

A CHECKLIST OF THE TRIATOMINAE (HEMIPTERA: REDUVIIDAE) OF MEXICO¹

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Abstract. A checklist of the species and subspecies of the Triatominae occurring in Mexico is presented. All known literature references, collection localities, and natural infections with *Trypanosoma cruzi* are included.

Literature references to the Triatominae of Mexico consist primarily of descriptions of species and reports that contribute to distributional records. Since the systematic position of many species has changed over the years, a complete, up-to-date listing of the information available on Mexican species is needed. This checklist follows the systematic revisions of Lent & Wygodzinsky (1979) (the most current and definitive work available on the Triatominae) and is intended to provide a listing of all species currently reported for Mexico, including distribution records and references, most of which have not previously been compiled. It is not meant to be a revision of the species in Mexico, and type specimens were not examined. The maps included for each species indicate the location of collection sites as reported in the literature. For some species, reports from a given state do not include specific localities. Thus, while these reports are included in the checklist, it was not possible to include them on the maps.

A total of 27 species (approximately ¼ of the described species) are known to occur in Mexico. Eighteen species (67%) have been reported with natural infections of *Trypanosoma cruzi* in Mexico. Of the remaining 9 species, *Triatoma neotomae* has been found naturally infected only in the United States, where it has been collected more frequently and over a wider geographical area [California through Texas (Lent & Wygodzinsky 1979)]. *Paratriatoma hirsuta* has not yet been found naturally infected, either in the United States or in Mexico, even though it can be infected experimentally (Lent & Wygodzinsky 1979). The remaining 7 species (*Belminus costaricensis*, *Eratyrus cuspidatus*, *Panstrongylus rufotuberculatus*, *Triatoma brailovskyi*, *T. incrassata*, *T. indictiva*, and *T. mexicana*) have each thus far been collected only once or twice (see Checklist) and none have yet been shown to be infected. *Trypanosoma rangeli* has been found for the first time in Mexico infecting *Rhodnius prolixus* (in mixed infections with *T. cruzi*) collected from houses in Agua Azul, Chiapas (Zárate & Zárate 1982).

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Most of the species that occur in Mexico are entirely or partially sylvatic, a fact that has contributed substantially to the poor understanding of the distribution of the species in Mexico. *Triatoma barberi* is a notable exception: it appears to be completely domiciliated, with no known sylvatic foci (Zárate et al. 1980, Zárate 1983). *Rhodnius prolixus*, which is suspected of being a relatively recent arrival in Mexico by way of migratory birds (Zeledón 1974), has been collected from houses in Oaxaca and Chiapas, but it undoubtedly also has sylvatic foci, as it does in other countries where it occurs (Gamboa 1963, 1970; D'Alessandro et al. 1971). Studies with reservoir animals in the state of Chiapas, Mexico, have demonstrated that 56% of sylvatic rodents and opossums tested by xenodiagnosis were positive for *T. cruzi*, versus only 16% of peridomestic rodents and opossums (L. Zárate, R. Zárate, E. Espinoza & I. Sánchez, unpubl. data). *Triatoma rubida*, *T. dimidiata*, *T. gerstaeckeri*, and all species of the *T. phyllosoma* complex (*T. longipennis*, *T. mazzottii*, *T. pallidipennis*, *T. phyllosoma*, and *T. picturata*) occur both in sylvatic and in peridomestic or domestic habitats.

Triatoma dimidiata is an important vector from Mexico through northern South America (Lent & Wygodzinsky 1979), occurring in houses as well as in association with bats, opossums, and armadillos (Zeledón 1981). It is also a highly variable species with respect to coloration, and Lent & Wygodzinsky (1979) did not consider the subspecies (*T. d. capitata* and *T. d. maculipennis*) to be valid after comparing a large number of specimens throughout the entire range of the species. While the specimens collected in Mexico (the northern extreme of its range) are usually smaller and darker and have the large, dark markings on the corium typical of "*maculipennis*," both coloration types were recently collected in the Miguel Alvarez del Toro Zoo in Tuxtla Gutierrez, Chiapas (L. Zárate & A. Ramírez, unpubl. data).

Many species of triatomines, especially those with a wide geographic distribution, are highly variable in size and color. Other Mexican species that show chromatic variation include *T. barberi* (Zárate 1983), the species of the *T. phyllosoma* complex (Lent & Wygodzinsky 1979), *T. rubida* (Lent & Wygodzinsky 1979), and *P. hirsuta* (Ryckman 1967, Lent & Wygodzinsky 1979).

The "species" of the *T. phyllosoma* complex (*T. longipennis*, *T. mazzottii*, *T. pallidipennis*, *T. phyllosoma*, and *T. picturata*) present an especially challenging systematic problem. Until recently, all were considered subspecies of *T. phyllosoma*, along with *T. p. intermedia* and *T. p. usingeri*. Lent & Wygodzinsky (1979) reinstated *T. longipennis*, *T. mazzottii*, *T. pallidipennis*, and *T. picturata* to full species, based entirely on morphological differences. The subspecies *T. p. intermedia* was synonymized with *T. longipennis*, while known specimens of *T. p. usingeri* were synonymized in part with *T. longipennis* and in part with *T. pallidipennis*. Typical specimens of each species are easily separated (Lent & Wygodzinsky 1979); however, intermediate forms have been bred in the laboratory from crosses between *T. picturata* and *T. pallidipennis*; *T. mazzottii* and *T. picturata*; *T. phyllosoma* and *T. picturata*; *T. phyllosoma* and *T. pallidipennis* (Mazzotti & Osorio 1942), and *T. mazzottii* and *T. longipennis* (L. Zárate, M. Cabrera & G. García, unpubl. data). The morphologic revision of Lent & Wygodzinsky

(1979) has been followed for this checklist, since the extensive interbreeding studies with this group are not yet completed (Zárate et al., unpubl.). While these taxa are morphologically more distinct than is usually attributed to subspecies, the studies in progress show that they interbreed readily in the laboratory. However, a preliminary analysis of the results for crosses between *T. mazzottii* and *T. longipennis* indicates that infertility occurs in the F₁ generation, particularly with respect to F₁ males, regardless of the parent species to which backcrosses are made (Zárate et al., unpubl. data).

A much more exhaustive collection of this species complex under natural conditions is necessary to establish continuity between currently disjunct populations (Fig. 1). Although the complex is restricted to Mexico, overlapping distributions have been reported for 4 of the component species (*T. longipennis*, *T. mazzottii*, *T. pallidipennis*, and *T. picturata*) (Fig. 1). *Triatoma longipennis* has been reported primarily from the northern range of the complex (Jalisco, Colima, Aguascalientes, Zacatecas, Nayarit, and southern Sinaloa) (Fig. 1, 18). Specimens collected in Batopilas, Chihuahua (Tay 1969) were originally identified as *T. phyllosoma intermedia*, which has subsequently been synonymized with *T. longipennis* (Lent & Wygodzinsky 1979). A single adult of *T. longipennis* was collected in Kanasín, Yucatán (Pinzón Cantarell et al. 1976) following a storm and is not believed to represent true distribution of this species into the Yucatán peninsula. A specimen of *T. phyllosoma* reported from Ventanas, Durango (with no further data) (Brumpt et al. 1939) was probably *T. longipennis* (Fig. 1). *Triatoma mazzottii* has been collected primarily along the coast of Oaxaca and Guerrero (Fig. 1, 19). Localities reported for this species farther north are relatively isolated [Venustiano Carranza, in northern Michoacán (Tay & Biagi 1964, Tay et al. 1967); Jala, Nayarit (Tay 1969); and Mezquitic, Jalisco (Tay & Biagi 1964)] (Fig. 19) and fall within the range of *T. longipennis*. It is possible that these 3 collections represent misidentifications, since *T. longipennis* and *T. mazzottii* are extremely similar in appearance and the most difficult within the complex to separate. Based only on the literature, these 2 species appear to be sympatric over part of their range and further collecting with careful identification is necessary to clarify their true distributions. *Triatoma pallidipennis* has a broad distribution and is apparently sympatric with *T. mazzottii*, *T. longipennis*, and *T. picturata* (Fig. 1, 22). Nevertheless, *T. pallidipennis* is the most morphologically distinct to the complex, with the entire corium of the adults white or cream-colored. Confusion of this species with other members of the complex would be difficult. An adult female of *T. pallidipennis* collected in San Andrés Tuxtla, Veracruz, in 1973 by Dr H. Brailovsky (pers. commun. 1983) is outside of its normal distribution (i.e., on the Pacific side of the Sierra Madre Mts) and may represent another example of storm distribution (Fig. 1). *Triatoma phyllosoma* (a short-winged form) is believed by Lent & Wygodzinsky (1979) to be a rarely encountered species, occurring only in the state of Oaxaca (Fig. 1, 24). Literature reports for this species from Nayarit (Mazzotti 1940a), Durango (Dias 1951), Sinaloa (Dias 1951, Ryckman & Ryckman 1967b), Zacatecas (Mazzotti 1940b), Guerrero (Dias 1951, Mazzotti 1940b), Chiapas (Brumpt et al. 1939, Dias 1951), Jalisco (Dias 1951, Mazzotti 1940b), and

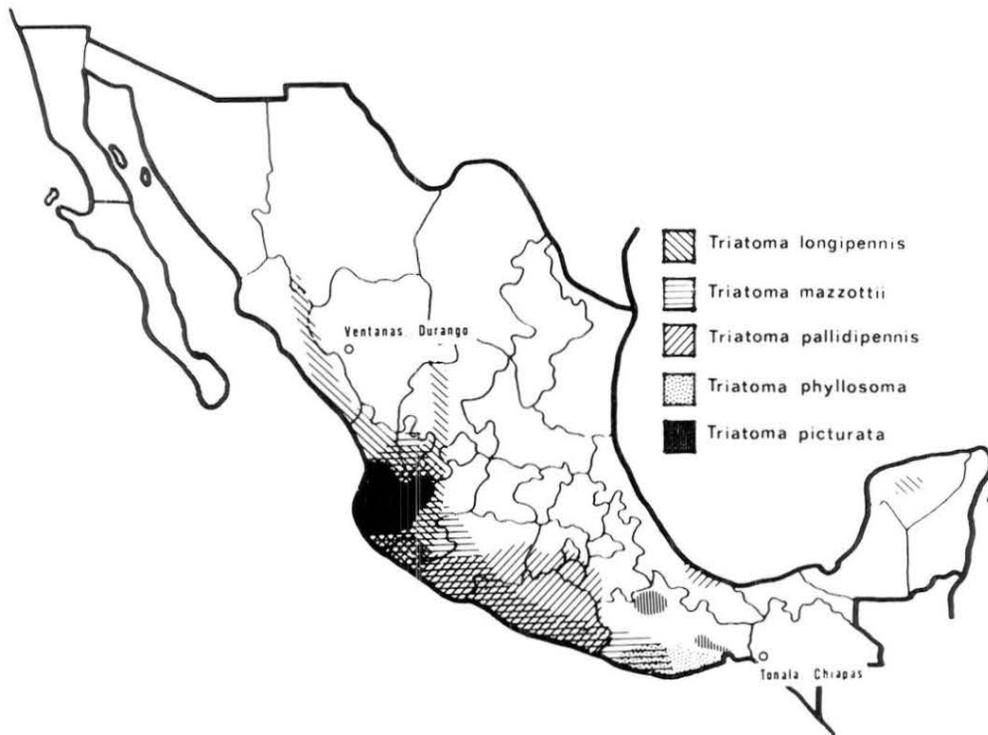


FIG. 1. Current distribution, based on literature reports, for the species of the *Triatoma phyllosoma* complex.

Michoacán (Dias 1951, Mazzotti 1940b) are believed to be due to either a lack of subspecific identification, mistaken identification at the subspecific level, or reference to the *T. phyllosoma* complex in general. Lent & Wygodzinsky (1979) state that they examined specimens of *T. phyllosoma* only from the state of Oaxaca. A specimen reported from Tonalá, Chiapas (only as *T. phyllosoma*) (Dias 1951) (Fig. 1), may actually represent the extension of *T. phyllosoma* into Chiapas or may have been confused with *T. mazzottii* (similar in color, but with wings of normal length), which also occurs in Oaxaca. The few specimens of *T. phyllosoma* that exist in collections may also be genetic abnormalities caused by interbreeding. *Triatoma picturata* has been reported primarily from Nayarit and Jalisco (Fig. 1, 25), where it is apparently sympatric with *T. longipennis*, *T. pallidipennis*, and *T. mazzottii* (Fig. 1). While it is also morphologically quite distinct from the other species of the complex (the connexivum more orange than black and with part of the postpronotum orange in color), the extent to which the relatively small distribution of this species is due to interbreeding is not clear. The reports of this species from Chiquihuitlán and Juchitán, Oaxaca (Biagi & Navarrete 1960) (Fig. 1) may be due to misidentification or inadequate collection and study of the intervening states.

Several Mexican species have extremely limited geographic distributions. *Dipetalogaster maxima* occurs only at the tip of Baja California Sur (Fig. 3), while *T. hegneri* has been collected only from Cozumel Island off the coast of Quintana Roo (Fig. 14). While *T. nitida* has been collected in Guatemala and Honduras (Lent & Wygodzinsky 1979), it has only been reported in Mexico from a small area around Ticul in the state of Yucatán (Fig. 21). Lent & Wygodzinsky (1979) believe that when enough specimens become available, it may prove to be synonymous with the closely related and morphologically similar *T. neotomae*. The latter has been officially reported only from the southwestern United States (Lent & Wygodzinsky 1979); however, Dr R. Ryckman has collected the species in the states of Nuevo Leon and Tamaulipas, Mexico (pers. commun. 1976), and a single adult male collected in San José, Costa Rica in 1963 has been tentatively identified by Lent & Wygodzinsky (1979) as *T. nitida* (based on its size and on its proximity to other Central American populations) even though it is morphologically and chromatically more similar to *T. neotomae*. Additional collecting of these species, especially in Mexico, is necessary to clarify the taxonomic status of the known populations.

Triatoma incrassata is another species with an apparently limited distribution. Verified specimens have been collected from Sonora (Fig. 15), as well as from Arizona in the United States (Lent & Wygodzinsky 1979). The type specimen, however, bears a label stating "Valle de México." While this term has usually been connected with the valley of Mexico City in the center of the country, it may represent an error either in labeling or in association. Lent & Wygodzinsky (1979) do not consider the previously accepted subspecies of *T. i. apachensis* as valid.

Other subspecific categories rejected by Lent & Wygodzinsky (1979) following comparative morphological examination of museum specimens include: *T. l. occulta* of *T. lecticularia*, *T. r. nigricollis* of *T. recurva*, *T. s. occidentalis* of *T. sanguisuga*, and the subspecies of *Paratriatoma hirsuta* (*P. h. kamiensis*, *P. h. papagoensis*, *P. h. pima*, and *P. h. yumanensis*). Lent & Wygodzinsky (1979) state that the location of the type specimens for the subspecies of *P. hirsuta* as described by Ryckman (1967) is unknown and that they believe the subspecies to be only chromatically different, allopatric populations. Since the latter is in general a valid criterion for naming a subspecies, we have elected to include in the checklist those subspecies of *P. hirsuta* that have been reported for Mexico [*P. h. kamiensis* from northern Baja California Norte (Fig. 7), *P. h. papagoensis* from Sonora (Fig. 8), and *P. h. yumanensis* from southern Baja California Norte and northern Baja California Sur (Fig. 9)]. While currently allopatric, only a few specimens of each have been collected and additional study of this group is necessary to clarify its taxonomic status.

Lent & Wygodzinsky (1979) believe that true *T. sanguisuga* occur only in the southeastern United States and that all specimens previously reported for Mexico as *T. sanguisuga* are, in fact, *T. indictiva* (previously considered a subspecies of *T. sanguisuga*). *Triatoma sanguisuga occidentalis* was synonymized with *T. indictiva* (Lent & Wygodzinsky 1979). Lent & Wygodzinsky (1979) found both *T. s. indictiva* and *T. s. occidentalis* to

be consistently and distinctly different from all other *T. sanguisuga* in both color pattern and width of the eyes. While they based their decision for raising *T. indictiva* to a full species on an examination of a large number of specimens, primarily from the United States, the only specimens which have been reported from Mexico were identified as either *T. s. indictiva* (from Chihuahua) or *T. s. occidentalis* (from Sinaloa) (Fig. 16). No specimens of what Lent & Wygodzinsky consider to be *T. sanguisuga* have yet been reported from Mexico. It is likely, however, that with more extensive collection of sylvatic species in the northern states of the country, both species will eventually be found to have broader distributions.

The *T. rubida* complex represents a situation similar to that of the *T. phyllosoma* complex. While Lent & Wygodzinsky (1979) accept as valid all of the current subspecies (*T. r. cochimiensis*, *T. r. jaegeri*, *T. r. rubida*, *T. r. sonora*, and *T. r. uhleri*), they believe that with additional specimens available and experimental interbreeding, *T. rubida* may prove to be a chromatically variable assortment of sympatric (and in some cases allopatric) populations. Intermediate forms, which do not fit well into any of the subspecies, have been collected, especially with respect to *T. r. sonora* and *T. r. uhleri* (Ryckman et al. 1965, Ryckman & Ryckman 1967b). The current distribution of the subspecies of this complex is little more than chaotic and is undoubtedly a result of misidentification of specimens reported in the literature due to chromatic variation and intermediate forms. *Triatoma r. rubida* has been reported extensively from Baja California Sur (Fig. 35) as well as from Sonora, Sinaloa, and Nayarit (see Checklist). From the literature, it appears to be sympatric in part with *T. r. cochimiensis* (reported from south-central Baja California Norte through north-central Baja California Sur) (Fig. 33) and *T. r. sonora* on the mainland (Fig. 36). However, Lent & Wygodzinsky (1979) believe that *T. r. rubida* occurs only in Baja California Sur and that the reports of this subspecies from the mainland (see Checklist) may be misidentifications. Dr R. Ryckman (pers. commun. 1982) believes that *T. r. rubida* and *T. r. cochimiensis* are allopatric, with *T. r. rubida* occurring only south of La Paz and *T. r. cochimiensis* occurring only north of La Paz in Baja California Sur. *Triatoma r. jaegeri* has been reported only from Pond Island (off the southern tip of Isla Angel de la Guarda) of Baja California Norte (Fig. 34). *Triatoma r. sonora* has been reported primarily from the mainland (Sinaloa, Sonora, and Nayarit) (Fig. 36). However, Biagi (1956) reported the collection of a specimen from Isla Partida of Baja California Sur (Fig. 36). Further collecting is necessary to clarify whether the distribution of this subspecies extends into Baja California Sur and thus overlaps in distribution with *T. r. rubida* on the peninsula. While the report of Biagi (1956) may be a result of misidentification, it cannot at the present time be verified as such. The issue is further complicated by the fact that these subspecies are apparently sympatric on the mainland (?) and intermediate forms between *T. r. sonora* and *T. r. uhleri* have been reported from both Baja California Sur and Sonora (Ryckman et al. 1965, Ryckman & Ryckman 1967b). *Triatoma r. uhleri* has been reported from Sonora [apparently sympatric with *T. r. rubida* (?) and *T. r. sonora*] (Fig. 37) and Chihuahua.

Lent & Wygodzinsky (1979) include the state of Veracruz (no locality specified) in the distribution of *T. r. uhleri*. However, since Veracruz is distinctly different from the northwest in both climate and topography, as well as representing a sizable gap in distribution, the report of this state has not been included on the map for *T. r. uhleri*. Perrin (1949) reported collecting a specimen of *T. rubida* (subspecies not specified) from Guerrero (locality not specified). It is possible that the distribution of *T. r. rubida* and/or *T. r. sonoriensis* (both of which have been reported from Nayarit) (see Checklist) may extend as far south as Guerrero, since the coastline of the states bordering the Pacific is similar. However, due to the isolation and lack of specifics for this report, it has also not been included on the maps. So little is known about the distribution of sylvatic species in Mexico that it is extremely difficult at this time to state with certainty the actual limits of any given species or subspecies. The *T. rubida* complex, with adequate collection and study, may eventually be found to occur within the entire northern ½ of the country.

With time, it is probable that additional species will be reported from Mexico due to the spread northward of species from Central America, an increased interest in the local fauna by Mexican investigators, and a better dissemination of information on specimens collected and stored in both public and private collections. *Triatoma ryckmani*, a species that is believed to occur in bromeliads in Guatemala and Honduras (Zeledón & Ponce 1972, Lent & Wygodzinsky 1979), may also occur in the state of Chiapas, since there is little difference, if any, between the mountainous border regions of Mexico and Guatemala.

One or more species of the Triatominae have been reported from all 31 states of the Mexican Republic (see Appendix).

CHECKLIST OF THE TRIATOMINAE (HEMIPTERA: REDUVIIDAE) OF MEXICO*⁵

Belminus costaricensis Herrer, Lent & Wygodzinsky, 1954 Fig. 2

Collection record. VERACRUZ: Los Tuxtlas Biological Station, San Andrés Tuxtla.

Reference. Lent & Wygodzinsky 1979.

Remarks. One male and 1 nymph were collected in a bromeliad in Veracruz. This species has previously been collected only in Costa Rica. Lent & Wygodzinsky (1979) place the Mexican specimens tentatively as *B. costaricensis*, since there were minor differences in some morphologic characters between the Mexican and Costa Rican specimens. Further collecting of this species in Mexico and Central America is needed to clarify the systematic status of these populations.

Dipetalogaster maxima (Uhler, 1894) Fig. 3

Collection records. BAJA CALIFORNIA SUR: La Paz*; 10 km SW of La Paz; 35 km S of La Paz; San José del Cabo; Cabo San Lucas; 3 km N of Cabo San Lucas; El Triunfo*; canyons of El Cajoncito & Vinoramos.

5. Asterisked localities indicate natural infections of bugs with *Trypanosoma cruzi*.

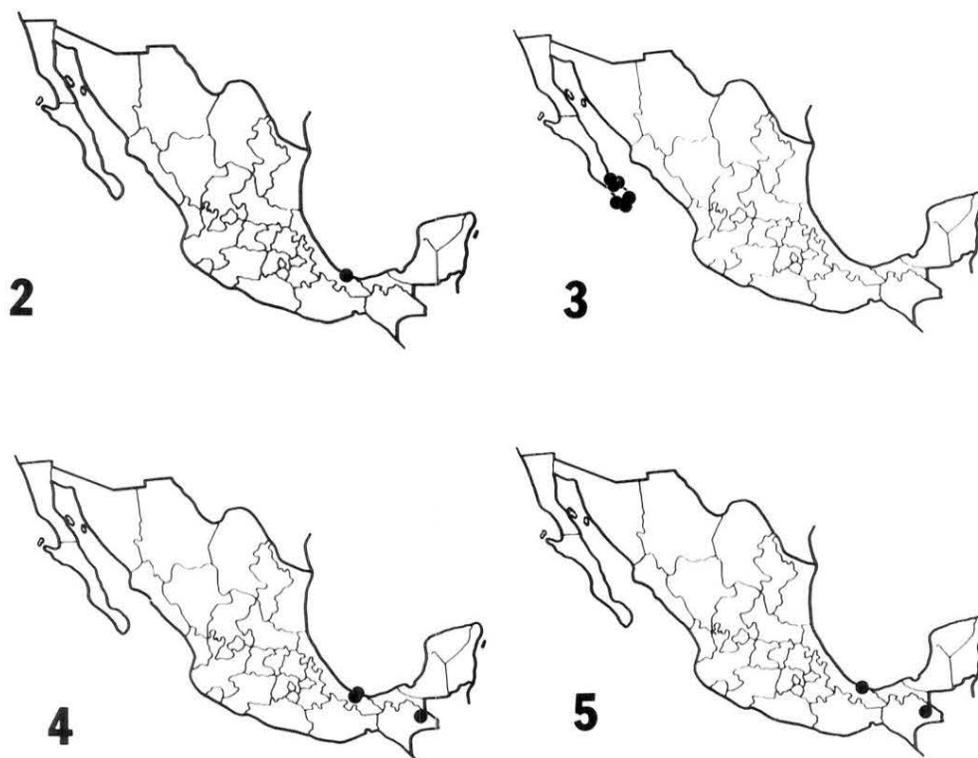


FIG. 2-5. Distribution of Triatominae in Mexico: **2**, *Belminus costaricensis*; **3**, *Dipetalogaster maxima*; **4**, *Eratyrus cuspidatus*; **5**, *Panstrongylus rufotuberculatus*.

References. Uhler 1894; Larrousse 1924; Usinger 1939, 1944; Mazzotti 1940b, 1940h; Mazzotti & Dias 1949; Dias 1951; Ryckman & Ryckman 1961, 1967a; Ryckman et al. 1965; Brodie & Ryckman 1967; Ryckman & Casdin 1976; Marsden et al. 1979; Lent & Wygodzinsky 1979.

***Eratyrus cuspidatus* Stål, 1859**

Fig. 4

Collection records. VERACRUZ: Catemaco; Los Tuxtlas Biological Station, San Andrés Tuxtla. CHIAPAS: Bonampak.

References. Pers. commun. Dr J. Zavala VI.1977; pers. commun. Dr H. Brailovsky IX.1983.

***Panstrongylus rufotuberculatus* (Champion, 1899)**

Fig. 5

Collection records. VERACRUZ: Los Tuxtlas Biological Station, San Andrés Tuxtla. CHIAPAS: Bonampak.

References. Pers. commun. Dr A. Cruz VII.1982; pers. commun. Dr H. Brailovsky IX.1983; pers. commun. Dr D. Peláez XI.1983.

Remarks. This is the first report for *P. rufotuberculatus* in Mexico. Adults of this species were collected at lights in both Veracruz and Chiapas. Lent & Wygodzinsky (1979) list 8 other countries in the distribution of this species (Ecuador, Costa Rica, Panama, Venezuela, Colombia, Peru, Bolivia, and Brazil).

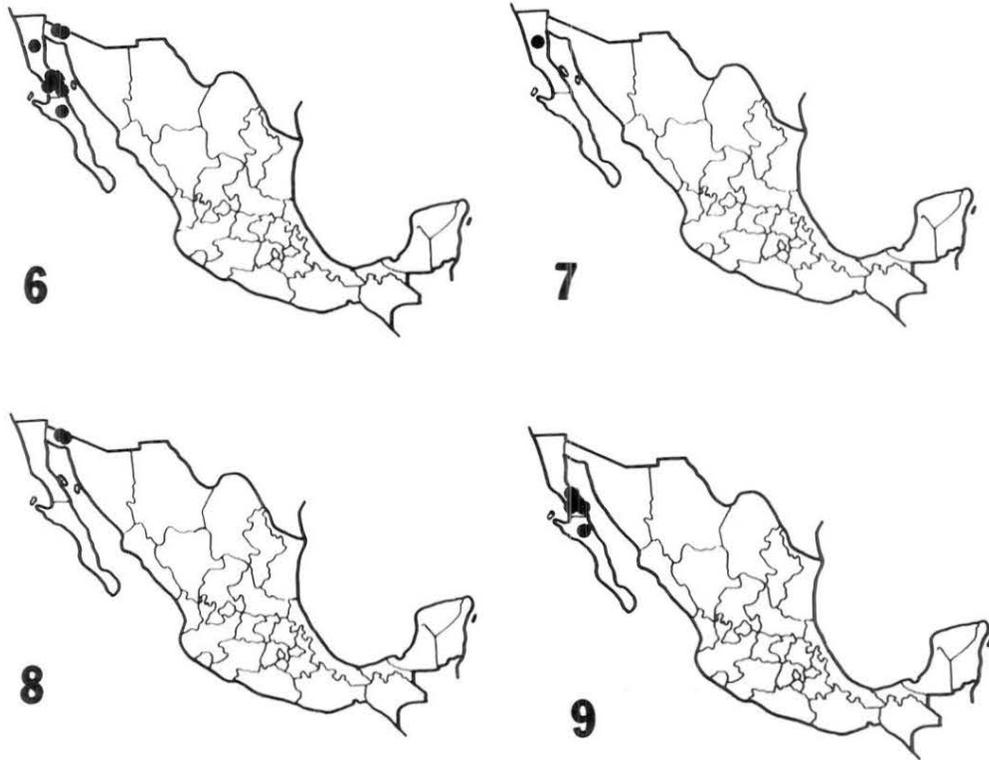


FIG. 6-9. Distribution of Triatominae in Mexico: **6**, *Paratriatoma hirsuta* complex; **7**, *Paratriatoma hirsuta kamiensis*; **8**, *Paratriatoma hirsuta papagoensis*; **9**, *Paratriatoma hirsuta yumanensis*.

***Paratriatoma hirsuta kamiensis* Ryckman, 1967**

Fig. 6-7

Collection records. BAJA CALIFORNIA NORTE: Mt San Jacinto S to the eastern slopes of Mt San Pedro Martir.

References. Ryckman 1967, 1971; Ryckman & Casdin 1976.

Remarks. See discussion of this complex in the Introduction.

***Paratriatoma hirsuta papagoensis* Ryckman, 1967**

Fig. 6-8

Collection records. SONORA: northern desert region; 131 km and 135 km W of Sonoyta.

References. Ryckman & Olsen 1960; Ryckman & Ryckman 1967b; Ryckman 1967, 1971.

Remarks. See discussion of this complex in the Introduction.

***Paratriatoma hirsuta yumanensis* Ryckman, 1967**

Fig. 6, 9

Collection records. BAJA CALIFORNIA NORTE: San Francisquito Bay; Arroyo de Bahía Calamgue; 5 km E of Las Arrastras; sylvatic sites near Punta Prieta; San Agustín; San Ignacio; Bahía de los Angeles and southward. BAJA CALIFORNIA SUR: sylvatic sites in the northern region of the state.

References. Ryckman & Ryckman 1961, 1967b; Brodie & Ryckman 1967; Ryckman 1967, 1971; Ryckman & Casdin 1976.

Remarks. See discussion of this complex in the Introduction.

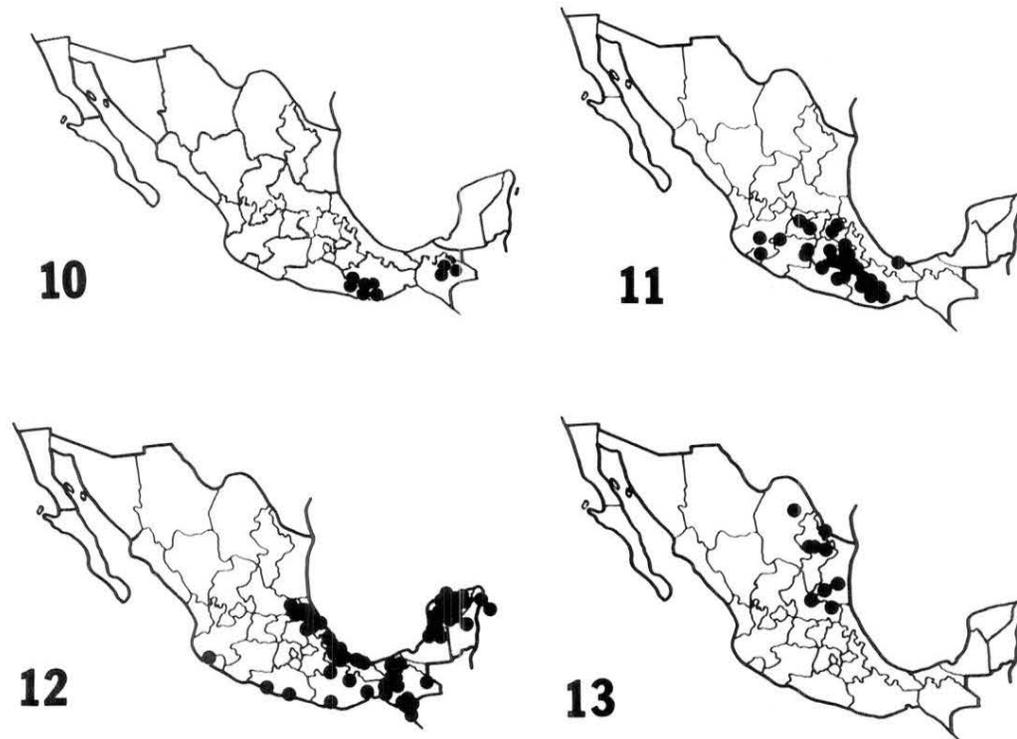


FIG. 10–13. Distribution of Triatominae in Mexico: 10, *Rhodnius prolixus*; 11, *Triatoma barberi*; 12, *Triatoma dimidiata*; 13, *Triatoma gerstaeckeri*.

***Rhodnius prolixus* Stål, 1859**

Fig. 10

Collection records. CHIAPAS: Villa de Chilón; León Brindis*; Agua Azul Chiquito*; Municipio de Ocosingo. OAXACA: Santo Domingo Teojomulco* (Mina del Carmen); San José de las Flores*; Santiago Jamiltepec*; Putla*; Cerro del Aire (10 km W of Santos Reyes Nopala); region of Oaxaca bordering the state of Guerrero*.

References. Mazzotti 1938, 1940b, 1940c; Brumpt et al. 1939; Usinger 1944; Mazzotti & Dias 1949; Dias 1951; Biagi & Navarrete 1960; Biagi et al. 1960; Tay et al. 1961; Tay & Biagi 1964; Tay 1969; Ryckman & Casdin 1976; Ortega et al. 1976; Goldsmith et al. 1978; Lent & Wygodzinsky 1979; Zárate & Zárate 1982.

Remarks. See mention of this species in the Introduction.

***Triatoma barberi* Usinger, 1939**

Fig. 11

Collection records. COLIMA: locality unspecified. GUANAJUATO: Los Galvanes. GUERRERO: Huamutitlán*; Olinalá*; Iguala. HIDALGO: Metztitlán*; Santiago de Anaya. JALISCO: Municipio de Zacoalco de Torres*. MEXICO: Distrito Federal. MICHOACAN: El Capulín*; La Mesa*; Milpillas* (Municipio de Tuxpan); El Malacate*; Tuxpan*; Muirunio. MORELOS: Cuernavaca; Temixco; Villa Ayala*; Zacoalpan de Amilpas*; Jojutla; Acatlipa; Axochiapan; Tilizapotla; Las Higueras; Chiconcuac*. OAXACA: Tepelmeme*; Magdalena Apazco*; Sola de Vega*; Cuicatlán; Miahuatlán*; Santo Domingo Tomaltepec*. PUEBLA: Chietla; Puebla; Tecomatlán; Piaxtla; Izucar de Matamoros. QUERETARO: Villa Corre-

gidora*. TLAXCALA: San Cosme Mezatecochco*; San Francisco Papalotla. VERACRUZ: San Andrés Tuxtla.

References. Mazzotti 1938, 1939a, 1940b, 1940f, 1940g, 1940h; Brumpt et al. 1939; Usinger 1939, 1944; Mazzotti & Dias 1949; Perrin 1949; Dias 1951; Biagi 1956; Ryckman 1962; Tay & Biagi 1964; Ryckman et al. 1965; Little et al. 1966; Tay et al. 1966a, 1966b, 1967, 1973, 1979; Brodie & Ryckman 1967; Tay 1969; González Hernández et al. 1972; Ryckman & Casdin 1976; Lent & Wygodzinsky 1979; Zárate et al. 1980; Salazar Schettino 1981; Salazar Schettino et al. 1983; pers. commun. Dr H. Brailovsky 1983; Zárate & Zárate, unpubl. data.

Remarks. González Hernández et al. (1972) reported collections of *T. barberi* and *T. pallidipennis* from villages of Jojutla, Villa de Ayala, Acatlipa, Axochiapan, Tilzapotla, Zacoalpan, Las Higueras, and Chiconcuac of the state of Morelos without specifying which species were collected in which village. A single adult male of *T. barberi* was collected at a light trap in San Andrés Tuxtla, Veracruz, by Dr H. Brailovsky in June 1972. While this is a new state record for *T. barberi*, the collection is outside of the normal range and plateau habitat preferred by this species and probably does not represent distribution into the coastal lowlands of Veracruz. See discussion of this species in the Introduction.

Triatoma brailovskyi Martínez, Carcavallo & Peláez, 1984

Fig. 39

Collection records. COLIMA: along highway where crossed by Rio San José, between Minotitlán and Santiago. JALISCO: Chamela. NAYARIT: 15 km S of Compostela.

References. Martínez et al. 1984.

Remarks. Approximately 80 specimens of this species have been collected between 1969 and 1981. All were males collected at light traps. The female is unknown, as are its natural habitat and host associations.

Triatoma dimidiata (Latreille, 1811)

Fig. 12

Collection records. CAMPECHE: Bolochenticul (Bolochen); Campeche*; Hopelchen; Hecelchakan; Pomuch; Tenabo*. CHIAPAS: Mapastepec*; Mezcalapa (near Pichucalco); Motozintla; Pichucalco; Tapachula; Tonalá*; Tuxtla Gutiérrez; Venustiano Carranza*; Tecpatan; Copainalá; San Andrés (Municipio de Pichucalco); El Mercadito; Cintalapa; Bonampak. GUERRERO: Puerto Marquez* (Acapulco); Ixtapa Zihuatanejo. JALISCO: Cihuatlán*. NAYARIT: locality unspecified. OAXACA: Chiquihuitlán*; Choapan*; Santos Reyes Nopala, Isthmus of Tehuantepec. PUEBLA: Mesa de San Diego (Pemex Station). QUINTANA ROO: Xcaret; Felipe Carrillo Puerto*; Cozumel I* (Rancho Nuevo, San Miguel, El Cedral, Rancho Santa Rita, Xcan Nuevo); Cancun. SAN LUIS POTOSI: Tamazunchale*; El Bañito de Ciudad Valles; Ciudad Santos. TABASCO: Macuspana*; Teapa; Ranchería Buenavista; Villa Hermosa. VERACRUZ: Córdoba; Cuesta de Misantla; Nanchital; Tempoal; Tierra Blanca*; Tantoyuca; San Andrés Tuxtla; Veracruz*; Actopan; Aguacate; La Ceiba; Camarones (Municipio de Huayacocotla); Catemaco. YUCATAN: Dzitas; Uxmal*; Temax; Valladolid; Merida*; Pacabún*; Peto*; Progreso; Texmeuc; Thacmec; Ticul*; Chichen Itzá; Oxkutzcab*; Tekax; Yaxcopoil; 5 km S of Muna; Cantunil*; Izamal*; San Pedro Nohpat*; San Antonio Dzizcal; Ticopó; Tella*; 8 km S of Ticul*; Tinúm*; Halachó*; Motul*; Maxcanú; Chabihau*; Dzemul*; Hunucma*; Kipomá*; Kanasín*; Belca*; Balachó* (Halachó?); Baca; Cenotillo; Hzinca; Muna*.

References. Champion 1899; Hoffmann 1928; Mazzotti 1937b, 1940b, 1940h; Bernal Flandes 1938; Brumpt et al. 1939; Palomo 1940; Usinger 1944; Mazzotti & Dias 1949; Dias 1951; Biagi 1956; Biagi & Navarrete 1960; Tay & Biagi 1964; Hernández Lira 1965; González Angulo & Ryckman 1967; Ryckman & Ryckman 1967b; Tay 1969; Tay et al. 1972; Zavala

et al. 1974; Ryckman & Casdin 1976; Pinzón Cantarell et al. 1976; Quintal & Polanco 1977; Goldsmith et al. 1978; Lent & Wygodzinsky 1979; pers. commun. Dr H. Brailovsky 1983.

Remarks. See discussion of this species in the Introduction.

Triatoma gerstaeckeri (Stål, 1859)

Fig. 13

Collection records. CHIHUAHUA: locality unspecified. COAHUILA: Sabinas*. NUEVO LEON: Monterrey; General Bravo*; Rancho Alamillas, to the west of Cerro de la Silla (Monterrey). SAN LUIS POTOSI: Presa de Guadalupe (Municipio de Guadalcázar); El Naranjo. TAMAULIPAS: Soto la Marina; Tula*; Nueva Ciudad Guerrero; Los Cerritos; Estación Ramírez.

References. Mazzotti 1940b, 1947; Usinger 1944; Aguirre Pequeño 1947; Mazzotti & Dias 1949; Dias 1951; Tay & Biagi 1964; Tay 1969; Lent & Wygodzinsky 1979; pers. commun. Dr H. Brailovsky 1983.

Triatoma hegneri Mazzotti, 1940

Fig. 14

Collection records. QUINTANA ROO: Cozumel I* (Rancho Nuevo, Rancho Santa Rita*, El Cedral, forest area around a Mayan ruin used as a shelter by sylvatic animals).

References. Mazzotti 1940d, 1943b; Usinger 1944; Mazzotti & Dias 1949; Dias 1951; González Angulo & Ryckman 1967; Lent & Wygodzinsky 1979.

Triatoma incassata Usinger, 1939

Fig. 15

Collection records. SONORA: Santa Bárbara (nr Nogales); northern border to foothills of Sierra Madre Mts; "Valle de México."

References. Usinger 1939, 1944; Mazzotti 1940b; Mazzotti & Dias 1949; Dias 1951; Ryckman & Casdin 1976; Lent & Wygodzinsky 1979.

Remarks. The type specimen of *T. incassata* bears the collection label "Valle de México." It is not certain from which state the specimen was collected. See discussion of this species in the Introduction.

Triatoma indictiva Neiva, 1912

Fig. 16

Collection records. CHIHUAHUA: Ciudad Juárez. SINALOA: Mazatlán.

References. Usinger 1939, 1944; Mazzotti & Dias 1949; Dias 1951; Ryckman & Casdin 1976; Lent & Wygodzinsky 1979.

Remarks. Records for *T. indictiva* in Mexico occur in the literature as *T. sanguisuga*, *T. sanguisuga indictiva*, or *T. sanguisuga occidentalis*. Lent & Wygodzinsky (1979) believe that *T. sanguisuga* occurs only in the United States and that collections from Mexico are *T. indictiva*. See discussion of this species in the Introduction.

Triatoma lecticularia (Stål, 1859)

Fig. 17

Collection records. NUEVO LEON: Monterrey; Municipio de China*.

References. Usinger 1944; Mazzotti & Dias 1949; Dias 1951; Lent & Wygodzinsky 1979; Tay et al. 1972.

Triatoma longipennis Usinger, 1939

Fig. 18

Collection records. AGUASCALIENTES: Barranca de Portales*; Presa de los Serna*. CHIHUAHUA: Batopilas. COLIMA: Colima. JALISCO: Autlán de Navarro; Purificación; Tala. NAYARIT: Tepic*; Trapiche* (rancho between the Municipios of Yesca and Ixtlán); Pantanal. SINALOA: Venedio; Mazatlán; Elota; YUCATAN: Kanasín. ZACATECAS: Juchipi-

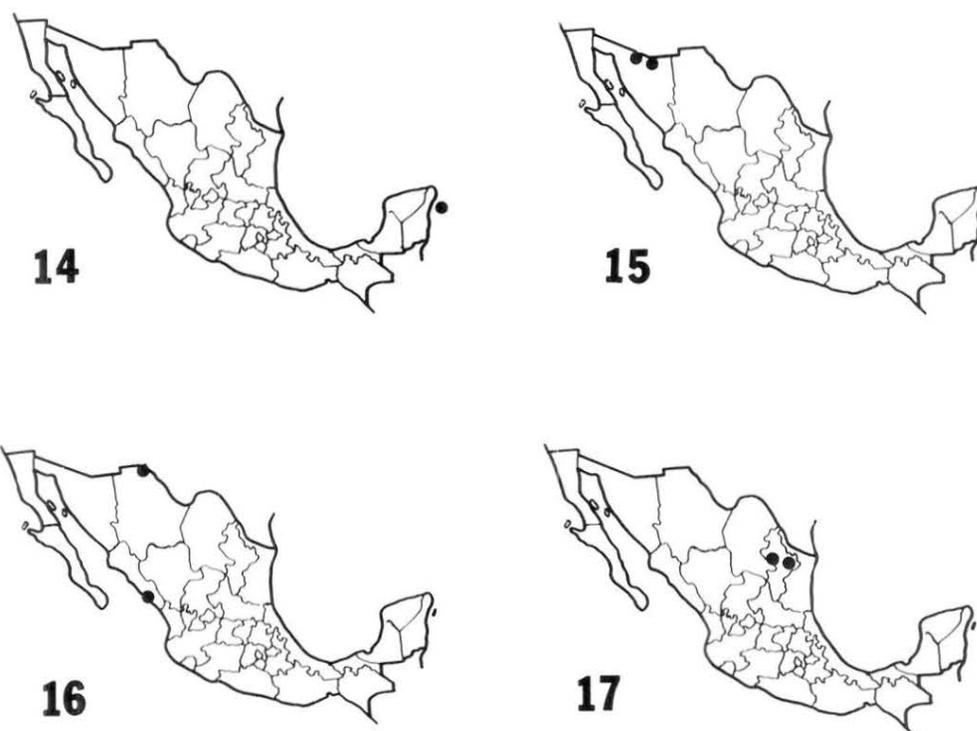


FIG. 14-17. Distribution of Triatominae in Mexico: **14**, *Triatoma hegneri*; **15**, *Triatoma incrustata*; **16**, *Triatoma indictiva*; **17**, *Triatoma lecticularia*.

la*; Momax*; Estanzuela* (Municipio de Tlaltenango de Sánchez Ramón); Las Pilas*; Tovares* (Municipio de Tepechitlán); Tepechitlán*; Moyahua*; Apozol*; Santa Juana* (Municipio de Jalpa); Huanusco*; Atotonilco*; Milpillas de Allende* (Municipio de Teul de González Ortega).

References. Usinger 1939, 1944; Mazzotti 1940b, 1943a; Mazzotti & Dias 1949; Dias 1951; Tay & Biagi 1964; Little et al. 1966; Tay et al. 1968, 1972, 1973; Tay 1969; Velasco Castrejón et al. 1970; Zavala et al. 1974; Pinzón Cantarell et al. 1976; pers. commun. Dr J. Zavala 1977; Lent & Wygodzinsky 1979; pers. commun. Dr R. Gómez Torres 1980; pers. commun. Dr H. Brailovsky 1983.

Remarks. Collection records for *T. longipennis* include literature references to *T. phyllosoma longipennis*, *T. phyllosoma usingeri*, and *T. phyllosoma intermedia*. See the discussion of this species in the Introduction. A single adult specimen of *T. longipennis* was collected in Kanasín, Yucatán, following a storm (Pinzón Cantarell et al. 1976; pers. commun. Dr J. Zavala 1977) and probably does not represent actual distribution into the Yucatán peninsula.

Triatoma mazzottii Usinger, 1941

Fig. 19

Collection records. GUERRERO: Tetitlán*; Tecpán de Galeana*; Puerto Marquez (Acapulco). JALISCO: Mezquitic. MICHOACAN: Venustiano Carranza*. NAYARIT: Jala. OAXACA: Alacranes; Pocitos Collantes; Santiago Juxtlahuaca; Pinotepa Nacional; San Pedro Tutute-

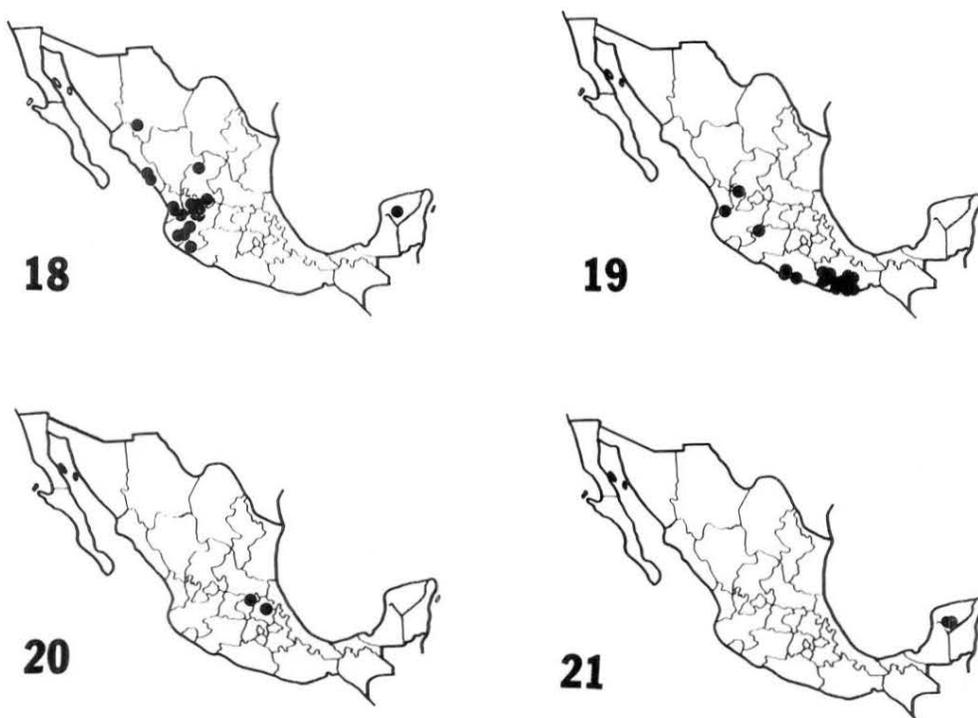


FIG. 18–21. Distribution of Triatominae in Mexico: 18, *Triatoma longipennis*; 19, *Triatoma mazzottii*; 20, *Triatoma mexicana*; 21, *Triatoma nitida*.

pec; Rio Grande; Juquila; San Juan Lachao Nuevo; San Juan Cacahuatpec; San José de las Flores; Santiago Cuixtla*; Santiago Jamiltepec; area called Costa Chica; Yosondúa de Tlaxiaco; San Pedro Juchatengo (La Comadreja).

References. Usinger 1941, 1944; Mazzotti & Osorio 1942; Mazzotti & Dias 1949; Dias 1951; Biagi & Navarrete 1960; Biagi et al. 1960, 1964; Tay et al. 1961, 1967, 1969, 1973; Tay & Biagi 1964; Little et al. 1966; Tay 1969; Lent & Wygodzinsky 1979; Zárate & Zárate, unpubl. data; pers. commun. Dr H. Brailovsky 1983.

Remarks. See discussion of this species in the Introduction.

Triatoma mexicana (Herrich-Schaeffer, 1848)

Fig. 20

Collection records. HIDALGO: Metztlán. QUERETARO: 1.5 km NW of Ayutla.

References. Herrich-Schaeffer 1848; Mazzotti 1940b, 1940e; Usinger 1944; Mazzotti & Dias 1949; Dias 1951; Lent & Wygodzinsky 1979.

Triatoma neotomae Neiva, 1911

Collection records. NUEVO LEON: sylvatic sites between Nuevo Laredo and Montemorelos and S of Monterrey. TAMAULIPAS: sylvatic sites.

Reference. Pers. commun. Dr R. Ryckman 1976.

Remarks. See discussion of this species in the Introduction.

Triatoma nitida Usinger, 1939

Fig. 21

Collection records. YUCATAN: Ticul*; 8 km S of Ticul*.

References. Usinger 1939; González Angulo & Ryckman 1967; Ryckman & Ryckman 1967b; Lent & Wygodzinsky 1979.

Remarks. See discussion of this species in the Introduction.

Triatoma pallidipennis (Stål, 1872)

Fig. 22

Collection records. COLIMA: Colima*. GUERRERO: Arcelia*; Izuala* (Iguala?); Zumpango*; Chilpancingo; Iguala*; Tetela* (Municipio General Heliadoro Castillo); Balsas; Tepecoa-cuilco*; Tlapa*; Vallecitos de Zargoza (Municipio José Azueta); Los Placeres (Municipio Coyuca de Catalán); Chilapa*; Acamixtla (Municipio Taxco de Alarcón); La Mina*; Húitzuco; Rincón de Lucero; Agua Zarca (Municipio de Axoyu). JALISCO: Autlán de Navarro; Mascota*. MEXICO: Atencingo; San José Tutuapán; Temascaltepec; Portrero Chico; Distrito Federal. MICHOACAN: Apatzingán*; Nueva Italia de Ruíz*; Carácuaro; Enandio (Municipio Zitácuaro); Jungapeo de Juárez*; Parácuaro; Muraracha; El Asoleadero*; Agua Blanca*. MORELOS: Villa de Ayala*; Zacatepec; Zapotla*; Axochiapan; Las Higueras*; Tetecala; Miaatlán; Zacoalpan de Amilpas*; Jojutla; Acatlipa*; Tilzapotla; Chiconcuác*; Atencingo; Coatlán del Río; San Felipe Yauatepec; Cuernavaca; Tlaltizapan; Cañon de Lobos; 3 km S of Tetealite (in cave); 4 km S of Chinameca. PUEBLA: 3 km NE of Chietla*; Matamoros (Izúcar de Matamoros?); 13 km S of Jonacatepec*; Barranca de Cuecuetla*; Huehuetlán; Rancho Ixtlaclala; Izúcar de Matamoros*. QUERETARO: Acámbaro. VERACRUZ: San Andrés Tuxtla. ZACATECAS: Milpillas de Allende (Municipio Teul de González Ortega).

References. Stål 1872; Mazzotti 1937a, 1940b, 1940f, 1940h; Brumpt et al. 1939; Herr & Brumpt 1939; Usinger 1941, 1944; Mazzotti & Osorio 1942; Dias et al. 1947; Perrin et al. 1947; Mazzotti & Dias 1949; Perrin 1949; Dias 1951; Pérez Reyes 1953; Biagi 1956; Biagi et al. 1958; Biagi & Navarrete 1960; Tay & Biagi 1964; Ryckman et al. 1965; Little et al. 1966; Tay et al. 1966a, 1967, 1972, 1973; Tay 1969; González Hernández et al. 1972; Lent & Wygodzinsky 1979; pers. commun. Dr H. Brailovsky 1983.

Remarks. Collection records for *T. pallidipennis* include literature references to *T. phyllosoma pallidipennis* and *T. phyllosoma usingeri*. See discussion of this species in the Introduction. González Hernández et al. (1972) reported collections of *T. pallidipennis* and *T. barberi* from the villages of Jojutla, Villa de Ayala, Acatlipa, Axochiapan, Tilzapotla, Zacoalpan, Las Higueras, and Chiconcuác of the state of Morelos, without specifying which species were collected in which village. Biagi (1956) reported a collection of *T. pallidipennis* from Acámbaro, Michoacán. However, Acámbaro is a town 10 km N of the Michoacán-Queretaro state line and actually occurs in Queretaro. Dr H. Brailovsky collected a single adult female of *T. pallidipennis* in San Andrés Tuxtla, Veracruz, in 1973, but this report is not believed to represent actual distribution of this species into Veracruz.

Triatoma peninsularis Usinger, 1940

Fig. 23

Collection records. BAJA CALIFORNIA SUR: 3 km N of Cabo San Lucas; 3.2 km N of Cabo San Lucas; 3.2 km NE of Cabo San Lucas; 6 km W of Puerto Viejo (San José Viejo?); 8 km N of Todos Santos; 14.4 km NE of Santiago; 17.7 km S of Santa Rosalía; Venancio; 45.2 km S of Santo Domingo; La Paz; 38 km S of La Paz*; 186 km NW of La Paz; 203 km NW of La Paz; 227 km NW of La Paz; 240 km NW of La Paz; 32 km NW of La Paz; 98 km NW of La Paz.

References. Usinger 1940, 1944; Mazzotti & Dias 1949; Dias 1951; Ryckman & Ryckman 1961, 1967a, 1967b; Ryckman 1962; Ryckman et al. 1965; Brodie & Ryckman 1967; Ryckman & Casdin 1976; Lent & Wygodzinsky 1979.

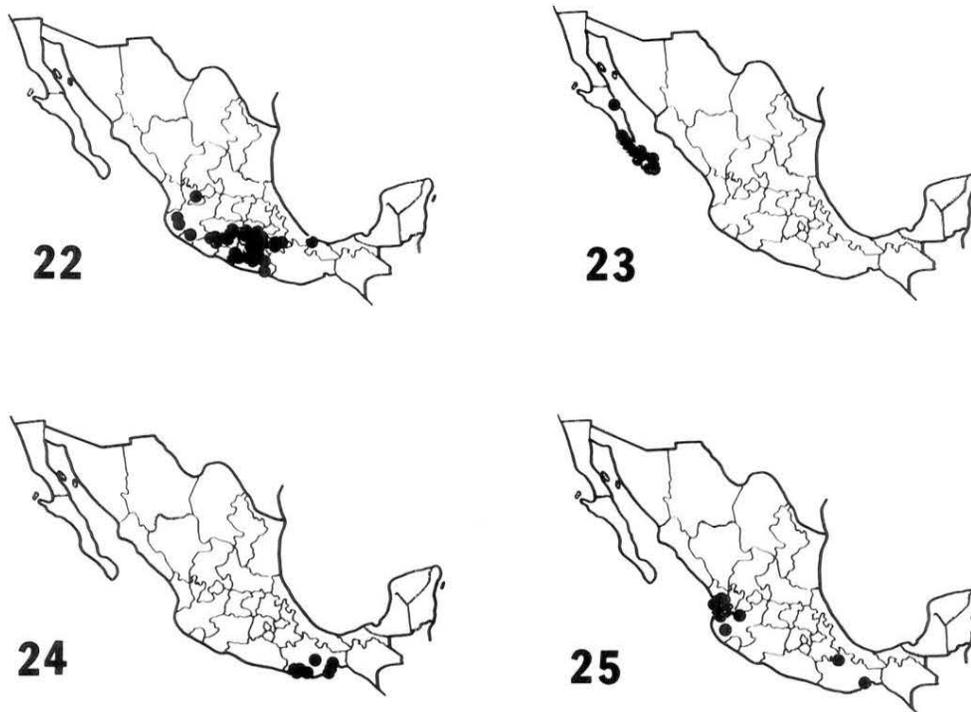


FIG. 22–25. Distribution of Triatominae in Mexico: **22**, *Triatoma pallidipennis*; **23**, *Triatoma peninsularis*; **24**, *Triatoma phyllosoma*; **25**, *Triatoma picturata*.

Triatoma phyllosoma (Burmeister, 1835)

Fig. 24

Collection records. OAXACA: Juchitán*; Pocitos Collantes*; Tehuantepec*; San Pedro Totolapan; San Pedro Tututepec*; Pinotepa Nacional*; San Francisco Cozoaltepec*; Salina Cruz*.

References. Burmeister 1835; Mazzotti 1937a, 1939a, 1939b, 1940a, 1940b, 1940h; Usinger 1941, 1944; Mazzotti & Osorio 1942; Mazzotti & Dias 1949; Dias 1951; Lent & Wygodzinsky 1979; Martínez & Martín 1981; pers. commun. Dr H. Brailovsky 1983.

Remarks. See discussion of this species in the Introduction.

Triatoma picturata Usinger, 1939

Fig. 25

Collection records. COLIMA: locality unspecified. JALISCO: Autlán de Navarro; Ixtlahuacán del Río. NAYARIT: Compostela*; Tepic; Pantanal; La Fortuna (Municipio de Tepic); Lo de Olmedo (Municipio de Tepic); Trapiche* (rancho between the Municipios of Yesca and Ixtlán); Jalisco*; El Rosario* (Municipio de Amatlán de Cañas). OAXACA: Chiquihuitlán*; Juchitán.

References. Mazzotti 1939b, 1940b; Usinger 1939, 1941, 1944; Mazzotti & Osorio 1942; Mazzotti & Dias 1949; Dias 1951; Biagi & Navarrete 1960; Tay et al. 1972; Lent & Wygodzinsky 1979.

Remarks. Specimens of the species *T. picturata* collected in Trapiche, Nayarit (Mazzotti 1939b) were only subsequently described as a new species by Usinger (1939). See discussion of this species in the Introduction.

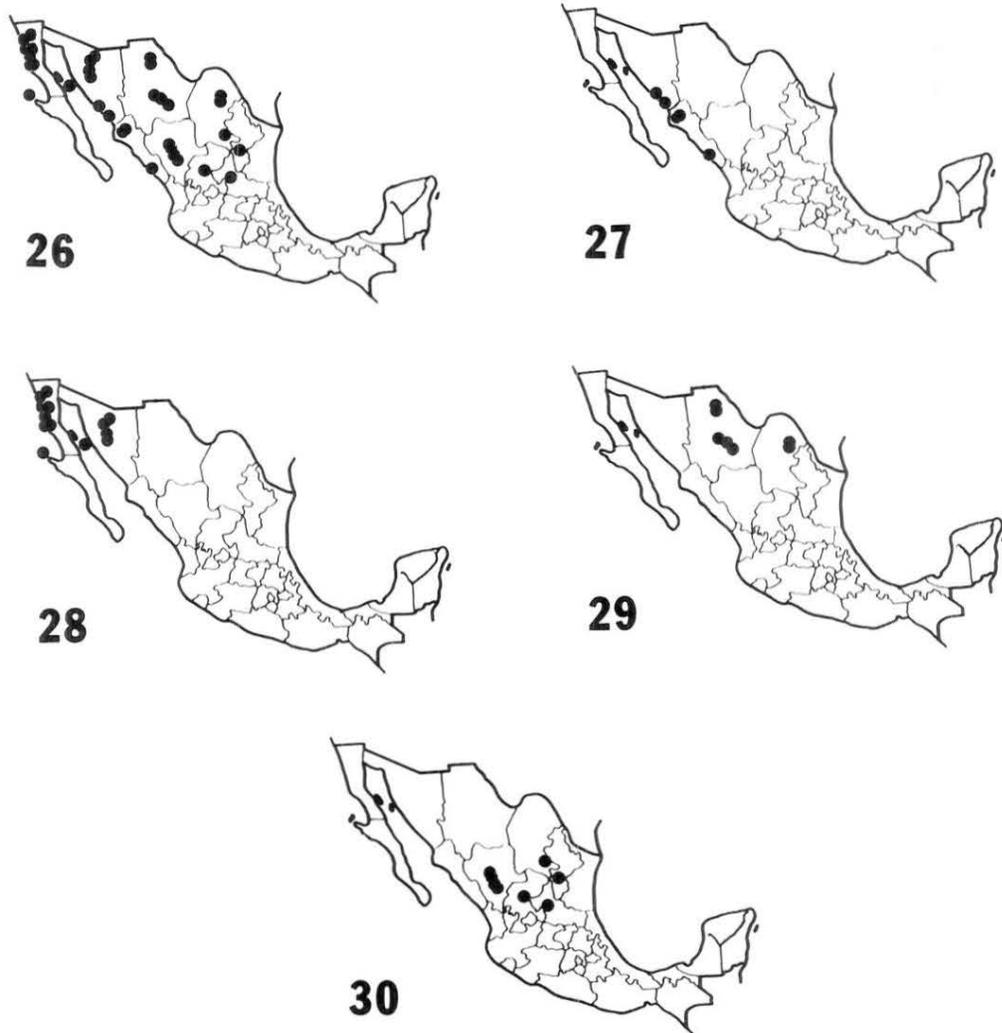


FIG. 26-30. Distribution of Triatominae in Mexico: **26**, *Triatoma protracta* complex; **27**, *Triatoma protracta nahuatlae*; **28**, *Triatoma protracta protracta*; **29**, *Triatoma protracta woodi*; **30**, *Triatoma protracta zacatecensis*.

***Triatoma protracta nahuatlae* Ryckman, 1962**

Fig. 26-27

Collection records. SINALOA: 18 km N of Los Mochis; 3.2 km NE of El Esquinal*; 3.2 km E of Mazatlán; 19.4 km N of Los Mochis. SONORA: humid coastal belt.

References. Ryckman 1962; Ryckman et al. 1965; Brodie & Ryckman 1967; Ryckman & Ryckman 1967b; Ryckman & Casdin 1976; Lent & Wygodzinsky 1979.

***Triatoma protracta protracta* (Uhler, 1894)**

Fig. 26, 28

Collection records. BAJA CALIFORNIA NORTE: Cedros I; Santo Tomás; 11.3 km N of El Rosario; Colonia Guerrero; 8 km S of San Quintín; San José; 11.3 km E of El Rosario; Santa

Cruz. SONORA: N of Magdalena de Kino; 10 km S of Agua Caliente; 8 km N of Hermosillo; 74 km N of Hermosillo; Cholla Val; SW Tiburon I; Tiburon I.

References. Mazzotti 1940b; Mazzotti & Dias 1949; Dias 1951; Ryckman & Ryckman 1961, 1967b; Ryckman 1962; Ryckman & Casdin 1976; Lent & Wygodzinsky 1979.

Triatoma protracta woodi Usinger, 1939 Fig. 26, 29

Collection records. CHIHUAHUA: 139 km S of Ciudad Juárez; Chihuahua; 129 km S of Ciudad Juárez; 161.3 km SE of Chihuahua; 48 km SE of Chihuahua. COAHUILA: Sabinas*; 48.4 km N of Sabinas. NUEVO LEON: locality unspecified. TAMAULIPAS: locality unspecified.

References. Usinger 1939; Mazzotti 1944, 1947; Mazzotti & Dias 1949; Dias 1951; Ryckman 1962; Ryckman & Ryckman 1967b; Lent & Wygodzinsky 1979.

Triatoma protracta zacatecensis Ryckman, 1962 Fig. 26, 30

Collection records. CHIHUAHUA: locality unspecified. COAHUILA: 151.6 km N of Saltillo. DURANGO: 240 km N of Durango*; 242 km N of Durango; 169 km N of Durango; 87.1 km N of Durango. NUEVO LEON: 29 km S of San José de Raices. SAN LUIS POTOSI: 125.8 km N of San Luis Potosí. ZACATECAS: 54 km N of Fresnillo.

References. Ryckman 1962; Ryckman et al. 1965; Brodie & Ryckman 1967; Lent & Wygodzinsky 1979.

Triatoma recurva (Stål, 1868) Fig. 31

Collection records. CHIHUAHUA: Batopilas; Guazapares. NAYARIT: Trapiche (rancho between Municipios of Yesca and Ixtlán). SINALOA: Santa Rosa* (Municipio Salvador Alvarado); 3 km N of Topolobampo; Culiacán; 45 km N of Los Mochis; northern Sinaloa. SONORA: Bacabache* (Municipio de Navahoa); northern Sonora in rock squirrel nests.

References. Mazzotti 1940b; Usinger 1944; Mazzotti & Dias 1949; Dias 1951; Ryckman et al. 1955, 1965; Biagi & Navarrete 1960; Tay & Biagi 1964; Ryckman & Ryckman 1967a, 1967b; Tay 1969; Tay et al. 1972; Ryckman & Casdin 1976; Lent & Wygodzinsky 1979.

Triatoma rubida cochimiensis Ryckman, 1967 Fig. 32–33

Collection records. BAJA CALIFORNIA NORTE: central and southern part of state. BAJA CALIFORNIA SUR: 240 km NW of La Paz; central and northern part of state.

References. Ryckman 1967; Brodie & Ryckman 1967; Ryckman & Casdin 1976.

Remarks. See discussion of this complex in the Introduction.

Triatoma rubida jaegeri Ryckman, 1967 Fig. 32, 34

Collection record. BAJA CALIFORNIA NORTE: Pond I (off southern tip of Isla Angel de la Guarda).

References. Ryckman 1967; Ryckman & Casdin 1976.

Remarks. See discussion of this complex in the Introduction.

Triatoma rubida rubida (Uhler, 1894) Fig. 32, 35

Collection records. BAJA CALIFORNIA SUR: La Paz; Cabo San Lucas; 275 km NW of La Paz*; 5 km SE of El Coyote; 96 km NW of La Paz; 186 km NW of La Paz; 203 km NW of La Paz; 227 km NW of La Paz; 240 km NW of La Paz; 6 km W of Puerto Viejo (San José Viejo?); 35 km S of La Paz; 8 km N of Todos Santos; 37 km S of La Paz; San Francisquito Bay(?); 14 km NE of Santiago; 8.1 km E of San Ignacio; 4.8 km E of El Coyote Bay; 61.3 km NE of Comondu; 230 km N of La Paz; 98 km NW of La Paz; 8.1 km N of Todos Santos; 3 km NE of Cabo San Lucas; 4.8 km N of Santiago; 14.5 km NE of Santiago. NAYARIT:

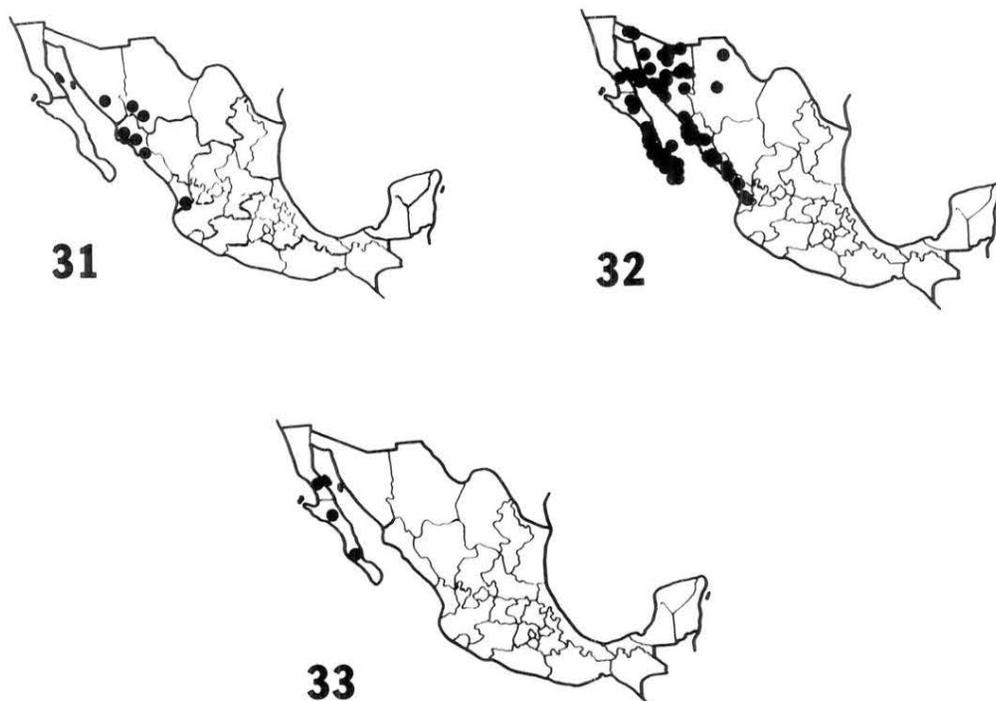


FIG. 31-33. Distribution of Triatominae in Mexico: **31**, *Triatoma recurva*; **32**, *Triatoma rubida* complex; **33**, *Triatoma rubida cochimiensis*.

locality unspecified. SINALOA: 51 km NW of Los Mochis. SONORA: 8 km N of Sonora-Sinaloa state line; Tiburon I; 131 km W of Sonoyta*.

References. Uhler 1894; Brumpt et al. 1939; Mazzotti 1939a, 1940h; Usinger 1944; Mazzotti & Dias 1949; Ryckman & Olsen 1960; Ryckman & Ryckman 1961, 1967a, 1967b; Ryckman & Casdin 1976.

Remarks. Lent & Wygodzinsky (1979) believe *T. rubida rubida* to occur only in Baja California Sur. Distribution records for other states may be misidentifications with other subspecies of the complex. See discussion for this complex in the Introduction.

Triatoma rubida sonoriana (Del Ponte, 1930)

Fig. 32, 36

Collection records. BAJA CALIFORNIA SUR: Isla Partida (north of Isla Espíritu Santo). NAYARIT: Santiago Ixcuintla*; Acaponeta; La Fortuna (Municipio de Tepic). SINALOA: Culiacán; Imala; Mocerito; Navolato; El Pozole; El Verde (Municipio Concordia); Tierra Blanca (Municipio Culiacán); 24 km S of Los Mochis; 8 km E of Los Mochis; 45 km N of Los Mochis; 19 km N of Los Mochis*; 50 km N of Los Mochis*; El Cubiletes; Magdalena. SONORA: Magdalena de Kino; Guaymas*; Huasabas; 8.1 km N of Guaymas*; 9.7 km N of Hermosillo*; 96 km S of Guaymas*; 4.8 km N of Sinaloa-Sonora state line*; Cruz de Piedra*; Arivechi; Bacadehuachi; Tepache.

References. Del Ponte 1930; Usinger 1941, 1944; Mazzotti & Dias 1949; Dias 1951; Ryckman 1953; Biagi & Navarrete 1960; Palencia & Julia 1960; Tay & Biagi 1964; Ryckman et al.

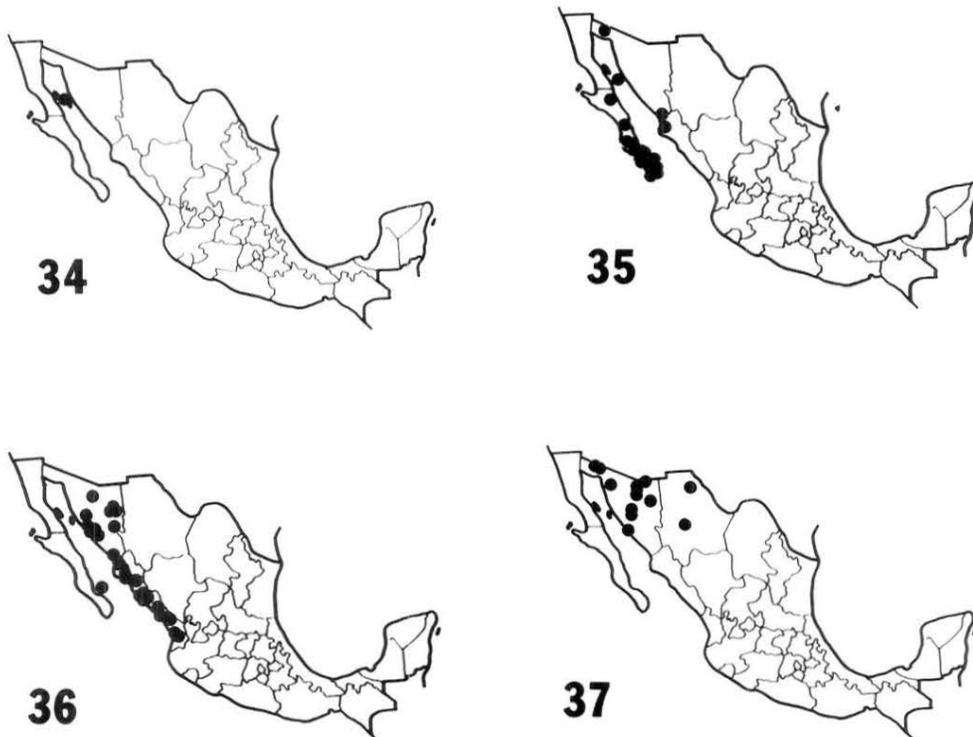


FIG. 34-37. Distribution of Triatominae in Mexico: **34**, *Triatoma rubida jaegeri*; **35**, *Triatoma rubida rubida*; **36**, *Triatoma rubida sonoriانا*; **37**, *Triatoma rubida uhleri*.

1965; Little et al. 1966; Ryckman & Ryckman 1967b; Brodie & Ryckman 1967; Tay 1969; Ryckman & Casdin 1976.

Remarks. See discussion of this complex in the Introduction.

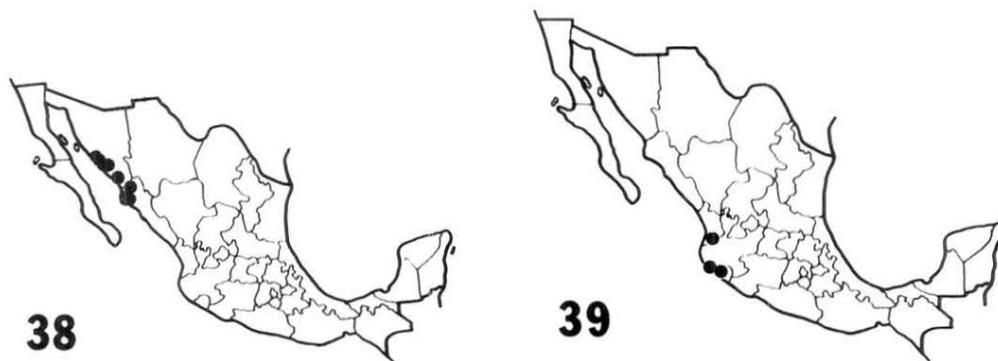


FIG. 38-39. Distribution of Triatominae in Mexico: **38**, *Triatoma sinaloensis*; **39**, *Triatoma brai-lovskyi*.

Triatoma rubida uhleri (Neiva, 1911)

Fig. 32, 37

Collection records. CHIHUAHUA: 139 km S of Ciudad Juárez; 48 km SE of Chihuahua. SONORA: Imuris; Naco; Huasabas; Guaymas*; 130 km W of Sonoyta; N of Magdalena de Kino; N of Hermosillo; 10 km S of Aguas Calientes; 29 km SE of Caborca*; 27 km W of Sonoyta*; 56 km N of Hermosillo.

References. Wehrle 1939; Mazzotti 1940b; Mazzotti & Dias 1949; Dias 1951; Palencia & Julia 1960; Tay & Biagi 1964; Ryckman et al. 1965; Ryckman & Ryckman 1967b; Ryckman & Casdin 1976; Lent & Wygodzinsky 1979.

Remarks. See discussion of this subspecies in the Introduction.

Triatoma sinaloensis Ryckman, 1962

Fig. 38

Collection records. SINALOA: 17.7 km E of El Fuerte; 45 km N of Los Mochis; 50 km N of Los Mochis*. SONORA: 17.7 km N of Navahoa; 20.9 km N of Guaymas; Guaymas*; S of Guaymas*; 58 km S of Guaymas*; 96 km S of Guaymas*.

References. Ryckman 1962; Ryckman et al. 1965; Brodie & Ryckman 1967; Ryckman & Ryckman 1967a, 1967b; Ryckman & Casdin 1976; Lent & Wygodzinsky 1979.

APPENDIX

SPECIES OF TRIATOMINAE (HEMIPTERA: REDUVIIDAE)
OCCURRING IN MEXICO BY STATE

AGUASCALIENTES: *Triatoma longipennis*.

BAJA CALIFORNIA NORTE: *Paratriatoma hirsuta kamiensis*; *P. hirsuta yumanensis*; *Triatoma protracta protracta*; *T. rubida cochimiensis*; *T. rubida jaegeri*.

BAJA CALIFORNIA SUR: *Dipetalogaster maxima*; *Paratriatoma hirsuta yumanensis*; *Triatoma peninsularis*; *T. rubida cochimiensis*; *T. rubida rubida*; *T. rubida sonoriانا*.

CAMPECHE: *Triatoma dimidiata*.

CHIAPAS: *Eratyrus cuspidatus*; *Panstrongylus rufotuberculatus*; *Rhodnius prolixus*; *Triatoma dimidiata*.

CHIHUAHUA: *Triatoma gerstaeckeri*; *T. indictiva*; *T. longipennis*; *T. protracta woodi*; *T. protracta zacatecensis*; *T. recurva*; *T. rubida uhleri*.

COAHUILA: *Triatoma gerstaeckeri*; *T. protracta woodi*; *T. protracta zacatecensis*.

COLIMA: *Triatoma barberi*; *T. brailovskyi*; *T. longipennis*; *T. pallidipennis*; *T. picturata*.

DURANGO: *Triatoma protracta zacatecensis*.

GUANAJUATO: *Triatoma barberi*.

GUERRERO: *Triatoma barberi*; *T. dimidiata*; *T. mazzottii*; *T. pallidipennis*.

HIDALGO: *Triatoma barberi*; *T. mexicana*.

JALISCO: *Triatoma barberi*; *T. brailovskyi*; *T. dimidiata*; *T. longipennis*; *T. mazzottii*; *T. pallidipennis*; *T. picturata*.

MEXICO: *Triatoma barberi*; *T. pallidipennis*.

MICHOACAN: *Triatoma barberi*; *T. mazzottii*; *T. pallidipennis*.

MORELOS: *Triatoma barberi*; *T. pallidipennis*.

NAYARIT: *Triatoma brailovskyi*; *T. dimidiata*; *T. longipennis*; *T. mazzottii*; *T. picturata*; *T. recurva*; *T. rubida rubida*; *T. rubida sonoriانا*.

NUEVO LEON: *Triatoma gerstaeckeri*; *T. lecticularia*; *T. neotomae*; *T. protracta woodi*; *T. protracta zacatecensis*.

OAXACA: *Rhodnius prolixus*; *Triatoma barberi*; *T. dimidiata*; *T. mazzottii*; *T. phyllosoma*; *T. picturata*.

- PUEBLA: *Triatoma barberi*; *T. dimidiata*; *T. pallidipennis*.
 QUERETARO: *Triatoma barberi*; *T. mexicana*; *T. pallidipennis*.
 QUINTANA ROO: *Triatoma dimidiata*; *T. hegneri*.
 SAN LUIS POTOSI: *Triatoma dimidiata*; *T. gerstaeckeri*; *T. protracta zacatecensis*.
 SINALOA: *Triatoma indictiva*; *T. longipennis*; *T. protracta nahuatlai*; *T. recurva*; *T. rubida rubida*; *T. rubida sonoriensis*; *T. sinaloensis*.
 SONORA: *Paratriatoma hirsuta papagoensis*; *Triatoma incrassata*; *T. protracta protracta*; *T. protracta nahuatlai*; *T. recurva*; *T. rubida rubida*; *T. rubida sonoriensis*; *T. rubida uhleri*; *T. sinaloensis*.
 TABASCO: *Triatoma dimidiata*.
 TAMAULIPAS: *Triatoma gerstaeckeri*; *T. neotomae*; *T. protracta woodi*.
 TLAXCALA: *Triatoma barberi*.
 VERACRUZ: *Belminus costaricensis*; *Eratyrus cuspidatus*; *Panstrongylus rufotuberculatus*; *Triatoma dimidiata*.
 YUCATAN: *Triatoma dimidiata*; *T. nitida*.
 ZACATECAS: *Triatoma longipennis*; *T. pallidipennis*; *T. protracta zacatecensis*.

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NOTICE

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