World Journal of Advanced Research and Reviews
eISSN: 2581-9615 CODEN (USA): WJARAI
Cross Ref DOI: 10.30574/wjarr
Journal homepage: https://wjarr.com/

(Research Article)

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Dietary composition of two sympatric frog species of the genus *Ptychadena* in Azagny National Park, Côte d'Ivoire

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World Journal of Advanced Research and Reviews, 2026, 29(03), 001-012

Publication history: Received on 17 January 2026; revised on 25 February 2026; accepted on 27 February 2026

Article DOI: https://doi.org/10.30574/wjarr.2026.29.3.0459

Abstract

Dietary studies provide critical insights into amphibian ecology and mechanisms of coexistence among sympatric species. We investigated the diet composition of *Ptychadena longirostris* and *P. oxyrhynchus* in the swamp forest ecosystem of Azagny National Park, Côte d'Ivoire, between April and November 2015. Frogs were sampled nocturnally near temporary and semi-permanent ponds, and stomach contents were obtained using non-lethal gastric lavage. Prey items were identified and quantified using numerical, gravimetric, and frequency indices, complemented by the Index of Relative Importance (IRI).

A total of 171 individuals were examined. Both species exhibited broad diets dominated by arthropods, with insects contributing over 90% of the IRI. Orthopterans were the preferred prey, while other insect groups contributed variably. *P. longirostris* consumed a slightly greater diversity of prey categories. Females were larger than males in both species, and body size correlated positively with prey consumption in *P. oxyrhynchus* but not in *P. longirostris*.

These findings reveal substantial qualitative overlap in trophic resources, suggesting similar ecological strategies. However, inferences regarding competition remain tentative without prey availability data or quantitative niche overlap indices. This study provides baseline dietary information for two widespread *Ptychadena* species and highlights the need for future research integrating prey availability, seasonality, and quantitative measures of trophic overlap to clarify resource use and niche partitioning in West African wetland amphibian communities.

Keywords: Amphibian diet composition; *Ptychadena longirostris*; *Ptychadena oxyrhynchus*; Azagny National Park; West Africa

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1. Introduction

Dietary studies are central to understanding the ecological roles of amphibians, as diet composition reflects prey availability, foraging behavior, and habitat use. In anuran communities, comparisons of diet among sympatric species provide insight into trophic niche breadth, potential resource overlap, and the mechanisms that may facilitate coexistence [1, 2, 3]. Although many frogs are considered generalist predators, the extent to which sympatric species exploit similar prey resources can vary widely depending on habitat structure and prey availability [4].

The genus *Ptychadena* (Boulenger, 1917), currently comprising approximately 49 recognized species, is widely distributed across sub-Saharan Africa and represents an ecologically important group of anurans inhabiting a broad range of savanna and forest ecosystems [5]. Species of this genus are typically associated with wetlands, ponds, and seasonally flooded habitats, where they often occur in high local densities. Despite their abundance, detailed ecological information-particularly on feeding ecology-remains limited for many *Ptychadena* species [6].

Ptychadena longirostris (Peters, 1870) is primarily associated with forested habitats in West and Central Africa, whereas *P. oxyrhynchus* (Smith, 1849) has a broader ecological tolerance and occurs in a variety of savanna and forest environments across sub-Saharan Africa [7, 8, 9, 10]. In West Africa, both species often occur syntopically in wet habitats such as ponds, marshes, and forest swamps, including protected areas such as Azagny National Park in Côte d'Ivoire [6].

Previous studies on *Ptychadena* feeding ecology have focused mainly on *P. mascareniensis* and related taxa, consistently describing these frogs as opportunistic predators feeding primarily on terrestrial and semi-aquatic invertebrates [1, 11, 12, 13]. Amphibians are generally considered generalist feeders, capable of exploiting a wide range of prey types, although some species exhibit dietary specialization influenced by prey availability, habitat structure, or prey defense mechanisms [2, 14].

In Côte d'Ivoire, herpetological research has expanded considerably over the past two decades, particularly in protected forest areas [15, 16, 17, 18, 19, 20] Nevertheless, fundamental ecological data-including quantitative dietary analyses remain, scarce for many amphibian species, especially in swamp forest ecosystems. For *P. longirostris* and *P. oxyrhynchus*, information on diet composition, prey preferences, and trophic overlap is still fragmentary.

The primary objective of this study was to describe and compare the dietary composition of *P. longirostris* and *P. oxyrhynchus* in Azagny National Park (ANP). Specifically, we aimed to (1) characterize the taxonomic composition of the diet of each species, (2) assess qualitative dietary overlap between the two sympatric frogs, and (3) examine body size as a secondary factor potentially influencing prey consumption. By providing baseline dietary data from a West African swamp forest ecosystem, this study contributes to a broader understanding of trophic ecology in *Ptychadena* species.

2. Materials and methods

2.1. Study area

The study was conducted in ANP, a protected area covering approximately 21,850 ha in southern-central Côte d'Ivoire (5°14′–5°31′ N, 4°46′–5°01′ W), within the Grand-Lahou Department (Figure 1). The park belongs to the Upper Guinean Forest region and is characterized by a subequatorial climate with a mean annual temperature of approximately 26 °C and an average annual rainfall of about 1,664 mm [21].

The climate includes four distinct seasons: a long rainy season (April to mid-July), a short dry season (mid-July to mid-September), a short rainy season (mid-September to November), and a long dry season (December to April). The terrain is generally flat, with a shallow depression in the southern part of the park and low plateaus in the northern sector reaching approximately 50 m above sea level. ANP is bordered on three sides by permanent water bodies-the Bandama River to the southwest, the Ébrié Lagoon to the southeast, and the Azagny Canal-which contribute to its high hydrological connectivity and ecological heterogeneity.

Vegetation within the park is dominated by swamp forest, covering approximately two-thirds of the area and characterized by extensive stands of *Raphia* palms. Additional habitat types include inundated riverine forest, patches of moist evergreen forest on slightly elevated ground, and mangrove vegetation along the lagoon margins [22].

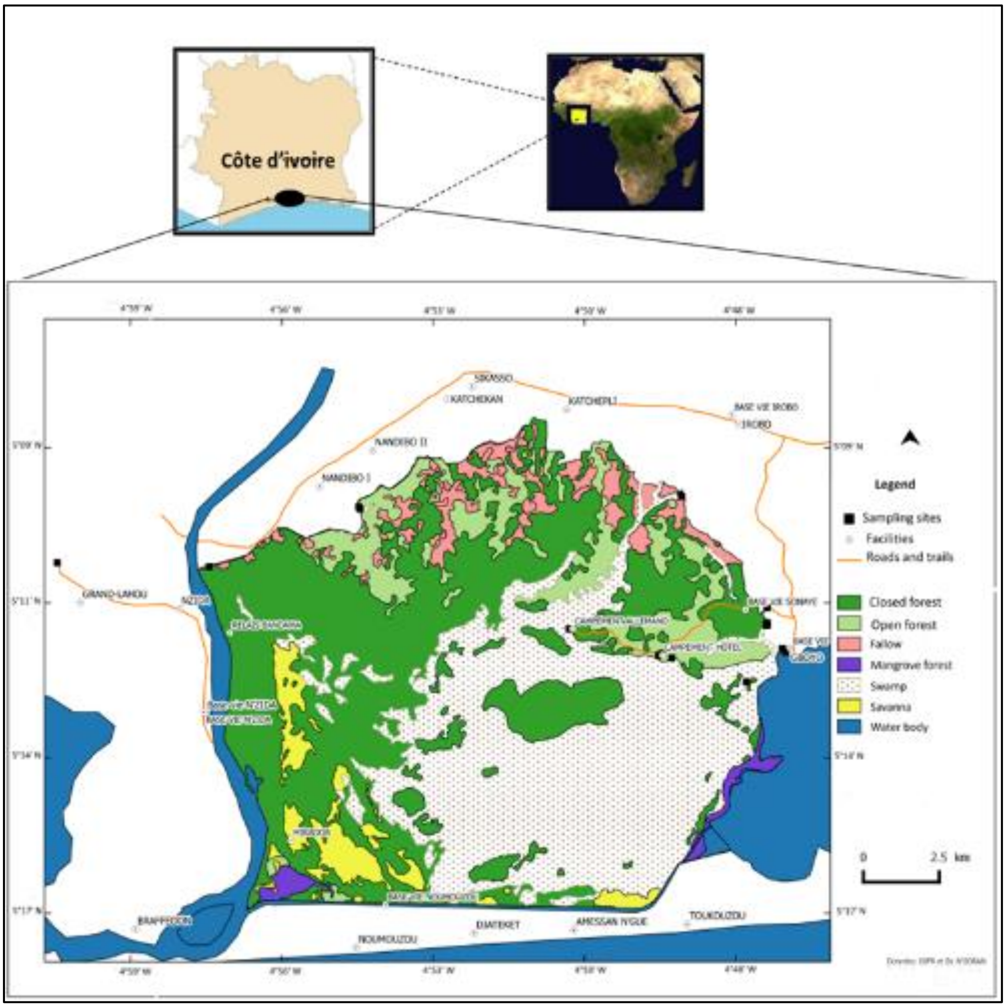

Figure 1 Azagny National Park sampling area

2.2. Studied species:

Figure 1 Rocket Frogs (Genus *Ptychadena*) from ANP: *Ptychadena longirostris* (A); *Ptychadena oxyrhynchus* (B).

Ptychadena longirostris (Figure 2A) exhibits a markedly pointed head and elongated hind limbs. Its dorsal coloration ranges from bright brown to yellowish tones and may be either uniform or marked by a poorly defined darker pattern. In contrast to *P. oxyrhynchus*, the dorsolateral ridges are less conspicuous [10, 23]. *Ptychadena oxyrhynchus* is a medium-sized frog distinguished by its exceptionally long and robust hind limbs [10]. The dorsal coloration is typically beige with an olive hue, and the tip of the snout is generally paler. The dorsolateral ridges are well developed and clearly visible (Figure 2B).

Within ANP, *P. oxyrhynchus* and *P. longirostris* occur sympatrically along unpaved roads, where numerous temporary aquatic habitats, including puddles of varying sizes, are formed.

2.3. Field sampling

Fieldwork was carried out from 28 April to 4 November 2015 near non-permanent and semi-permanent ponds within the park (Figure 3). Frogs were sampled at night between 22:30 and 00:30, coinciding with peak activity periods for *Ptychadena* species. Surveys were conducted on three nights per month, and each sampling session involved three observers searching simultaneously but independently.

Individuals were captured by hand or using a landing net and processed as soon as possible after capture in order to minimize digestion of stomach contents. Sex was determined based on secondary sexual characteristics. Snout–vent length (SVL) was measured to the nearest 0.01 mm using a dial caliper, and body mass was recorded to the nearest 0.1 g with a digital balance.

After measurements, stomach contents were obtained using a non-lethal gastric lavage technique. A syringe fitted with a soft catheter was inserted into the stomach. Water used for flushing was taken from the capture sites, filtered, and used at ambient temperature, following the recommendations of Solé et al [24] to avoid physiological stress.

The stomach was flushed by gently injecting water, and the expelled contents were collected in a clean container. The procedure was repeated until no further stomach contents were recovered, with a final flush performed to ensure complete sampling. All stomach contents were immediately transferred to a sieve and preserved in 70% ethanol. After the procedure, frogs were released at their respective capture sites.

Figure 2 Non-permanent pond formed along an unpaved track within ANP, Côte d’Ivoire

2.4. Prey identification

In the laboratory, stomach contents were examined under a stereomicroscope. Prey items were sorted, counted, and identified using standard taxonomic keys [25, 26, 27]. Whenever possible, prey was identified to family or genus level; however, highly digested items were classified into broader taxonomic categories or recorded as unidentified.

Vacuity index (VC) was calculated as:

$$\boldsymbol{VC}(\%) = \frac{\boldsymbol{Number\ of\ empty\ stomachs}}{\boldsymbol{Total\ number\ of\ stomachs\ examined}} \times \mathbf{100}$$

For each prey category, the following metrics were calculated:

(1) **Numerical percentage (N_i %)** provides information on the feeding pattern of the predator. It is defined as the proportion of individuals belonging to prey category *i* relative to the total number of prey items recorded in all examined stomachs. It was calculated as follows:

$$N_i\,(\%) = \frac{\textbf{\textit{Total number of individuals of prey item i}}}{\textbf{\textit{Total number of prey items recorded}}} \times \mathbf{100}$$

(2) **Gravimetric percentage (P_i%)** expresses, as a percentage, the proportion of the mass of prey category *i* relative to the total mass of all prey categories. It provides an estimate of the relative energetic contribution of each prey category to the diet. It was calculated as follows:

$$P_i\,(\%) = \frac{\textbf{\textit{Mass of prey item i}}}{\textbf{\textit{Total mass of all prey items}}} \times \mathbf{100}$$

(3) **Frequency of occurrence (F_i%)**, calculated as the percentage of non-empty stomachs in which a prey category occurred:

$$Fi\,(\%) = \frac{\textbf{\textit{Number of stomachs containing prey item i}}}{\textbf{\textit{Number of non − empty stomachs}}} \times \mathbf{100}$$

The importance of each prey category in the diet was expressed using the Index of Relative Importance (IRI) proposed by Pinkas et al. [28]. This composite index integrates quantitative components (numerical and gravimetric measures) and a qualitative component (frequency of occurrence). The **IRI** was calculated as follows:

(4) $\mathbf{IRI_i = (N_i + P_i) \times F_i}$

where:
N_i = Numerical percentage of prey *i;*

P_i **=** Gravimetric percentage of prey *i*;

F_i = frequency of occurrence of prey *i*.

The IRI was subsequently expressed expressed as a percentage of the total IRI across all prey categories:

$$IRI(\%) = \left(\frac{IRI_i}{\sum_{i=1}^{n} IRI_i}\right) \times \mathbf{100}$$

where IRI_i is the IRI of prey item *i*, Σ IRI_i is the sum of IRI values for all prey categories recorded, and n is the total number of prey categories.

2.5. Dietary analyses

Diet composition was analyzed using the method originally proposed by Hureau [29] and later modified by Geistdoerfer [30]. This approach combines frequency and quantity of prey to assess their relative importance in the diet.

For each prey category, an alimentary quotient (Q) was calculated as:

$$Q = N_i \times P_i$$

where N_i is the numerical percentage of prey category *i* relative to the total number of prey items per stomach, and P_i is the percentage contribution of prey category *i* to the total prey biomass per stomach.

Based on values of *F* and *Q*, prey categories were classified as:

- **Main preferred prey:** $Q > 100$ and $F > 30$ %
- **Occasional main prey:** $Q > 100$ and $F < 30$ %
- **Frequent secondary prey:** $10 < Q < 100$ and $F > 10$ %
- **Accessory secondary prey:** $10 < Q < 100$ and $F < 10$ %

- **First-order complementary prey:** $Q < 10$ and $F > 10$ %
- **Second-order complementary prey:** $Q < 10$ and $F < 10$ %

This classification allows a standardized comparison of dietary importance among prey categories.

2.6. Statistical analysis

Sexual size dimorphism was assessed descriptively using SVL and body mass. Given the discrete nature of prey counts and the presence of heteroscedasticity, relationships between body size and prey consumption were analysed using linear models including sex as a categorical factor and the interaction between sex and prey number (Nb_Prey), following standard recommendations for ecological data analysis [31]. Specifically, SVL was modelled as a function of the number of prey items per stomach, sex, and their interaction for each species separately:

SVL ~ Nb_Prey × Sex.

To formally test whether the structure of the size–prey relationship differed between species, a combined model including both species and their interactions was additionally fitted:

SVL ~ Nb_Prey × Sex × Species.

Model assumptions were evaluated graphically through residual diagnostics. Statistical significance was assessed at $\alpha = 0.05$. All analyses were performed using R (version 4.4.3).

3. Results

3.1. Sample composition and body size

A total of 171 individuals were examined, including 88 *P. longirostris* (72 males, 16 females) and 83 *P. oxyrhynchus* (37 males, 46 females). In both species, females were larger than males in terms of SVL and body mass (Table 1).

In *P. longirostris*, mean SVL was 45.52 ± 2.44 mm for males and 55.93 ± 1.64 mm for females, with corresponding body masses of 8.11 ± 0.71 g and 13.97 ± 1.40 g, respectively. In *P. oxyrhynchus*, males had a mean SVL of 52.88 ± 4.47 mm and females 62.00 ± 2.24 mm, with body masses of 20.36 ± 0.61 g (males) and 22.02 ± 1.02 g (females).

Table 1 Body size characteristics of the two *Ptychadena* species (mean ± SD)

Species	*VC* (%)	Sex	N	SVL (mm)	Body mass (g)
P. longirostris	14.7	Male	72	45.52 ± 2.44	8.11 ± 0.71
		Female	16	55.93 ± 1.64	13.97 ± 1.40
P. oxyrhynchus	18	Male	37	52.88 ± 4.47	20.36 ± 0.61
		Female	46	62.00 ± 2.24	22.02 ± 1.02

3.2. Diet composition

The different prey categories consumed by each of the two *Ptychadena* species are presented in Table 2. This table shows that *P. longirostris* consumed seven prey categories, whereas *P. oxyrhynchus* fed on four prey categories. Both species exhibited predominantly insect-based diets (%IRI = 92.8% for *P. longirostris* and %IRI = 97.4% for *P. oxyrhynchus*). Although Isoptera, Annelida, Isopoda and Amphibian tadpoles were consumed by *P. longirostris*, they were absent from the stomach contents of *P. oxyrhynchus*. Specifically, Orthoptera constituted the most important prey category in the diet of *P. longirostris* (%IRI = 64.7%) and *P. oxyrhynchus* (%IRI = 58.9%). All other prey categories exhibited comparatively low relative importance (%IRI < 7%).

Table 2 Percentage of the Index of Relative Importance (%IRI) of different prey taxa found in the stomach contents of *P. longirostris* and *P. oxyrhynchus* from ANP

Percentage of the Index of Relative Importance (%IRI)		
Prey category	*P. longirostris*	*P. oxyrhynchus*
Coleoptera	0.5	1.2
Dictyoptera	18.5	31
Hymenoptera	6.9	1.5
Isoptera	0.8	0
Insect larvae	0.4	4.5
Lepidoptera	1	0.3
Orthoptera	64.7	58.9
Total insects	92.8	97.4
Araneae	6	1.9
Annelida	0.1	0
Plant material	0.4	0.3
Isopoda	0.2	0
Tadpoles	0.02	0
Other prey	0.3	0.1

Based on the classification methods of Hureau [29] and Geistdoerfer [30], the calculated dietary indices allowed the prey consumed by the two *Ptychadena* species in ANP to be classified.

Thus, for *P. longirostris*, Orthoptera were classified as main preferred prey and Hymenoptera as occasional main prey. Arachnida, Dictyoptera, Lepidoptera, Isoptera and Coleoptera were classified as frequent secondary prey. Isopoda and insect larvae were classified as accessory secondary prey. Other prey and Plant material were categorized as first-order complementary prey, while annelida and the tadpole were classified as second-order complementary prey (Table 3).

Table 3 Classification of prey items ingested by *P. longirostris* in ANP, according to the methods of Hureau [29] and Geistdoerfer [30]. Q: alimentary coefficient; F (%): frequency of occurrence

Prey	**Q**	**F %**	**Prey classification**
Orthoptera	439.8	32	main preferred prey
Hymenoptera	128.3	26.6	occasional main prey
Arachnida	75.7	32	frequent secondary prey
Dictyoptera	75	20	frequent secondary prey
Lepidoptera	69.4	10.7	frequent secondary prey
Isoptera	20.4	10.7	frequent secondary prey
Coleoptera	16.8	10.7	frequent secondary prey
Insect larvae	20.9	6.7	accessory secondary prey
Isopoda	14	5.3	accessory secondary prey
Plant material	2.1	10.7	first-order complementary prey

Other prey	2.3	10.7	first-order complementary prey
Tadpole	1.9	1.4	second-order complementary prey

Based on the relative importance of prey categories in the diet of *P. oxyrhynchus*, prey classification indicated that Orthoptera constituted the main preferred prey, whereas Dictyoptera were categorized as occasional main prey. Arachnida and insect larvae were identified as frequent secondary prey. Hymenoptera and Coleoptera were classified as first-order complementary prey, while Lepidoptera and other prey were categorized as second-order complementary prey (Table 4).

Table 4 Classification of prey items ingested by *P. oxyrhynchus* in ANP, according to the methods of Hureau [29] and Geistdoerfer [30]. Q: alimentary coefficient; F (%): frequency of occurrence

Prey	**Q**	**F %**	**Prey classification**
Orthoptera	1780.4	31	main preferred prey
Dictyoptera	178.7	22	occasional main prey
Insect larvae	27.3	36.7	frequent secondary prey
Arachnida	33.8	13.2	frequent secondary prey
Hymenoptera	5.1	16.2	first-order complementary prey
Coleoptera	6.1	17.6	first-order complementary prey
Plant material	0.6	8.8	second-order complementary prey
Other prey	0.7	5.9	second-order complementary prey
Lepidoptera	5.2	7.3	second-order complementary prey

3.3. Relationship between size and prey consumption:

In *P. longirostris*, females were larger than males, indicating sexual size dimorphism. The relationship between SVL and prey number was positive but not statistically significant, and the interaction between prey number and sex was not significant, indicating similar size–prey relationships in both sexes.

In *P. oxyrhynchus*, SVL increased significantly with prey number, and females were larger than males. The interaction between prey number and sex was weak but statistically significant, suggesting subtle sex-specific differences in the relationship between SVL and prey number.

A combined model including both species (SVL ~ Nb_Prey × Sex × Species) showed that the three-way interaction between prey number, sex and species was not significant ($p = 0.91$), indicating that the structure of the size–prey relationship did not differ between *P. longirostris* and *P. oxyrhynchus* under the studied conditions (Table 5).

Table 5 Summary of linear models relating body size (SVL) to prey number and sex in *Ptychadena* species.

Species	**Effect**	**Estimate (β)**	**SE**	**p-value**
P. longirostris	Prey number	+0.46	0.33	0.17
	Sex (Male)	−15.61	18.93	0.41
	Prey number × Sex	−0.21	0.34	0.54
P. oxyrhynchus	Prey number	+0.36	0.09	< 0.001
	Sex (Male)	+15.50	6.48	0.019
	Prey number × Sex	−0.25	0.11	0.025

4. Discussion

Diet constitutes a central descriptor of predator ecology and a fundamental source of information on their functional roles within ecosystems. In this regard, Spitz [32] emphasized that the diet observed in a given predator results from the interaction between trophic resource availability, biological constraints of the predator, and its foraging strategy. The study of diet therefore provides key insights into trophic relationships and the ecological positioning of species within food webs.

The relative importance index (IRI) values obtained in the present study indicate that populations of *Ptychadena longirostris* and *P. oxyrhynchus* in ANP exhibit predominantly insectivorous diets (IRI > 90%). The predominance of insects, which are often mobile and sometimes volant prey, suggests that predation in these anurans requires rapid attack performance during prey capture. Such insectivorous diets likely contribute, to a non-negligible extent, to the regulation of insect populations within their habitats, highlighting the potential ecological role of these species in the functioning of wetland ecosystems.

Both species exhibited broad diets dominated by arthropods, supporting the widely reported pattern that many anurans function as opportunistic and generalist predators [1, 11]. The diversity of prey categories observed suggests a flexible feeding strategy that primarily reflects local prey availability rather than strict trophic specialization.

In *P. longirostris*, Orthoptera and Hymenoptera constituted the majority of prey items, whereas the diet of *P. oxyrhynchus* was dominated by Orthoptera, Dictyoptera, and insect larvae. These prey groups are particularly abundant in swamp forest environments, especially near ponds and flooded areas, which represent preferred foraging habitats for both species. The predominance of active, mobile prey supports the hypothesis that prey capture in these frogs relies largely on visual detection of movement, as previously suggested for other ranid and ptychadenid frogs [13].

Diet classification based on alimentary quotients and frequency indices identified Orthoptera as the main preferred prey for both species. This finding is consistent with several previous studies reporting a strong representation of orthopterans in the diets of *Ptychadena* species across a range of ecological contexts [6, 11, 33]. The consumption of termites (Isoptera) observed in *P. longirostris* may indicate opportunistic exploitation of social insects, a feeding behavior documented in several anuran taxa [2, 3]. However, in the absence of independent quantitative data on prey availability, it is not possible to robustly determine whether this pattern reflects active prey selection or simply high local prey abundance.

Inter-site differences in diet composition have been reported in the literature. For instance, Barbault [11] reported that the diet of *P. oxyrhynchus* in the Lamto savanna ecosystem (central Côte d'Ivoire) consisted exclusively of insects and spiders, in contrast to the observations from ANP, where additional prey categories were consumed. As proposed by Konan et al. [6], such inter-habitat variation is likely driven by differences in prey availability and local environmental conditions (vegetation structure, hydrology, and climate), which shape trophic opportunities available to predators. The high trophic overlap observed between *Ptychadena longirostris* and *P. oxyrhynchus* within ANP reflects a strong qualitative similarity in their diets under the conditions of the present study. In particular, the Morisita–Horn shared prey index ($C\lambda = 0.78$) reported by Konan et al. [6] indicates substantial similarity in dietary spectra between the two species. This high level of trophic overlap suggests substantial similarity in realised diets; however, it does not permit inference regarding the intensity of interspecific competition without independent data on prey availability and resource limitation. However, in line with the conceptual framework proposed by Toft [1], a high degree of dietary overlap does not necessarily imply the absence of effective competition, as competitive interactions depend on the degree of resource limitation and on the spatio-temporal heterogeneity of prey availability.

Occasional ingestion of non-arthropod prey, such as annelids and a tadpole, indicates opportunistic feeding and suggests that *Ptychadena* species may exploit a broad spectrum of prey when encountered. Predation on tadpoles, although rare in the present study, has previously been reported in *Ptychadena* and may represent opportunistic intraguild predation or cannibalism [4, 6, 13]. The presence of plant material in the stomach contents of both species is consistent with observations in other *Ptychadena* species [4, 16]; however, it remains unclear whether such material is intentionally ingested or incidentally consumed during prey capture.

Highly digested and unidentified prey items were relatively few, suggesting that gastric lavage provided reliable qualitative data on diet composition. Nevertheless, the degree of digestion may bias estimates of prey abundance and biomass, representing an inherent limitation of stomach content analyses.

Body size was positively associated with prey consumption in *Ptychadena oxyrhynchus*, whereas this relationship was weak and not statistically supported in *P. longirostris*. In both species, females were larger than males, consistent with the widespread pattern of female-biased sexual size dimorphism in anurans, commonly attributed to fecundity selection and sex-specific life-history strategies [34, 35]. The absence of a sex × prey number interaction in *P. longirostris* indicates similar size–prey relationships in males and females, whereas the weak but significant interaction detected in *P. oxyrhynchus* suggests subtle sex-specific differences in how body size covaries with prey intake. However, the combined interspecific analysis revealed no significant three-way interaction among species, sex, and prey number, indicating that interspecific differences in the structure of size–prey relationships are limited under the conditions of the present study.

Size-dependent variation in prey consumption is widely reported in anurans and other ectothermic predators and is generally interpreted as reflecting morphological constraints on prey detection, capture, and handling, as well as ontogenetic and energetic constraints [14, 35, 36]. Nevertheless, realized diets are strongly shaped by local prey availability and the spatio-temporal heterogeneity of resources, such that apparent size-related differences in prey intake do not necessarily translate into pronounced trophic partitioning or strong competitive asymmetries [36, 37]. In the absence of independent data on prey availability and quantitative niche overlap metrics, any inference regarding interspecific competition between *P. longirostris* and *P. oxyrhynchus* remains provisional.

Overall, our results indicate that *P. longirostris* and *P. oxyrhynchus* function as generalist predators within the ANP ecosystem, exploiting a broad array of invertebrate prey available in wetland habitats. Future studies integrating prey availability assessments, quantitative niche overlap indices, and seasonal analyses would provide a more comprehensive understanding of trophic interactions and potential resource partitioning between sympatric *Ptychadena* species.

5. Conclusion

This study shows that *Ptychadena longirostris* and *P. oxyrhynchus* exhibit broad, arthropod-dominated diets, confirming their status as generalist and opportunistic predators in the swamp forest ecosystem of ANP. Orthopterans constitute the main preferred prey for both species, although *P. longirostris* consumes a slightly higher diversity of prey categories. The substantial qualitative overlap in prey categories suggests that these sympatric species exploit largely similar trophic resources. However, in the absence of prey availability data and quantitative niche overlap indices, any inference regarding the intensity of interspecific competition should remain cautious. The observed relationship between body size and prey consumption highlights the potential role of morphological constraints in shaping feeding patterns. These findings provide baseline dietary data for two widespread *Ptychadena* species in Côte d'Ivoire and call for future studies integrating prey availability, seasonality, and quantitative niche overlap metrics to better understand resource use and potential niche partitioning in West African wetland amphibian communities.

Compliance with ethical standards

Acknowledgments

The authors thank the *Office Ivoirien des Parcs et Réserves* (OIPR) and the *Direction des Eaux et Forêts de Côte d'Ivoire* for access to Azagny National Park, and the *Ministère de l'Enseignement Supérieur et de la Recherche Scientifique* of Côte d'Ivoire for research authorization. We are grateful to Professor Kwadjo Eric Koffi for assistance with prey identification. We also acknowledge the contribution of Dr. Nakpobessaga Soro to the fieldwork for this study; this work is dedicated to his memory.

Disclosure of conflict of interest

The authors declare no conflicts of interest regarding the publication of this paper.

Author's contribution

The first author collected, processed and drafted this article. The other authors read and corrected the manuscript. All the authors read and approved the final manuscript.

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