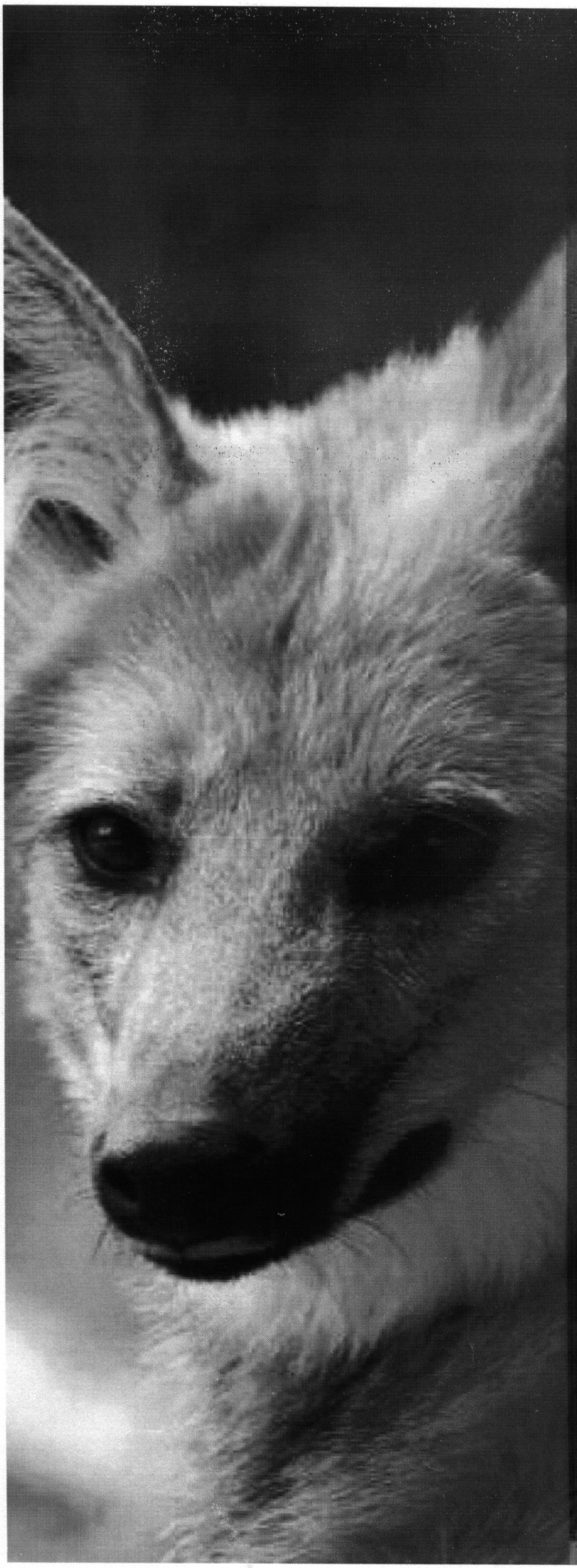

II° CONVEGNO NAZIONALE DELLA RICERCA NEI PARCHI

Conoscenza e Benessere

Bussolengo (VR)
4-6 ottobre 2009

PARCO NATURA VIVA

CENTRO TUTELA SPECIE MINACCIATE

PROGRAMMA SCIENTIFICO

Domenica 04 Ottobre

ore 17.00 – 19.00 iscrizione e cocktail di benvenuto

Lunedì 05 Ottobre

Sessione 1 Behavioural Researches and Animal Welfare

Chair: Caterina Spiezio

9.15 Saluto delle autorità locali

9.30 Apertura lavori e saluto del Dr. Cesare Avesani Zaborra, Direttore Scientifico del Parco Natura Viva

10.00 There are big gaps in our knowledge and thus approach to zoo animal welfare – *Vicky Melfi*

10.45 Il training in *Chlorocebus aethiops*: uno strumento di conoscenza e benessere - *Federica Piva, Caterina Spiezio, Cristina Giacoma*

11.00-11.30 coffee break

Sessione 2 Madagascar and Zoo Research

Chair: Caterina Spiezio

11.30 e Sviluppo sostenibile e conservazione della biodiversità in Madagascar Comore - *Marco Gamba et al.*

12.15 Vocal repertoire and individual acoustic features of *Eulemur Rubriventer* - *Camilla Colombo, Marco Gamba, Cristina Giacoma*

12.30 PBZT in Madagascar – *Hajanirina Ramino*

12.45 Behavioural problems in Fossa: an environmental enrichment strategy - *Raffaele Grisa, Caterina Spiezio*

VOCAL REPERTOIRE AND INDIVIDUAL ACOUSTIC FEATURES OF *Eulemur rubriventer*

Camilla Colombo[1], Marco Gamba[1], Cristina Giacoma[1]

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The primary goal of this study was to improve the knowledge on the vocal repertoire of *Eulemur rubriventer*, a medium-sized lemur species which lives in the eastern rain forests of Madagascar in small, territorial, strictly pair-bonded family groups (Overdorff and Tecot, 2006). We aimed to identify acoustic cues that characterize vocalizations across the vocal repertoire and to investigate factors potentially influencing individual differences in red-bellied lemurs utterances. The sample consisted of 5295 vocalizations recorded from 2 captive groups at Mulhouse Zoo (Mulhouse, France). According to the source-filter theory (Fant, 1960), we expected that vocalizations would show variation in the Fundamental frequency due to changes in vocal fold tension across vocalizations and specific formant patterns according to different phonation mechanisms. Thus *Eulemur rubriventer* vocalizations would show discrete categories after quantitative analysis and, within the vocal repertoire, those vocalizations with evident formant pattern should provide a great amount of individual information. We extracted larynx- and vocal tract-related parameters and calculated the Potential for Individual Identity Coding (PIC, after Charrier *et al.*, 2001) in order to investigate the potential for individual recognition. We then applied machine-learning techniques, and we compared results with those obtained from multivariate statistical methods. The quantitative analysis of Fundamental frequency variation and formants led to the distinction of 14 vocal types. Vocal tract-related parameters allowed discrimination of the grunts between individuals. We'll discuss within- and between-individual variation in the light of the currently known non-human primate phonation processes and will identify those sources of variation that can be playing a role in shaping red bellied lemur communication.