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# AFFILIATIVE AND AGGRESSIVE BEHAVIOUR IN TWO ORINOCO RIVER DOLPHINS IN A CONTROLLED ENVIRONMENT

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## INTRODUCTION

Social behaviour is generally considered like a group of complex activities, regulated by the selective advantage of group life. Dolphins are animals particularly social that live together performing a variety of cooperative and agonistic interactions. An opportunity to research social behaviour in Orinoco river dolphins (*Inia geoffrensis humboldtiana*) was provided by observation of two adult males hosted at Duisburg Zoo, Germany, since 1975.

The aims of the study were to determine the daily share of solitary vs. group time and the characteristics of affiliative and aggressive displays.

## METHODS

Two adult male river dolphins (approx. 35 and 55 years old) were systematically observed for 4 consecutive weeks in May 2006 at Duisburg Zoo (Germany).

Data were collected in a total of 120 focal sessions lasting 1hr each (60 hours/subject) and analysed by means of the software Observer 5.0.

<b>ENVIRONMENT</b>	Surface: 900 m <sup>2</sup>	
	Capacity: 650 m <sup>3</sup>	
	Built in: 2005	
<b>SUBJECT 1</b>	<b>VATER</b>	
	MALE 55 YEARS	
<b>SUBJECT 2</b>	<b>BABY</b>	
	MALE 30 YEARS	

## RESULTS

FIGURE 1

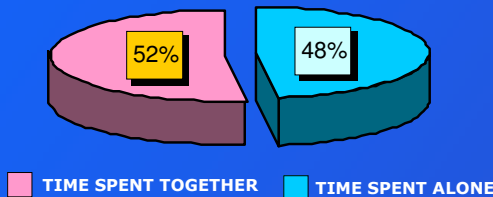
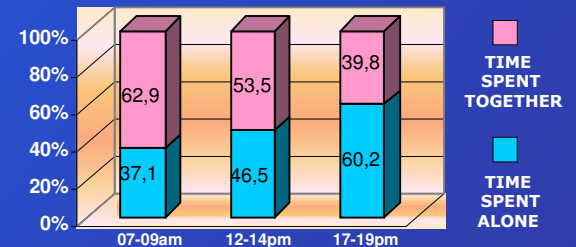


FIGURE 1: The results indicated that the animals slightly preferred to spend time together (52%).

FIGURE 2: However, this tendency was more accentuated in the early morning (62,9%) than in the evening (39,8%).

FIGURE 2



## AFFILIATIVE BEHAVIOURS

These behaviours were expressed by the Inias in a very great number reaching frequencies of 92,9 active acts per hour in the elder and 80,8 in the young (FIG. 3). Principally focused in the middle phases of the day (FIG. 4), affiliative acts mainly consisted in punctual contacts (FIG. 5) mostly performed through pectoral fins and directed to the flank of the conspecifics.

FIGURE 3: Affiliative acts/hour

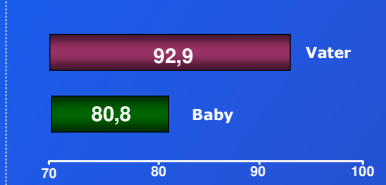


FIGURE 4: Affiliative daily trend

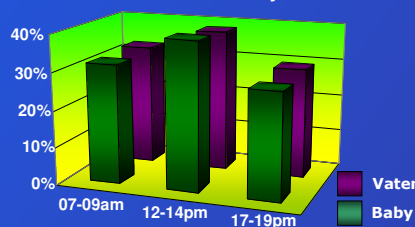
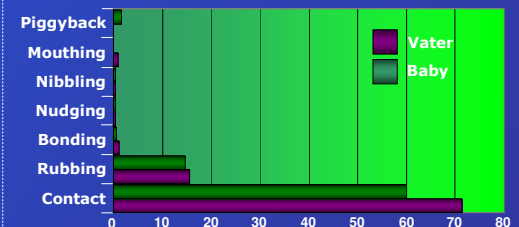


FIGURE 5: Preferred affiliative acts/hour



## AGGRESSIVE BEHAVIOURS

Aggressive behaviours were absolutely more unusual than affiliative ones (see FIG. 6: 5,4 active acts/h the elder and 7,2 the young) and prevailed at the end of the day (FIG. 7). Moreover, in an interesting and socially useful way, aggressiveness was mainly performed through threatening displays such as direct open mouth, showed about 3-4 times per hour, rather than via physical injuries (e.g. biting, the most frequent, reached at least 1,2 events/h) (FIG. 8).

FIGURE 6: Aggressive acts/hour

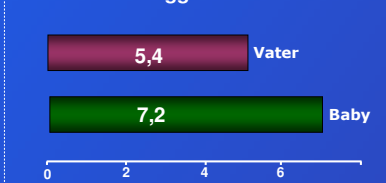


FIGURE 7: Aggressive daily trend

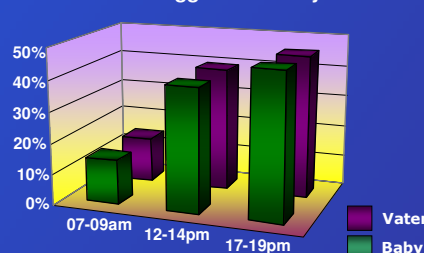
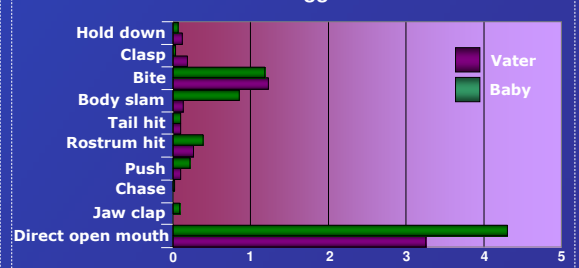


FIGURE 8: Preferred aggressive acts/hour



## CONCLUSION

In summary, the studied dyad revealed to have contrived proper social dynamics and balance, that allowed them to live successfully together for more than thirty years.

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