EUTETRANYCHUS BANKSI (McG.) RECENTLY FOUND ON CITRUS IN FLORIDA (ACARINA: TETRANYCHIDAE)[1]

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In November, 1951, a series of specimens of this unusual spider mite was collected from a moderately infested orange grove one mile east of Scottsmoor, Florida, in Brevard County. As *Eutetranychus banksi* (McG.), 1914, was known previously only from castor bean and velvet bean, the species was tentatively identified by the senior author as *E. clarki* (McG.), 1935, and specimens were sent to Dr. E. W. Baker of the United States National Museum for confirmation. Dr. Baker identified the species as *E. banksi* (McG.) and stated in correspondence that *banksi* and *clarki* appeared to be the same species with the dorsal setal pattern being quite variable. As *E. mexicanus* (McG.), 1950, was segregated from *clarki* by McGregor primarily on the basis of dorsal setal variation it appears that all three names must be considered synonymous. *Eutetranychus banksi* (McG.) is the older name and therefore should be used for this variable, widely distributed species. McGregor (1935) established the common name "Texas citrus mite" for *clarki* which probably should be retained for *banksi* because of the common occurrence and economic importance of this species in Texas, Mexico and Costa Rica.

In making the above synonymic analyses several hundred specimens were examined. Material representative of *E. banksi* (McG.) was collected by the authors from citrus in two areas in Florida. Specimens representative of *E. clarki* (McG.) and *E. mexicanus* McG. were collected by Dr. A. F. Camp from citrus in Costa Rica. All specimens were mounted in Hoyer's modified Berlese solution for microscopic examination.

Taxonomic descriptions of the species have been published by McGregor (1914, 1935 and 1950). A good general description of the living mites was given by Dean (1952). The eggs of the species are flat and disc-like with a fine, rolled rim or edge as shown in figure 1. They vary in color from light yellow when laid through tan and green to reddish-brown just prior to hatching. Newly hatched larvae are light yellow to tan with pale legs. Nymphs, except for size, appear much like the adult females in form and color. Adult females are slightly larger

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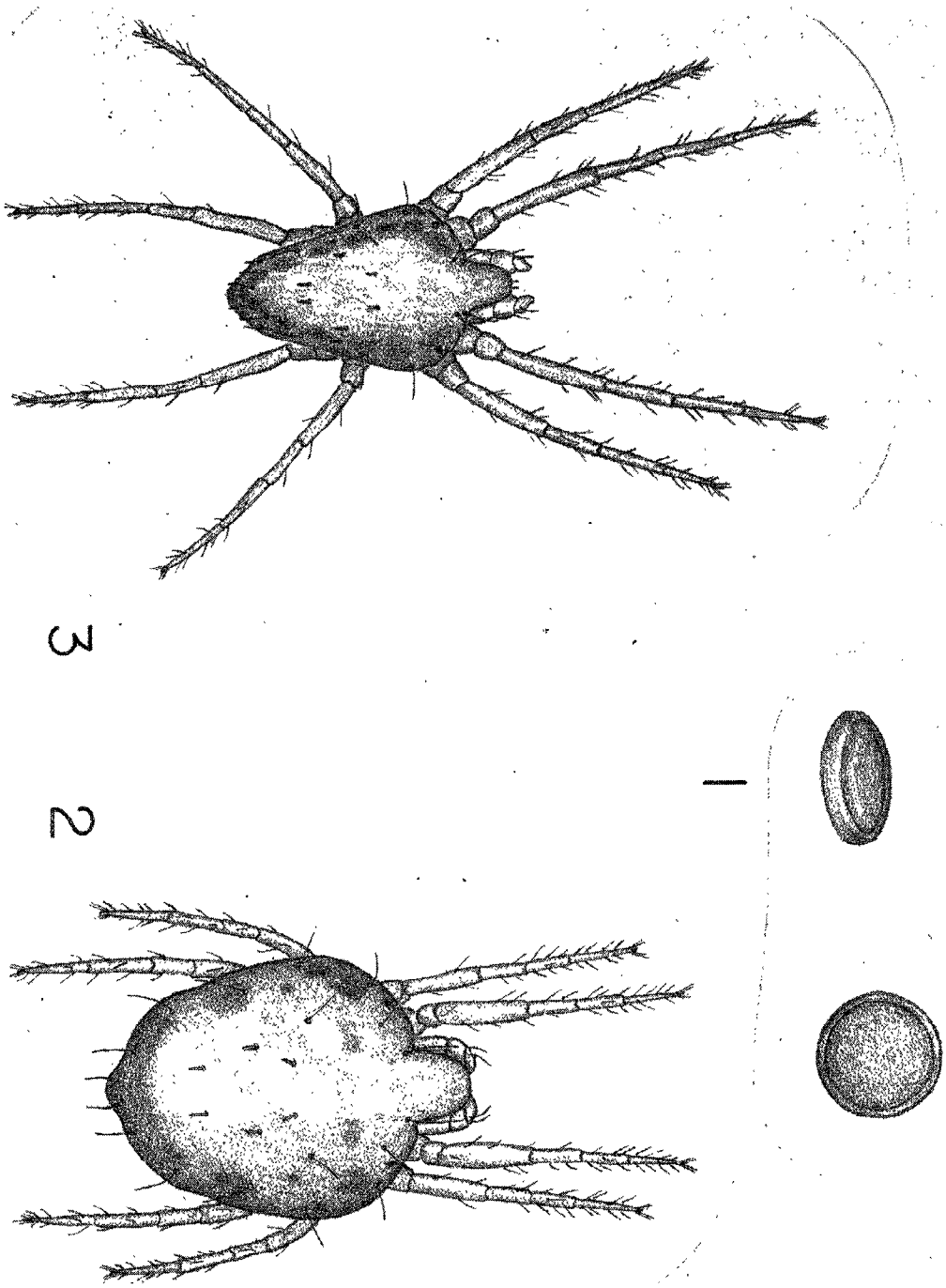
than adult female citrus red mites, *Metatetranychus citri* (McG.). They are broad, robust and flattened with moderately strong legs as shown in figure 2. Coloration is a variable tan to brownish-green with dark brown to greenish spots and bars near the lateral margins. The legs are pale with the basal segments tan to brown. Adult males have the body triangular in outline, as shown in figure 3, and smaller than that of the female with the legs somewhat longer. Males vary in coloration from tan to light brown with darker, greenish spots and bars on the lateral margins of the body. The legs are light tan.

The type locality of the species is Orlando, Florida, where it was collected from castor bean and velvet bean. It has since been taken on chinaberry trees at Tampa by L. Carl Knorr and on citrus by the authors in two areas in the state. Infestations on citrus seem to be localized in the Turnbull Hammock area between Scottsmoor and Titusville in Brevard County and west of DeLand in Volusia County. Only one grove outside of these areas, a few miles southwest of Titusville, is known at the present time to be infested with the mite.

No detailed biological studies have been made on the species in Florida. Observations and grove records indicate that the biology is similar to that of the citrus red mite. Populations of mites are much heavier on the upper surfaces of the leaves and somewhat heavier on the sunny sides of the trees. Eggs are laid predominantly along the midrib and near the lateral margins of the leaves. Males rest beside nymphs that are in the process of moulting to mature females. Seasonal populations have been recorded in an unsprayed grove since January, 1952. Population peaks in this grove have been recorded during the fall and winter with the lowest populations occurring in the late spring and summer. At no time, however, have more than 24 percent of sampled leaves been found infested. On June 27, 1952, however, a survey trip to Turnbull Hammock revealed moderate to very heavy infestations in two sprayed groves. A similar survey of the DeLand area on May 20, 1953, revealed a very heavy infestation in a grove on a sulfur dust program. Leaf injuries caused by the citrus red mite and Texas citrus mite are macroscopically and microscopically identical. Owing to the similarity of injury, economically important infestations of the Texas cit-

Figure 1. Eggs of the Texas citrus mite.
Figure 2. Adult female Texas citrus mite.
Figure 3. Adult male Texas citrus mite.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rus mite have been mistaken for the citrus red mite by growers in the infested areas.

No chemical or biological control data have been accumulated for this mite under Florida conditions. In Texas, sulfur dust has been reported to give good control (McGregor, 1935). Recently, control tests conducted by Dean (1952) in Texas have shown that processed sulfur dusts under grove conditions are as effective as dusts or sprays containing parathion, Ovotran, Neotran, DN-111, Aramite or Sulphenone. Dean also reported several predatory mites feeding on the Texas citrus mite in Texas. In Florida several species of *Typhlodromus* have been observed on leaves infested with the mite but no feeding by these predatory mites has been recorded.

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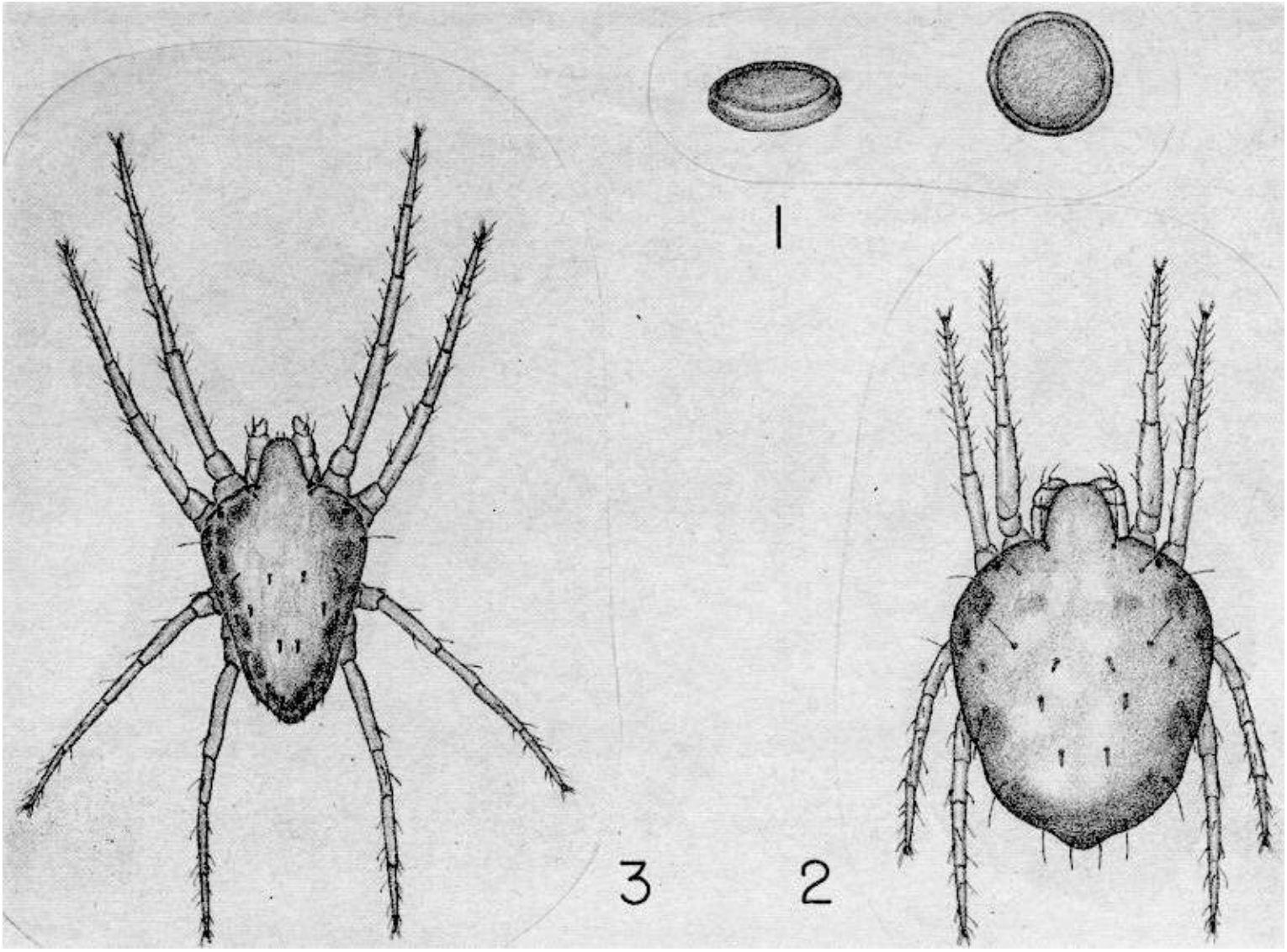
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