RECIPEES FOR THE GASTROPOD, CHICODEUS RAMOSUS.
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ABSTRACT
In order to create an awareness of the protein-rich Chicoreus meat in India, various dishes have been prepared. Using various Indian spices twelve delicious recipes were prepared from Chicoreus. The biochemical composition of each recipe was also determined.

INTRODUCTION
The demand for commercially important edible gastropods has increased considerably in recent years. Gastropod meat was once considered cheap food, exclusively meant for fisherfolk, but has recently attracted the attention of seafood exporters. Chicoreus ramosus is one of the large sized gastropods caught in quantities along the southeast coast of India. Even though the meat is edible, it was not popular for human consumption due to the difficulties in cooking. The Chicoreus meat is delicious and protein-rich, and it is desirable to develop a simple, inexpensive product to meet the demand for protein of the growing human population. In order to popularize the delicate meat among the Indian people, 12 recipes were prepared with Chicoreus meat using various Indian spices.

MATERIALS AND METHODS
Samples of C. ramosus were collected from Mandapam waters (Lat 9° 17'N, Long. 79° 8'5") in the Gulf of Mannar region using lobster net. The animals were boiled in water for 30 minutes and the soft parts of the species were removed from the shell. The edible portions were cut and adductor muscles were separated and cut into small pieces according to each dish. After thorough washing, the pieces of the meat were pressure-cooked until soft.

The pre-cooked meat was used for preparing all the recipes except Chicoreus chips.

Biochemical estimation
Samples were taken from each recipe and dried at 60°C for a period of 24 hours. The dried samples were powdered in a mortar. Total protein content was estimated by the modified Buret method (Raymont et al., 1964). The phenol-sulphuric acid method (Dubois et al., 1956) and dithioform - methanol method (Folch et al., 1956) were adopted for estimating carbohydrate and total lipid content of the samples.

BASIC INGREDIENTS
Chicoreus meat, -chilli powder, -green chilli, capsicum, -curry leaves, -mustard seed, coriander, -garlic, -ginger, lime juice, -onion (small and large), cashew nuts, -rice, -turmeric powder double refined sunflower oil, cabbage, -beans, -carrot, -peas, desiccated coconut, -salt, -egg, bread crumbs, -potato, -mada, -ginger, • coconut milk, -obtained from desiccated coconut by squeezing, • spices - mixture of cumin seeds, cardamom seeds, cinnamon sticks and cloves.
1. Chicoreus DEEP FRIED

**Ingredients**
- Meat - 500 g
- Chilli powder - 20 g
- Turmeric - 300 mg
- Salt - to taste
- Oil - for frying

**Preparation**
1. Make a mixture of turmeric, chilli and salt.
2. Marinate meat in the mixture for 1/2 an hour.
3. Fry the meat in oil over medium heat until golden brown.

**Approximate nutritional content (%)**
- Total Protein: 41.3
- Total Lipid: 6.6
- Total Carbohydrate: 8.5

2. Chicoreus FRIED

**Ingredients**
- Meat - 500 g
- Beaten egg - 1
- Turmeric - 350 mg
- Chilli powder - 20 g
- Finely chopped onion - 1
- Peeled garlic - 20 g
- Juice of 1/2 lemon
- Salt to taste
- Oil for frying

**Preparation**
1. Make a mixture of egg, turmeric, chilli, onion, garlic, lemon juice and salt.
2. Marinate meat in this for 1/2 an hour, turning from time to time.
3. Fry in oil over medium heat until golden brown.

**Approximate nutritional content (%)**
- Total Protein: 40.2
- Total Lipid: 5.4
- Total Carbohydrate: 8.2

3. Chicoreus GRAVY

**Ingredients**
- Meat - 500 g
- Small onions - 200 g
- Coriander powder - 35 g
- Turmeric - 500 mg
- Chilli powder - 20 g
- Mustard - 500 mg
- Garlic - 25 g (finely sliced)
- Curry leaves
- Salt to taste
- Oil - 30 ml

**Preparation**
1. Fry mustard until burst.
2. Add curry leaves, onion paste and tomato and fry for 3 minutes.
3. Add meat, coriander, turmeric, chilli and salt.
4. Stir in sufficient water to make a gravy and cook for 15 minutes.

**Approximate nutritional content (%)**
- Total Protein: 42.6
- Total Lipid: 4.6
- Total Carbohydrate: 7.5

4. Chicoreus CURRY

**Ingredients**
- Meat - 500 g
- Chopped onions - 2
- Turmeric - 300 mg
- Chilli powder - 20 g
- Mustard - 500 mg
- Coriander powder - 35 g
- Ground spices - 2 g
- Coconut (semi-fried coconut scrapings)
- Oil - 30 ml
- Spices - 2 g

**Preparation**
1. Fry mustard until seeds burst.
2. Add curry leaves and onion and fry until brown.
3. Add meat, ground coconut, turmeric, chilli, coriander and spices.
4. Stir the whole thoroughly and add sufficient water to form a thick gravy.
5. Cover the pan tightly and cook for 15 minutes.

**Approximate nutritional content (%)**
- Total Protein: 44.6
- Total Lipid: 4.2
- Total Carbohydrate: 7.9
1. *Chicoreus Deep Fried* (recipe on page 18)

2. *Chicoreus Fried* (recipe on page 18)
3. *Chicoreus* Gravy (recipe on page 18)

4. *Chicoreus* Curry (recipe on page 18)
5. Chicoreus Coconut Gravy (recipe on page 26)

6. Chicoreus Briyani (recipe on page 26)
7. Chicomeco Fried Rice (recipe on page 20)

8. Chicomeco Pilau (recipe on page 27)
9. Chioceres Cutlets (recipe on page 27)

10. Chioceres Rolls (recipe on page 27)
11. Chicoreus Chips (recipe on page 28)

12. Chicoreus Samosas (recipe on page 28)
13. *Chicoreus* raw material.

14. After creation of the *Chicoreus* recipes, the cook served the dishes to a test panel.
5. Chicoreus COCONUT CURRY

Meat - 500 g
Small onions (firmly sliced) 200 g
Mustard - 500 mg
Coriander powder - 40 g
Turmeric - 500 mg
Chili powder - 20 g
Tomato - 1
Black pepper - 5 g
Curry leaves
Thin and thick coconut milk

1. Fry mustard until needs burst.
2. Add curry leaves, onions, tomato and fry until the onions turn to a deep cream colour.
3. Add meat, coriander, turmeric, chili, pepper, salt and thin coconut milk.
4. Stir well and cook till gravy thickens.
5. Add the thick coconut milk and boil for five minutes.

Approximate nutritional content (%)
Total Protein: 45.9
Total Lipid: 4.2
Total Carbohydrate: 8.4

6. Chicoreus BRIYANI

Rice - 5 cups
Meat - 1/2 kg
Garlic - 25 g - crushed
Ginger - 20 g - powdered
Green chillies - 16 pieces split
Coriander leaves
Large onions - 1 chopped finely
Turmeric - 500 mg
Salt to taste
Water - 10 cups
Ghee - 35 g
Cashew nuts - 150 g

1. Wash rice and fry in ghee until it dries and keep aside.
2. Heat ghee and fry onions, garlic, ginger, green chillies, cashew and spices for 5 minutes.
3. Add the meat and cook for 15 minutes, stirring often.
4. Add rice, water, coriander leaves and salt. Mix well and cook until the water is absorbed.
5. Remove cover, stir rice with a spoon, then remove from heat.
6. Transfer the briyani in the serving dish and garnish with fried onions and cashew nuts.

Approximate nutritional content (%)
Total Protein: 40.3
Total Lipid: 5.8
Total Carbohydrate: 7.4

7. Chicoreus FRIED RICE

Rice - 1/2 kg
Meat - 1/2 kg
Ghee - 50 g
Cashew nuts - 125 g
Spices - 5 g
Salt to taste
Cabbage - 100 g
Carrot - 2 medium size
Green peas - 100 g
Large onions - 5 chopped finely
Capsicum - 1

1. Wash rice and cook until rice is three-quarter cooked.
2. Drain and keep aside.
3. Heat ghee, add spices, vegetables and meat, fry until all the vegetables are well cooked.
4. Add cooked rice and salt to taste, stir until well mixed.
5. Add fried cashew nuts and sur well.

Approximate nutritional content (%)
Total Protein: 40.4
Total Lipid: 5.6
Total Carbohydrate: 7.5
8. Chicoreus PILAU

Meat - 1.2 kg
Rice - 1.2 kg
Large onions  - 2 finely chopped
Ghee - 150 g
Chilli powder - 20 g
Salt to taste
Coriander - 40 g
Spices - 2 g
Cashew nut - 300 g

1. Fry onions in ghee until golden brown.
2. Lower heat and fry coriander, chilli and meat.
3. When the meat is brown remove from heat and keep aside.
5. When rice is cooked, drain it.
6. Put a layer of rice in a pan, then alternate with a layer of meat, curry and so on ending with a layer of rice.
7. Sprinkle fried onions and cashew nuts on the top, cover and cook at low heat for 10 minutes.

Approximate nutritional content (%)
Total Protein: 40.6
Total Lipid: 4.9
Total Carbohydrate: 7.5

9. Chicoreus CUTLETS

Meat - 1/2 kg, minced
Potato - 2
Large onion - 2
Chilli powder - 15 g
Juice of 1/2 lemon
Spices - 2 g
Salt to taste
Egg - 1
Bread crumb
Oil for deep frying

1. Boil and mash potato.
2. Fry chopped onion, add minced meat, mashed potato, chilli, spices and salt and cook for 5 minutes.
3. Squeeze lemon juice and mix thoroughly.
4. Remove from heat and cool.
5. Knead the potato dough. mould it according to required size and shape.
6. Dip in beaten egg and coat with bread crumb.
7. Heat oil and fry the cutlets on medium heat until they become brown.

Approximate nutritional content (%)
Total Protein: 43.4
Total Lipid: 3.7
Total Carbohydrate: 11.3

10. Chicoreus ROLLS

Meat - 1.2 kg, minced
Masala - 300 g
Potato - 2
Large onion - 2
Chilli powder - 15 g
Juice of 1/2 lemon
Spices - 2 g
Salt to taste
Egg - 1
Oil for deep frying

1. Boil and mash potato.
2. Fry chopped onion, add minced meat, mashed potato, chilli, spices and salt, cook for five minutes.
3. Squeeze lemon juice and mix thoroughly.
4. Remove from heat and cool.
5. Mix maida in water.
6. Cook in a pan and spread thinly like dosa.
7. Take small walnut size pieces of the cooked mixture and place it on the maida dosa and make into rolls.
8. Wet open edges with beaten egg and press together to seal up.
9. When all the rolls are ready, fry in oil till crisp and golden.

Approximate nutritional content (%)
Total Protein: 43.1
Total Lipid: 3.8
Total Carbohydrate: 10.5
11. Chicoreus CHIPS

Meat - 500 g
Pepper - 80 g
Chilli powder - 10 g
Salt to taste

1. Cut the meat into thin slices.
2. Make a paste of pepper, chilli and salt, and gar-
mish it on the slices.
3. Dry it in sunlight for 24 hours.
4. Deep fry in oil

Approximate nutritional content (%)
Total Protein: 41.5
Total Lipid: 5.8
Total Carbohydrate: 7.2

12. Chicoreus SAMOSAS

Meat - 500 g, minced
Meida - 500 g
Baking powder - 1/2 table spoon
Ghee - 100 g
Large onion - 1 chopped finely
Potato - 1 boiled
Pean - 100 g
Chilli powder - 10 g
Spices - 2 g
Salt to taste
Oil for deep frying

i. Sieve flour, add baking powder and salt. Knead thoroughly with 30 g melted ghee and water until the dough is smooth.
2. Fry onions with ghee for 5 minutes. Add minced meat, mashed potatoes, peas, spices, chillis and salt
mix thoroughly.
3. Remove from heat, and cool
4. Knead dough again. Take small walnut size round balls. Flatten and roll on thumb on a flavoured board.
5. Cut the rounds in half. Make into cone shape with water and fill with the mixture. Wet open edges with water and press together when all the samosas are ready, fry in oil until they become crisp and golden.

Approximate nutritional content (%)
Total Protein: 43.2
Total Lipid: 3.8
Total Carbohydrate: 10.8

CONCLUSION

All the recipes were delicious and the flavour was found to be very excellent. It is hoped that the reci-
pes will be useful in making Chicoreus meat as a flavoured and inexpensive food for seafood lovers.
The biochemical composition of can recipes shows, that the Chicoreus recipes are not only delicious, but also protein-rich.

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