

CONTRIBUTED TALK

MON: Communication 2

THREAT VOCALIZATIONS OF MALE NORTHERN ELEPHANT SEALS: RESPONSES TO CALL DIRECTION

Marla M. Holt*, Brandon L. Southall, Ronald J. Schusterman.

University of California Santa Cruz, Long Marine Laboratory; NOAA Fisheries Acoustics Program; University of California Santa Cruz, Long Marine Laboratory.

During the breeding season, male northern elephant seals (*Mirounga angustirostris*) form dominance hierarchies through dyadic interactions involving calling, chasing, and fighting. Male calls are stereotyped and directional, that is, the energy of the call is focused in a particular direction that is dependent on the caller's orientation. We examined how call direction influenced the response of listening males to a male's call during two separate breeding seasons at Año Nuevo State Reserve. Interactions were recorded visually on a camcorder and acoustically using a directional microphone and DAT recorder. Individual males were identified within a breeding season from unique dye markings. Call direction was categorized as 0, 90, or 180 degrees relative to potentially listening males. Listener response categories included no response, visual orientation, call back, rearing, positive or negative movement relative to the caller, and other. Other variables considered included harem size, number of males present, and the distance between caller and receiver when the call was made. Results suggest that call direction is an important cue utilized by some males in reproductive competition.

CONTRIBUTED TALK

SUN: Sexual Selection 3

SALAMANDER PHEROMONES DELIVER A MIXED MESSAGE

Lynne Houck*, Stevan J Arnold, Richard Feldhoff, Pamela Feldhoff, Richard Watts, Catherine Palmer.

Oregon State University; Oregon State University; University of Louisville; University of Louisville; Oregon State University; Oregon State University.

The submandibular (mental) glands of male plethodontid salamanders are the only source of a pheromone known to influence female sexual receptivity in vertebrates. Plethodontid Receptivity Factor (PRF) is a protein component of the mental gland that increases female receptivity (based on a reduction in courtship duration). We now report that a purified solution of a 7 kDa protein isolated from the mental gland functioned in the opposite manner: by reducing female receptivity, as measured by an increase in the duration of courtship. The combination of these two protein pheromones are normal components of the male mental gland extract. Thus, normal pheromone delivery sends a mixed signal in which these components simultaneously present opposing messages. The production of mixed messages within the same sensory mode is uncommon among pheromone signaling systems.

CONTRIBUTED TALK

WED: Social Behavior 3

THE EUROPEAN RABBIT AS A MODEL FOR THE STUDY OF EARLY MAMMALIAN SIBLING RELATIONS

Robyn Hudson*, Margarita Martínez-Gómez.

Instituto de Investigaciones Biomédicas, UNAM; Instituto de Investigaciones Biomédicas, UNAM; Centro Tlaxcala Biología de la Conducta UAT.

Despite the growth of interest in the influence of sibling relations on individual survival and development, studies have been sparse in mammals; the intensive maternal care characteristic of most mammals makes it difficult to observe and manipulate the young and to distinguish littermate from maternal influences. The European rabbit (*Oryctolagus cuniculus*) provides a good opportunity for such studies due to its unusually limited maternal care. Rabbits give birth in a nursery burrow to sizable litters of altricial young, leave them immediately, and only return to nurse for 3-4 min once every 24 h. Thus, the principle social contact for the young is with each other, and they can be observed and manipulated without interfering with the normal mother-young relationship. In a program investigating the short and long-term effects of siblings on individual survival, growth and fitness we are currently studying physiological, behavioral and social correlates of early sibling relations in domestic rabbits