permit from the government, they are breaking the law.

IFTA and WEI help to make sure people in PNG, and people who buy your insects overseas, don’t damage the environment here or take too many of one species so there are none left here to breed.

You can only sell your insects directly to tourists if they come to your place, and you find them. This means you will probably not sell many and not make much money. IFTA and WEI know lots of people who buy insects in other countries, and new customers can contact IFTA and WEI if they want to buy insects from PNG. This means they can sell many more insects than you can on your own.

If you sell your insects yourself, maybe you will sell 20 in a year. But if you let IFTA or WEI sell your insects to people all over the world, you may be able to sell 200 or even 2000.

why start insect ranching now?

This is the first widely available insect ranching and collecting manual in Papua New Guinea. With this and support from IFTA or WEI, plus some hard work from you, the following can happen:

1. it will earn you some money for school fees, medicine, etc.
2. it will make people overseas happy they can buy more PNG insects again
3. it will improve the name of PNG around the world as a good place for insects
4. it will help us make our environment better and stronger – our forests, our animals, our insects, and our own families

**legal issues**

**tourist trade**

Maybe you think you can get a better deal by selling your insects directly to tourists. Here are some problems that this might bring you.

Tourists usually know about what they are allowed to export from PNG and import to their own country. They also know that they have to pay big fines and can go to jail if they break these laws. So if they want to take such a big risk, they won’t actually pay you very much for your insects.

If you want to sell insects to experts (scientists and collectors) they want only perfect specimens, so you need to farm them - not just catch them in the wild. If you try to sell bad quality insects or break the law, you will spoil the name of PNG too.

People who are not experts might buy damaged insects, but they like them in special cases and boxes and frames. It is not easy to make these good enough to sell, so tourists will probably not buy your insects anyway.

Tourists only come sometimes and are only interested in specific types of insects. IFTA and WEI will try to buy all the perfect insects you send all the time.

If IFTA or WEI knows you have been buying and selling illegally on the streets, they won’t buy your insects because they don’t want to get into trouble. So once the tourists and street buyers have gone, you will have no business.

**international trade**

You may think that it would be a good thing for you to sell your insects directly overseas, but you must think about the realities of the insect trade:

1. It is illegal for you to send insects abroad unless you have the proper permits.
2. Big butterflies require additional permits called CITES. These permits are only issued to organizations that the government trusts like IFTA and WEI.
3. If you decide to send insects without these permits you will be fined by the government
4. Without support from the government, IFTA or WEI, you could be ripped off by the person you are sending them to.
5. IFTA and WEI both have trained and highly experienced staff with the ability to grade specimens for quality and to store them properly
6. IFTA and WEI have proper storage facilities, power, telephone lines, fax machines, computers, and bank accounts, all of which are necessary to run a business.
how insects live

Knowing about insect life cycles will help you in knowing where to find them, how to handle them, and how to make sure they are of a high quality.

The life cycle of any animal is the stages it goes through as it develops from an egg or a new born through to an adult. The life cycles of insects are very different to the human life cycle. Also different types of insects have different types of life cycles.

The structure of insects is very different to humans. This is because instead of having their skeleton on their inside of their body they have them on the outside. This is called an exoskeleton or an outside skeleton.

how butterflies live

Butterflies are slightly different to most insects as they make a big change from being caterpillars to having wings and being an adult butterfly.

Knowing how butterflies live, will help you plant the right food plants, look after their eggs, and find them in the wild.

It is also very important for you to know the basic structure (anatomy) of insects. Here is a picture showing the structure of a butterfly.

Wings: These are easily damaged, so do not hold them or the colour will be rubbed off. Hold the butterfly by the Thorax.

Thorax: This is where the wings join the body.

Abdomen: This is the stomach – do not hold the butterfly here or squeeze it here to kill it.

Antennae and Legs: These are easily broken when the butterfly is dry, so fold them carefully close to the body when you place the butterfly in its envelope.
b) The egg hatches in a few days and the young caterpillar or grub eats some of the shell for its first meal.

c) The caterpillar (or larva) feeds on the leaves and stems of its food-plant and as it grows changes its skin five times.

d) When it is fully grown, it spins supporting threads around its body and rests for about 2 days.

e) The skin then splits for the last time and forms a pupa which soon goes hard.

f) From the pupa will hatch the new butterfly that will lay more eggs.

how other insects live

Many insects other than butterflies will shed their skin several times and grow larger each time, but not change shape much. Each time the larva of an insect changes skin, it gets features that are more and more like the adult.

On the next page is a picture of the life of a stick insect. Babies and adults of these kind of insects are usually found in the same place, and eat the same kind of food.
The kind of insects you can farm and collect depends on where you live. This is because each kind only likes certain types of weather and certain food-plants. If you do not have the right kinds of weather and food, you won’t be able to farm the insects that need them. In the middle of this manual is a list of the types of insects which like certain conditions, and where they are found in PNG. This will help get you started with what you will able to do in your area.
ranching and collecting

Why would anyone want to spend time farming (or ‘ranching’) butterflies? It seems faster too just go into the forest and catch them! There is a good reason: in the long run, you will make more money and spend less time if you farm butterflies and stick insects instead of trying to find them.

Most butterflies you see flying around have some damage on their wings. You cannot sell any butterfly that has any mark. If you catch damaged butterflies, you are wasting your time! Each time you catch a butterfly, you must look at it carefully for any small damage. Most of them will have marks, and you will have to let them go free. But if you farm butterflies in the way this book shows you, almost every one will be perfect and can be sold.

Some butterflies you are not allowed to catch. This is another good reason for ranching butterflies instead of catching. The ones you aren’t allowed to collect are the kind that PNG is most famous for all over the world – PNG “birdwings.”

So all these birdwing types of butterfly you must leave alone when you see them in the forest. If you try to catch them they will probably be damaged anyway, but you will also get into trouble. So if you want to sell birdwings, you have to attract them to your place by planting their food plants, then collect their caterpillars, and help them grow into pupa and then hatch them out.

When you ranch butterflies there has to be other butterflies around to continue ranching. This will only happen when some of the pupae that you raise are left alone so that they can breed. As time goes by and you keep leaving some pupa the butterfly population will grow and you will make more money, plus you will be protecting the butterfly population.

A butterfly rancher is both a businessman and a conservationist.

IFTA and WEI will not buy these insects:
1. very common black or brown beetles, for example: sago beetles, black weevils, black beetles found in dead trees
2. most small flies, grasshoppers, bugs, dull bees and wasps
3. very common butterflies found in kunai or towns
4. any insect with a soft body (not an adult)

Catching butterflies and insects in the wild is also harmful to the environment if you don’t do it right:

• Always let damaged insects go
• Don’t go to the same place all the time
• Don’t collect the same types of insects all the time.
planning your project

Your insect farming project has 6 main parts:
1. Finding good places for insects in your area.
2. Planting the right food plants to attract the insects.
3. Checking to see when the grubs and caterpillars are fully grown.
4. Moving these larvae into a safe place to become pupae.
5. Helping the pupae grow and hatch out.
6. Hatching and killing the adult insects without damaging them.

Probably the most important thing to remember about farming insects is that if you find the right kind of place for them, and put the right kind of plants in it, the insects will come to you.

But trying to make a special new place – a ‘butterfly garden’ - for your insect farm is not the best idea. Some people think they should grow their butterfly plants the same way they make their own food garden. This is not a good way to do it. You will not always get the best butterflies if you clear a big space for their food-plants.

The best way to grow plants for butterflies is not to clear a big space. Find some small open areas that are near the forest instead, and plant the butterfly foods there. Grow only a few plants in each place, but find many separate places on your land where you can put your butterfly plants so they are not so close together.

If you are trying to grow Aristolochia vines for birdwing butterflies, remember this kind do not like to lay their eggs in garden or village areas. They like big bush forest. They find those special Aristolochia vine food plants growing in places where a tree has fallen down in the big bush and made a small sunny area in the forest. When you plant more of these Aristolochia vines, plant them in those small open spaces where a tree has fallen.

So remember, what you must not do is make a special new place for your butterfly garden by clearing away healthy trees and plants.

You must find good places in the forest near you that are already there and make them more attractive for insects to come.

Making your place attractive to insects is good for many reasons:
1. it will be easier to farm and collect the insects
2. you will have less work to do to get started
3. there will be more insects for you to sell
4. more of them will be in perfect condition
5. you will be helping the forest in your place stay healthy so you can keep making money in the future
6. you will be helping your whole community to keep the area strong and rich, not just for butterflies but also for the forest, for your family’s garden and food, etc.

**where to put insect plants on your land**

If you are growing plants for butterflies and insects to eat, there are several very important things you must watch out for:

1. The plants must grow in a place where they will not get too dry, but also get some sun most of the time. For example, where a tree has fallen down in the forest.

2. Grow your plants in a place where there are not too many ‘green’ ants. These kind of ants make their nests by rolling up leaves in trees and some people call them “karakum” ants. This kind of ant will eat butterfly caterpillars and other insects. They like open areas where there is lots of sun, so a small clearing in the forest which has both sun and shade is better.

3. Do not put all your plants for butterflies and insects in the same place. If you do, animals that like to eat insects will destroy everything you are trying to make. Spread your plants in many different areas, with space in between them all. This means other insects and animals won’t be able to destroy everything so easily. More insects and butterflies will come when the plants are spread out too.

4. The more plants you plant, the more insects can come. The more there are to start with, the more attractive your place will be when you add to it. So finding good places in your forest and planting mulli (lemon) trees or Aristolochia vines is much better than making a brand new garden.

**which plants to grow**

Some insects are very particular about the kind of place they will live and the food they will eat. You can make your place more attractive for some kinds of insects to come, but there are other things you cannot change. This means that some kinds of insects you will never be able to farm or collect in your place. Don’t waste your time trying!

1. There are always other kinds you can find and farm. So concentrate on these and you will have a better business in the end.

2. Learn what butterflies and insects there are at your place, also learn what plants these insects like. Go and see what’s on your land: which insects, butterflies, trees, and plants are around already.

3. You can use the pictures in this manual to help find out which insects and plants you have.

4. Take notes of where you find the insects and plants. You will probably find butterflies and their caterpillars on particular vines. Beetles may be on particular dead trees or in dead leaves on the ground. Stick insects might be on plants that they like.

5. Take cuttings or seeds of the plants that the insects like so that you can grow them in your planting areas.

You should also think about the following:

- How high up is your land?

- What sort of weather does it normally have?

- How is the land currently used?

- Have people collected or farmed insects in your area in the past?
how should you start growing your plants?

Some you must grow from seeds. For example, you cannot grow Evodia trees from cuttings. So you must go and get the seeds from the tree and plant them! The seeds look like small black berries.

Aristolochia tagala vines are also easier to grow from seeds than cuttings. Do not plant the seeds too deep. Just press them into the soil. Put them in a place where the ground will always be a bit wet, not too sunny and not too shady – close to the bottom of a tree is probably a good place as long as it will get some sun.

For other types of vines and trees, it is easiest too grow more by making cuttings. Cut off a piece of stick from the tree or part of the vine. Push the piece into the wet ground. Soon that piece will grow new roots and new leaves will come out too.

growing vines from cuttings

You can try this method with most types of vines – look at the food-plant information later and try it with those that should work in your area:

1. Cut a long piece of the vine, about twice as long as you are tall
2. Roll the vine around
3. Find a place that has a little bit of sun and a little bit of shade and is a little bit wet all the time.
4. Plant half the vine underground, and leave the other half above.
5. Make sure the ground always stays a bit wet. Leave the vine alone for some months – do not touch it
6. If you see leaves start to grow above ground, it has worked!

Now carefully take the vine out of the ground. Cut it into several pieces so that each piece has both roots and leaves. You have now made several new vines from just one. Plant some of these vines in tree fall areas in your forest, and plant some to grow more new pieces.

Eventually you will have plenty of vine to attract butterflies to your area, and plenty more to make new places.

what should happen if you have grown the right plants?

If you have seen certain butterflies in your area and planted food-plants for them, this is what should happen:

1. female butterflies will find your plants
2. they will lay very small eggs on your plants
3. the eggs will hatch into caterpillars and eat your plants to grow

Now you just wait a little time. Let the butterflies do all the work! Watch the caterpillars grow. You will have to work again only when those caterpillars are grown up and ready to become pupae. Once that happens, you will have to take the pupae from the forest to a safe place.

You may have to move some of the caterpillars, so not too many are feeding on the one vine. Mature vines can only support a few caterpillars.

taking caterpillars from your plants to hatch

When a butterfly caterpillar has grown to its biggest size, it stops eating.
Sometimes it starts walking around until it finds a place where it wants to stay during the time it will be a pupa.

When you are growing a kind of caterpillar that moves away from the food-plant, you will need to take it off that plant and put it in a safe place, before it is completely grown.

Put the caterpillar into an old cardboard box or mosquito net. It should have a cover so the caterpillar cannot get out, but also holes in the top so air can get in. Put a few small, dry sticks inside too so the caterpillar has something to hold on to.

Some kinds of butterfly caterpillar do not leave the food-plant when they are fully grown. They just tie themselves onto that plant. A day or two later, they become a pupa. For these kinds of caterpillars, you can just let them become a pupa on the plant because it will be easier to find the pupa later. Some people worry that a bird or lizard might eat the caterpillar while it is just sitting there. So they take the caterpillar as soon as it has fastened itself to a plant. You can do this too. But be careful with the caterpillar! Hold it in your hand when you carry it to your house - do not wrap it up or put it in a container because you may damage it. If the caterpillar is hurt at this stage of its life, it will not become a pupa. Once the caterpillar has become a pupa, carefully take it to a safe place.

When you take a pupa somewhere safe from a plant or stick, never pull it off the plant or stick. Just cut the stick or leaf and bring that back as well with the pupa still attached. The pupa are very delicate, so it is better not to bring too many at one time. They can get damaged very easily, and they will not become perfect butterflies.

storing pupae until they hatch

Some people put the pupa on a wall of their house and watch it every day. If you keep the pupa away from rain, you must put a little bit of water on them every day or two so they will not dry out.

Do not put the pupa near a fire or a place that gets a lot of sun. Keep them in a place where the rats will not eat them too!

Some people make a small house for their pupa out of sago palm. In other places without sago, they use bamboo or limbum to make a pupa house. Saksak (sago) is a very good material because sago walls are soft and you can easily pin the pupa onto the walls inside your little house.

Build your pupa house where it will get a little bit of sun every morning. The butterflies need only enough sun to help them dry their wings when they come out of the pupa.

If you use sago to make your pupa house, you can also use the spines of the sago to nail the pupa to the walls while they hatch out. If you use another kind of wood, you will need to find a way to hang each pupa with its leaf or stick to the walls of the house – small pins or sharp spines from other plants are best.

The pupa house must be closed enough so the butterflies cannot fly away when they hatch. But it also needs to let in some sun so they can dry their wings.

Use an old mosquito net to house the butterflies while their wings dry.
building a pupa house

The pictures on below show one type of pupa house, made from sago, but you can also use wood and fly wire. Which one you can make depends on the materials you can find. But both of these kinds are good for your butterflies.

1. Make basic pupa house frame from strong posts – either freestanding or attached to part of your own family house.
2. Fill in the walls with sago palms
3. Make the front wall into a door so you can get inside.

hatching butterfly pupa

Smaller butterflies will be pupa only for about one to two weeks. Large butterflies can stay pupa for over 1 month. But usually the butterfly will come out of the pupa early in the morning, depending on how warm it is.

It is good to have a routine – check the pupa every day, and look after them carefully. Put a little bit of water on the pupa every day or two so they will not dry out. Be careful not to use too much water, if you do the pupa could go mouldy.

Some pupa darken the day before they hatch, so if you look at them everyday you will know when they are about to hatch.

When the butterfly does come out of the pupa, it will not go very far. It will take about 10 minutes to break out of the hard pupa skin. Then it will rest with its head up and the wings will open out and start drying. It is best to hang the butterfly vertically, so its wings will dry properly and straight. Do not touch the butterfly at all at this time. If you disturb or touch it now, or it falls, its wings will not form properly and you cannot sell it.

The butterfly shown in the colour image section was disturbed when it came out of the pupa and its wings did not dry properly. So you cannot sell this – you should let it go.

A few hours after the butterfly comes out of the pupa, its wings should be dry. Soon it will try to fly off. Cool or dark rainy days will delay the drying process. Do not kill your butterflies until they are properly dry.
killing a fresh adult butterfly

To make sure you don’t damage the fresh butterfly when you kill it, follow these rules:

1. make sure that all the colour has come up on all the wings. If there are brown or dark areas on the wings this means that the butterfly is not dry yet. If there are dark areas on the butterfly and you kill it, it will have no value

2. never touch the top part of the wings – if you do, you will make marks that means you cannot sell it

3. hold the butterfly with your fingers on the part of the body where the wings and legs come from; make sure the wings are together

4. for small butterflies push the thorax hard to kill them – pinch it and count to 10. For birdwings inject a few drops of hot water or methylated spirits into the butterfly’s thorax (only use new needles from your chemist or clinic)

5. now let go a little bit – if it still tries to move, squeeze some more

6. check again, and once it doesn’t try to move, it is ready to put away

Now you must let the butterfly dry a little and put it in a special paper envelope to keep it safe until you sell it.
**collecting insects**

Sometimes it is easier to collect some of the common, low-value species of butterflies than it is to farm them. However, many collected butterflies are damaged. If you collect damaged butterflies, do not kill them. Let them go, as they will not be bought.

The main point to remember, if collecting in your village area, is never to keep visiting the same place to collect.

Always collect in different areas in rotation so the butterflies in each area have time to build up their numbers again, and their habitats remain relatively undisturbed.

When you collect butterflies, the best way to kill perfect specimens is in the net straight away. After killing it put it into a paper with its wings closed, and keep it in a place where it will not get damaged.

Collecting is easier in some ways, but you will only get back in money as much effort as you put in. So the extra effort in planting the right plants, and making attractive places in your forest, will usually earn you more money because you will get the right insects to come.

Just collecting whatever is around because it’s easy means you don’t always get what you want, and they are more likely to be damaged.

**finding butterflies**

Butterflies that fly in gardens and villages are not usually good to sell, unless they are very big and have nice, bright colours.

If you find butterflies in ‘big bush’ forest, they are usually good to sell. Different butterflies feed and fly in different ways. Watch the butterflies in your area carefully so you can learn their habits.

Here are some good types of places to find butterflies and insects you can sell:

1. In small, sunny openings in the forest where a tree has fallen down. The butterflies often rest on sunny leaves.
2. Along streams and rivers that have lots of sun. Butterflies will always follow these streams and rivers.
3. Certain flowers are popular with butterflies wherever they grow. When these flowers are near rivers and streams in the forest, they will nearly always have more butterflies visiting them.
4. Wet sand in sunny spots next to a stream or river often has butterflies. They drink from the wet sand.
5. Some butterflies like to drink from rotting fruit. If you put a rotten pawpaw or bananas in a sunny area in the forest, you may get some different butterflies. In the forest, you may find butterflies at rotten fruits of fig (pikas) trees.
6. Some butterflies visit the areas where sago was made. They drink on the ground on the part of the sago that was scraped out of the tree.

Another way to attract butterflies: Some butterflies will come to a piece of plastic or paper which is the same colour as they are. So you can tie some blue plastic or paper on a tree to attract a swallowtail (Ulysses) butterfly.
Many butterflies will also come to paper and plastic they think looks like flowers, e.g. orange and red pieces.

finding beetles

The same as with butterflies, the best way to get started is by just walking around your place and looking closely.

These are the kind of places you need to look for:
1. Check dying trees in new gardens or trees that have been barked or are sick. Shiny wood-boring beetles will come to sick and dying trees.
2. Many longhorn beetles will come to tree sap, especially when the tree is growing in big bush. They will sit there and feed on this sap. You may be able to find good Rosenbergia longhorn beetles if you make cuts in Pikus (wild fig) trees at the right time. Other longhorn beetles feed on the sap of breadfruit/kapiok trees.
3. Go to a pawpaw or banana plant that has some rotten fruit on it. The shiny Christmas beetles that fly during the day will often go inside rotten fruit. So leave some fruit to rot in your garden and then go back and check it.
4. Look for trees in the forest that have flowers – usually these flowers are very high. It is hard to tell when tall trees have flowers. But if you watch to see which trees the lorikeet birds go to, this may show you which trees have flowers.
5. Check plants growing in sunny places near rivers and streams. Many beetles rest during the day under leaves. Other beetles will come to flowers.
6. Dig out beetles from dead trees and rotten logs. If you find the white lavae or pupae, leave them inside the tree. If you pick them up, you may hurt them.
7. Get beetles that live in water. Some beetles swim in places where they are easy to see. Others rest on plants in the water, or hide under stones.

After you collect the beetles, roll each one in a piece of leaf on its own, then tie it up, so they do not bite each other. Then you can put them all in a plastic and bring them home.

finding stick insects

Stick insects are easier to find at night. They move around and eat at night. During the day, they do not move and sometimes hide. In mountain areas, you can find good stick insects on trees close to the village. But many people find the best stick insects in the big bush. You will need to learn which trees they eat or it will be very hard to find them.

When you find a good stick insect, do not kill it quickly. Instead try to find out what plant it eats. Put the insect in a bag with some leaves from the tree where you found it. If it eats those leaves, you know what kind of tree to find them on in the future. If it doesn’t eat them, put in some from another kind of tree close to where you found it. Keep trying this until you find out what it eats.

If you are going to leave your insects in a bag, or you want to carry or post them a long way, try to wrap each insect in a leaf so its legs won’t get damaged.
making a net
If you want to catch butterflies and other flying insects, you usually need a butterfly net. If you try to catch a butterfly with your hand, you will mark the wings. Butterflies with marked wings or any kind of damage are worthless – you cannot sell them.

If you buy a factory made butterfly net it will cost you a lot of money. But you can easily make your own net instead that will not cost so much money.

You will need to buy from the store:
1. A needle
2. Some thread
3. A mosquito net or second hand see through curtain material

You will need to find near your house:
1. Kanda – for the circle of the net.
2. Bamboo – for the handle.

how to make a butterfly net
1. Making the hoop: make sure your hoop is big! Make it as wide as your arm is long from your elbow to the tips of your fingers – about 50cm or half a metre. A large hoop makes it easier to catch butterflies. Make sure that your hoop is round by wrapping the kanda around a cross of wood.
2. Tie the kanda together all round so it is strong.
3. Attaching the hoop to the handle: remember, when you swing your net to catch a butterfly, you will put lots of pressure on the net. You have to fasten the hoop tightly onto the handle. Make a split in the end of the bamboo handle about half the length of your arm, then tie the ends of the kanda hoop together and put them into the split handle. Bind it all together very tightly once inside.
4. Cutting the net from a piece of mosquito net: make sure that your net is long enough. When you catch a butterfly, it has to be long enough for you to wrap the end over and there still be enough net to trap the butterfly. Make it the size and shape of the picture overleaf.
5. Sewing the net bag: first sew the bag around the cane hoop.

6. Then sew up the rest of the bag along its length

What a good butterfly net will look like:
1. A wide net (around 50m wide) makes it easier to catch the butterflies and not miss them.
2. A long net makes it easier to hold the butterflies and kill them after you catch them.
3. A long handle means you reach further and higher to catch butterflies.
**using your net**

The pictures on the right show you how to catch butterflies.

Always be careful when you catch a butterfly not to mark the wings or damage it in any way.

There are two ways to catch a butterfly with your net:
1. Sweep your net sideways to catch the butterfly. Do this if the butterfly is resting on a flower or is sitting on a plant above the ground.
2. Hold the end of the net as you pull it slowly over the butterfly. Most butterflies fly up when frightened. This means they will fly right up and into your net if you keep holding the net.

After you catch the butterfly, turn the net bag over quickly so that the butterfly is trapped and cannot move around much. That will keep it from hurting its wings.

**don’t kill damaged butterflies**

You cannot sell any butterfly that has marks on its wings or tears. It is a waste to kill such a butterfly. Check each butterfly you catch before you kill it. Let all damaged butterflies go so they can make babies. That way you will later have more butterflies on your land that you can later catch and sell.
killing and storing insects

killing butterflies

Before you kill any butterfly, check the wings for damage. Do this before you take the butterfly out of your net, whether you’ve caught it from the forest or hatched it in your own pupa haus.

Never touch the top of the wings. This can easily make a mark on the colour. Any butterfly with marks on its wings is no good because you cannot sell it.

If the butterfly is in perfect condition, you should kill it quickly, like this:
  1. do not touch the butterfly until its wings are folded inside the net
  2. now hold the butterfly from outside the net
  3. then make sure the wings are still folded, and put one hand inside the net
  4. hold the butterfly with just the body, and take it out of the net with its wings still closed
  5. check again to see if the butterfly is damaged, and let it go if there are any of the problems mentioned before
  6. if it is still perfect, make sure you are holding the body where the wings and legs come out (not the other belly part at the end), and squeeze it hard for 10 seconds
  7. if it is still moving about, hold the body again for a few seconds to kill it properly
  8. once it stops moving, you are ready to dry it and store it

Remember to only squeeze the part of the body where the wings and legs come from – the thorax - if you push in the stomach (the back part of the body) the guts will come out and you can’t sell it.

killing beetles

The best way to kill beetles is to put them individually into a piece of bamboo. Then hold the bamboo over a fire for a few seconds. If you hold the bamboo over the fire for too long the beetle’s colour will change.

Another way to kill beetles is to put them into a glass bottle, plastic bag or jar. Close the top very tight then put it into the sun so it gets hot inside. If you want to use this method, remember – only put one beetle in the bottle or jar at one time. If you put in more than one, they may damage each other before they die.
killing stick insects

A big problem when you kill a stick insect is that their legs can fall off. So be careful! If a leg falls off your stick insect, you cannot sell it!

Before you kill a stick insect, first put it into a plastic bag for several days until it has stopped defecating (making pek pek). Keep the bag out of the sun. Carefully check each day to see if the insect is still alive. You do not want it to die yet.

After they have defecated and their stomach is empty, carefully drop the stick insect into hot water like you do to kill a beetle. Do not use boiling water – this will damage the insect – very hot water is enough.

Stick insects easily rot, so make sure you dry them quickly after they are dead. But before you dry them, you must take our their stomach.

preparing stick insects after they die

Be very careful when you handle a dead stick insect. The legs can fall off, and the legs and antennae break easily, and then you cannot sell them. The food in their stomach also makes them rot quickly. Follow the instructions on the next two pages to find out how to make sure this doesn't happen, so this is how you take it out:

stick insect preparation

1. take a sharp knife or razor blade, and cut the stomach open carefully just above the back legs. The picture shows where to cut so the hole cannot be seen later – that is on the underneath of the body between the legs.

2. use your finger to push or tweezers to pull out all the guts through the hole you have cut - do this carefully so you do not damage the skin of the insect. If the skin is rubbed too much it will turn black later.
3. when the body is empty, find a very small stick or piece of bamboo, and find something to fill up the body again, such as:
   a) cotton from the kapok tree
   b) cotton wool like they use in the hospital
   c) some very soft paper
4. now use the small stick to slowly push the cotton or paper into the body until you have filled up the body of the stick insect and it looks just like before. Once finished, carefully pull shut the hole underneath so you cannot easily see it. Do not over stuff it!
5. now you can start to roll-up the stick insect. Newspaper works fine to roll it in. So does soft brown banana leaf that has been dried a bit over the fire
6. don't start rolling until you are sure that all the legs and antennae are close to the body. If they stick out in the rolled paper, they can break off easily after the body is dry. Look at the picture on the right to see how to do it properly
7. once the legs and antennae are close to the body, lay it on the paper and start rolling it up – remember to twist the ends of the paper when finished.

use local materials

We sometimes seem to think that good things we use in our lives must come from outside, and that nothing in our forests or from our land can be used to do modern things. This is silly thinking. There are many local materials that are just as good (if not better) as anything we buy in the store.

When you prepare stick insects and take out their guts, what will you put inside their bell? Most people would use paper, but paper is not very good, and you should never take paper from books that are still used. You could use stuffing from old pillows or old mattress foam cut into small pieces.
Others go to the store and try to buy cotton wool to use. If they buy these materials, they spend extra money – this means they will make less profit in their insect business.

In many places in PNG, there is a ‘cotton tree’ or ‘kapok tree’ that makes a material that is truly like cotton. It works well to stuff insects. Does this tree grow in your area?

You can use the cotton from this tree not only to put inside stick insects, but also to pack your insects into a strong box when you send it to IFTA. But make sure there are not any other living insects in the cotton, because they may come out later and eat your dead insects.

Dry the cotton over the fire first!
drying and storing

Once you have killed and prepared your insects, you may not want to send them to IFTA or WEI straight away. If you keep them in your house, you must look after them properly, otherwise they will be worthless.

You can keep your insects for 1 – 2 months before you send them. But do not wait any longer than that. Here are the main things to be careful about:

1. The insects must stay dry at all times: if your insects have any water in them or are soft, they will rot and you cannot sell them.
2. You cannot touch or move the insects: if your insects are too dry and you move or touch them, pieces will break off. You cannot sell insects with broken or missing parts.
3. The insects must stay warm: your insects should stay warm enough so that other live insects will not come inside and damage them. Find ways to keep ants, cockroaches, rats and other animals from destroying your insects – use some leaves that smell and keep these other animals away.
4. The best way to keep bad pests away is to keep the insects in a warm place above the fire in your house. Carefully put all the beetles in papers into a bilum, and put all the butterflies in envelopes into a small box. Then hang the bilum and boxes above the fire in your house. Don't put them too close to the fire because the smoke will make the insects go brown and then you cannot sell them.

how to store butterflies after drying

Every dead butterfly must be put into a special paper envelope. You must make these envelopes yourself.

A finished and folded butterfly envelope looks like a triangle. This shape lets the butterfly fit closely inside the envelope so it will not move around and break its legs or antennae. You must make the right size of envelope for each size of butterfly.

Never put more than 1 butterfly into an envelope. And make sure you put the butterfly in the right way – with the body near the point, and the long side of the triangle along the wings.

making paper envelopes for butterflies

1. take a rectangle shaped piece of paper
2. fold the envelope along the long diagonal line
3. now fold along the straight sides
4. you seal the envelope by folding the corners over
Remember that if you have old magazines, printed papers from an office or school, letters, etc. and the paper is good quality, then by all means use it to make butterfly envelopes. It doesn’t have to be new, plain white paper, just clean, not damaged, and not still being used for something else – don’t destroy good books, important documents, or take paper from other people to make your envelopes!

If you put a butterfly in paper before it is properly dried, it will go mouldy and useless (bagarap), and when it arrives at IFTA, it will not be good enough to buy. So make sure you dry them properly first.

Fold a triangle of toilet paper and put the butterfly inside this in the envelope. This is to prevent the butterfly from rubbing against the paper envelope and damaging its wings during transport.

storing beetles

After the beetle is dead, the first thing to do is dry it. But do not dry it so much that you cannot easily move the legs. If you have a piece of kapa (corrugated iron roofing) or metal, dry the beetles on that. Or you can put them on a piece of diwai (timber).

Make sure that you watch out for pests like ants and rats, so they don’t eat your insects whilst they are drying.

beetle wrapping instructions

Once the beetle is a bit dry, you must roll it in a piece of paper or a leaf. A soft, dry leaf such as a slightly cooked banana leaf, is probably best for this. Wrap the beetle keeping the legs and antennae very close to the body so they do not break when they dry completely.

1. put the beetle on a piece of paper or leaf
2. twist the ends of the paper so it is tight against the beetle
3. Once the ends are twisted, or the ends of the leaf are tied, it is ready for drying completely

completely drying butterflies

After your butterflies are inside their paper envelopes, you can dry them fully by putting them in indirect sunlight for three or four days. Direct sunlight can fade the colours of some butterflies, especially red coloured ones.

Drying can be done anywhere insects will not get eaten by other insects and animals, and some people make a special drying table. This is just a flat table that can stand in the sun with its legs in water to stop ants eating your insects.

You can also make a cover for your table to stop birds or other animals disturbing your insects, but if you just watch them while they dry, they will be OK.

completely drying beetles

After your beetles are rolled-up in leaves or paper, you need to dry them
completely. If you do not do this quickly, the beetle will rot or go mouldy. Don't forget that if you try to roll a dried beetle, you will break its legs and body. So always remember: roll the beetle first when it is just a little bit dry, then after they are rolled-up, dry them fully.

When there are many clouds, the sun is sometimes not strong enough to dry your beetles completely, so you can put them in a cardboard box or bilum and put them above a fire. This will help to dry them completely. If you do this, remember:

1. don’t put the bilum or box too close to the fire
2. make sure too much smoke doesn’t go into the insects
3. try to leave lots of space around the fire so they dry well
packing and shipping your insects

how to prepare your insects for shipping

When you are drying and storing insects, do not mix butterflies and beetles in the same box or bilum. This can easily break your butterflies. It is better to put butterflies in boxes, not bilums, because they are stronger and will protect the wings. So separate your butterflies in a box, and your beetles in another box, or a bilum or plastic.

One big problem to watch out for are ants, cockroaches, rats, or other things that like to eat your dried beetles and butterflies. Even when you have put your insects into paper, there are some very small insects that can easily get inside and destroy your insects before you sell them.

Some people keep cockroaches and rats out by putting their insects into a bag over the fire – but be careful. Don’t put your bag too close or let too much smoke go inside.

In some places where they still have a lot of traditional knowledge about plant uses, there may be plants that are known to keep out cockroaches.

Some people put their rolled beetles into a plastic bag with no holes. This means any wetness in the bag cannot get out. Your insects will start getting wet again if you do this. They will start to rot and smell inside the bag, and you cannot sell rotten insects. So if you use plastic bags, first put your beetles into a bilum and dry them very well. Later put them into a plastic bag, and keep that bag over a fire so your insects stay dry.

Remember, it really matters if your insects are damaged by cockroaches or rotting – you will not be able to sell them.

packing your insects to send in the post

It is no good if you carefully look after your insects and then they get broken at the post office. All your hard work will be for nothing if you do not pack your insects carefully too. Your box might have to travel a long way to get to IFTA or WEI. Many people will handle that box. Some people may drop it after it leaves the village. The truck or plane or boat may have a rough journey. Somebody may put it in a place where there are ants that will try to eat your insects. So you must pack your insects very carefully.

insect packing list

1. Do not waste money sending insects that are already broken or have gone rotten or smelly. Check your insects very carefully by opening a few envelopes or the papers and leaves you have wrapped beetles inside. If they are all still perfect, start packing. If some are already damaged or rotten, check all of them again, and only include the perfect ones.
2. Never send your insects in a soft envelope. Find a strong box that cannot easily bend or break. If you cannot find a box, then do not send your insects – wait!
3. Before you pack the box, find some soft material to put around the insects to protect them. This packing material will help keep your insects from moving around inside the box and breaking. Put some papers or dry leaves into the bottom of the box first to stop your insects from hitting against each other. Coconut husk fibre is very good packing material if you have softened it enough. But make
sure it is dry! And make sure there are no other ants or insects living in the papers or leaves.

4. Start putting the insects into the box on top of the packing. Handle them very carefully. First put the large insects that are hard at the bottom of the box – large stick insects and grasshoppers.

5. As you put in your insects, keep putting scrap paper or very dry leaves around them to protect them and stop them moving.

6. Never push the insects into the box. Never push down the packing too much. If you push too much, you will break off legs and mark the butterfly wings.

7. Never mix butterflies with your rolled-up insects. If you have both beetles and butterflies to send, put the heavier, harder, rolled insects at the bottom of the box, and put a layer of packing material on top of them to separate the delicate butterflies. Only when everything else is already in the box, put the butterflies on top.

8. Never leave part of the box unfilled. If you do that, some insects will move around and break. Put padding all the way up to the top of the box. And then add a bit more on top so it is higher than the top of the box. Then close the box. This should press down the padding just a bit – not enough to break the insects, but enough to make sure the box has no empty space and stop them moving about.

9. You must write a piece of paper that says where you found or farmed your insects. Write down this information about your insects: Your province; Your district; The nearest village to where you collected or farmed the insects; The date you collected the insects or when the butterflies came out of their pupae.

10. Put a second piece of paper in the box too, with this information: Where you are sending the insects; Your name; Your address; The best way to contact you – a PO box number, a phone number, or a friend’s box or phone number.

11. Close the box. Tape it shut strongly. Cover up any holes or openings where ants maybe able to come inside.

12. Write on the box who you are sending it to, and where it is going.

13. On the other side write: Your name; Your box office box number; Your town and province; A contact phone number if you have one.

Sometimes you will pack your insects well and they still break before getting to IFTA or WEI. But if you follow these rules, most of them will be ok.

Another good local packing material is cotton that comes from the kapok tree. Just make sure you use enough so the insect envelopes will not move around inside the box. And before you use the kapok, put it above a fire to make it dry and kill any cockroaches or ants that may be inside.

**Keeping your insects safe in the mail**

Ants and other insects can get inside your box and eat your butterflies at any time. Post offices have cockroaches and ants too! Put some dry leaves with a very strong smell into the box. Or you can rub the sap (susu) from a tree if it has a strong smell into the inside of the box before you start putting the insects inside. The strong smell may keep ants from coming inside your box and eating your insects. But do not put any wet or green leaves inside your box – this will just make your insects go rotten.
**insect quality**

**butterfly quality**

Before you kill any butterfly, look carefully. Try to find any damage. If it has any of these problems, don’t kill it – let it go. Because you won’t be able to sell it anyway:

1. pieces missing from the wings or any folds in the wings
2. any small holes or tears in the wings
3. any marks or scratches on the wing colour
4. missing legs
5. broken antennae (attached to the head)
6. any fingerprint or other marks on the wing colour
7. mold growing on the body (because the butterfly was not dried properly)
8. any damage from ants or other insects eating the body
9. any grease or oil on the wings or body (which can especially happen with Hercules and other moths)

**insect damage**

Most damaged butterflies probably have marks or other problems before you ever catch them. As soon as they start to fly around, they become damaged. This is why farming you own specimens should always mean better quality.

Beetles, stick insects, and other hard creatures do no break so easily. So if if lots of yours are broken, it is probably because you broke them! This is usually when you are carrying them home to kill them. Putting too many beetles or stick insects into one plastic or container makes it easy for them to bite and damage each other. So wrap each one in a leaf or something first before carrying them together, and don’t put too many in each bag.

**finding undamaged insects**

You may notice that when there is a long dry time, then suddenly some rain, you see a lot more butterflies and other insects at one time. The beginning of the wet season is always like this. During the years of a long dry time, as soon as the first big rain comes all the insects come out straight away.

All these new insects have just come out of their pupae. They have just been waiting for the first big rain. This means for the first day or two after the first big rain, almost everything you see will be an undamaged insect.
how IFTA and WEI work

1. IFTA or WEI receive your box of insects in the post or you take them yourself.
2. Your box is opened and all the insects are checked. If they are damaged or rotten they will be thrown away. You will then be contacted and told what the problem was.
3. Your insects are graded for quality.
4. Your insects are identified.
5. Your insects are packed one by one and put into storage ready for people to buy.
6. When a customer sends an order, then the types of insects they want are selected, and checked again to make sure they are still perfect.
7. Permission to export them from the government is then applied for. When approval is given an export permit is issued.
8. The insects are then packed carefully into a box so they don’t get damaged on the way to the customer.
9. When everything is ready the package is sent to the customer by air mail.
10. When the customer receives the box, they will check all the insects they bought and send payment.
11. Once the customer sends their payment you will be paid. This can either be by cheque or a deposit into your account.

problems and questions

If you have particular problems or questions especially about your place, it is usually best to speak to people in your own village first. If they cannot help please contact IFTA or WEI directly.
running your insect business

If you want to make money from insects then ranching and collecting is the most important part. But there are other things that you have to think about too, these are marketing, business knowledge, managing risks and keeping records.

marketing

Marketing is about the selling side of the job. It is finding out about how to get the best prices for your insects. It takes a long time to ranch and collect good insects so you should also put effort into selling them. For this it is important to know:

- the different prices paid for insects from IFTA and WEI
- what insects you can get in your area
- when prices for insects is likely to be high or low

Knowing these things helps you to make decisions about when and to whom you should sell your insects. You will not know these things when you first start your insect business but it is important for you to learn.

A good price is not the only thing that you should think about when you sell your insects. You also need to able to trust the company that is buying your insects. You can only find out who is most reliable from your own or another insect collectors experience. Get as much information as you can before selling your insects.

business knowledge

Make sure that you learn about all the valuable insects that occur on your land. Keep notes about the insets that you find, learn their local name and then learn and find out their scientific names from the buying lists that you can get from IFTA or WEI.

Having knowledge about insects will help you to get to know which ones you can sell easily. Some insects may be plentiful at your place but hard to find elsewhere. By knowing about the insects you will be able to name them when you write to IFTA or WEI.

When you write to IFTA or WEI make sure that you are polite but direct. Don’t be rude; don’t stretch the truth or offend anyone. You do not want to get a bad reputation as a businessman. Whatever questions that you have should be straight forward and direct.

managing risks

You have to remember that all businesses have risks. There will be times when things go wrong and you will have to make decisions on how to make things right again. The best way to deal with risk is to think out what can go wrong before it happens and to plan how to fix the problem when it does happen. The main risks with your insect business include the following.

loss of insect habitat

To protect against loss of habitat you need make sure that other people also value the forest where you get your insects from. Encourage activities that mean you can use the forest to make money without destroying it. These activities include inset ranching/collecting and small scale sustainable logging.
breakages or spoilt insects

To avoid damaging your insects you need to follow the packing and storage instructions in this manual very carefully. Always make doubly sure your packing is good before sending a shipment to IFTA or WEI. If ants are always getting into your packages you could try sprinkling crushed moth balls under the packing material when you put it into the box.

not getting a fair price

As already stated the prices you get for your insects will depend on supply and demand. You should however always be asking if you are getting a fair price for your insects. A way of finding this out is to send a few insects to another buying company. This way you will be able to find out who pays the most for what. As you gain experience and knowledge you will be able to tell whether you are getting a fair price or not.

theft of larva (caterpillars) or pupa

The best defence against theft is to know who else in your area is ranching and collecting insects. If you are friends with the other ranchers and collectors they are less likely to steal from you. Also by knowing other ranchers and collectors you will be able to learn from each other.

keeping records

If you take your insect business seriously then you must keep good records. Good records keeping will contribute to good profits. You will need to keep a record of what correspondence you have sent and received, financial records and a diary.

correspondence in and out

It is important that you keep records of what, when and where you sent items out by mail. It is just as important to keep a record of when you received items. An example of using these records would be if three months had gone by and you are yet to receive payment for the consignment. If you have the information of when you sent the parcel it will be much easier to write a good letter casing up the payment.

It is also important to keep a copy of any letter that you send and that you keep any mail from IFTA or WEI for at least two years.

diary

Keep a diary of events connected with your insect business. Every day keep a record of what insects you have collected and where you collected them. This is very important as it will help you to remember new insects, new plants and where they can be found. When you get good insects make a few notes in your diary about the plants, their location, how sunny it was, whether it was near water and so on. This will help you to learn why one area might attract certain insect species better than another. By doing this you will be improving your insect knowledge all of the time.
financial record

By adding up all the money that you pay out and the money that you receive from your insect business you will be able to find out whether you are making a profit (see next page)

financial record example

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<th>Money in</th>
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<td>K6.00</td>
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don’t forget

1. Farm insects, don’t collect them: make places and plant trees and vines so the insects come to you, and you can make sure they are perfect.

2. Grow more food-plants: spread them out and the more you plant, the more insects for you to sell will come.

3. Use local materials and equipment: don’t buy all your equipment from the store – talk to the old people in your family and the village, and find out what local plants they use to keep ants away, wrap things safely, keep things dry, etc.

4. Learn about your place: look carefully at how insects behave and you will learn the best places to find them, the best plants to attract them, and how to avoid the things they don’t like.

5. Don’t collect too many of the same insects all the time: this might be easy and quick and make you money quickly to start with, but after a while you will hurt your environment and will just have to work harder. Better start in many areas and with lots of different kinds of insects.

6. Invest your money wisely: money isn’t the end result of your insect business – it is just a way of making your life better. Spending the money you earn from insects on school fees, medicine, a water supply, electricity and books, will help everyone’s future.
insect and plant identification sheets

The following eleven pages are identification sheets for butterflies, other insects and their foodplants.

These pictures are to help you learn about the insects that can be traded in Papua New Guinea.
insect identification sheet no. 1
insects of papua new guinea

Calodema wallacei
Chrysodema foraminifera
Eupholus bennetti
Aenetus species (moth)
Acherontia styx (moth)

Papilio ulysses
Papilio aegeus
Atrophaneura polydorus
Graphium codrus medon
Papilio euchenor

Papilio ulysses
Coscinocera hercules (moth)

Ornithoptera priamus poseidon (rare gyandromorph)
Ornithoptera alexandrae (illegal to buy or sell)

Papilio euchenor

Xylotrupes gideon
Calodema wallacei
Chrysodema foraminifera
Eupholus bennetti

insect identification sheet no. 1
insects of papua new guinea
insect identification sheet no. 2
butterflies of the bismarck group & manus

Papilio ulysses gabrielis
Papilio phestus (male)
Papilio phestus (female)
Papilio weymeri
Papilio moerner
Mynes eucosmetos
Delias eximia (female)
Delias eximia (male)
Delias totila
Delias lytaea
Delias salvini
Delias madetes honrathi
Batocera ammiralis  
Rosenbergia bismarckiana  
Batocera nebulosa  
Ischiopsopha bennigseni  
Eupholus browni

Ornithoptera priamus urvillianus (female)  
Ornithoptera priamus urvillianus (male)
Ornithoptera victorae regis (female)

Ornithoptera victorae regis (male)

Ornithoptera priamus urvillianus

Ornithoptera allottei allottei

Papilio toboroi

Delias messalina

Delias schoenbergi

Graphium meeki

Graphium mendana

Batocera kibleri

Batocera inconspicua

Protopocelius hastertii

Cyclommatus speciosus

insect identification sheet no. 4
insects of bougainville
Ornithoptera chimaera (male)
Ornithoptera chimaera (female)
Ornithoptera goliath (male)
Ornithoptera goliath (female)
Delias ligata
Delias luctuosa
Delias niepelti
Delias sagessa
Graphium weiskei
Morphopsis meeki
Morphopsis ula
Morphotaenaris schoenbergi
Delias clathrata
Delias hapalina

insect identification sheet no. 6
butterflies of the highlands
insect identification sheet no. 7
butterflies of the lowlands
Insect identification sheet no. 8
Insects of the lowlands

- Apaturina erminea
- Cethosia cydippe
- Delias mysis
- Dichorragia ninus
- Delias discus neyi
- Terinos alurgis
- Dilochrosis balteata
- Ischiopsopha jamesi
- Ischiopsopha lucivorax
- Metataenia auricollis
- Aegus platydon
- Scapenes australis
- Batocera wallacei
Graphium weiskei

Ornithoptera goliath

Scapenes australis

Cyclommatus imperator

Batocera wallacei

Eupholus schoenherri

Eupholus quinitaenia

Eupholus nagaii

Eupholus clarki

Ischiopsopha jamesi

Ischiopsopha lucivorax

Dilochrosis balteata

Aegus platydon

Metataenia auricollis

insect identification sheet no. 10
insects of the sepik region
**Aristolochia momandul flower**

**Aristolochia momandul - Ornithoptera meridionalis, Ornithoptera chimaera and Ornithoptera priamus foodplant**

**Aristolochia tagala - Ornithoptera priamus and Troides foodplant**

**Wild Yam - Eupholus weevil foodplant**

**Asclepias sp. (Milkweed) - Monarch butterfly foodplant**

**Evodia hortensis - Papilio butterfly foodplant**

**Aristolochia momandul flower**

**Aristolochia goliathiana - Ornithoptera goliath foodplant**

**Citrus - Papilio larva foodplant**

**Porter weed - Butterfly attractant plant**

**Aristolochia momandul - Ornithoptera meridionalis, Ornithoptera chimaera and Ornithoptera priamus foodplant**

**Calleandria sp. - Stick insect foodplant (E. goliath)**

**Legume - Sequifolia grandis foodplant**

**Anona sp. (Soursop) - Papilio foodplant**

**Mulberry - Moth & Stick Insect foodplant**

**insect identification sheet no. 11**

insect food and attractant plants of papua new guinea
Rot bilong Lukautim na Kisim Binatang long Papua Niugini
insait

tok i go pas
bisnis bilong binatang
wok long kisim moni
hatwok

baim na salim binatang na bataplai
bilong wanem na ol NGO istap wanbel long binatang bisnis?
bilong wanem bai yumi statim binatang bisinis
lo karamapim

ol binatang isave istap olsem wanem
laif bilong bataplai
laif sikal bilong bataplai
laif bilong ol arapela binatang
laif sikal bilong ol narapela binatang
bai yu painim long wanem hap

faming na painim bataplai na binatang

redim projek bilong yu
wanem hap bai yu planim kaikai bilong bataplai
wanem rop o diwai yu mas planim
hau bai yu groim kaikai bilong binatang?
wanem samting yu mas wokim bihain
kisim liklik sinek long rop bilong yu
wanem kain hap em i gutpela long lukautim kiau
lukautim bebi bataplai
hau bai yu kilim nupela bataplai

painim bataplai na binatang
long wanem hap ol gutpela bataplai i stap
long wanem hap bai yu painim ol gutpela bitel binatang
painim stik binatang
wokim umben bilong bataplai
kain wok bilong spesol umben long kisim ol bataplai
larim bruk bataplai igo!

killim na holim binatang yu kisim pinis
rot bilong kilim idai ol bataplai
wei bilong kilim bitel
wei bilong kilim idai ol stik binatang

drain na lukautim gut binatang bilong yu
we bilong holim ol bataplai i stap taim ol i dai pinis
wei long lukautim ol bitel binatang taim yu kilim ol pinis
drain olgeta binatang

pekim na salim ol binatang bilong yu
hau yu stretim ol binatang bai ol i stap gut taim yu salim
pekim binatang na bataplai bilong yu long salim
lukautim bataplai gut taim yu salim igo

nambawan bataplai na bitel tasol
wanem bagarap ino gutpela sapos yu laik salim ol bataplai?
wanem taim planti binatang isave kisim bagarap?
wanem emi gutpela taim long painim binatang?

IFTA na WEI isave wok olsem wanem
hevi na askim: stretim ol hevi bilong yu
tok i go pas

Wok bilong lukautim na kisim ol binatang na bataplai em i gutpela rot bilong wokim moni na tu yu no nap long bagarapim graun bilong yu. Planti ol man long wol isave laikim ol binatang na bataplai bilong Papua Niugini. Long wanem, Papua Niugini gat ol gutpela binatang na bataplai.


PNG i stap long ples we i gutpela moa long kamapim na lukautim ol binatang na bataplai. Na tu PNG igat moa bataplai na binatang I winim narapela kantri husait ibin katim bik bus bilong ol long mekim nupela ples wok. Planti bilong ol binatang na bataplai na ol kain kain pisin na kapul stap long bik bus tasol. Oselm na PNG igat planti binatang na bataplai moa long salim sapos yumi lukautim gut bus bilong yumi.

bisnis bilong binatang

Planti man na meri I laik baim binatang na bataplai bilong yumi. Hia em sampela as we ol man igat long baim ol binatng na bataplai bilong yumi:

1. Ol man long narapela kantri ilaik baim binatang na bataplai bilong yumi long ol wanem save bungim olsem yumi bungim stamp bilong pos opis. Em I olsem wanpela pilai, bilong painim samting we narapela man I nogat.

2. I gat tupela bikpela as bilong wanem ol save man na missium I laik baim bataplai na binatang bilong yumi.

a) Bilong mekim wok painim aut, na long soim long ol man long narapela kantri bai lukim na save long ol. Wok painim aut long ol binatang na bataplai bilong yumi I halvim ol save man long save long pasin na wei bilong ol man, na we yumi olgeta save yusim graun na bus bilong yumi. Dispela kain wok I halvim yu na mi long wanem ol nupela save I ken halvim yumi lukautim PNG.

b) Taim yumi soim ol binatang na bataplai bilong yumi, ol manmeri long narapela kantri lukim na lainim pasin bilong PNG.

3. Turis husat i kam long PNG laik kisim ol dispela samting go bek long ples bilong em long tingim taim em kam raun long PNG. PNG igat nem long ol bataplai na binatang. Kisim sampela go bek long ples bilong ol, em bikpela samting bilong tingim taim em raun long PNG na tu long soim ol wantok bilong ol.

4. Ol man husait i save mekim bisnis long binatang na bataplai save baim long PNG long wanem binatang na bataplai em naispela tru. Long ol dispela man husait ino gat taim long kam long PNG na kisim bataplai na binatang, dispela bisnis i yusim bataplai na binatang bilong PNG long putim insait long naispela glas na bokis na bilong hangamapim long ki bilong haus o kar na bilong bilasim haus bilong em.

wok long kisim moni

Lukautim na kisim bataplai ino inap mekim bikpela win moni tasol em helvim yu long kisim liklik moni long halivim sindaun bilong yu. Sampela man kisim gut moni long wok long kofi o vanilla, tasol wok binating tu i halivim long bringim moni long famili bilong yu.
Prais bilong ol bataplai na binatang ino wankain. Sampela binatang na bataplai ikos olsem lot yu inap long K10. Tasol kain kain binatang na bataplai igat narapela narapela prais bilong ol binatang na bataplai to i senis.

Moa beta, yu mas save long prais taim en go antap o igo daun wankain olsem kofi, kaukau o vanilla. Sapos prais bilong ol cash krop i senis, prais bilong ol binatang na bataplai to i senis.

Planti as tingting long prais is save senis:
• Sapos igat wankain binatang na bataplai em prais bai igo daun
  • Na sapos, igat narapela kain binatang o bataplai IFTA o WEI ino bin igat em prais biolong dispela binatang o bataplai igo antap
  • Sapos yu gat wanpela bataplai o binatang IFTA o WEI ino salim bipo, prais bilong em bai liklik, tasol bai prais igo antap taim igat gutpela maket bilong em.
• Sapos no gat gutpela maket bilong wanpela kain bataplai o binatang, bai prais igo daun.

hatwok
Yu no kan gat planti moni long statim wok bilong mekim moni long ol bataplai na binatang. Tasol yu mas igat planti taim na strong, long wanem taim yu wok hat, bai yu nap mekim planti moni. Yu no nap long gat planti samting long statin dispela kain wok, long wanem yu ken painim olgeta bilong ol samting isi long bus bilong yu.

Hia em nem bilong ol bikpela samting yu mas gat:
• Diwai o rop kaikai bilong bataplai na binatang – Yu ken painim long bus bilong yu.

• Pepa – bilong karamapim bataplai na binatang.
• Strongpela bokis – bilong putim bataplai na binatang bilong yu gut bai ol bai no nap long bagarap.
• Stem – bilong salim bataplai/binatang bilong yu igo long IFTA long Pos opis.
• Dispela buk iken lainim yu moa long save long wok bilong bataplai na binatang.
baim na salim binatang na bataplai


Na long 1990, Department bilong Environment na Conservation i tingting olsem IFTA inidim halivim long baim na salim ol binatang. Long kamapim dispela tingting, gavman opim rot long sampela kampani tu imas kamap.

Ol binatang kampani wei Gavman I tok orait long baim na salim binatang, em Insect Farming na Trading Agency (Bulolo), Wau Ecology Institute (Wau), OISCA (Rabaul) na WEMAX (Mt. Hagen). Long ol dispela foapela kampani, tupela tasol wok moa long kamapim dispela bisnis, em IFTA na WEI.

Dispela tupela kampani bai helpim yu long kamapim gutpela binatang bisnis wei bai yu kisim gutpela moni long em.


bilong wanem na ol NGO istap wanbel long binatang bisnis?

Sampela man ikam baim na salim binatang stret long ovasis o ol turis. Tasol yu mas igat tok orait pepa (pemit) bilong gavman long salim ol binatang long ovasis maken.

Tasol IFTA na WEI isave strong tru long ol binatang imas gat pemit long lusim Papua Niugini. Sapos inogat kontrol long salim ol binatang bai yumi ken lusim ol gutpela binatang na ino inap long kamap gen.

Yu ken salim ol binatang long ol turis taim ol kam long ples bilong yu tasol yu no inap mekim gut moni. IFTA na WEI ol I save long planti baia bilong ol ovasis kantri na ol iken salim planti planti binatang. Olsem na yu mas salim binatang long dispela tupela kampani.


bilong wanem bai yumi statim binatang bisinis

Nao em i nambawan taim tru wei bai igat buk bilong lukautim binatang I kamap. Wantaim halivim bilong IFTA na WEI na yu dispela ol samting iken kamap:

1. Bai yu gat liklik moni long baim skul fi, marasin na planti samting moa.

2. Em bai mekim ol man meri long ol arapela kantri amamas na bai baim planti moa bataplai na binatang bilong yumi.

3. Em bai givim gutpela nem long kantri bilong yumi long narapela
olsem PNG em i gutpela ples bilong kisim bataplai na binatang
4. Em bai mekim ples bilong yumi i gutpela na strongpela – bus bilong yumi, bataplai na femeli bilong yumi tu.

lo karamapim

turis maket

Ating yu ting olsem yu ken kisim gut moni sapos yu salim binatang long ol turis tasol igat hevi bai yu ken bungim.

Turis i save long wanem ol i ken kisim long PNG na karim igo long kantri bilong ol. Ol i save tu olsem ol inap baim bikpela moni o go kalabus sapos ol i brukim dispela lo. Long abrusim dispela pasin, ol bai baim yu liklik moni tasol long bataplai na binatang bilong yu.

Sapos yu laik salim long ol saveman bilong bataplai na binatang, ol bai laikim ol nambawan na gutpela samting (nogat bagarap) tasol, olsem na yu mas igat fam bilong ol bataplai na binatang – na noken kisim ol wel bataplai na binatang. Sapos yu salim bagarap bataplai na binatang o brukim lo, yu bai bagarapim gutpela nem bilong PNG tu.

Ol man husait ino save long bataplai na binatang bai laik baim bagarap bataplai na binatang, tasol ol bai laik long dispela mas stap insait long wanpela spesol box o galas, tasol em ino isi long mekim ol gut inap long salim, olsem na turis bai no nap baim binatang na bataplai bilong yu.

Sampela taim bai gat turis i kam, tasol ol bai laik baim bataplai o binatang ol i gat laik long en. IFTA o WEI bai baim olgeta bataplai na binatang bilong yu taim yu salim ikam long ol.

IFTA na WEI i save, i gat man i save hait na salim na baim ol bataplai na binatang long ol han rot ol ino inap baim binatang o bataplai bilong yu long wanem ol i no laik long stap insait long trabel. Tasol taim ol turis na ol man long han rot igo pinis yu bai nogat bisnis.

ovasis maket

Yu bai ting olsem emi gutpela samting long yu salim binatang yu gat stret long ol bisnisman long ovasis tasol yu mas tingim dispela ol lo:
1. Emi tambu tru long salim binatang nating long ovasis, yu mas igat wanpela pepa ol i kolim olsem export permit
2. Ol bikpela batalplai bai nidim wanpela tokorait pepa olsem CITES. Dispela pepa (permit) em istap wantaim NGO olsem IFTA na WEI, we gavman isave wanbel long tupela.
3. Sapos yu salim ol binatang na inogat dispela kain pepa (permit), gavman bai mekim save bilong yu.
4. Sampela taim, sapos yu no wok wantim ol lain bilong IFTA o WEI na gavman sampela man i gat pasin no gut bai stilim moni bilong yu.
5. IFTA na WEI igat save man meri we ol isave wokim gut wok bilong binatang.
6. IFTA na WEI igat ol samting olsem, telefon, fex, frisa, benk akaun wei bai ol iken wokim gut bisnis.
ol binatang isave istap olsem wanem

Save long laip bilong bataplai na binatang bai soim yu wanem ples bai ol i stap, wei bilong holim ol, na wei bilong luk save long kisim gutpela bataplai.

Laif bilong ol animal istat long kiau, igo kamap bebi na bihain kamap bikpela. Laif bilong ol binatang em narapela kain long ol man. Ol kain kain binatang gat narapela narapela laif saicol bilong ol.


laif bilong bataplai

Bataplai em narakain liklik long ol arapela binatang, tasol sapos yu save long ples ol i stap bai helpim yu planim streit rop kaikai bilong ol, yu ken lukautim kiau bilong ol na tu painim ol long bus ol i stap.

Yu bai save gut bilong wanem yumi mas save long pasin na laip bilong bataplai bihain.  

Win: dispela hap emi isi long bagarap na kala bilong em tu bai lus kwiktaim tru olsem. Yu mas holim long THORAX

Nek: Ples we tupela win na bodi bilong bataplai isave bung long em..

Bel: Dispela emi bel bilong bataplai – noken holim em long hia o presim strong long hia taim yu kilim em.

Gras na lek: Taim yu draim bataplai dispela tupela hap tu bai bruk hariap. Taim yu putim bataplai igo insait long pepa, dispela tupela hap yu mas silipim gut klostu long bodi bilong em.
laif sikal bilong bataplai

a) Kiau: taim bataplai meri em i marit pinis, em i putim kiau long rop kain oseml Aristolochia tagala tasol.
b) Sinek: Kiau i bruk sampela de bihain na nupela sinek i kaikaim skin bilong kiau oseml nambawan kaikai bilong em.
c) Liklik sinek kamap bikpela: sinek bilong bataplai i kaikaim lip na han bilong rop, na taim i kamap bikpela moa em i senisim skin bilong em faivpela taim.
d) Taim em i bikpela pinis em i raunim liklik string long holim pas bodi bilong em, na malolo long tupela de samting.
e) Las taim bilong em i skin bruk, kiau i kamap na bihain liklik em bai i strong.
f) Dispela kiau bai bruk na nupela bataplai i kamap na em bai karim moa pikinini bihain.

laif bilong ol arapela binatang

Planti arapela binatang isave senisim skin planti taim na gro bikpela, tasol sheip bilong bodi bilong ol ino save senis tumas. Oltaim ol larva (liklik sinek) isenisim skin ol ikamap oseml mama papa binatang. Dispela emi ino wankain long laif bilong ol bataplai.

Daun bilo em piksa isoim laif bilong stik binatang. Ol bebi binatang na bikpela binatang istap wantaim na ken kaikai wankain kaikai tasol.
**laif sikal bilong ol narapela binatang**

**bai yu painim long wanem hap**

faming na painim bataplai na binatang

Bilong wanem na em i gutpela long kamapim ol binatang long fam, na noken kisim ol stret long bus? I gat gutpela as long yu kamapim ol binatang yu laik salim. Bilong wanem ol binatang yu ikisim long kwik we, taim yu kisim bataplai net na kisim ol, oltaim bai yu painim olsem ol i gat liklik bruk long wing o kala lus o planti taim em wing isave bagarap. Ino long taim yu kisim na net bilong yu i brukim. Nogat! Em taim bataplai yet i raun plai nambaut na ol sampela bodi pat bilong em i save bruk.

Long dispela as tasol na sapos yu laik kisim gutpela bataplai, na i no westim taim insait long bus na painim ol bruk, bruk bataplai, em yu mas wokim fam gaden bilong bataplai (binatang). Olsem na bai yu i gat naispela binatang bilong salim na mekim moni. Bilong wanem dispela ol bagarap mama bataplai bai kam na putim kiau long kaikai bilong em yu groim pinis. Na taim dispela kiau i bruk na kamap katapila, em kaikai ol lip i go igo na senis kamap pupa o bikpela kiau (kokun). Na las tru bikpela kiau i bruk na isave kamap bataplai.

Na yu save wanem? Naispela nupela bataplai i kamap na em i gutpela ‘A1’ stret bilong salim long IFTA o WEI. Na IFTA o WEI bai amamas tru long baim dispela kain bataplai.

Tambu tru long kisim wanpela kain bataplai. Dispela bataplai ol I kolim bedwing bataplai. Papua Niugini igat nem long dispela bataplai long arapela kantri.


Taim yu lukautim bataplai, yu mas kisim bebi (liklik sinek) na lukautim. Larim sampela bebi istap yet long kamapim planti bataplai. Dispela bai halivim yu long kisim moa mani na surukim populesion bilong ol bataplai.

Bataplai wokman em i wok bisnis na tu em man bilong lukautim ol bataplai.

IFTA na WEI bai ino nap long baim dispela ol binatang:
1. Blek o brown bital, kain olsem bital bilong saksak, blek wival, na ol blek wival istap long sting diwai
2. ol liklik flais, grasshopper, bugs, be na wasps
3. bataplai bilong kunai na taun
4. na ol binating I gat malumalum bodi tumas na tai mol draim I no moa luk gutpela

Kisim wel bataplai na binatang iken bagarapim bus bilong yu sapos yu no mekim stre:
• Olgeta taim larim bruk o bagarap binatang igo;
• Noken go long sem ples olgeta taim na kisim binatang o bataplai;
• Noken kisim wankain binatang o bataplai tasol.
redim projek bilong yu

Bataplai projek igat sixpela hap:
1. Painim gutpela hap bilong ol binatang long eria bilong yu.
2. Planim rait kaikai bilong pulim bataplai na binatang.
3. Sekim na lukim sapos ol krab na liklik snek i kamap bikpela.
4. Putim ol long wanpela gutpela ples.
5. Helpim ol gro inap bikpela kiau i bruk.

Ating bikpela samting yumi mas tingim long famim bataplai em i olsem, yu mas painim rait ples bilong ol na planim rait kaikai insait, bai ol bataplai na binatang bai kam long yu.

Sapos yu laik traím mekim wanpela spesol ples – ‘bataplai gaden’ – long famim bataplai bilong yu, em i no gut pela aidia. Sampela man i ting we bilong wokim bataplai fam, em ol i mas wokim olsem gaden tru tru. Em i no rait wei bilong wokim bataplai gaden bilong wanem yu no inap bai wokim gaden bilong kamapim kaikai bilong man!

Gutpela we bilong wokim bataplai fam em yu noken katim bus na wokim bikpela spes nating. Painim sampela hap we klia liklik, na bus i stap klostu, em dispela hap em gutpela long planim ol bataplai rop. Na tu noken bungim long wanpela hap tasol. Planim tu long arapela hap longwe liklik.

Wanpela bikpela samting tu sapos yu laik groim Aristolokia rop bilong dispela spesol bedwing bataplai, yu mas save olsem dispela bataplai i no save kam putim kiau long rop yu planim long gaden ples o klostu long ples, em nogat. Tingim dispela em ol spesol bataplai tru we ol i save stap long bikpela bus tasol. Olsem na long kamapim dispela ol bataplai, em yu mas planim long bikbus we bai ol i kam na putim kiau na kamapim moa. Olsem yu mas bihainim laik bilong bataplai.

Olsem na tingim, noken mekim wanpela spesol ples long famim bataplai na katim gutpela diwai na bus. Yu mas painim wanpela gutpela ples klostu long bus na planim rop bilong bataplai, bai pulim ol ikam long yu.

Mekim ples bilong yu i naispela long pulim ol bataplai i gutpela, bilong wanem:
1. Em bai isi long famim na kisim ol bataplai
2. Yu bai nogat bikpela wok long statim
3. Bai igat planti bataplai bilong yu long salim
4. Planti bilong ol bataplai bai kamap gut
5. Bai yu helpim tu long lukautim bus bilong yu istap gut na yu ken mekim moa moni long bihain taim tu
6. Yu bai helpim kominiti bilong yu lukautim bus na ples bilong long kamap strong, ino long bataplai tasol, nogat long gaden na kaikaik bilong femeli bilong yu tu

wanem hap bai yu planim kaikai bilong bataplai long graun bilong yu

Taim yu planim diwai na rop bilong ol binatang olsem bataplai na bitel long kaikai, i gat sampela bikpela samting yu mas lukaut long en:

1. Diwai na rop yu mas planim long hap we em bai putim planti yangpela lip oltaim. Wanpela example em we wanpela diwai i pundaun pinis long bus.


4. Tingim, taim yu planim planti rop na diwai bilong binatang na bataplai, planti moa bai kam, taim planti moa ikam, ples bilong yu bai iluk nais tru. Olsem na painim gutpela ples long bus bilong yu na planim muli diwai o aristolokia rop i moa gutpela long mekim niupela gaden.

wanem rop o diwai yu mas planim

Sampela binatang na bataplai isave laik long stap long ples igat planti kaikai bilong ol. Yu ken mekim ples bilong yu kamap naispela long sampela bilong dispela bataplai, tasol sampela samting yu no inap senisim. Dispela i olsem sampela bataplai bai yu no nap famim o kisim long ples bilong yu. No ken westim taim bilong yu long traim!

1. Igat narapela kain bataplai yu ken painim na famim. Olsem na putim planti taim bilong yu long dispela bai yu gat gutpela bisnis long bihain.


3. Yu ken lukim ol piksa istap long dispela buk long painim aut ol binatang na bataplai yu gat long ples bilong yu.


5. Yu mas kisim ol sid o han bilong diwai na planim ol long gaden bilong yu.

Na tu tingim dispela ol samting:
- Graun bilong yu istap hamas mita antap long mak bilong salwara?
- Graun bilong yu isave kisim liklik o bikpela ren, san o win?
- Wanem kain wok ikamap long graun bilong yu?
- Igat ol man kisim o lukautim binatang long eria bilong yu?
hau bai yu groim kaikai bilong binatang?

Sampela taim yu ken kamapim ol long ol pikinini bilong ol diwai (sits). Narapela yu ken kisim long han bilong diwai o narapela yu ken kisim rop, raunim na planim em. Em ol bai gro yet, sapos yu save gut long planim long rait we.

Aristolokia tagala rop em i isi long groim sit bilong em. Noken planim sit bilong em aninit tumas. Pusim tasol igo insait long graun. Planim long ples we graun i wet liklik, ino long ples igat planti san o ples ino gat san - aninit long as bilong diwai i moa gutpela.

Planti taim ol man i les long planim sits ol i save planim streng long han bilong diwai o sapos em i rop, planim long rop yet. Tasol mas haitim ol long wet ples inap em i gro, nau yu ken planim streng long gaden bilong yu.

groim rop long rop istap nau

Planti kainkain gutpela rot bilong groim ol diwai na rop. Yumi i no save wanem kain diwai na rop i stap long ples bilong yu. Olsem yu mas painim aut wanem kain diwai na rop i save stap long ples bilong yu we batapalai i save kaikai long en. Taim yu painim pinis orait, yu mas planim ol. Dispela em wanpela gutpela kain we bilong planim rop, yu mas raunim olsem:

1. Katim longpela rop, olsem size bilong bodi bilong yu tupela taim
2. Raunim rop
3. Painim ples we bai i gat san lait na bus liklik, orait dispela hap tu graun i mas wet liklik oltaim, planim rop long dispela kain hap.
4. Planim hap bilong rop i go daun long graun, na larim hap i stap outsait long graun olsem long piksa 5.2b bipo.

5. Larim graun i stap wet na larim wantaim rop long sampela mun pastaim.

6. Taim yu lukim yangpela lip i stat long gro, orait yu rausim graun na katim ol klostu long ruts na planim ol nau.


wanem samting yu mas wokim bihain sapos yu planim rait kain diwai na rop bilong batapalai na ol i painim pinis?

Sapos yu lukim sampela batapalai long hap ples bilong yu, na yu painim wanem kaikai bilong em pinis na yu planim dispela rait kaikai bilong em long rait hap graun streng, orait dispela samting bai kamap:
1. meri batapalai bai painim dispela kaikai yu bin planim
2. ol meri batapalai bai kam na putim liklik kiau long kaikai yu i bin planim
3. na dispela kiau bai i bruk, na kamap liklik sinek na em bai kaikai i stap long batapalai rop o diwai yu bin planim

Nau yu i nogat narapela wok moa long wokim, em taim bilong stap tasol na wetim ol sinek long kamap, bkpela kiau na yu bai kisim ol i go aut long fam ples na putim ol i stap bruk bilong kamap batapalai. Orait em taim bilongpekim na salim.
Yu mas kisim ol liklik sinek igo long wanpela diwai kaikai, noken larim planti sinek katapila long wanpela kakai tasol.

**kisim liklik sinek long rop bilong yu na putim long wanpela gutpela ples bai ol i bruk**

Taim bataplai sinek em i kamap bikpela pinis em i save stop long kaikai na raun painim ples bilong em long senisim em yet na kamap bikpela kiau (pupa).

Olsem na sapos yu lukim ol bikpela pinis, rausim ol long kaikai bilong em na lusim ol long haus o ples we bai yu was long ol, inap em i senis na kamap bikpela kiau (pupa).

Putim sinek insait long wanpela box o mosquito net we i gat planti liklik hul. Putim ol liklik stik tu insait long box bai ol iken holim long em.

Sampela ol bataplai sinek i no save raun tumas. Wanem hap ol i stap kaikai em ol i stap tasol inap ol i senis na kamap pupa. Dispela kain ol bikpela kiau yu noken wara long kisim ol i go aut long haus o samting. Yu ken larim ol i stap olsem. Sampela ol man i save wara long notg pisin o palai i kaikaim sinek bilong ol, olsem na ol i save rausim ol na kirim igo. Tasol harim! Taim yu rausim em yu noken kisim bikpela kiau tasol, nogat, yu mas katim wantaim stik o rop em i bin wokim long hangamap long en. Taim yu karim em i go aut i bikpela tambu tru long holim tumas o pulimapim em long beg o pasim em long lip. Yu mas holim tasol long han bilong yu, inap yu putim ol long ples bilong putim bikpela kiau stre, yu bin wokim long en. Na sapos yu no bihainim dispela step, yu bagarapim dispela bikpela kiau na em bai i no inap long kamap pupa!

Taim sinek em i kamap pupa, yu mas rausim na putim long hait ples. Taim

yu laik kisim bikpela kiau aut long hangamap bilong em, yu mas katim wantaim dispela lip o stik na karim long han. Bai yu mekim wanem long pupa? Yu ken putim long bikpela kiau kes o long wol bilong haus we kol liklik. Na was long em olgeta dei.

**wanem kain hap em i gutpela long lukautim kiau**


Sampela man long ples i save mekim spesol autsait wol. Ol i save putim karamap long mekim hait ples long san. Long moning ol i save rausim, na stap wankain gen.

Wanem samting yu lukim, em liklik haus bilong putim ol bikpela kiau bilong bataplai. Na ol i bin mekim dispela long pangal bilong saksak. Ol i kamapim 3-pela wol spes, na long namba 4 spes ol i yusim kamap olsem dua bilong ol long go insait na kam autsait. Na i gat rup tu ol i bin wokim. Em i save yusim nil bilong saksak long pinim lip we ol bikpela kiau bilong bataplai i stap. Dispela nil bilong saksak bai holim ol stap. Na dispela ol bikpela kiau i mas stap long hap hap ples, long san na tudak liklik. Na tu bikpela kiau i mas noken kol tumas o hot tumas, i mas namel namel.

Haus bilong kiau mas stap klostu bai bataplai no nap ranawe taim em kam aut long kiau. Tasol em mas gat liklik san lait long draim wing bilong em. Yu mas usim olpela mosquito net long banisim ol bataplai, taim ol i draim wing bilong ol.
bai yu mekim haus kiau olsem wanem?

Piksa aninit i soim wanpela kain haus bilong kiau ol i mekim long saksak. Yu ken mekim wantaim waia tu. Em i laik bilong yu.

1. Mekim wanpela kiau haus long strongpela pos – em i ken stap em yet o pas wantaim haus bilong yu.
2. Pasim wol wantiam pangal bilong saksak.
3. Mekim wanpela dua long wol bai isi long go insait.

lukautim bebi bataplai

Liklik ol bataplai istap olsem pupa inap wan o tu wik. Tasol bikpela bataplai bai stap olsem pupa inap wanpela mun. Bataplai bai kamaaut long pupa long moning tru. Sapos san ino hat tumas ol i kamaaut klostu moa long belo.


Lukluk gut long skin bilong ol kiau olgeta dei, skin go bilak em yu ken luksave lang wanem dei bai bataplai bai kamap.

Taim bataplai i bruk kam ausait long bikpela kiau em ino save wokabaut planti tumas. i save kisim tenpela minits long kamaaut long pupa. Na em bai het i go antap na wing kam daun, inap long wing i kamap strong na bikpela, nau em i save stat long kamap drai. Nau long dispela taim stret, noken tasim em, sapos em i pundaun orait, em i no moa gutpela long salim. Long wanem wing i tasim graun taim em i wet yet, emi bagarap pinis.

Bataplai, yu lukim long kala piksa I bin gat sampela man I kam na holim, taim wing bilong em I no drai gut yet. Olsem na wing bilong em I no luk gutpela. Na em I no moa gutpela long salim.

**hau bai yu kilim nupela bataplai**

Sampela lo bilong kilim bataplai yu mas bihainim sapos yu laik kisim moni:

1. Kala bilong bataplai mas kamap gut long bodi bilong ol. Sapos yu lukim brown o bilak mak long ol win bilong bataplai ino drai gut. Sapos igat bilak kala long bodi bilong bataplai na yu kilim, bai yu no kisim gutpela moni.


3. Holim bataplai wantaim finga bilong yu istap antap long bodi we wing na lek istap. Tingim tu, tupela wing imas istap wantaim.

4. Long kilim ol liklik bataplai presim nek bilong em na kaunim wanpela igo tenpela na lusim han bai yu lukim olsem em I dai nau. Long kilim ol bedwing bataplai givim sut wantaim hot wara o methalated spirit long nek bilong em (yu mas usim ol syringe ikam long clinic, haus sik, o pharmacy tasol).

5. Nao larim ol bataplai. Sapos i no dai pinis yu ken presim nek liklik moa.

6. sekim gen, sapos ino mekim nois, orait redi long pekim.

7. Larim bataplai nau yu mas wokim wanpela pepa envelop na putim em insait.
painim bataplai na binatang

Sampela taim yu mas go long bus na painim sampela kain bataplai na binatang long wanem yu no save long pasin wokabaut bilong ol. Na sampela taim i moa isi long go painim ol bataplai nabant, sapos i gat planti dispela kain i stap na i nogat gutpela pe bilong ol. Tasol i isi tumas long brukim o sikarapim wing bilong ol. Sapos yu lukim yu bin bagarapim wing bilong ol bataplai lik lik tasol, maski, yu no ken kilim bataplai. Larim em i go na em iken kamapim pikinini. IFTA i no inap baim bataplai i bagarap.


Wanpela narapela samting i ken halivim wok bilong yu sapos yu raun wantaim umben na yu painim ol bataplai. Sapos yu bin kalabusim wanpela gutpela bataplai tru long umben, orait, yu no ken kilim em idai. Taim tupela wing bilong bataplai i pas wantaim, orait, nau yu presim nek bilong bataplai wantaim tupela pinga bilong yu. Holim strong long bodi we lek na wing i kamaui, liklik taim na bataplai bai dai.

Kisim wel bataplai em i isi long sampela rot, tasol bai yu kisim moni i liklik long hat wok yu mekim. Olsem na bikpela wok yu mekim long planim rop bilong ol stret, na mekim ples bilong yu i nais, bai yu kisim gut moni long wanem ol gutpela bataplai bai kam. Kisim bataplai arere long ples em isi tasol yu no inap kisim wanem yu laikim, na sampela bai bagarap.

long wanem hap ol gutpela bataplai i stap

Bataplai ol i save plai tumas long gaden na ples ino gutpela tumas long salim long moni. Yu ken salim ol sapos ol i bikpela na i gat gutpela kala.

Sapos yu painim ol bataplai bilong bikbus, em oltaim i gutpela long salim bikpela na liklik tu. Sapos yu save long we bilong ol, na raun na kaikai bilong ol em i min olsem yu painim pinis ples bilong painim ol.

Igat planti gutpela kain hap we yu ken painim bataplai long salim:
1. Insait long bus we diwai i pundaun na san i save sain long en hap.
2. Long wara sait, ol i save plai i go ikam. Taim yu stap pinis long ples bilong bataplai, yu mas lukluk gut, long wanem sampela bilong ol bataplai i save sindaun long san i stap.
3. Sampela plawa em ol bataplai i save laikim tumas na bai yu lukim ol i save igo ikam klostu klostu.
4. Sapos yu painim sampela wet wesan long liklik o bikpela wara, em dispela kain hap ol bataplai bai i stap na dring wara long wesan.
5. Sampela bataplai i save dring long wara bilong sting prut, olsem wail pikus. Narapela samting em yu ken putim mau popo o banana mau, long bus na was bai yu lukim planti bataplai bai kam sindaun na dring long dispela prut.
6. Sampela ol i save dring long wara bilong saksak, taim yu wasim saksak na meme bilong em i stap, em bataplai i save kam na dring long dispela.

Sampela bataplai i save kam long hap plastik o klos o laplap igat wankain kala olsem ol. Ol i ting olsem, em mas wanpela man o meri bataplai bilong...
Bikpela blupela bataplai ol ikolim Yulises isave mekim dispela pasin planti taim, sapos yu pasim blupela o yelopela o retpela plastik o laplap.

**long wanem hap bai yu painim ol gutpela bitel binatang**

I gat sampela gutpela rot bilong painim ol kain bitel bilong salim:

1. Diwai we ol isave rausim skin na em idai na lip idrai liklik. Long dispela kain diwai bai yu lukim ol bitel bilong kaikaim ol diwai bai kam. Ol bitel binatang olsem buprestid bitel, bai kam long kain dai diwai olsem.

2. Sekim tu ol diwai taim yu raun long bikbus long wanem, sampela ol man isave raun long bus na katim ol diwai, sampela diwai isave igat ol blut na sampela em wara tasol. Sekim ol bai yu lukim sampela longpela han bitel bai kaikai istap ol ikolim ol cerambycids.

3. Long stink popo na banana we ol bitel bilong plai isave kam na kaikai. Long dispela hap bai yu bungim ol kainkain krismas bitel (ol ikolim cetonids) lukim ol taim long de tasol.


7. Sampela bitel isave raun stap long wara, we bai yu painim ol. Na sampela i save stap insait long wara. Long kisim ol yu ken kisim ol wankain olsem yu save kisim pis.


**painim stik binatang**


Sapos yu laik lusim stik binatang long bilum long longpela taim orait, yu mas pasim em long lip samting. Nogat em isave raun raun na brukim lek han bilong en.
wokim umben bilong bataplai

Sapos yu laik kisim ol bataplai, yu mas i gat wanpela spesol kain umben long kisim ol. Sapos yu kisim na holim bataplai long han, em bai kamapim mak o bruk long wing bilong em. Na em i no moa gutpela bilong salim sapos yu wokim dispela kain bagarap long bataplai. Sapos yu baim wanplea umben long stoa em i bikpela prais tumas. Olsem na em i isi long baim moskito net na wokim bataplai net bilong yu yet. Wei yu bai i no baim long bikpela moni. Yu ken baim fekteri bataplai net inap long taim yu wokim planti moni long binatang bisnis pastaim. Wanem samting yu bai mas baim long stua bilong wokim net (umen) em:

1. Pin (nidil)
2. Sampela tred
3. Mosketo net

Nau dispela em ol samting yu ken painim na kisim ol long bus:

1. Kanda bilong raunim wokim maus bilong net.
2. Mambu o diwai bilong handel bilong net.

rot bilong wokim bataplai net

1. Raunim kanda i makim maus bilong bataplai net (umen): Yu mas save olsem, taim yu raunim maus bilong net long kanda, i mas op bikpela inap long taim bilong kisim bataplai, i ken kam igo insait. Yu mas raunim kanda igo raun long diwai cross

2. Na bihain pasim kanda raunim bai em I stap strong.


5. Samapim beg bilong umben:

6. Nau samapim beg we tupela sait i kam wantaim

Gutpela bataplai net bai i luk olsem:
1. Bikpela net i moa gutpela long kisim bataplai na bai yu no inap abrus.
2. Longpela net em i isi long kisim bataplai na kilim taim bataplai istap insait pinis long net.
3. Longpela handol bilong net, yu inap kisim bataplai istap long wei na antap tru.
kain wok bilong spesol umben long kisim ol bataplai

Piksa isoim tupela we long yusim dispela net long kisim bataplai. Yu mas ol taim lukaut long taim bilong kisim bataplai. Tingim! Noken kamapim mak o bruk long wing bilong ol.

Net bilong yu inoken igat hul. Taim bataplai lukim hul, em isave strong long kam autsait nau sampela wing bilong em bai i bruk, na em ino moa gutpela bilong salim.

I gat tupela bikipela rot long kisim bataplai taim yu yusim net. Taim yu kam klostdu long bataplai, wantaim net yu mas save tewel bilong yu mas abrus. Bataplai bai lukim tewel bilong yu na bai plai igo pinis. Kisim bataplai i olsem yu painim pisin o abus.

1. Slipim net bilong yu long sait taim yu laik kisim bataplai. Wokim olsem taim bataplai i stap long flawa o sindaun long graun.
2. Namba tu wei em, taim bataplai istap long graun, yu ken kisim o holim net olsem: narapela han yu holim handel bilong net, na narapela han yu holim net, nau yu putim igo daun na taim bataplai i laik plai igo antap, nogat em i go insait pinis long net.

Taim bataplai igo insait pinis, yu mas tanim net beg ariap, nau bai bataplai istap insait na inoken bagarapim wing bilong em.

larim bruk bataplai i go! Noken kilim ol!

Yu ino inap salim ol bruk o bataplai igat planti mak long bodi bilong em. Em bai ino gutpela tumas long salim bataplai i bruk olsem westim taim tru long kisim ol. Larim ol igo na bai ol ikamapim planti pikinini.
killim na holim binatang yu kisim pinis

rot bilong kilim idai ol bataplai
Pastaim long kilim bataplai, sekim ol bagarap taim em istap yet long bataplai net yet. Yu noken tasim wing bilong bataplai tumas o yu bagarapim wing bilong em wantaim planti mak. Sapos wing bilong bataplai igat mak, em bai ino moa gutpela bilong salim.

Sapos yu lukim bodi bilong bataplai istap gut, orait yu mas kilim hariap tru. Yu noken wet:
1. Yu noken tasim bataplai, inap em ipasim wing bilong em pastaim
2. Namba wan em holim bataplai wantaim net
3. Nau putim han igo insait long net taim wing bilong bataplai em istap pas yet
4. Holim bataplai long bodi tasol. Noken tasim win. Kisim bataplai aut long net, taim wing istap pas yet
5. Sekim bataplai gut nogut sampela hap wing o bodi ibruk. Sapos em ibruk yu mas larim em igo noken kilim
6. Long kilim, holim long wanem hap yu bin holim bipo, na presim strong liklik stap na kaunim wanpela igo long tenpela na em bai dai
7. Nau yu lusim han long presim na lukim em sapos em i dai pinis
8. Orait em bai ino inap muv tumas, orait em idai pinis

Tingim na lukim hau piksa bilong kilim bataplai. Noken holim long bel na presim, em bel bai bruk, nau em ino moa gutpela bilong salim.

wei bilong kilim bitel
Gutpela rot bilong kilim ol bitel em long putim ol wan wan bitel insait long bambo na holim antap long paia inap sotpela taim. Sapos yu holim bambo long paia igo longpela taim bai kala bilong bitel bai senis.


Tasol noken tru long putim planti, long wanpela botol. Em bai ol i brukim lek han bilong ol nambaut.
wei bilong kilim idai ol stik binatang
Bikpela hevi bilong stik binatang em lek bilong ol iken bagarap isi. Sapos wanpela lek tasol i bagarap o pundaun yu ino inap salim nau.

Pastaim long kilim stik binatang putim ol long plastik beg, long ol imas pekpek pastaim orait lusim em autsait long san na sekim em long painim aut sapos em ino da i yet.

Nau em i pekpek pinis, orait putim long hot wara.

Stik binatang i save sting isi, olsem rausim bel bilong em ariap, noken larim i stap. Nau yu ken draim tasol.

wanem samting yu mas wokim long ol stik binatang taim ol i dai pinis
Yu mas isi long taim yu laik kisim ol stik binatang. Lek bilong ol stik binatang na kom bilong ol isave pundaun isi. Yu no inap salim, taim wanpela lek o kom bilong ol ilus.

Taim stik binatang em idai pinis, yu mas rausim bel bilong em kam aut. Dispela piksa em soim wanpela rot bilong rausim bel:
  1. Kisim resa blait na katim op bros bilong em, klostu long beksait lek bilong em. Dispela piksa istap long hapsait isoim wanem hap yu bai katim

2. Yusim pinga bilong yu o sampela tweezers long rausim ol bel ikam aut gut. Traim long wokim isi noken bagarapim o brukim skin bilong stik binatang we yu no bin katim. Sapos yu rapim o tasim stik binatang strong tumas bai skin i tainim bilek.

Bai yu yusim:
   a) kapok wul bilong kapok diwai
   b) kapok wul kain olsem ol save wokim long haus sik
   c) sampela pepa malumalum tru – nuspepa, ritim pepa, o tisu


5. Nau yu inap karamapim em insait long nuspepa o malumalum banana lip.


gutpela samting bilong wok ken sevim moni bilong yu!

Yumi save ting olsem gutpela samting yumi save yusim ikam long autsait. Na ino long graun na bus bilong yumi wei yumi ken kisim na yusim olsem samting yumi baim long stoa. Dispela em ino gutpela tingtting. Igat planti gutpela samting long bus bilong yumi iwim samting istap long stoa.


Planti hap long PNG, igat ‘kapok diwai.’ Em i isi long putim long bel bilong binatang. Ating dispela diwai igro long hap bilong yu?

Yu ken yusim dispela kapok ino long putim long bel bilong stik binatang
tasol, nogat, yu ken yusim tu long pekim bataplai na binatang long strongpela bokis taim yu laik salim igo long IFTA o WEI. Lukluk gut nogut igat sampela laip binatang ipas long kapok, long wanem ol bai kam kaikaim binatang bilong yu.

Draim kapok long paia pastaim!
draim na lukautim gut binatang bilong yu

Taim yu kilim na streitim binatang bilong yu, yu bai no inap long salim igo long IFTA o WEI hariap. Sapos yu putim long haus, yu mas lukautim gut, nogut bai ol bagarap na IFTA o WEI bai no inap baim.

Yu ken lukautim ol binatang inap wan o tupela mun pastaim long yu salim ol. Tasol inoken moa long tupela mun. Sampela bikipela samting yu mas lukaut long ol:


we bilong holim ol bataplai i stap taim ol i dai pinis olsem yu no bai bagarapim ol

Olgeta dai bataplai mas stap insait long pasol envelop we lukluk bilong em i olsem trengol. Yu yet ken wokim dispela long pepa o nius pepa. Yu mas wokim pasol olsem em bihainim sais bilong bataplai.

Sapos pasol i bikpela tumas ol bai muv tumas na bai lek han i bruk. Olsem wokim rait sais bilong pasol. Noken wokim bikpela tumas!

Noken putim planti bataplai long wanpela pepa. Putim bataplai wanwan tasol. Na tu noken putim insait long pasol long rong we.

hia em hau bilong mekim bataplai pasol long pepa

1. Kisim wanpela longpela pepa, o katim pepa wankain olsem dispela piksa

2. Folim envelop long aninit kona igo long antap kona

3. Nao folim long stretpela sait

4. Nao foldim kona na pasim envelop
TOK SAVE: sapos yu gat buk, pepa bilong opis o skul, pas na sapos pepa i gutpela, yu ken yusim long mekim pepa envelop. Noken wari sapos pepa i olpela, waitpela, sapos em klin na ino bagarap, na yu no ianp mekim arapela samting long en – noken bagarapim gutpela buk, impoten pepa, o pepa bilong narapela man long mekim envelop bilong yu!

Yu mas timgim sapos yu putim bataplai igo insait long pepa taim bataplai ino drai gut em bai bagarap, taim em kamap long IFTA o WEI, em bai ino gutpela long baim. Olgeta taim yu mas draim gut pastaim.

Folim toilet pepa kamap olsem trengol na putim bataplai insait, na bihain putim long envelop. Dispela bai stopim bataplai long kisim bagarap long taim bilong salim long sip o balus.

sampilan luki ol bet tel binatang taim yu kilim ol pinis
Taim betel ol idai pinis long hot wara yu mas rausim na putim ol liklik long san, long ol imas drai gut. Noken drai tumas.

Yu ken draim ol tu long hap kapa samting. Nogat kapa orait draim ol antap long plank.

rolim bet el long pepa
Taim betel ino drai tumas, yu mas rolim em long pepa o lip. As bilong rolim ol betel long lip, em bilong savim ol lek han bilong ol long inoken bruk, taim ol idrai pinis.

1. Rolim ol long pepa o lip ino drai tumas olsem, long dispela piksa yu lukim.


3. Taim olgeta betel yu rolim pinis, em taim bilong draim olgeta ...

draim gut tru olgeta bataplai
Taim ol bataplai istap pinis long envelop, yu ken draim ol long san long tri o foapela dai. Sapos bataplai istap longpela taim long san kala bai ilus.

Yu ken draim ol bataplai wei narapela binatang o animal i no ken kai kai em ol. Yu ken putim wanpela tebol wantaim foapela lek i sanap long wara bai stopim ol anis long kaikaim ol bataplai.

Yu ken mekim karamap bilong tebol bai ol pisin or arapela animol bai noken bagarapim bataplai bilong yu, tasol sapos yu was long ol igo inap ol i drai, dispela tu em orait.

draim olgeta binatang
Taim yu rolim pinis binatang long lip o pepa, yu mas draim ol gut. Sapos yu no mekim olsem hariap bai binatang i bagarap. Tingim gut sapos yu
rolim drai binatang, yu bai brukim lek na bodi bilong binatang. Olsem olgeta taim tingim: rolim binatang pastaim, taim yu rolim pinis, yu mas draim gut tru long san.

Taim planti kilaut i pasim san na san ino lait strong inap long draim binatang, yu ken putim long bokis o bilum na hangapim antap long paia. Dispela bai halivim tu long draim binatang bilong yu. Sapos yu mekim olsem, tingim:

1. Noken putim klostu tumas long paia
2. Noken larim planti simok go insait long bokis
3. Larim planti spes arere long paia bai ol i drai gut
pekim na salim ol binatang bilong yu

hau yu mas stretim ol binatang bai ol i stap gut taim yu salim

Noken putim bataplaei na betel wantaim long bilum. Long wanem bataplaei bai i bruk isi taim yu putim long bilum. Olsem na bikpela samting yu mas save em, putim bataplaei long bokis na betel wantaim stik binatang long bilum. Nau yu ken putim klostu long paia, inap ol idrai gut bilong salim.

Putim ol bitel klostu long paia, em bai ino inap stink, inap sampela mun.

Wanpela bikpela hevi em yu mas ol taim lukaut long anis, kokros na rat na arapela samting iken kaikai binatang. Maski ol istap insait long pasol, tasol liklik anis iken igo insait olsem na lukaut long dispela.

Sampela man ol isave pasim binatang long rop olsem, na hangamapim ol long paia, long abrusim birua bilong anis, rat na kokros.

Tasol lukaut gut noken putim bokis o bilum klostu long paia o larim planti simok go insait.

Sampela ples igat tumbuna pasin bilong rausim ol kokoros wantaim ol lip igat smel. Ol Bosavi pipol long Southern Highlands Provins save yusim lip bilong dispela diwai igat smel long rausim kokoros long haus. Ol isave putim sampela smel lip long drai binatang bilong ol, na dispela ihalivim tu long rausim kokoros na ol arapela binatang nogut. Ating yu save long sampela kain wei olsem ol tumbuna i yusim bipo?

Sampela ol lain isave pasim ol binatang insait long plestik bilum olsem na putim ol klostu long paia. Tasol taim plastik em i tuhat em iken wetim ol bintang na em iken stink isi. Olsem na gutpela wei em pastaim long putim ol insait, yu mas draim ol gut na bhain yu putim ol long plestik na pasim ol nau lusim ol long paia.

Tingim gut: em ino orait sapos binatang bilong yu i stink o kokoros i kaikai – yu bai no inap long salim.

pekim binatang na bataplaei bilong yu long salim


Planti nogut samting iken kamap long binatang bilong yu, long rot i go long IFTA o WEI. Pekim ol binatang gut em wok bilong yu.

we bilong pekim ol binatang gut


3. Pastaim long putim ol binatang igo insait long dispela bokis, yu mas putim sampela kain samting olsem kapok wul o kokonas skin, o
narapela samting moa we yu ken putim long bokis. Sekim tu nogut igit wara o anis istap long dispela, kapok o kokonas skin yu laik putim.


5. Putim yet kapok wul o kokonas skin long bokis.


9. Yu mas raitim wanpela pas na toksave long wanem hap yu famim o kisim bataplai na binatang. Raitim ol dispela antap long bokis bilong yu:
   a) Province bilong yu;
   b) District bilong yu;
   c) Nem bilong ples bilong yu;
   d) Dei yu kisim o wanem taim em kamaout long kiau;
   e) Putim dispela toksave antap long bokis bai wokman long IFTA o WEI bai save.

10. Raitim namba tu pas na putim insait long bokis, wantaim dispelakain tok save:
    a) Wanem hap yu salim binatang igo na nem bilong yu;
    b) Adres bilong yu
    c) Wanem gutpela rot long tok tok long yu? – PO box numba, telepon namba, bokis namba o pon bilong poro bilong yu.


12. Raitim arere long bokis wanem hap bai yu salim igo na husait bai kisim

13. Narapela sait bilong adres, raitim:
    a) Nem bilong yu
    b) Pos opis namba bilong yu
    c) Taun na province bilong yu
    d) Pon namba sapos yu gat.

Sampela taim yu bai pekim gut bataplai na binatang bilong yu tasol ol bai bruk yet taim ol ikamap long Bulolo o Wau. Tasol sapos yu bihain ol rul istap antap, planti bilong ol bai orait.

TOK SAVE! Narapela gutpela rot em long yusim kapok diwai. Putim gut inap kapok bai bataplai bai ino inap muv insait long bokis. Bipo yu yusim kapok, putim kapok arere long paia, bai kilim kokoros na anis.
lukautim bataplai gut taim yu salim igo

Anis na kokoros iken go insait long bokis na kaikai bataplai. Ol Pos Opis tu igat kokoros na anis! Bai yu stopim olsem wanem?

Putim sampela drai lip igat strongpela smel. O rapim susu bilong wanpela diwai igat strongpela smel. Dispela strongpela smel iken rausim anis bai ino inap igo insait long bokis na kaikai binatang na bataplai. Tasol noken putim grin o wtpela lip insait long bokis – dispela bai mekim bataplai na binatang bilong yu i stink na bagarap hariap.
nambawan bataplai na bitel tasol


wanem bagarap ino gutpela sapos yu laik salim ol bataplai?
Pastaim long kilim ol bataplai, lukluk gut pastaim. Nogut bai igat sampela kain bruk o bagarap istap. Sapos igat sampela bilong dispela bagarap, yu no inap long salim.

Wanem kain bagarap ino gutpela sapos yu laik kisim moni taim yu salim ol bataplai:
1. Wanpela bilong wing ilus o paspas;
2. Liklik wing ibruk o igat hul;
3. Sampela kain mak o skirap istap long wing;
4. Lek ilus;
5. Kom bilong het ibruk;
6. Mak bilong pinga antap long naispela wing bilong bataplai;
7. Mol igro long bodi bilong bataplai, long wanem ol i no draim gut
8. Anis o sampela binatang i kaikaim sampela hap bodi bilong bataplai;
9. Gris o wel long wing o bodi.

wanem bagarap ino gutpela sapos yu laik salim ol bitel binatang?
Wantaim bitel, ol save kisim kain kain bagarap, olsem sekim gut pastaim na salim kam tasol sapos igat ol dispela samting istap:
1. Olsem olgeta binatang i gat sikispela lek. I tambu tru long wanpela bilong ol ibruk o lus. Em bai ino gutpela tumas. Yu no inap kisim moni long ol bitel yu salim we ol lek igat liklik bruk tasol

wanem taim planti binatang isave kisim bagarap?
Planti binatang isave gat bagarap bipo long yu kisim ol. Taim ol istat long plai, ol isave kisim bagarap. Long dispela as yu mas igat fam bilong yu yet, bai yu kisim nambawan binatang tasol.

wanem emi gutpela taim long painim binatang ino gat bagarap?

Yu bai lukim olsem san i sanap longpela taim na ples idrai olgeta, hariap tru na ren ikam daun, nao bai yu lukim planti binatang na bataplai ikam autsait. Dispela em stat bilong taim bilong ren. Long dispela longpela drai taim, nambawan ren i pudaun, olgeta binatang na bataplai bai kam autsait.

IFTA na WEI isave wok olsem wanem

1. IFTA o WEI kisim pinis bokis long bataplai o binatang bilong yu ikam long post o yu yet karim go
2. Ol bai opim bokis bilong yu na ol bai sekim ol binatang bilong yu. Sapos ol i bagarap bai ol tromoi igo, na ol bai toksave long yu
3. Ol bai sekim ol binatang na ol bai gredim ol
4. Ol bai luksave log wanem binatang wanwan
5. Binatang na ol bai putim long cupbord, redi long salim
6. Taim wanepla kastoma salim oda, mipela bai kisim wanem kain bataplai na binatang emi laikim, na sekim gut gen.
7. Ol bai askim gavan long salim ol binatang. Taim tok orait ikam, bai ol i salim igo long narapela kantri
8. Ol bai peckim gut ol binatang igo long bokis na salim ol igo long ol kastoma
9. Taim olgeta samting i redi bai mipela i salim bokis long pos opis bai kastoma i kisim.
10. Taim ol kastoma ikisim bokis binatang, ol bai sekim gut na bihain ol salim moni igo long IFTA o WEI
11. Taim ol kastoma salim moni, nao IFTA o WEI bai peim yu tu. Ol iken baim yu long pepa moni o long akaunt bilong yu

hevi na askim: strem ol hevi bilong yu

Sapos yu gat wanepla hevi o askim long era bilong yu, emi moa gutpela long toktok wantaim ol lain bilong yu long ples pastaim. Mipela bai traim lusim sampela halivim long ples bilong yu, bai yu ken igat halivim hariap tasol. Sapos dispela bai ino inap halivim yu, yu ken rait o ring long IFTA o WEI long adres na namba istap antap.
Lukautim Binatang Bisnis

Sapos yu laik mekim moni long binatang orait groim na kolektim ol binatang emi wanpela rot tasol yu mas save long wei bilong wokim maket, yumas igat save long ronim bisnis na lukautim ol rekod bilong yu.

Wokim Bisnis

Long maket, yu mas save long salim ol binatang na kisim gut pei long en. Bikpela wok bai yu mekim long groim na kisim ol binatang, olsem tasol yu mas wok hat tru long salim ol binatang bilong yu. Yu mas save long ol dispela samting:

- narapela narapela prais long ol binatang yu kisim long IFTA na WEI
- wanem kain binatang yu kisim long ples bilong yu
- wanem ol binatang igat gutpela prais na wanem ol binatang igat liklik prais

Taim yu save pinis long dispela rot, bai em halivim yu long ronim gut bisnis bilong yu.


Save Bilong Bisnis

Yu mas save long olgeta binatang istap long eria bilong yu. Yu mas save long tokples naim bilong ol. Na tu painim aut ol scientific nem bilong ol tu.

Ol scientific nems istap long lists bilong IFTA na WEI.

Taim yu save gut long ol binatang bai yu save long wanem ol binatang we isi long salim. Sapos yu save moa long ol binatang long hap bilong yu bai isi long yu long toksave long IFTA o WEI


Was Gut Hevi

Yu mas save olsem olgeta bisnis isave bungim hevi wantaim wok bisnis. Yu tu mas redi na plenim gut wok bilong yu. Noken larim hevi bungim yu na bagarapim bisnis bilong yu. Sampela hevi bai yu bungim em olsem:

Bagarapim Ples Bilong Ol Binatang

Yu mas lukautim gut bus, wara na environmen bilong yu. Dispela environmen em ples we ol binatang istap. Yu mas gut long ol loggin kampani we save katim ol diwai na bagarapim ol.

Ol Bagarap Kamap Long Binatang

Long stopim bagarap ol binatang bilong yu, yu mas pekim ol binatang gut wankain ol instruktions istap insait long dispela buk.

Prais Ino Gutpela

Prais bilong ol binatang bai kamap gut o ino gutpela antap long tupela samting, em hamas binatang istap na hamas binatang wei ol kastoma laikim. Long painim aut, yu salim binatang long planti komapni na bai yu
save wanem kampani i givim gutpela prais. Long dispela rot tasol bai yu ken kisim gutpela prais bilong binatang bilong yu.

**stilim ol kiau na sinek bilong binatang**

Yu mas save gut husait man iwok long binatang insait eria bilong yu. Sapos yu em pren bilong ol man iwok long wok wankain olsem yu, emi wanpela gutpela samting. Sapos yu no pren bilong dispela kain man iken stilim ol kiau na sinek binatang bilong yu.

**lukautim rekod**

Sapos yu tink binatang bisnis bilong yu emi wanpela gutpela samting yu mas lukaut gut long ol rekod bilong yu. Taim rekod bilong yu emi gutpela bisnis bilong yu bai kamap strong no gut tru. Yu mas holim rekods bilong pas ikam insait na pas igo aut, moni repot na repot bilong olgeta wok yu mekim.

**pas ikam insait na pas igo aut**


**rekod bilong olgeta wok**

Yumas kipim rekod bilong olgeta wok yu mekim long wanwan dei. Yu mas raitim daun wanem binatang yu painim, long wanem hap, wanem nupela kaikai yu luksave, klostu long wara o bus, taim bilong san o ren. Taim yu mekim olsem bai yu surukim save bilong yu na binatang bisnis bilong yu igo bikipela.

---

**moni repot**

Taim yu bungim olgeta moni wei yu baim ol binatang na moni wei yu salim ol binatang na kisim bai yu save olsem yu mekim win moni o nogat.

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<tr>
<th>Deit</th>
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| **Total** |                    | K30.00       |                  |
| **Bilong Jun** |               |              |                  |
| 15/3/05    | kapok              | K8.00        |                  |
| **Bungim**       |                    |              |                  |
|                 | K8.00              |              |                  |
| **Bilong Julai** |                  |              |                  |
| 3/7/05     | pepa na stiki tap  | K6.00        |                  |
| 28/7/05    | peimen pepa moni   | K75.00       |                  |

| **Bungim**       |                    |              |                  |
|                 | K6.00 K75.00       |              |                  |
1. Yu mas gat bataplai na binatang fam, noken kisim ol nating nating: stretim ples na planim diwai o rop bai bataplai na binatang ikam long yu, na ol i noken gat bagarap long bodi bilong ol.


4. Yu mas save gut long ples bilong yu: lukluk gut long ol binatang na lainim pasin bilong ol, bai yu save long wanem hap ol i stap na wanem kain kaikai ol isave laikim na yu ken abrusim samting ol ino laikim
