Coleodactylus genus is a group of small geckos that often inhabit shaded forested environments, where they are usually associated with leaf litter (Vanzolini, 1957). Their diet is diverse and consists of small invertebrates, varying from common prey such as termites and spiders, or even small mollusks (Dias et al., 2003; Vitt et al., 2005; Sousa et al., 2010). They have fixed clutch size of a single egg (Vanzolini et al., 1980; Kluge, 1987, Mesquita and Colli, 2010).

Coleodactylus meridionalis (Boulenger, 1888) is one of the five species from genus found in Brazil (Bérnils and Costa, 2012) and one of the smallest lizards from South America, not exceeding 3 cm, occurs mainly in Atlantic Forest areas (Vanzolini, 1980). However, it also can be found in the characteristic biomes of open areas like ‘Caatinga’ (Vanzolini et al., 1980) and ‘Cerrado’ (Colli et al., 2002), especially in forested habitats, as well as in semideciduous forests, which comprises transitional zones between Atlantic Forest and semiarid ‘Caatinga’ (Ribeiro et al., 2013). These lizards have geographic distribution records for the states of Bahia, Sergipe, Alagoas,Paraíba, Rio Grande do Norte and Ceará, beyond the type locality of Pernambuco and have diurnal habits and are usually associated with leaf litter, feeding on mainly on small arthropods as spiders and isopods (Vanzolini, 1957; Dias et al., 2003; Gamble et al., 2011, Ribeiro et al., 2013). Despite their wide distribution, these geckos are poorly known (Gamble et al., 2011), mainly regarding their reproductive traits. Herein, we provide relevant information about reproductive aspects, as hatchling size and existence of communal nests for C. meridionalis in a 'Caatinga' area, from the northeastern Brazil.

In September 2013, two nests of C. meridionalis were found, containing three and four eggs respectively, in a ‘Caatinga’ area from Campina Grande municipality (7.276111°S, 35.885278°W, elev. 510 m; WGS84), Paraíba state, northeastern Brazil. Six months after the first record, in March 2014, we found three nests, containing four, two and four eggs respectively, two of them in the same site cited above. In all nests were also found eggshells hatched. All nests were under leaf litter in shaded areas, near rocks, trees and shrubs. They were carefully collected and kept in terrariums containing substrate from the original area where we collect the eggs. They were kept under natural conditions, with solar luminosity, but protected from direct incidence, until the hatching of eggs.

Immediately after hatch, the hatchling were sacrificed with a lethal injection of lidocaine hydrochloride 2% and their body measurements were taken with a caliper rule digital (precision 0.01mm). For each lizard, we registered the snout-vent length, tail length, head length, width, and height, body width and height, forelimb and hindlimb length. Then, they were deposited in Coleção Herpetológica da Universidade Federal da Paraíba (CHUF PB). The first egg hatch occurred on the same day we collected it. The remaining eggs were hatching gradually in the following months (Table 1). The minimum incubation period observed was 22 days and the maximum was 72 days of incubation after we collected it (Table 1). The average incubation time was 43.07 ± 18.93.
The presence of multiple eggs in the same nest is result of the existence of communal nests in *C. meridionalis* (Fig. 1), since the species has fixed clutch size, of a single egg (Vanzolini et al., 1980; Mesquita and Colli, 2010). The presence of eggs already hatched on the same site also confirms this, suggesting that the species can also use the same breeding site for numerous spawns. Communal nests already were registered for others Neotropical geckos, such as *Gonatodes humeralis* (Oda, 2004), *Phyllopezus pollicaris* (Righi et al., 2004), *P. periosus* (Lima et al., 2011), *Hemidactylus mabouia* (Sousa and Freire, 2010) and *H. agrius* (Bezerra et al., 2011). Studies have shown that communal nests offer numerous advantages, such as protection, predator-satiation, and thermoregulation, which may increase clutch viability, due the generation of bigger hatches and faster egg development (Radder and Shine, 2007; Sousa and Freire, 2010).

Furthermore, our results suggest that on the climatic conditions from the study area, *C. meridionalis* reproduce at least twice a year, since nests of this species were found at different times of the year in the same area, with a delay of six months between encounters. Neotropical Gekkota species appear do not have a fixed reproduction pattern, which may reproduce throughout the year or seasonally (Righi et al., 2012). However, the unpredictability climate in ‘Caatinga’ could favor a continuous reproduction or the production of several clutches annually, even in species that reproduce seasonally in other biomes, and can be slightly reduced during the wet season (Mesquita and Colli, 2010; Righi et al., 2012; Vitt, 1986). Additionally, hatchling presented mean snout-vent length of 12.93 ± 0.50 mm (Table 1; Fig. 2), which appear to be slightly bigger than hatchling of his congener *C. natalensis* (Lisboa et al., 2008). Adults of these species can reach about 20 mm of snout-vent length (Vanzolini, 1957).

Basic life history data, such as distribution, as well as, the clutch size and hatchling morphology, are essential

Figure 1. Nest of *Coleodactylus meridionalis* found in a ‘Caatinga’ area from Campina Grande municipality, Paraíba state. A: Details of nest site B: Detail of eggs.

Figure 2. Hatchling of *Coleodactylus meridionalis* collected in Campina Grande municipality, Paraíba state.
to understand life history parameters of organisms, and how these aspects ensure the species viability and influence the population dynamics (Roff, 2002). Thus, this study expands the knowledge about the reproductive biology of lizard species, contributing for the understanding of the life history of *C. meridionalis*.

### References


### Table 1: Date of collection and hatch, incubation time and morphology of the hatchlings of *Coleodactylus meridionalis* from Campina Grande, Paraíba state, northeastern Brazil. SVL = snout-vent length, TL = tail length, HL = head length, HW = head width, HH = head height, BW = body width, BH = body height, FLL = forelimb length and HLL = hindlimb length.

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Mean 43.07 12.93 10.44 4.00 2.27 1.83 2.16 1.81 3.89 4.45

Standard Deviation 18.93 0.50 0.70 0.33 0.16 0.29 0.32 0.24 0.44 0.51


