

THE FORKED TONGUE

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May 2002

The Editor's Den

By Grady Calhoun

The May *Forked Tongue* features an article on The genus *Drymarchon* and an account of Herpetology Weekend at Natural Bridge.

The April meeting will be held at Northern Kentucky University at 7:30 Wednesday, May 1st. We meet in room 421 of the Natural Science Building.

Calendar of Events

- May 1st Monthly Meeting. Program: Joe Shubauer-Berigan on Herps of the Savannah River Area.
May 11th & 12th Big show at museum
June 5th Monthly Meeting. Program Robin Saunders Topic TBD
July 3rd Monthly Meeting. Program: Scott Kass, Topic TBD (tentative)

A New Species of Indigo Snake (*Drymarchon*) from Venezuela, and a Reclassification of the Genus

This page aims to make available in a more widely accessible format the conclusions of a recent study which

were published by Wüster et al. (2001) in the *Herpetological Journal*.

The study was initiated as a result of finding a freshly road-killed specimen of *Drymarchon* during fieldwork in the state of Falcón, NW Venezuela. The specimen could not be assigned to one of the previously known taxa of *Drymarchon* found in Venezuela, which are *Drymarchon corais corais* and *D. c. melanurus*. This prompted the authors to initiate a study of the systematics of the South American representatives of the genus.

The principal approach taken was the use of multivariate analysis of morphological (scalation and colour pattern) characters. Basically, these methods assess variation across a broad range of characters

simultaneously, instead of getting hung up on individual characters, as is often the case in conventional systematics.

The results (see below) show the existence of three highly distinct taxa of *Drymarchon* in mainland South America: the populations conventionally assigned to *Drymarchon corais corais*, those conventionally assigned

to *D..c. melanurus*, and those representing the species of the mysterious road-killed specimen.

In particular, there is no evidence whatsoever of intergrades between the three main clusters. This applies

despite the fact that both the *melanurus* and the *corais* samples included a number of specimens from NW Venezuela, where their ranges meet. This suggests that there are no natural hybrids between these forms, and that they should therefore be considered to be separate species, *Drymarchon corais* and *Drymarchon melanurus*.

The third species, including the mysterious roadkill from Falcon, is as distinct from *D. corais* and *D. melanurus*

as they are from each other, and differs from them in a number of colour pattern and scalation characters. It was

consequently described as a new species:

Drymarchon caudomaculatus Wüster, Yrausquin & Mijares-Urrutia, 2002

Type locality: near the village of Las Dos Bocas (11°18' N, 69°24' W), in the eastern foothills of the Sierra de San Luís, Municipio Colina, Estado Falcón, Venezuela.

Description and diagnosis

Drymarchon caudomaculatus is readily distinguishable from *D. corais* and *D. melanurus* in a number of characters.

Dorsal coloration. *Drymarchon caudomaculatus* retains the same ground colour along the entire length of its body. Especially on the posterior part of the dorsum, there are isolated, cream-coloured scales. In *D. corais*,

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the anterior part of the body is darker (often black) than the posterior body and tail. The opposite applies in *D. melanurus*. Both the latter lack isolated, cream-coloured scales on the dorsum.

Ventral coloration. In *D. caudomaculatus*, the throat and posterior venter.

Tail coloration. In *D. caudomaculatus*, the tail is covered in individual scales that are creamy-white, contrasting strongly with other scales that retain the brown dorsal colour. This results in a strongly mottled effect.

There is no such effect in *D. corais*, which has a uniformly yellow tail, or in *D. melanurus*, which has a black tail.

The underside of the tail of *D. caudomaculatus* is creamy-white, but with isolated dark brown subcaudal scales.

Classification of the genus *Drymarchon*

The results of the study of Wüster et al. have implications for the classification of the entire genus.

Since the entire genus requires a full systematic revision, we can only offer suggestions based on the available data.

In the case of the Florida indigo snake, Collins (1991) proposed that this should be recognised as a separate species, *D. couperi*, on account of consistent differences in head scalation. We agree with this arrangement for the time being.

The taxon *margaritae* displays a unique combination of pattern characters, including a dorsal colour change similar to that of *D. corais* (dark anteriorly, paler markings posteriorly), but a ventral pattern change more akin to

that of *D. melanurus* (darker posteriorly, compared to uniformly pale throughout in *D. corais*). The only known

specimen has 76 subcaudal pairs, compared to a documented maximum of 64.5 in *D. caudomaculatus*. In the

light of these clear, categorical differences, and pending further studies, we consider this form to be a separate species, *D. margaritae*, as originally proposed by Roze (1959).

The fact that *D. melanurus* is a separate species from *D. corais* raises the question of the status of the Central and North American indigo snakes. There is absolutely no evidence whatsoever associating any of them with the South American *D. corais*. Smith (1941) noted the existence of hybrid zones between *melanurus* on one hand and the taxa *erebennus*, *orizabensis*, and *rubidus*

anterior venter is extensively suffused with dark pigment, whereas the remainder of the ventral side is creamish white. In *D. corais*, the venter is normally uniformly light along the entire length of the animal, whereas *D. melanurus* has a light anterior and dark

on the other. Additionally, juveniles and some adults of *erebennus*, *rubidus*, and *unicolor* display oblique dark bars on the sides of the neck, which appear to be homologous with the marks seen in *D. melanurus*. This makes the classification of the taxa *erebennus*, *rubidus*, *unicolor*, and, presumably, *orizabensis*, as subspecies of *D. melanurus* a tenable provisional arrangement.

The recognized taxa of *Drymarchon* are thus as follows:

- *Drymarchon caudomaculatus*
- *Drymarchon corais*
- *Drymarchon couperi*
- *Drymarchon margaritae*
- *Drymarchon melanurus*, with the following subspecies:

- D. m. melanurus*
- D. m. erebennus*
- D. m. orizabensis*
- D. m. rubidus*
- D. m. unicolor*

The systematics of this genus require extensive further revision, especially in order to clarify the status of the various Central American/Mexican taxa. It would not be surprising if future studies found some of these to represent further separate species.

References

- COLLINS, J.T. (1991). Viewpoint: a new taxonomic arrangement for some North American amphibians and reptiles. *Herpetological Review* 22, 42-43.
- ROZE, J.A. (1959). Una nueva especie del género *Drymarchon* (Serpientes: Colubridae) de la Isla de Margarita, Venezuela. *Novedades Científicas - Contribuciones Ocasionales del Museo de Historia Natural La Salle* 25, 1-4.
- SMITH, H.M. (1941). A review of the subspecies of the indigo snake (*Drymarchon corais*). *Journal of the Washington Academy of Science* 31, 466-481.
- WÜSTER, W., J.L. YRAUSQUIN & A. MIJARES-URRUTIA. (2001***). A new species of

indigo snake from northwestern Venezuela (Serpentes: Colubridae: Drymarchon). Herpetological Journal, 11: 157-165. Adobe

Acrobat file available here

*** the journal issue concerned actually appeared in March 2002

After all that I had heard about what a blast Herpetology Weekend was, I finally got a chance to go down to the Natural Bridge/Red River Gorge area to experience it myself. My son, Justin, two of his friends and my cousin Jerry arrived Friday afternoon, got situated in our living accommodations for the weekend and set off to the activity center. There was a good representation of GCHS folks already there. Although I am not sure of the actual headcount, the venue was nearly full. We set up a GCHS table and listened to a presentation on Timber Rattlesnakes. After that program we set out to find and photograph some herps in the wild. It was relatively warm and dry. Ray Whitson took us to some of the local hot spots on Friday night. During a few hours we found, a black Racer (*Coluber constrictor constrictor*), a Garter Snake (*Thamnophis sirtalis* ssp), a Ringneck snake () a Northern Water Snake (*Nerodia sipedon sipedon*), Seal Salamanders, Cave Salamanders, Spotted Newts, a Snapping Turtle (*Chelydra serpentina*), Green Frogs, and Northern Leopard Frogs. Remember that this was all in the first night!!! After a long evening of hunting we returned to our lodging. We stayed at True North Outfitters Outdoor Wilderness School and Hostel in Pine Ridge Kentucky. We were welcomed by the owner Jeff Kennedy and our host Ray Whitson. After discussing our plans for the next day we retired. It seemed like only moments of sleep when Ray flashed our lights and told us that breakfast was on. The next day started with some fairly rigorous hiking through an undisturbed area, no paths! The first herps that we saw were eastern box turtles (*Terrapene carolina carolina*). We saw several of these and the males were absolutely gorgeous, high yellow animals. Once we reached the valley we found a red eft, which is the terrestrial juvenile form of the eastern newt. Although it is not uncommon to see hundreds of the adult form in a single night, these efts are not very often seen. This was only the second one I had ever seen and it was Ray's first. In addition to the breathtaking scenery we also spotted a skink (probably a five-lined) an eastern fence lizard, and a black rat snake (*Elaphe obsoleta, obsoleta*). On the way out of the gorge we were caught in a heavy downpour but it was all a part of the adventure. Later that day we walked through the red river in search of mudpuppies (*Necturus maculosus*) but none were found. We did discover a cave that was surprisingly large with stalactites and

WWW Resources

www.indigosnakes.com is a website dedicated to Drymarchon

Herp Weekend

stalagmites and a couple of small bats. A Black Kingsnake (*Lampropeltis getula niger*) was also found under a piece of tin. We ended the day with a night hunt that added Spring Peepers, Cope's Grey Tree frogs and American toads to our list of animals. In addition to the animals observed by our group other GCHS members spotted a Northern Copperhead (*Agkistrodon contortrix contortrix*), a Red-Bellied Snake, an Earth Snake, Dusky salamanders (*Desmognathus*) and a Slimy Salamander (*Plethodon glutinosus*). All in all the trip was wonderful. Thanks go out to Jeff Kennedy and Ray Whitson of the True North Outfitter Facility. They welcome herpers and will put you up with a place to sleep and breakfast for a reasonable price. For further information contact them at (888) 637-6148 or on-line at www.TrueNorthOutfitters.com.

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Requirements for Submitting Articles to the Forked Tongue

1. Articles can be submitted via 3.5" floppy disk or hard copy to Editor, GCHS 11470 Gatch Hill Road, Aurora, IN 4700.
2. Articles may be e-mailed to Grady Calhoun at gcalhoun@seidata.com.
3. Black and white photographs can be included with articles. Photo submissions should include your name, phone number, and description of photo on the back. Photos can be returned.
4. All time dependent submissions must be in the editors possession no later than the meeting previous to the desired publication date

Classified Advertizing Policy

GCHS Members may run a free classified ad of 7 lines or less at no charge for an unlimited time; however, the ad will be canceled after one month unless the editor is informed to continue it. Please include scientific names for the animals with your ad as well as your phone number and area code. Ads of up to 7 lines for non-member are \$2 per issue; ad charges for items more than 7 lines long are as follows:

Business card size	\$3 per issue
1/4 page	\$6 per issue
1/2 page	\$10 per issue
Full page	\$20 per issue

The GCHS is not liable for the quality of the merchandise advertized. The Society also reserves the right to refuse any ad considered inappropriate.

Classifieds

Available: Venomous snake video available: This video has extractions from king cobras, gaboon vipers, and several others, plus graphic snakebite slides. Kentucky Reptile Zoo is a non-profit educational exhibit and venom extraction laboratory. \$10.00 donation plus \$5.00 postage and handling will bring this video to you! Please note everything is filmed as it happens and is not professionally edited. Send a check or money order to Kentucky Reptile Zoo, 200 L&E Railroad, Slade, Kentucky 40376. Visit our website at www.geocities.com/kentuckyreptilezoo for more information, or call 606-663-9160.

Discount: A 10% discount is offered to all card carrying members of the GCHS at my veterinary clinic that treats a lot of reptiles. All Creatures Animal Hospital, 1894 Ohio Pike, Amelia, Ohio 45102, Dr. Dan Meakin 513-797-7387

Discount: A 10% discount is offered to all card carrying members of the GCHS at Dr. Dahlhausen's Veterinary Clinic, 5989 Meijer Dr., Suite 2, Milford, Ohio 513-576-0131

(Number to left of decimal indicates males; number to right of decimal indicates females; number to right of second decimal indicates number of unknown sex. For example, 3.2.1=3 males, 2 females, and 1 unsexed specimen)

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Currently Held Positions

President	Grady Calhoun (812) 926-1206 (513) 564-6041	Vice President	Dean Alessandrini (513) 347-0099
Treasurer	Peggy Fille (513) 528-4452	Secretary	Diane Bauer (513) 451-1203
Seargent-at-Arms	Bruce Fille (513) 528-4452	Editor	Grady Calhoun (812) 926-1206 (513) 564-6041
Advisor	Ray Whitson (859) 342-8842	Education Conservation Committee Chairman	Fred Fannin (513) 734-6906

About the GCHS

The Greater Cincinnati Herpetological Society holds monthly meetings which typically consist of a short business section, a refreshment intermission, and a program related to herpetology. Both members and nonmembers are invited to attend. Membership is open to anyone with an interest in reptiles and amphibians. New members may sign up by mail or at the monthly meetings. Members receive monthly issues of *The Forked Tongue* and free classified advertising. Annual dues should be directed to the secretary at the society's mailing address, according to the rates below:

Student	\$10.00	Corresponding	\$10.00
Individual	\$12.00	Sustaining	\$25.00
Family	\$18.00	Institutional	\$30.00
		Contributing	\$50.00

Why Be a Member?

- Receive monthly issues of *The Forked Tongue*
- Meet individuals knowledgeable about herpetoculture
- Have access to captive-bred herps and feeder animals
- Participate in society-sponsored field trips, and outings.
- Receive a 10 percent discount on herp-related items and services when you show a valid membership card at the following establishments:

Delhi Pet Center 451-4015	Kentucky Reptile Zoo (606)663-9160
Harrison Pet Center 367-1115	Norwood Pet Center 351-7230
All Creatures Animal Hospital 797-7387	

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