

The sixteenth century vocabularies of the native languages of New Spain are valuable mines of information that have rarely been exploited by the modern investigator.¹ In this short note, the authors wish to make more accessible the zoological data hidden in the Nahuatl to Spanish section of Alonso de Molina's *Vocabulario en Lengua Castellana y Mexicana*. It is not known where he collected his information. Since speakers of Nahuatl lived, during that time period, in a large portion of Central México, as well as elsewhere in Mesoamérica, there are many possible locations for the homelands of Molina's informants. The fact that some of Molina's animals did have spatially limited ranges may suggest the locations of his informant's homes. To do this one needs information on the sixteenth century ranges of Mexican fauna. Feldman has prepared a computerized listing of the distribution of culturally significant fauna for all of Central México, and together we are extending this listing to other adjacent areas. When complete it will serve as a framework for testing hypotheses on the origin of Molina's work.

For this paper animal names are sorted into groupings of related creatures and listed with their Molina provided definitions. A sample illustration for animals in each of these groupings has been taken from codices of the Borgia Group (the *Borgia*, *Vaticanus B*, *Féjévary-Mayer*, and the *Porfirio Díaz Reverso*).

We would like to note that this important and famous religious-divinatory codex group would be particularly susceptible to multivariate testing. Since it has pictorial representations of many animals, and an origin that while unknown has been narrowed down to one of four possible areas,² it presents a large faunal sample that can be statistically measured and compared with other data sources. Currently we are jointly engaged in this project and hope to be able to present significant results at a future date.

¹ *I.e.* as by Carrasco, *Los otomíes*.

² *Cf.* Nicholson, "The problem of the provenience . . ."

Of the animals in Molina no attempt is made to identify these terms with those currently in use by zoologists. However, one entry that may throw light on an old mystery, requires further explanations.

One author claims that the American Bison (*Bison bison*) was a member of Moctezuma's collection of wild animals.³ The claim has been attacked because no contemporary sources attest to either the existence of the animal in the collections of the ruler of Tenochtitlan or to its presence anywhere in Central México. Recent records of the bison in México are few and they only verify its presence from along the United States -México border to as far south as central Coahuila.⁴ Of greater interest is a sixteenth century source noting the prehispanic existence of "red and black cows" near Quacomán (today Coalcomán), Michoacán.⁵ The name of the town was said to be derived from the name of these animals. If one removes the locative suffix *-man* what is left, "Quaco"-, is not very far from Molina's "quaquaue" a "toro o animal que tiene cuernos". The implication of the information provided is that a large horned herbivore, other than the deer (identified with other terms in the documents), was known to the prehispanic inhabitants of Central México. These animals had vanished by the end of the sixteenth century, by which time the old term had acquired a new meaning, one indicating European domesticates. In short, it is not impossible that Moctezuma's zoo possessed specimens of the American Bison.

Several other listings of Nahua animal names are known from the sixteenth century. One of the most readily available is that give in Book 11 of the *Florentine Codex*.⁶ Table VI provides a correlation of the correspondences between the two listings. It is apparent that Molina's interests were quite distinct from those of Sahagún. Although Sahagún provides the more detailed and extensive listing, in no category does Molina share more than 80% of its terms with those of Sahagún. In one category (Crawling Insects) only 34% of the terms in the *Vocabulario en lengua mexicana y castellana* are also found in the eleventh book of the *Florentine Codex*. Clearly Molina provides an original and distinct body of data that is of value for all student of Aztec zoology.

³ Solís, in Nicholson, "Moctezuma's Zoo", p. 8.

⁴ Leopold, *Wildlife of México*, p. 524.

⁵ The 1580 "Relación de quacomán", in Sauer, "Colima . . .", p. 71-72.

⁶ Sahagún, *Florentine Codex*.

Table I

Lacustrine Worms, Crustaceans, Molluscans and Coelenterata

- (1) izcautil: ciertos gusanillos de lagunas
- (2) tapachtli: coral
- (3) tecuicitli: cangrejo
- (4) achacalin: camarón grande
- (5) atecuicitli: cangrejo
- (6) chacalin: camarón grande
- (7) zoquichacali: camarón pequeño
- (8) amatzcalli: ostia del mar o almeja
- (9) ametzcalli: ostia del mar o almeja
- (10) atatapalcat: ostias del mar
- (11) atecuculli: caracol de agua
- (12) atzcalli: ostia del mar
- (13) cuechtli: cierto caracol largo
- (14) cilin: caracol chiquito
- (15) epyollotli: perla preciosa o aljófar
- (16) eptatapalcat: concha de perla
- (17) eptli: concha o ostia del mar
- (18) mazacoatl: gusano gordo con cuernos
- (19) ostia calli, ostia toptli: ostiario para ostias
- (20) quiquiztli: bozina de caracol o caracol que sirve de bozina o de trompeta
- (21) tapachtli: concha o venera
- (22) teccizmama: caracol
- (23) tecciztli: otro caracol grande
- (24) vitzizil epyullotli: perla

Table II

Part A: Insects (flying)

- (1) acachapulin: cierto género de langostas
- (2) axaxayacatl: cierto sauandija de agua como moxca
- (3) zayolin: moxca
- (4) chapulin: langosta
- (5) chiquilichtli: cigarra
- (6) cholipi: grillo que canta como cigarra
- (7) temolli: tábano
- (8) cuicuicani: grillo, especie de cigarra
- (9) miccazayulin: moxca grande
- (10) moyotl: moxquito
- (11) necuzaulin: aueja
- (12) papalotl: mariposa; papalotontli: mariposa pequeña
- (13) pipiyolin: aueja montesa; pipiolin: aveja montesa que haze miel
- (14) quauhneuczayoli: aveja de miel que cría en los árboles
- (15) tecugayolin: moxca grande
- (16) tetocani: abispa amarilla que persigue y pica reziamente
- (17) tlaletzatl: otra aueja de miel; tlaletzalli: aveja de miel parda
- (18) xicaltecon: mariposa grande
- (19) xicotli: abeja grande de miel que horada los árboles
- (20) xicaltecon: mariposa grande

Part B: Worms

- (1) auatecolotl: gusano lanudo
- (2) tzoncoatl: lombriz de perro; coatl: lombriz del estómago
- (3) zacaocuilin: gusano de yerua; meocuilin: gusano de maguei
- (4) cenocuilin: gusano de mayz; naca ocuilin: gusano de carne dañada
- (5) nextecuilin: gusano de muladar
- (6) ocuilin: gusano, generalmente, o ceuo para pescar
- (7) ocuilin quaquaue: gusano con cuernezillos
- (8) quauhocuilin: carcoma o gusano de madera
- (9) payatl: cierto gusanillo veloso
- (10) tlamocuilin: negujón, o gusano de dientes
- (11) tzumpayatl: cierto gusano
- (12) tzuntezcatl: cierto gusanillo

Part C: Insects (Crawling)

- (1) tapayaxin: cierta sauandija como salamaquesa
- (2) acelli: liendre
- (3) yolcatl: sauandija
- (4) atemitl: piojo
- (5) iztacatemitl, tecolotl, tetzauatemitl: piojo blanco del cuerpo
- (6) azcatl: hormiga
- (7) tlalacatl: escarabajo grande y bermejo
- (8) colotl; alacrán
- (9) mazaatemitl: garrapata
- (10) yacatotl: gorgojo
- (11) ocuilto: gorgojo que come el trigo o mayz
- (12) taten: los piojos de la cabeza
- (13) tecpin: pulga
- (14) tlazoltocatl, tilitocatl: araña grande
- (15) tlilazcatl: hormiga negra y ponzoñosa
- (16) tocamaxaqualli: cierta araña
- (17) tzicatl: hormiga grande y ponzoñosa que pica
- (18) tzintlatlahqui: araña grande y ponzoñosa
- (19) tzuntluna: cierta sauandija como araña
- (20) tepuntli: chinche pequeña
- (21) texca: chinche grande

Table III

Fish, Amphibians, Reptiles

- (1) amilotl: pescado blanco, como albur
- (2) amilotetl: huevos de pescado blanco
- (3) coamichin: anguila
- (4) michin: pescado
- (5) tentzone michin; baruo pescado
- (6) tlacamichin: vagre o pescado grande
- (7) xouilin: pescado de a palmo que parece trucha
- (8) acacueyatl: cierta rana
- (9) acaculyatl: cierta rana
- (10) atempolocotli, atepocatl: ranaquajo
- (11) cueyatl: rana
- (12) milcalatl: cierta ranilla

- (13) tamazolin: sapo
- (14) xochcatl: ranilla verde que se cría entre las yeruas
- (15) acoatl: culebra de agua
- (16) ayotl: tortuga
- (17) cencoatl: culebra grande y muy pintada
- (18) coatl: culebra
- (19) mazacoatl: culebra grande que no haze mal
- (20) nauiacltl: serpiente o bíuora
- (21) tequancoatl: bíuora o serpiente ponzoñosa
- (22) ttilcoatl: bíuora negra
- (23) tzicatlynan: culebra de hormiguero
- (24) xochayotl: galápago
- (25) tetzauhcoatl: basilisco

Table IV

- (1) atapalcatl: ánade, o pato pequeño
- (2) atlalalacaconetl: ansarino
- (3) vilotl: paloma; viloconetl; palomino; oquichuilotl: palomo, macho
- (4) canauhtli: ánade o pato; canauhconetl: anadino
- (5) ciuatotolin: gallina; totolin: gallina
- (6) cocotli: tórtola; cocoto: tortolilla, o cuco
- (7) coxolitli: faisán
- (8) zolin; codorniz
- (9) tepezulin: perdiz
- (10) yacacentli: cierto pato o ánade
- (11) quanaca: gallo o gallina de Castilla
- (12) quauhcoxolitli: faisán
- (13) tocuilcoyotl; grulla, ave conocida
- (14) xumul: cierto pato
- (15) tlalalacatl: ánsaro o pato grande; tlalalacaconetl: ansarino
- (16) vexocanauhtli: cierta ánade o pato
- (17) vexolotl: gallo

Part B: Predatory Birds

- (1) chichtli: lechuza o pito que tañen los muchachos
- (2) chiquatli: lechuza
- (3) cuzcaquauhtli: águila de cabeza bermeja
- (4) iztac quauhtli; águila blanca
- (5) pouhquauhtli: águila negra
- (6) quauhtli: águila
- (7) moloncayotl: gavián
- (8) tecolotl: búho
- (9) tlotli: gauilán, halcón, o azor

Part C: Plumage and Other Birds

- (1) xotlapech: cierto páxaro
- (2) vacalquauhtototl: cierto páxaro
- (3) acxoyatototl: cierto páxaro
- (4) axoquen: cierto páxaro de pluma blanca
- (5) aztatepito: garceta o garza pequeño; aztatl: garza

- (6) vitzaztatl, tlacaaztatl; ciertas garzas
- (7) cacalli: cuervo; acacalotl: cuervo marino
- (8) zaquantototl: páxaro de pluma amarilla y rica
- (9) centzuntlatolle: páxaro que canta mucho
- (10) chachalatli: cierto páxaro
- (11) chichilitic alo: papagayo grande y colorado
- (12) chiltototl: páxaro de pluma colorada
- (13) cocho, cochtl: papagayo
- (14) xochitototl: páxaro amarillo
- (15) cuicuitzcaconetl: golondrino; cuicuitzcatl: golondrina
- (16) molotl: pardal o gorrión
- (17) pacxixitli: cierto páxaro
- (18) quachichil: pardal o gorrión
- (19) quachichilitic: otro páxaro de cabeza colorada
- (20) quauhalo: papagayo grande y verde
- (21) quechulli: páxaro de pluma rica
- (22) quetzaltototl: páxaro de plumas verdes muy ricas y estimadas
- (23) techictli: cierto páxaro
- (24) teoquechol; cierto páxaro de plumas ricas
- (25) tetzauhtototl; ave agorera
- (26) tototl: páxaro
- (27) vitzizilin: cierto páxaro
- (28) toznene: papagayo que habla mucho

Table v

Part A: Carnivores

- (1) chichi: perro, o perra; chichito: perrillo o guzquejo
- (2) ciuamiztli: leona
- (3) coyotl: adiué; coyotontli: adiué pequeño
- (4) cuetlachtl: lobo
- (5) epatl: cierto animalejo que hiede mucho
- (6) mazamani itzcuintli: alano o lebel
- (7) mizconetl, miztepiton; leoncillo
- (8) miztli: león; mizton: gato; miztontli: gatillo o leoncillo
- (9) ocelotl: tigre
- (10) ocotochtli: gato montés, o marta animal
- (11) pezotli: cierto animalejo
- (12) pozotli: raposo, animal conocido

Part B: Artiodactyla

- (1) cocoyame: puercos; coyametl: puerco
- (2) mazatl: venado
- (3) oquich quaquaue: toro, animal; quaquaue: toro o animal que tiene cuernos
- (4) pitzotl: puerco
- (5) quaquauitl; cuerno de animal o astas; quaquauhtentzenc; cabrón o cabra
- (6) quauhtlacoyametl: puerco montes
- (7) quaquaueconetl: ternera o becerro
- (8) quauhcoyametl: jaulín

Part C: Rodents, Hares and Rabbits

- (1) chachauatl: lirón, o cierto animal como rata
- (2) citli: liebre; citontli: lebrastilla o lebrastón
- (3) mototli: cierto animalejo como ardilla
- (4) quauhchalotl: harda o ardilla
- (5) quimichin: ratón; quimichpil: ratoncillo
- (6) techalotl: cierto animalejo como ardilla
- (7) tepapa: cierto ratón
- (8) tetzauhquimichin, tetzupan: sorze, ratón pequeño
- (9) tlaltechalotl; cierto animalejo como harda
- (10) tochin; tochtli; conejo; tohconetl: gazapo
- (11) xaltocan: cierta rata o ratón

Part D: Primates, Bats, Moles and Opossums

- (1) atuzan: cierto animalejo como rata
- (2) ozumatli: mico o ximia
- (3) oquichoatomatl: mono, animal conocido
- (4) quauhchimal: mono, animal conocido
- (5) quimichpatlan; murciélago
- (6) tlaquatl: cierto animalejo
- (7) tozan: topo, animal, rata
- (8) vzumatl: mico o ximia
- (9) tzinacan: murciélago que muerde

Table VI

Molina - Sahagún correspondences

Tables	No. of Items in Molina	Molina-Sahagún Shared %	Numbers Missing From Sahagún Book 11
I	24	58 (approx.)	4, 7, 8, 9, 10, 13, 16, 19, 20, 22, 24
IIA	20	60 (approx.)	5, 6, 8, 11, 14, 15, 16, 17
IIB	12	58 (approx.)	6, 7, 10, 11, 12
IIC	21	34 (approx.)	2, 3, 4, 5, 7, 9, 10, 11, 12, 13, 14, 18, 19, 20
III	25	76	9, 14, 20, 21, 23, 24
IVA	17	71 (approx.)	7, 9, 11, 12, 17
IVB	9	78 (approx.)	5, 7
IVC	28	54 (approx.)	1, 2, 3, 6, 10, 12, 17, 19, 20, 21, 23, 24, 25
VA	12	67 (approx.)	2, 6, 7, 12
VB	8	50	3, 5, 6, 7
VC	11	73 (approx.)	7, 8, 11
VD	9	67 (approx.)	3, 5, 9
	196	-total number of animals listed in Molina's	



Fig. 1. a) mollusks, *Vaticanus B 23*; b) conch, *Vaticanus B 21*; c) toothed worm, *Vaticanus B 44*; d) flying insect, *Féjervary-Mayer 5*; e) turkey, *Féjervary-Mayer 6*; f) scorpion, *Borgia 13*; g) intertwined serpents, *Féjervary-Mayer 28*; h) owl, *Borgia 18*; i) quetzal bird, *Porfirio Díaz Reverso D*; j) jaguar, *Borgia 44*; k) deer, *Borgia 52*; l) rabbit, *Borgia 55*; m) monkey, *Borgia 13*.

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