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"การตีพิมพ์และเผยแพร่งานวิจัยในการประชุมวิชาการ
ระดับชาติหรือนานาชาติหรือในวารสารวิชาการระดับชาติ
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similarity within these genera. The similarity of these morphology morphological characters may relate to phylogenetic closeness between species and might be

useful for phylogenetic study. The morphology of sagitta and sulcus are also species specific characters which can be used for identification of fish species.

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SAGITTA MORPHOLOGY OF SOME FISHES IN FAMILY BELONTIDAE FROM SOUTHERN AREA OF THAILAND

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Labyrinthfishes (*Betta*, *Trichogaster* and *Trichopis*) of the family Belontiidae, order Perciformes are collected from southern area of Thailand. Sagittal otoliths are extracted from skulls, cleaned and stored dry in vials. Scanning electron photomicrographs reveal distinct characters of these sagittae which have never been reported in any fish sagittae, depression of the anterior rostrum and projection of the crista superior into excisura notch. Triangular-shaped depression of anterior rostrum is found in *Betta* spp. (*B. imbellis*, *B. simplex*, *B. splendens* Siamese and *B. splendens* Chinese) and *Trichopis vittatus* but it is

oval-shaped in *Trichogaster* spp. (*Trichogaster leeri*, *T. tricopterus* and *T. pectoralis*). The projection of the crista superior into excisura notch is found only in *Trichogaster* spp. and *Trichopis vittatus*. The sagitta shapes are separated into two types, oval in *Betta* spp. and ovate in *Trichogaster* spp. and *Trichopis vittatus*. Five differences of margin sculpturing of these sagittae are found and described. The distinguishable sagitta morphology found in this study is specific character of family Belontiidae and will be able to use for identification of fish family and species.

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IS A SYLLABLE PHYLOGENETIC SIGNAL?

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The paper reported vocalizations of endemic Tibet Plateau steppe sparrow, Red-necked Snow Finch (*Pyrgilauda ruficollis*) by using SAS Lab Pro. The complexity and stability of sounds were studied by subject similarity contrast and multivariate contrast. The results indicate that songs of *P. ruficollis* have high complexity with varied song types, song phrases, song syllable and their combination. One shared song syllable by Snow Finch (*M. nivalis*), Black-winged Snow Finch (*M. adamsi*), Plain-backed Snow Finch (*P. blanfordi*) and Red-necked Snow Finch was selected as 'segment' of the whole song to compare the relationship among them. The similarity contrast and cluster analysis through SPSS were con-

ducted to construct the similarity dendrogram based on this shared syllable's acoustic parameters including the peak frequency (HF), the lowest frequency (LF), the main frequency (MPF) and duration (DUR). The results reveal that the similarity is accordant with those at from morphological clustering and as well as molecular phylogeny. The syllable based similarity among these snow finches were considered homologous and derived through a common ancestry, alternatively, the cultural transmission and ecological convergence among these closely related relatives may exist. Further studies encoding this song Phylogenetic signal of snow finches are needed.

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